

**A SURVEY OF CAPITAL BUDGETING PRACTICES FOR INSURANCE
COMPANIES IN KENYA**

BY

GLADYS MATUNDURA OYARO

D61/70286/2008

**A MANAGEMENT RESEARCH PROJECT SUBMITTED IN PARTIAL
FULFILMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER
OF BUSINESS ADMINISTRATION, UNIVERSITY OF NAIROBI**

OCTOBER 2009

DECLARATION

I declare that this is my original work and has not been submitted to any other college, institution or university for an award of a degree

Signed:  Date: 05TH NOVEMBER 2009

GLADYS MATUNDURA OYARO

D61/70286/2008

This project has been submitted for examination with my approval as university supervisor.

Signed:  Date: 05/11/2009

HERICK ONDIGO

DEDICATION

This research is dedicated to God for the good health and strength throughout the study period and all my MBA colleagues for their moral support.

I dedicated this research work to my Dad, Mum and Damaris indeed you both inspired me to have a reason to study.

ACKNOWLEDGEMENT

This research work has come out as an upshot of massive support from assorted individuals. My initial and leading acknowledgement goes to the almighty God for his blessings and graciousness for enabling me reach this point.

I would like to acknowledge my supervisor Mr. Herick Ondigo for his advice and tireless efforts in the supervision during my research work and writing of this project. Thanks to my moderator Mr. Odipo for the guidance. I also wish to thank all my lecturers throughout the programme period for the solid foundation

I am indebted to the University of Nairobi, School of Business for providing favourable space that has enabled me to achieve this type of knowledge.

I appreciate the efforts of my parents for taking me to school and for sacrificing a lot for my sake. I greatly appreciate their financial support to pay for my education. I also extend my gratitude to my brothers and sister Moses, Evans and Damaris. Their unconditional love, support and understanding could not go unobserved.

I will not forget the intellectual and moral support of the following classmates of the MBA Finance (2008 - 2009) class and friends: Alec, Julia, Maggie and Ali for their encouragements. It's incredible to mention by names all those who assisted me, however, to all of you I am deeply obliged and feel privileged.

TABLE OF CONTENTS

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
LIST OF TABLES	vii
LIST OF FIGURES	viii
ABSTRACT	ix
CHAPTER ONE	1
1.0 INTRODUCTION	1
1.1 Background of the study	1
1.1.1 The Insurance Companies in Kenya	3
1.2 Statement of the problem	6
1.3 objective of the study	7
1.4 Importance of the study	7
CHAPTER TWO	9
2.0 LITERATURE REVIEW	9
2.1 Introduction	9
2.2 Capital budgeting	9
2.2.1 Net present value	9
2.2.2 Internal rate of return	12
2.2.3 Equivalent annuity method	13
2.2.4 Real options	13
2.2.5 Ranked Projects	14
2.2.6 Advantages and Disadvantages of IRR and NPV	15
2.3 Other Techniques Used By Insurance companies	15
2.3.1 Capital Allocation	15
2.3.2 Recognition of risk	16
2.3.3 Real options and capital budgeting	16
2.3.4 Business risk and economic capital	19
2.3.5 Measurement criteria	20
2.3.6 Analogue company approach/peer group analysis	21
2.3.7 Statistical methods	22
2.3.8 Pricing Insurance Contracts, Risk Management Costs, and Equity Capital	23
2.4 Empirical studies on Optimal Capital Budgeting practices	24
2.5 Capital Budgeting and Performance	25

2.6 Conclusion:	27
CHAPTER THREE	28
3.0 RESEARCH METHODOLOGY	28
3.1 Introduction.....	28
3.2 Research design	28
3.3 Population	28
3.4 Data collection	28
3.5 Data analysis	29
CHAPTER FOUR	30
DATA ANALYSIS AND INTERPRETATIONS	30
4.1 Introduction.....	30
4.2 General Information.....	30
4.3 Capital Budgeting and Net Present Value	34
4.4 Capital Budgeting Techniques and Performance.....	36
4.4 Capital Budgeting Techniques and Performance.....	36
CHAPTER FIVE	39
DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS	39
5.1 Introduction	39
5.2 Discussions	39
5.3 Conclusions.....	40
5.4 Recommendations.....	41
5.5 Limitations of the Study.....	41
5.6 Suggestions for Further Research	41
References	42
APPENDIX I: QUESTIONNAIRE	50

LIST OF TABLES

Table 1: Insurance Industry Performance in 2006	4
Table 2: Duration That the Organizations Has Been In Operation in Kenya	30
Table 3: Ownership of the Organization	31
Table 4: Number of Full Time Employees That the Organization Have.....	32
Table 5: Duration That the Respondent Has Been Working In the Organization	33
Table 6: Budgeting Techniques That the Company Uses.....	34
Table 7: Applicability of the Formal Methods Used In Capital Budgeting.....	35
Table 8: Relationship between Capital Budgeting Techniques and Firm Performance ...	36
Table 9: Behavioural Outcomes of Capital Budgeting Process Experienced In the Organizational Planning Process That Affect Performance	37
Table 10: Liquidity Ratios That Have Influenced Capital Budgeting	38

LIST OF FIGURES

Figure 1: Duration That the Organizations Has Been In Operation in Kenya	31
Figure 2: Ownership of the Organization	32
Figure 3: Number of Full Time Employees That the Organization Have	33
Figure 4: Duration That the Respondent Has Been Working In the Organization.....	34

ABSTRACT

The effect of the capital budgeting decision-making process will result in the generation of more capital needed for company operations in the form of retained earnings. This consequently lead to the pouring in of additional capital investments from new investors because a positive rating gives investors confidence in the company's operations and ability to pay debts and claims in case of insurance companies. It's difficult for companies to make proper planning during the capital budgeting process if the cost of capital is low or incapable of meeting its required financial budget such as acquiring a new business. This study therefore sought to survey the relationship between Capital Budgeting practices of insurance companies in Kenya.

The study used descriptive study design. The population of interest of the study was one employee selected from each of the 42 insurance companies. Primary data was collected using structured questionnaires which were the main data collection instruments. The questionnaires had both close-ended and open ended questions. Data was analysed quantitatively and descriptive statistics such as mean scores, frequencies and percentages were used to analyse the data. Data was then presented using frequency tables.

From the study, the researcher found that Capital Budgeting Techniques enhances performance in insurance companies in Kenya. This is because from the study, capital budgeting techniques places a high importance on the budget-to-actual comparison for performance evaluation purposes, being a standard for performance they are used to evaluate managerial performance and they are used by insurance companies in Kenya for setting goals and evaluating performance. The researcher therefore recommends that all the insurance companies should fully embrace capital budgeting so as to increase efficiency and effectiveness in their organizations.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the study

A survey of the capital budgeting practices of Insurance companies in Kenya is important. This is because Insurance companies form part of the Financial System and hence crucial to the economy as a whole.

Capital budgeting is the rational allocation of financial resources among competing multi-period projects. Brigham (1985) suggests that capital budgeting is the process of analysing planned expenditures on fixed assets. Schwarz (1987) suggests that capital budgeting is an integral component of the organization's strategy/plans/budgets process. Capital budgeting is a process of evaluating and selecting long term investments consistent with the firm's goal of maximizing shareholders wealth (Investment Appraisal). Capital budgeting has been widely utilized as a management and strategic planning tool by corporations. Chandra (1987) suggests that the budgeting process often has many behavioural outcomes in the organizational planning process, such as enhanced goal congruence and more universal participation. Currently, a majority of major corporations make use of some type of capital budgeting technique in their strategic performance measurement process.

Capital budgets are used to evaluate managerial efficiency and effectiveness Srinivasan, (1987). Similarly, Douglas (1994) used a case study approach and found that capital budgeting techniques places a high importance on the budget-to-actual comparison for performance evaluation purposes both at the corporate and the subsidiary levels. Anderson (1993) also supported this view, stating that in most US companies the development of budget is still used as the main measurement system. The adoption of capital budgeting models tends to be crucial for the success of both Insurance and reinsurance companies in today's dynamic and outcome-oriented environment. Researchers in insurances companies suggest that members, regulators and other stakeholders are demanding more accountability and better performance from

management Levy (1986). Appropriate capital investment decisions will increase the Company's long-term effectiveness and efficiency, while incorrect decisions will erode its ability to achieve its mission and meet the needs of members. The adoption of the appropriate capital budgeting tools provides companies managers with both the processes and techniques required to make decisions that will enhance the organization's resource base while improving its ability to serve its members and evaluate effectiveness of its investments.

The effects of capital budgeting decisions continue over many years. The decision maker loses some of his or her flexibility. Capital decisions often define firm's strategic decisions because investment in new projects or services is preceded by capital expenditure. Effective capital budgeting improves both timing and quality of asset investments. An erroneous forecast of asset requirements can have serious consequences on the firm. If a firm invests too much it will incur unnecessary heavy investment and if doesn't invest much problems might arise, its equipment will not be sufficient to be modern to complete effectively and hence will not perform. Lose a portion of its market share to the rival firm. Investment in long term assets involves substantial expenditure and before a firm spends a large amount of money it must make proper financial plans.

Over several decades, major theoretical developments in capital budgeting have been incorporated into corporate practice. American evidence suggests that the adoption of the Capital Asset Pricing Model (CAPM) in the practice of capital budgeting has been widespread Graham & Harvey (2001). However, there is little Australian evidence on this issue. While the CAPM was being increasingly adopted in practice, at least in the US, it has also come under academic attack Lama & French (1992). At the same time, new approaches to asset pricing and capital budgeting have been developed. Developments in real options, for example, have reached the textbook level Copeland & Antikarov (2001), but relatively little is known about the impact of these developments on capital budgeting practice. A number of surveys into the capital budgeting practice of Australian firms have been conducted including McMahon (1981), Lilleyman (1984), Freeman and Hobbes (1991) and Kester, Chang, Ichanis, Haikal, Isa, Skully, Kai-Chong and Chi-Jeng (1999). These surveys covered a range of issues; such as which capital-budgeting techniques

were used, how firms ranked the importance of these techniques, and how discount rates were determined.

Numerous capital budgeting surveys have been conducted overseas e.g. Gitman & Mercurio (1982); Block 1997; Gitman & Vandenberg (2000); Graham & Harvey (2001); Arnold & Hatzopoulos (2000); Ryan & Ryan (2002); McLaney, Pointon, Thomas & Tucker (2004); Brounen, De Jong & Koedijk (2004); Payne, Heath & Gale (1999). These surveys found that Discounted Cash flow based techniques Internal Rate of Return (IRR) and Net Present Value (NPV) were dominant and the CAPM was the most popular approach to estimating the cost of capital. IRR and NPV are the most frequently used capital budgeting techniques. Other techniques such as the payback period are less popular, but are still being used by a majority of companies Graham and Harvey (2001). Block (1997) found that the payback method was preferred by small firms. Despite being advocated by academics as a method that could supplement and overcome the limitations of discounted cash flow methods, real options techniques were relatively unpopular, they ranked eighth among twelve techniques considered by Graham and Harvey. Even so, 27% of respondents reported using real options techniques. Graham and Harvey found that the CAPM was the most popular method of estimating the cost of equity with 73% of respondents relying mainly on the CAPM. Compared to two previous surveys of US companies, Gitman and Mercurio (1982) and Gitman and Vandenberg (2000), the CAPM had increased in popularity. An increase in the alignment of the capital budgeting practice of US firms with academic prescriptions was also observed by Ryan and Ryan (2002)

1.1.1 The Insurance Companies in Kenya

The main players in the Kenyan insurance industry are: insurance companies, reinsurance companies, insurance brokers, insurance agents and the risk managers. The statute regulating the industry is the insurance Act; Laws of Kenya, Chapter 487. The office of the commissioner of insurance was established under its provisions to strengthen the government regulation under the Ministry of Finance. There is also self-regulation of insurance by the Association of Kenya Insurers (AKI). The professional body of the industry is the Insurance Institute of Kenya (IIK), which deals mainly with training and professional education. AKI: Insurance Statistics Report 2005

The performance in the insurance companies has continued to improve. The gross profit before tax rose from KShs 4.32 billion in 2005 to KShs 5.80 billion in 2006 representing a growth of 35%. AKI mainly attributed the good performance to the overall economic growth of 6.1% in the country. Over the same period, the total assets held by the industry increased by 20.6% to KShs. 110.07 billion while the total liabilities incurred increased by 17.3% to KShs. 82.67 billion. The net assets increased by 31.6% to KShs. 27.40 billion. The claims and total expenses (including net commissions) increased by 22.7% and 15.4% to KShs. 21.20 billion and KShs. 14.77 billion respectively. This information is summarized in figure 1.4 below

Table 1: Insurance Industry Performance in 2006

YEAR 2006	PERFORMANCE	% change from 2005
Overall Economic Growth	6.1%	
Total assets held by the industry (Billion KShs)	110.07	20.6% increase
Total Liabilities (Billion KShs)	82.67	17.3% increase
Net Assets	27.40	31.6% increase
Claims	21.20	22.7% increase
Total expenses (including net commissions)	14.77	15.4% increase

Source: Performance in Insurance Sector (AKI, 2006)

In 2007, there were 43 insurance companies and 2 locally incorporated reinsurance companies licensed to operate in Kenya. Of the licensed insurance companies, 20 were general insurers, 7 long term insurers and 15 were composite (both life and general) insurers. In addition, there were 201 licensed brokers, 21 medical insurance providers (MIPS), 2,665 insurance agents, 23 loss adjusters, 1 claims settling agent, 8 risk managers, 213 loss assessors/investigators and 8 risk managers in 2007.

Short term business continues to dominate the Kenyan market with its premiums making approximately 70% of the of gross written premium (including deposit administration contributions) in 2007.

The gross written premium by the industry was Kshs 48.10 billion compared to Kshs 41.68 in 2006 representing a growth of 15.40%.

The gross written premium from General insurance was Kshs 32.95 billion (2006: Kshs 29.2 billion) while that from long term business was Kshs 14.44 billion (2006: Kshs 12.48 billion). This is a ratio of about 70:30 in favour of general insurance. General insurance premium grew by 12.8% while life insurance premium and contributions from deposit administration business grew by 15.7%. The industry recorded growth over the last six years as illustrated in table 2 below. The penetration of insurance computed as a ratio of Gross Premium to Gross Domestic Product (GDP) was 2.65% compared to 2.54% in 2006. Long term insurance recorded a penetration ratio of 0.83% while that of general insurance was 0.83%

The biggest players in Life insurance sub sector are Jubilee Insurance, CFC Life, British American, Madison and Pan Africa insurance companies. On the other hand, the giants in the general business are American International Group (AIG), Blue Shield Insurance Company, Heritage A.I.I. Insurance Company, and Insurance Company of East Africa (ICEA), Kenindia Assurance Company Ltd. and the Lion of Kenya Insurance Company Ltd. AKI: Insurance Statistics Report 2005. The insurance sector is divided into two broad sub sectors namely; General and Life insurance. The general insurance sector is by far the larger of the two in terms of size and market penetration. The general insurance penetration as a percentage of GDP is 1.79% while that of life is 0.78%. At the end of 2001, the gross premium written for the general business was over Kshs 16 billion. The figure had reached over Kshs 25 billion by the end of 2005. The corresponding figures for the life business were Kshs 7.3 billion and Kshs 11 billion respectively.

According to the Kenya Insurance Survey KPMG, (2004), the General insurance industry in Kenya is mainly driven by four main lines of business: Motor- Commercial, Fire- Industrial and Engineering, Motor- Private and Personal Accident. The life insurance industry is mainly driven by two main lines of business: Ordinary Life and Superannuation, which includes Group Life Insurance and Deposit Administration. The Survey revealed that the General insurance business is facing two major challenges.

The first challenge is to come up with a solution for companies whose viability is threatened by their inability to meet policy holder claims. The second major challenge is how to generate growth for an industry that has significant potential for growing as a percentage of GDP but has been stagnant. In contrast to the General insurance business, the life insurance business enjoyed a real cumulative average growth rate of 8.6 per cent between years 2000 and 2004.

Capital budgeting (or investment appraisal) is the planning process used to determine whether a firm's long term investments such as new machinery, replacement machinery, new plants, new products, and research development projects are worth pursuing. It is budget for major capital, or investment, expenditures Ryan (2002). Many formal methods are used in capital budgeting, including the techniques such as Net present value ,Profitability index ,Internal rate of return ,Modified Internal Rate of Return and annuity. These methods use the incremental cash flows from each potential investment, or project Techniques based on accounting earnings and accounting rules are sometimes used - though economists consider this to be improper - such as the accounting rate of return, and "return on investment." Simplified and hybrid methods are used as well, such as payback period and discounted payback period.

1.2 Statement of the problem

The effect of the capital budgeting decision-making process will result in the generation of more capital needed for company operations in the form of retained earnings. This consequently lead to the pouring in of additional capital investments from new investors because a positive rating gives investors confidence in the company's operations and ability to pay debts and claims in case of insurance companies. It's difficult for companies to make proper planning during the capital budgeting process if the cost of capital is low or incapable of meeting its required financial budget such as acquiring a new business. Capital budgeting relies on the money available for disposal. How much the company can borrow from lenders or re-invest from retained earnings will help in its final decision on investments. The survival of a company depends very much on its ability to generate returns from its investments. Capital expenditures required in investment normally involve large sums of money and the benefits of the expenditures

may extend over the future. Utilising a systematic capital budgeting process would enhance capital expenditures decisions. Capital budgeting can be defined as the process of evaluating and selecting long term investments consistent with the firm owners' goal of wealth maximization Gitman (1988). The process could be based mainly on managers' judgement or based on quantitative analysis using scientific and analytical tools. By instituting a systematic capital budgeting decision process introduces procedures to mitigate some of the negative influences of subjective capital expenditure decision making.

Studies on the practice of capital budgeting in many countries have shown that over the years, firms are increasingly employing more capital budgeting techniques for making investment decisions Klammer (1973), Klammer & Walker (1984), Pike (1988), Ruhana (1998). These findings have motivated researchers to study the relationship between the capital budgeting practices and firm performance, in terms of profitability.

Local studies done in Kenya include Kadondi (2002) who conducted a survey of capital budgeting techniques used by companies listed at the Nairobi Stock Exchange. To the best of the researcher's knowledge, there is no study which has been done on the relationship between capital budgeting practices and Insurance companies performance.

1.3 objective of the study

The objective of the study was to survey the Capital Budgeting practices for insurance companies in Kenya.

1.4 Importance of the study

Regulators- Provide the basis for regulatory policy in the case for the Insurance companies it is the Association of Kenya Insurers (AKI).

Investors- Will help investors to understand the factors that influence the return on their investment. They require more accountability and better performance by management

Potential and current scholars- This will expand their knowledge on capital budgeting techniques and identify areas of further study.

Policy Makers-This will help policy makers of the Insurance sector such as Reinsurers and the Ministry of Finance and Planning among others with the development and review of existing policies to achieve synergy with the existing circumstance.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter summarizes the information from other researchers who have carried out their research in the same study of capital budgeting. The specific areas covered here are capital budgeting techniques and the relationship between capital budgeting techniques and performance of insurance companies in Kenya.

2.2 Capital budgeting

Capital budgeting (or investment appraisal) is the planning process used to determine whether a firm's long term investments such as new machinery, replacement machinery, new plants, new products, and research development projects are worth pursuing. It is budget for major capital, or investment, expenditures Ryan (2002). Many formal methods are used in capital budgeting, including the techniques such as Net present value ,Profitability index ,Internal rate of return ,Modified Internal Rate of Return and Equivalent annuity .These methods use the incremental cash flows from each potential investment, or project Techniques based on accounting earnings and accounting rules are sometimes used - though economists consider this to be improper - such as the accounting rate of return, and "return on investment." Simplified and hybrid methods are used as well, such as payback period and discounted payback period.

2.2.1 Net present value

Irving Fisher (1930) put forward a separation theorem theory which suggests that a firm will attempt to maximize its present value, no matter what the firm owners may think are their personal objectives. The separation theorem hypothesizes that firm owners will make decisions to first maximize the present value, and only then make decisions which will bring them closer to reaching their personal goals.

Each potential project's value should be estimated using a discounted cash flow (DCF) valuation, to find its net present value (NPV). First applied to Corporate Finance by Joel (1951) on Fisher's separation theorem. Williams (1947) This valuation requires estimating the size and timing of all of the incremental cash flows from the project. These future cash flows are then discounted to determine their present value. These present values are then summed, to get the NPV. See also Time value of money The NPV decision rule is to accept all positive NPV projects in an unconstrained environment, or if projects are mutually exclusive, accept the one with the highest NPV. The NPV is greatly affected by the discount rate, so selecting the proper rate - sometimes called the hurdle rate - is critical to making the right decision. The hurdle rate is the minimum acceptable return on an investment. It should reflect the riskiness of the investment, typically measured by the volatility of cash flows, and must take into account the financing mix. Managers may use models such as the CAPM or the APT to estimate a discount rate appropriate for each particular project, and use the weighted average cost of capital (WACC) to reflect the financing mix selected.

A common practice in choosing a discount rate for a project is to apply a WACC that applies to the entire firm, but a higher discount rate may be more appropriate when a project's risk is higher than the risk of the firm as a whole. An NPV calculation attempts to determine the present value of a series of cash flows from a project that stretches out into the future. This present value is a measure of how much the company is gaining at today's money by undertaking the project: in other words, how much more the company itself will be worth by accepting the project. In risk analysis models, this uncertainty is represented by the spread of the distributions of cash flow for each period. In our experience, NPV calculations performed in a risk analysis spreadsheet model are usually presented as a distribution of NPVs because the cash flow values selected in the NPV calculations are their distributions rather than their expected values. Theoretically, this is incorrect. Since an NPV is the net present value, it can have no uncertainty. It is the amount of money that the company values the project at today. Theoretically correct methods for calculating an NPV in risk analysis are discussed below, along with a more practical, but strictly speaking incorrect, alternative

Theoretical approach 1: Discount the cash flow distributions at the risk free rate. This produces a distribution of NPVs at r_f and ensures that the risk is not double-counted. However, such a distribution is not at all easy to interpret since decision-makers will almost certainly never have dealt with risk free rate NPVs and therefore have nothing to compare the model output against.

Theoretical approach 2: Discount the expected value of each cash flow at the risk rate. This is the application of the above formula. It results in a single figure for the NPV of the project. A risk analysis is run to determine the expected value and spread of the cash flows in each period. The discount rate is usually determined by comparing the riskiness associated with the project's cash flows against the riskiness of other projects in the company's portfolio. The company can then assign a discount rate above or below its usual discount rate depending on whether the project being analyzed exhibits more or less risk than the average. Some companies determine a range of discount rates (three or so). The major problems of this method are that it assumes the cash flow distributions are symmetric and that no correlation exists between cash flows. We have seen that distributions of costs and returns very often exhibit some form of asymmetry. In a typical investment project, there is also almost always some form of correlation between cash flow periods: for example, sales in one period will be affected by previous sales, a capital injection in one period often means that it doesn't occur in the next one (e.g. expansion of a factory) or the model may include a time series forecast of prices, production rates or sales volume that are auto correlated. If there is a strong positive correlation between cash flows, this method will overestimate the NPV. Conversely, a strong negative correlation between cash flows will result in the NPV being underestimated. The correlation between cash flows may take any number of, sometimes complex, forms. We are not aware of any financial theory that provides a practical method for adjusting the NPV to take account of these correlations.

The practical approach:

The above two theoretical approaches are difficult to apply or interpret and beg an alternative. In practice, it is easier to apply the risk-adjusted discount rate r to the cash

flow distributions to produce a distribution of NPVs. This method incorporates correlation between distributions automatically and enables the decision-maker to compare directly with past NPV analyses.

2.2.2 Internal rate of return

The internal rate of return (IRR) is defined as the discount rate that gives a net present value (NPV) of zero. It is a commonly used measure of investment efficiency. The IRR method will result in the same decision as the NPV method for (non-mutually exclusive) projects in an unconstrained environment, in the usual cases where a negative cash flow occurs at the start of the project, followed by all positive cash flows. In most realistic cases, all independent projects that have an IRR higher than the hurdle rate should be accepted McMahon (1981). Nevertheless, for mutually exclusive projects, the decision rule of taking the project with the highest IRR - which is often used - may select a project with a lower NPV. In some cases, several zero NPV discount rates may exist, so there is no unique IRR. The IRR exists and is unique if one or more years of net investment (negative cash flow) are followed by years of net revenues. But if the signs of the cash flows change more than once, there may be several IRRs. The IRR equation generally cannot be solved analytically but only via iterations. One shortcoming of the IRR method is that it is commonly misunderstood to convey the actual annual profitability of an investment.

However, this is not the case because intermediate cash flows are almost never reinvested at the project's IRR; and, therefore, the actual rate of return is almost certainly going to be lower. Accordingly, a measure called Modified Internal Rate of Return (MIRR) is often used. Despite a strong academic preference for NPV, surveys indicate that executives prefer IRR over NPV although they should be used in concert Lawrence (2000). In a budget-constrained environment, efficiency measures should be used to maximize the overall NPV of the firm. Some managers find it intuitively more appealing to evaluate investments in terms of percentage rates of return than dollars of NPV. The IRR of a project is the discount rate applied to its future cash flows such that it produces a zero NPV. In other words, it is the discount rate that exactly balances the value of all costs and revenues of the project. If the cash flows are uncertain, the IRR will also be uncertain and

therefore have a distribution associated with it. A distribution of the possible IRRs is useful to determine the probability of achieving any specific discount rate and this can be compared with the probability other projects offer of achieving the target discount rate. It is not recommended that the distribution and associated statistics of possible IRRs be used for comparing projects because of the properties of IRRs discussed below.

2.2.3 Equivalent annuity method

The equivalent annuity method expresses the NPV as an annualized cash flow by dividing it by the present value of the annuity factor. Joel (1951) it is often used when assessing only the costs of specific projects that have the same cash inflows. In this form it is known as the equivalent annual cost (EAC) method and is the cost per year of owning and operating an asset over its entire lifespan. It is often used when comparing investment projects of unequal lifespan. For example if project A has an expected lifetime of 7 years, and project B has an expected lifetime of 11 years it would be improper to simply compare the net present values (NPVs) of the two projects, unless the projects could not be repeated. The use of the EAC method implies that the project will be replaced by an identical project. Alternatively the chain method can be used with the NPV method under the assumption that the projects will be replaced with the same cash flows each time. To compare projects of unequal length, say 3 years and 4 years, the projects are chained together, i.e. four repetitions of the 3 year project are compared to three repetitions of the 4 year project. The chain method and the EAC method give mathematically equivalent answers. The assumption of the same cash flows for each link in the chain is essentially an assumption of zero inflation, so a real interest rate rather than a nominal interest rate is commonly used in the calculations.

2.2.4 Real options

The term "real options" was first coined by Myers (1977) 30 years ago. Historically, options started in dealings of real properties. Copeland and Antikarov (2003) states that because options provide investors with valuable operational flexibilities and risk management opportunities, the central issue of options analysis is the valuation of an option for such flexibilities and opportunities. However, proper valuation of options has

puzzled and eluded researchers for centuries until 1970s. Real options analysis has become important since the 1970s as option pricing models have gotten more sophisticated. The discounted cash flow methods essentially value projects as if they were risky bonds, with the promised cash flows known. But managers will have many choices of how to increase future cash inflows, or to decrease future cash outflows. In other words, managers get to manage the projects not simply accept or reject them. Real options analyses try to value the choices the option value that the managers will have in the future and adds these values to the NPV. Real options capture the value of managerial flexibility to adapt decisions in response to unexpected market development. Companies create shareholder value by identifying, managing and exercising real options associated with their investments portfolio. The real options method applies financial options theory to quantify the value of management flexibility in a world of uncertainty. If used as a conceptual tool, it allows management to characterize and communicate the strategic value of an investment project. Real options analysis is a valuation theory that views projects as creating options for an uncertain future. For example, a new factory carries options to shut down, abandon, or expand, depending on market conditions. Project value depends on the options created. The theory includes logic for computing project value based on the market prices of related assets. The real options method represents the new state-of-the-art technique for the valuation and management of strategic investments. There are five types of real options: Waiting-to-Invest option, Growth option, Flexibility option, Exit option and Learning option.

2.2.5 Ranked Projects

The real value of capital budgeting is to rank projects. Most organizations have many projects that could potentially be financially rewarding. Once it has been determined that a particular project has exceeded its hurdle, then it should be ranked against peer projects. The highest ranking projects should be implemented until the budgeted capital has been expended this will lead to maximization of the shareholders wealth.

2.2.6 Advantages and Disadvantages of IRR and NPV

A number of surveys have shown that, in practice, the IRR method is more popular than the NPV approach. The reason may be that the IRR is straightforward, but it uses cash flows and recognizes the time value of money, like the NPV. In other words, while the IRR method is easy and understandable, it does not have the drawbacks of the ARR and the payback period, both of which ignore the time value of money Mun (2006) the main problem with the IRR method is that it often gives unrealistic rates of return. Suppose the cutoff rate is 11% and the IRR is calculated as 40%. An IRR of 40% assumes that a firm has the opportunity to reinvest future cash flows at 40%. If past experience and the economy indicate that 40% is an unrealistic rate for future reinvestments, an IRR of 40% is suspect. Simply speaking, an IRR of 40% is too good to be true'. So unless the calculated IRR is a reasonable rate for reinvestment of future cash flows, it should not be used as a yardstick to accept or reject a project. Another problem with the IRR method is that it may give different rates of return. Suppose there are two discount rates (two IRRs) that make the present value equal to the initial investment. The purpose is to let you know that the IRR method, despite its popularity in the business world, entails more problems than a practitioner may think.

2.3 Other Techniques Used By Insurance companies

2.3.1 Capital Allocation

The usefulness of capital allocation methods can be assessed only in the context of the company's economic goals. Although this statement sounds so obvious, failure to consider context is precisely the current state of affairs in capital allocation discussion. Articles about capital allocation typically begin by listing certain properties that an allocation method should possess the most prominent of which are: adding-up property, no undercut, symmetry, and consistency Aumann and Shapley (1974). Capital allocation is supposed to be useful in accomplishing the goals of competitive pricing of insurance contracts and making optimal capital budgeting decisions, but instead of analyzing whether various allocation methods are appropriate in certain situations, the literature focuses almost exclusively on whether the proposed allocation methods encompass the above-listed essential properties Billera and Heath (1988).

Myers and Read (2001) have proposed an important capital allocation method for insurance companies. They discovered "a unique and non arbitrary allocation method that leads to an "adding-up" property; i.e., the equity capital allocated to the single lines of business "adds up" to the overall equity capital of the insurance company. Using option-pricing techniques, the allocation depends on the marginal contribution of a contract in a single line of business to the default value of the whole firm. Myers and Read propose using their capital allocation method in pricing insurance contracts. In particular, they propose using it to determine correct loadings on fair premiums in cases where there are frictional costs of holding equity capital Billera, and Heath (1981)

2.3.2 Recognition of risk

The recognition of risk as an important component in capital budget decision making has long been recognized. The future is uncertain and investment/project appraisal techniques that fail to recognize this fact will almost certainly lead to incorrect conclusions and erroneous recommendations Scheffler (2001). It was shown how simulation methods will help to identify the possible risks of project failure when using net present value (NPV). What is often not recognized is that NPV, itself, can lead to erroneous conclusions in the face of uncertainty even when the apparent range or distribution of (uncertain) outcomes has been recognized. What is needed is an "adjusted" NPV technique which properly accounts for uncertainty, as experienced in a live environment which this article will attempt to provide. Moreover, recognition of the "correct" NPV approach leads to some surprising, perhaps counter-intuitive, results in which apparently unwelcome guests in capital budgeting may turn out to be factors leading to competitive or strategic advantage Saito (2004)

2.3.3 Real options and capital budgeting

One of the first proponents of real option analysis was Myers (2001) who identified that NPV incorrectly calculates the value of cash flows in an uncertain environment. His observations concerned the fact that NPV analysis ignores the time series interactions among contingent investments and that, consequently, delaying investing may accrue extra benefits. In this sense, real option analysis recognizes the incremental (or

additional) value arising from flexibility. The fact that flexibility gives rise to additional value is recognition of the altered probability distribution of potential outcomes and its impact on risk exposure. Underpinning this is the view that risk is critical to investment, since without it the maximum return that could reasonably be expected from an investment is the risk-free rate Monk house (1996). The formalization of the treatment of risk in investment analysis is one of the principal benefits of the real option technique. In particular, formalization involves recognition of the structure of probable outcomes over time which can be exploited for strategic investment purposes. The probability distribution of NPV, which incorporates the valuation of flexibility, is not symmetrically distributed as in the certainty-equivalent NPV case. Consequently, the use of simple risk-adjusted rates to assess investments in which there is flexibility will undervalue investments

Economic capital is the best-practice risk measurement methodology used in the financial industry that relates the concept of risk to the worst-case loss that can arise due to that particular risk Froot and Stein(1998); Merton and Perold(1993); Myers and Read(2001). The worst-case scenario is defined by a certain high degree of statistical confidence, e.g. 99.9 percent confidence level. The major advantage of this methodology is that different risks can be measured identically, which in the end allows "apple to apple comparison." Because risks are expressed in monetary units, managers can make a sensible trade-off between risk and reward, taking into account all relevant risks. As a result, economic capital is used in budget cycles and other management control applications Froot and Stein(1998); Saita(1999); Doff(2007).

Business risk is regarded as the risk that due to changes in margins and volumes, earnings will fall below the fixed cost base." Examples are changes in competitor behavior and changes in customer preferences. Also banking supervisors apply this type of definition, although at the moment it is excluded from the Pillar I capital requirements in Basel II BCBS (2004). Kuritzkes and Schuermann (2006) state that "practitioners and policymakers know the most about market risk and the least about business risk.").

Business risk is defined as "the risk of financial loss due to changes in the competitive environment or the extent to which the organization could timely adapt to these changes" Doff (2004). The competitive environment refers to all relations of the organization with clients, competitors, regulators and other economic actors.

Knight (1933) distinguishes risks and uncertainties. The essential fact is that risk means in some cases a quantity susceptible of measurement, while at other times it is something distinctly not of that character. It will appear that measurable uncertainty, or "risk" proper as we shall use the term, is so far different from an immeasurable one that it is not in effect an uncertainty at all. Goto (2007) uses three categories: "Knightian risk," "Knightian uncertainty," and "structural ignorance." van der Heijden (1996) uses a similar structure: Risk, where there is enough historical precedent in the form of similar events to enable us to estimate probabilities (even if only judgmentally) for various outcomes.

Structural uncertainty, where we are looking at the possibility of an event which is uniquely enough not to provide us with an indication of likelihood. The possibility of an event presents itself by means of cause/effect chain of reasoning, but we have no evidence for judging how likely it could be. An example in the insurance environment is a new competitor entering the market. Business risk falls in the second category, i.e. is a structural uncertainty. This is because for a particular organization business risk manifests itself sufficiently often, but via different causes. For example, in a mature market a particular insurance company will be subject to competitive forces at all times. However, the way in which they manifest themselves can vary from price wars to new market players, and from product innovation to changes in distribution channels. Van der Heijden argues that the most appropriate method to deal with risk (i.e. the first category) is to apply planning and control techniques. Economic capital can be part of that Saita (1999). Van der Heijden (2003) suggests scenario techniques to address structural uncertainties.

2.3.4. Business risk and economic capital

An important indicator of the extent to adapt to changes is the variability of the cost structure, also called operating leverage. Van Triest (2000) concludes that the degree of operating leverage is not an independent business variable. Rather, the degree of operating leverage is a logical outcome of the strategy of the firm.

Permanent changes in the environment require a permanent change in the organization, assuming the organization's objective to survive. To that extent, holding economic capital to absorb financial losses can never be the primary instrument to address the business-risk event. Other instruments in the field of strategic management and organizational management are much more appropriate Hamel and Prahalad (1994). Valeria (1998) develops a typology focused on organizational flexibility required to cope with strategic uncertainties. Organizational flexibility as referred to here is often a useful mitigant to absorb business risk.

Temporary changes such as an economic recession or a short price war with a competitor may be overcome without a permanent change in the organization. For example, an ice cream manufacturer may accept a certain amount of losses during a cold summer without drastic changes. However, it needs to have a certain mechanism to address these losses. This mechanism can be an economic-capital buffer, but the risk can also be hedged (e.g. insurance, weather derivatives or invest in an umbrella factory). Gradual changes in the competitive environment are often better addressed by adapting the organization (i.e. avoiding a financial loss) than by financing the loss via economic capital. In the case of Assuming that costs are either fully fixed or fully variable is too crude, as costs may be fully fixed, fixed within a certain interval, stepwise variable, or fully variable Drury (1995). Assessing the cost flexibility (operating leverage) should be made in reference to a time horizon: on a one-day horizon, all costs are fixed (and hence, non-controllable), whereas on a ten-year time horizon most costs are variable. Most economic-capital frameworks are based on a one-year time horizon, because that is consistent with the management control cycle of many banks (e.g. budgeting). In a one-year period, most cost components in a banking P&I, are relatively fixed, such as IT and (depending on

labor conditions such as France and Germany) staff costs. This makes economic capital as a (temporary) buffer to implement organizational changes even more relevant. This shows that for some circumstances economic capital is one of the appropriate mechanisms to absorb business risk. There is a wide variety of strategic management instruments that managers can use to address business risk as well.

2.3.5 Measurement criteria

When developing a risk measure in general, there is a wide variety of perspectives to evaluate the adequacy of the measure Saita(1999); Doff(2007). Management control is the process by which managers influence other members of the organization to implement the organization's strategy Anthony (1988). Management control focuses partly on designing the appropriate incentives so that the business units' performance and organizational incentives are aligned. All in all, management control supports managers to make the best decisions. Schwartz (2000) shows that risk management should focus on managerial decision making, and hence also economic capital as risk management tool

Management control is a relevant perspective for economic capital in general, because economic capital is increasingly used as a management control instrument to make strategic business decisions, both at the level of the bank's executive committees and at the level of business unit managers. Scheffer (2004) shows that economic capital allows for a more effective and efficient management control process in firms. Therefore, a business-risk measure should satisfy the criteria for effective management control below De Leeuw (1990). De Leeuw (1990) discusses the design of organizations using systems theory. From this, he derives five criteria for effective control that have been used in various contexts Van den Tillaart(2003); Scheffer(2004). The criteria are a good test of a methodology for measuring economic capital because economic capital is increasingly used as a management control instrument. As economic capital is based on a relatively high-confidence level it is important that the risk measure estimates the capital that is required to absorb losses and with a high-statistical confidence interval. This ensures consistency with the measurement methodologies for the other risk types example credit, market and operational risk. A model of the business unit must be available, for managers

to understand the effect of their interventions. Information on the state of business unit and the environment must be available, such that managers know what controlling measure to choose. This should be element of a management control system and we generally believe that such systems are present in firms. Often, however, the information becomes available with a certain time lag due to reporting frequency (e.g. quarterly or monthly). Sufficient measures should be available to react to changes in the environment. In other words, the model should be based on variables that can be influenced by managers themselves. Solely using variables that are out of the responsibility area (such as external parameters) violates this criterion. The manager should have sufficient information capacity to transform new information into an effective control measure/intervention. In our context, this criterion relates to the management capabilities of individual managers. In assessing the business-risk measurement methodology, we must test the effectiveness independently of individual managers that use the methodology. Therefore, we do not test this criterion in detail.

2.3.6 Analogue company approach/peer group analysis

In this category of methodologies, a bank estimates its business risk by analyzing other institutions. In peer group analysis, the bank identifies the amount of business-risk economic capital held by a number of identical banks or a specific set of monoline companies Saita (2004). From this, the bank determines how much capital it needs to cover its business risk

Van (2006). This is a top-down method. The major advantage is that the method is relatively simple and can quickly yield results. This is because a bank cannot influence the amount of economic capital by taking management actions. Also, peer group analysis assumes that banks in the peer group have optimized the capital position for business risks.

The analogue company approach Laik(1996), Doll(2004) estimates the amount of business-risk economic capital by analyzing the equity capital of non-financial companies. It is assumed that, because non-financial companies do not run financial risks

example credit and market risks and their equity capital exactly covers business and operational risks. By looking at the ratio of equity capital and non-interest expenses (mostly fixed costs), the amount of capital is adjusting for size of the organization. An advantage of the analogue company approach is that it is relatively simple and quickly provides results. It is more advanced than peer group analysis because it takes into account the cost structure of the bank. By adjusting the cost structure, a bank can partly influence the economic capital.

2.3.7 Statistical methods

Most Insurance companies apply statistical methods to measure business risk. In these methods, the business-risk economic capital is measured on the basis of fluctuations in income and expenses that cannot be linked to any other risk category Schroeck(2002); Aas (2005). A variant of this approach is to relate general economic conditions such as GDP to the financial performance for instance by regression techniques. A probability function, such as lognormal, is assumed based on the volatility of earnings and costs Aas (2005). This is consistent with the economic-capital models for credit and market risks — which is the major advantage of this approach.

Whilst theoretically appealing, it is very hard to appropriately measure a bank's income streams that are not linked to the other risk categories. This is because it is hardly possible to "clean" the earning stream for the other risk types Schroeck (2002); Van (2006). For example, the client's credit rate is based on its credit quality, loan's maturity (i.e. the funding rate for the bank), a cost component and a profit margin. It is hard to separate the part of credit earnings that is based on the general economy and the business model of the bank from the credit risk part. The level of the funding is influenced by the maturity of the loan, the bank's credit rating and the general state of the economy. To identify these elements separately is hardly possible. In the case of a downturn of the economy, not only may profit margins decrease, but also volumes decrease. This volume effect is certainly caused by business risk, but very hard to capture in the current statistical models for business risk.

Perhaps, only fee-based earnings could be uniquely allocated to business risk. It is no coincidence that the discussion on business risk started in the area of non-risk warehousing activities that are often fee-based businesses I root (2001).

Another disadvantage of this approach is related to the reference class problem McGoun (1995); Saitu(2004): is historical data still relevant to predict future earnings volatility? In this aspect, business risk is different from the financial risks such as credit and market risks: current clients'positions still form the majority of the portfolio and a portfolio changes only gradually. In business risk, the key issue is to look at fundamental changes in the competitive environment that automatically make older data less relevant. Looking at recent data, there is little data, which makes it impossible to estimate reliable probability distributions. The example of internet banking illustrates this problem: the advent of successful internet banks has permanently decreased margins. Using historical data from prior to the internet banking era to estimate future volatility would not be appropriate. The reference class problem is even more relevant because data on profitability is generally available (semi-)annually, quarterly or monthly. To perform sensible statistical analyses based on a sufficiently large dataset, the model would include data that is already outdated. For example, to estimate a 99 percent confidence level at least 100 data points are required (resulting in a model that is not sufficiently robust). Based on monthly data, 8.3 years of data are required. Estimating a 99.9 percent confidence level using 1,000 data points, 83.3 years are required. Extrapolation methods (extreme value theory) may be required to estimate higher confidence levels based on a smaller, more realistic data-set. However, care is required to guarantee the robustness of these models.

2.3.8 Pricing Insurance Contracts, Risk Management Costs, and Equity Capital

The theoretical basis of the Myers and Read (2001) capital allocation method is the contingent claims approach for insurance pricing. In this framework, the fair insurance price is determined by the claims payoff distribution, the arbitrage-free valuation function, and the contract's safety level (measured by the value of the default put option). Clearly, this method of calculating competitive insurance prices does not depend on the

insurance company's preexisting portfolio, which in turn means that it makes no difference to the insurance price whether the company is a single- or multi-line insurer, everything else being held equal. Thus, no allocation of equity capital to lines of business or to single insurance contracts is necessary in making the pricing decision. To achieve a desired safety level, the insurance company must establish certain risk management measures. Equity capital is only one of these, and can be partially substituted by reinsurance, alternative risk transfer, and other measures. The necessary risk management costs are covered by the insurance premiums.

2.4 Empirical studies on Optimal Capital Budgeting practices

In addition to being used for pricing insurance contracts, capital allocation is often utilized as a basis for determining the performance of business segments, resulting in capital budgeting decisions such as expanding or contracting lines of business. Even though Myers and Read do not propose their allocation method for performance measurement, other papers discussing the Myers and Read (2001) approach clearly see profit ranking of lines of business and capital budgeting decisions as appropriate fields of application. The allocation of costs of equity capital to the existing lines of business leads to a common cost problem. Equity capital serves as safety capital for the company as a whole rather than its individual parts, and if insolvency occurs, it is because liabilities exceed assets for the entire company, not for any particular line. This type of common cost problem has been studied extensively in the economics literature for purposes of pricing goods with common costs, such as those found in agricultural and chemical industries. According to the common cost literature, informational limitations leave no any arbitrary common cost allocation for purposes of performance measurement and pricing. Instead, the generally accepted response is to develop a set of desired properties for the allocation process itself and proceed with the method that best satisfies these properties. It is inherent in such a process; however, that whatever allocation method used will result in distortions and the question future research ought to investigate is the extent to which those distortions exist under various allocation methods. For example, Billera and Heath (1981) referring to game-theoretical approaches-suggest in their well-known article the properties "adding-up additively," and "fairness." If these properties are

fulfilled, the allocation of common costs is indeed unique. But, as Billera, Heath, and Verrecchia (1981), clearly state: "Although the results are mathematically elegant, they require the acceptance of a 'constitution,' or set of axioms, the full effect of which may not be entirely understood in terms of the problem at hand."

Defining the desired properties of an allocation method is also the procedure found in recent capital allocation literature concerning financial firms. For instance, Valdez and Chernih (2003) with reference to cooperative game theory propose the properties of "no undercut, symmetry and consistency. The alleged rationale for this again lies in cooperative game theory where common costs are allocated to single players of a game in a way that gives the players no incentive to abandon that coalitional game. However, this strand of capital allocation literature does not examine how the properties proposed are helpful in reaching the insurer's goals - prioritizing new capital budgeting projects," "deciding which lines of business to expand or to contract," and "fair assessment of performance of managers of various business units.

2.5 Capital Budgeting and Performance

Capital budgeting has been widely utilized as a management and strategic planning tool by corporations Klammer (1973), Gitman, and Forrester (1977), Schall et al (1978), Aggarwal, R. (1980), Kim, Farragher, (1981) and Jones, (1986) .Chandra, (1987), suggests that the capital budgeting process often has many behavioural outcomes in the organizational planning process, such as enhanced goal congruence and more universal participation. Currently, a majority of major companies make use of some type of capital budgeting technique in their strategic planning process Cook and Rizzuto, (1989) and Moore and Reichert (1989).

The adoption of capital budgeting models tends to be crucial for the success of both traditional and not-for-profit organizations in today's dynamic and outcome-oriented environment. Researchers in not-for-profit management suggest that sponsors, donors, members, regulators and other stakeholders of non-profits are demanding more accountability and better performance from management White (1989). Appropriate capital investment decisions will increase the company's long-term effectiveness and

efficiency, while incorrect decisions will erode the company's ability to achieve its mission and meet the needs of members. The adoption of the appropriate capital budgeting tools provides company managers with both the processes and techniques required to make decisions that will enhance the organization's resource base while improving its ability to serve its members and evaluate effectiveness of its investments.

Capital budgets being a standard for performance are used to evaluate managerial performance Srinivasan (1987). Similarly, Douglas (1994) used a case study approach and found that capital budgeting techniques places a high importance on the budget-to-actual comparison for performance evaluation purposes both at the corporate and the subsidiary levels. Anderson (1993) also supported this view, stating that in most US companies the development of budget is still used as the main performance measurement system. Weisenfeld and Tyson (1990), in a sample of 68 US managers from two companies, found that capital budgeting techniques and variance analysis can be positive tools, if the accounting information/communication process is functioning appropriately. A total of 90 percent of the respondents indicated that variances were a good way to measure their performance. All of them agreed that variance reports positively influenced them to improve performance and increase their bonuses.

A study by Joye and Blayney (1990) found that capital budget techniques were used by 93 percent of respondents for setting goals and evaluating performance by Australian firms. In a more recent study, Guilding et al. (1998) found that accountants in New Zealand (NZ) and the UK tend to see capital budgeting techniques as being important, and performance appraisal was based mainly on budget achievement. In a recent survey of 250 respondents in the US, Blansfield (2002) found that only 14 percent of companies have a fully integrated planning process that combines long term and operational planning, performance measures and reporting. The survey further underscored the fact that financial executives still struggle with the need to synthesize financial and non-financial data and performance measurements in a single system in which they can also perform planning, capital budgeting, forecasting, financial consolidation, reporting and analysis in real time.

2.6 Conclusion:

Most researches involve substantial use of published literature. The literature review helps in the selection and definition of the research problem, specifies a conceptual framework of a study that is try to understand the variables in the problem and coming up with a possible relationship. Capital budgeting decisions are crucial to a firm's success for several reasons. First, capital expenditures typically require large outlays of funds. Second, firms must ascertain the best way to raise and repay these funds. Third, most capital budgeting decisions require a long-term commitment. Finally, the timing of capital budgeting decisions is important. When large amounts of funds are raised, firms must pay close attention to the financial markets because the cost of capital is directly related to the current interest rate.

From the literature reviewed in this chapter it can be concluded that the capital budgeting techniques adopted by a company have a direct impact on the performance of the company. The literature however does not review the capital budgeting practices in the the insurance industry. Hence this study seeks to bridge the knowledge gap by focusing on the insurance industry in Kenya.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methodology that was used in gathering the data, analyzing the data and reporting the results. Here the researcher aims at explaining the methods and tools used to collect and analyze data to get proper and maximum information related to the subject under study.

3.2 Research design

This was a descriptive survey study aimed at establishing the Capital Budgeting practices in insurance companies in Kenya. According to Donald and Pamela (1998), a descriptive study is concerned with finding out the what, where and how of a phenomenon.

3.3 Population

The population of interest of this study was obtained from Insurance companies licensed to operate in Kenya. There are forty two (42) insurance companies licensed by the Insurance Regulatory Authority.

3.4 Data collection

In order to survey the Capital Budgeting practices in insurance companies in Kenya, self-administered drop and pick questionnaires were distributed among sampled employees currently employed by insurance companies in Kenya. Questionnaire was designed to identify the Capital Budgeting practices used by insurance companies in Kenya.

One employee was selected from each of the 42 insurance companies and administered with the questionnaire. The staffs in the insurance companies include managers and other staff in the ranks of management. This made it easier to get adequate and accurate information necessary for the research.

The researcher used structured questionnaires as the main data collection instrument. The questionnaires had both open and close-ended questions. The close-ended questions

provided more structured responses to facilitate tangible recommendations. The open-ended questions provided additional information that may not have been captured in the close-ended questions.

3.5 Data analysis

The completed questionnaires were edited for completeness and consistency. A content analysis and descriptive analysis were employed. The content analysis was used to analyze the respondents' views about the operational budgeting. Quantitative was then coded to enable the responses to be grouped into various categories. Descriptive statistics was used to summarize the data. This includes percentages and frequencies. Tables and other graphical presentations as appropriate were used to present the data collected for ease of understanding and analysis.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATIONS

4.1 Introduction

This chapter presents the data analysis and interpretation. From a study population of 42 respondents, 29 respondents responded and returned the questionnaires comprising of 69% response rate.

4.2 General Information

Type of business that the organization undertakes

The study found that the organizations undertook general insurance, broker and agency, life assurance, travel insurance type of businesses

Table 2: Duration That the Organizations Has Been In Operation in Kenya

	Frequency	Percent
1-5 years	1	3.4
6-10 years	7	24.1
11-15 years	3	10.3
16 years and above	18	62.1
Total	29	100.0

Source: Research Findings

The findings in table 2 show the duration that the organizations had been in operation in Kenya. From the study, most of the businesses (62.1%) had been in operation in Kenya for 16 years and above. 24.1% of the organizations had been in operation for 6-10 years, 10.3% had been in operation for 11-15 years, while a small proportion of organizations as indicated by 3.4% had been in operation on Kenya for 1-5 years. This information was a clear indication that most of the organizations (96.6%) were well versed with capital budgeting techniques in their organizations as they had been in operation for a long period of time i.e. 6 years and above. This information was also shown by figure 1

Figure 1: Duration That the Organizations Has Been In Operation in Kenya



Table 3: Ownership of the Organization

	Frequency	Percent
predominantly local (51% or more)	12	41.4
predominantly foreign (51% or more)	8	27.6
balanced between foreign and local (50/50)	9	31.0
Total	29	100.0

Source: Author 2009

The study also sought to establish the ownership of the organizations. According to the findings, most of the organizations shown by 41.4% were predominantly local (51% or more), 31% of the organizations were balanced between foreign and local (50/50), while predominantly foreign (51% or more). Figure 2 was also used to present this information.

Figure 2: Ownership of the Organization



Table 4: Number of Full Time Employees That the Organization Have

	Frequency	Percent
51-75	10	34.5
76-100	5	17.2
101 employees and above	14	48.3
Total	29	100.0

Source: Author 2009

The study also required the respondents to indicate the number of full time employees that their organizations had. From the study, most of the organizations had 101 employees and above as shown by 48.3%, 34.5% of the organizations had 51-75 employees, while 17.2% of the respondents reported that their organizations had 76-100 employees. This information shows that these organizations were large scale type of organizations. Figure 3 was also used to represent this information.

Figure 3: Number of Full Time Employees That the Organization Have

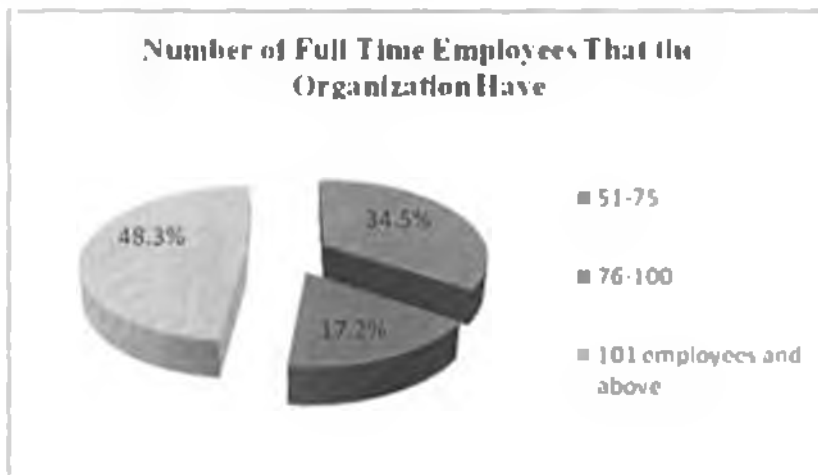


Table 5: Duration That the Respondent Has Been Working In the Organization

	Frequency	Percent
between 1 and 5 years	7	24.1
between 6 and 10 years	10	34.5
between 11 and 15 years	7	24.1
16 years and above	5	17.2
Total	29	100.0

Source: Research Findings

In order to establish the respondents experience in the organizations, the respondents were requested to indicate the number of years that they had been working in their respective organizations. From the study, 34.5% of the respondents had been working in the organization for a period between 6 and 10 years, the respondents who had been working in the organization for a period between 1 and 5 years were shown by 24.1% each, while 17.2% of the respondents had been working in their respective organizations for 16 years and above. This information implies that most of the respondents (75.9%) had been working in their respective organizations for 6 years and above and therefore they were well versed with capital budgeting in their organizations. Figure 4 was also used to present this information.

Figure 4: Duration That the Respondent Has Been Working In the Organization



4.3 Capital Budgeting and Net Present Value

Table 6: Budgeting Techniques That the Company Uses

	Yes	No
Internal rate of return	48.3	51.7
Net present value	96.6	3.4
Payback period	3.4	96.6

Source: Author 2009

The findings in above table 6 show the budgeting techniques that the companies used. According to the study, most of the respondents (96.6%) said that their organizations used net present value as their budgeting technique, 48.3% of the respondents said internal rate of return, while a small proportion of respondent said that their organizations also used payback period as their budgeting techniques.

Areas That the Capital Budget Focuses

The study also sought to establish the areas that the budgets focused on. From the study, the budgets focused on working capital turnover, quick ration, current ratios, net present values, it encourages continuous improvements and internal rate of return.

Table 7: Applicability of the Formal Methods Used In Capital Budgeting

	Very much applicable	Much applicable	applicable	Moderately applicable	Not applicable	Mean score
Net present value	89.7	10.3	0	0	0	1.1
Internal rate of return	48.3	51.7	0	0	0	1.5

Source: Author 2019

In table 7, the respondents were requested to rate the formal methods used in capital budgeting according to their applicability in the organizations. From the study, net present value was very much applicable in the insurance companies, while internal rate of return was also much applicable as indicated in the table 7 above.

The study also found from all the respondents that these budgeting techniques had been used by other insurance companies in the industry, they had been successful in other insurance companies and also recognition of risk had been an important component in capital budget decision making issue in the organizations.

4.4 Capital Budgeting Techniques and Performance

Table 8: Table Showing the Respondents' Perception on the Relationship between Capital Budgeting Techniques and Firm Performance

	Strongly agree	Agree	Moderately agree	Disagree	Strongly disagree	Mean
capital budgeting techniques places a high performance on the budget-to-actual comparison for performance evaluation purposes	69.0	31.0	0	0	0	1.3
capital budgeting techniques being a standard for performance are used to evaluate managerial performance	31.0	69.0	0	0	0	1.7
capital budget techniques are used by insurance companies in Kenya for setting goals and evaluating performance	10.3	79.3	10.3	0	0	2.0
capital allocation methods can be assessed only in the context of the company's economic goals	20.7	37.9	37.9	3.4	0	2.2

Source: 2009

The respondents were also required to state their extent of agreement with the statements in the above table in relation to the relationship between capital budgeting techniques and firm performance. From the study, most of the respondents strongly agreed that capital budgeting techniques places a high performance on the budget-to-actual comparison for performance evaluation purposes as shown by a mean score of 1.3. Further, majority of the respondents agreed that capital budgeting techniques being a standard for performance are used to evaluate managerial performance shown by a mean score of 1.7, capital budget techniques are used by insurance companies in Kenya for setting goals and evaluating performance as shown by a mean score of 2.0 and also capital allocation methods can be assessed only in the context of the company's economic goals as shown by a mean score of 2.2.

Table 9: Behavioural Outcomes of Capital Budgeting Process Experienced In the Organizational Planning Process That Affect Performance

	Very low extent	Low extent	Moderate extent	Great extent	Very great extent	Mean
Enhanced goal congruence	13.8	34.5	34.5	17.2	0	2.8
More universal participation	0	10.3	3.4	86.2	0	3.8

Source: Author 2009

The study also sought to establish the extent that the behavioural outcomes of capital budgeting process experienced in the organizational planning process in the above table affected performance. From the study, more universal participation affected performance to a great extent as indicated by a mean score of 3.8, while enhanced goal congruence affected performance to a moderate extent as shown by a score of 2.6.

Whether Appropriate Capital Investment Decisions Increases the Company's Long Term Effectiveness and Efficiency

From the study, all the respondents were in agreement that appropriate capital investment decisions increase the company's long term effectiveness and efficiency. This was because appropriate capital investment decisions enhances controlled delivery of service within the budgetary framework, they provides processes and techniques required to make decisions on organizations resource base, encourages continuous improvement, it encourages flexibility, they minimizes cost, they provide the companies with enough capital for long term investments, they encourage savings that can be directed to the budgetary systems for effectiveness.

All the respondents were also in agreement that adoption of appropriate capital budget tools provides company managers with both the processes and techniques required to make decisions that will enhance the organizations resource base.

Table 10: Liquidity Ratios That Have Influenced Capital Budgeting

	Very much	Much	Somehow	Neutral	Not at all	Mean
current ratio = current assets /current liabilities	41.4	41.4	0	13.8	3.4	4.0
quick ratio = cash and cash equivalents + short term investments + net trade receivables /current liabilities	3.4	65.5	20.7	10.3	0	3.6
working capital turnover = revenue /working capital	3.4	48.3	37.9	10.3	0	3.4
days of cash	0	0	48.3	41.4	10.3	2.4

Source: Author 2009

The study also required the respondents to indicate the extent that the liquidity ratios in the above table had influenced the capital budgeting. From the study, the liquidity ratios that had much influenced capital budgeting were capital budgeting current ratio = current assets /current liabilities as shown by a score of 4.0 and quick ratio = cash and cash equivalents + short term investments + net trade receivables /current liabilities. Working capital turnover = revenue/working capital somehow influenced capital budgeting, while most of the respondents were neutral that days of cash influenced capital budgeting as shown by a score of 2.4.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussions of the findings (summary of the findings), makes conclusions and gives recommendations to the study based on the objective of the study. The objective of this study was to survey the Capital Budgeting practices of insurance companies in Kenya.

5.2 Discussions

From the findings (in chapter four), the study found that that the organizations undertook general insurance, broker and agency, life assurance, travel insurance type of businesses. Most of these organizations had been in operation in Kenya for 16 years and above was a clear indication that they were well versed with the capital budgeting practices in their organizations. Majority of these companies were predominantly local (51% or more) and most of them had 101 employees and above. The study also found that most of the respondents had been working in their respective organizations for 6 years and above.

On capital budgeting and net present value, most organizations used internal rate of return as their capital budgeting techniques and they focused on working capital turnover, quick ration, current ratios, net present values, it encourages continuous improvements and internal rate of return. From the study, the formal methods used in capital budgeting techniques i.e. net present value was very much applicable, while internal rate of return was much applicable in the organizations. The study also found from all the respondents that these budgeting techniques had been used by other insurance companies in the industry, they had been successful in other insurance companies and also recognition of risk had been an important component in capital budget decision making issue in the organizations.

On the perceived relationship between budgeting techniques and performance, most of the respondents strongly agreed that capital budgeting techniques places a high performance on the budget-to-actual comparison for performance evaluation purposes.

while most of the respondents agreed that that capital budgeting techniques being a standard for performance are used to evaluate managerial performance, capital budget techniques are used by insurance companies in Kenya for setting goals and evaluating performance and also capital allocation methods can be assessed only in the context of the company's economic goals.

The study also established that behavioural outcomes of capital budgeting process experienced in the organizational planning process which is more universal participation affected performance to a great extent, while enhanced goal congruence affected performance to a moderate extent. The study also found that that appropriate capital investment decisions increase the company's long term effectiveness and efficiency. This was because appropriate capital investment decisions enhances controlled delivery of service within the budgetary framework, they provides processes and techniques required to make decisions on organizations resource base, encourages continuous improvement. It encourages flexibility, they minimizes cost, they provide the companies with enough capital for long term investments, they encourage savings that can be directed to the budgetary systems for effectiveness. It was also clear from the study that adoption of appropriate capital budget tools provides company managers with both the processes. According to the study, capital budgeting current ratio $\frac{\text{current assets}}{\text{current liabilities}}$ and quick ratio $\frac{\text{cash equivalents} + \text{short term investments} + \text{net trade receivables}}{\text{current liabilities}}$ had much influence on capital budgeting. Working capital turnover $\frac{\text{revenue}}{\text{working capital}}$ somehow influenced capital budgeting, while most of the respondents were neutral that days of cash influenced capital budgeting.

5.3 Conclusions

The study concludes that the capital budgeting technique mostly used by most of the insurance companies was net present value which was very much applicable, they had been successful in these organizations.

The study also concludes that Capital Budgeting Techniques enhances performance in insurance companies in Kenya. This is because from the study, capital budgeting techniques places a high importance on the budget-to-actual comparison for performance

evaluation purposes, being a standard for performance they are used to evaluate managerial performance, they are used by insurance companies in Kenya for setting goals and evaluating performance. and also adoption of appropriate capital budgeting tools provides the company managers with both the processes and techniques required to make decisions that will enhance the organization's resource base.

5.4 Recommendations

The study therefore recommends that capital budgeting should be fully embraced in the insurance companies as it helps these companies to place a high importance on the budget-to-actual comparison for efficiency and evaluation purposes, to evaluate managerial performance, set goals, and also it provides the company managers with both the processes and techniques required to make decisions that will enhance the organization's resource base. This will therefore improve the overall performance of these companies.

5.5 Limitations of the Study

5.6 Suggestions for Further Research

The researcher therefore recommends that further research should be conducted in other types of organizations to establish whether capital budgeting has any relationship with performance in these other organizations.

References

- Aas, K. (2005), *Risk Capital Aggregation*, Norwegian Computer Centre, Oslo, SAMBA/40/05.
- Aggarwal, R. (1980), "Corporate use of sophisticated capital budgeting techniques: a strategic perspective and a critique of survey results", *Interfaces*, Vol. 10 pp.31-4.
- Alexander, C. (2005), "The present and future of financial risk management", *Journal of Financial Econometrics*, Vol. 3 No.1, pp.3-25.
- Amit, R and Wernerfelt, B. (1990), "Why do firms reduce business risk?" *Academy of Management Journal*, Vol. 33 No.3, pp.520-33.
- Anders, U. (2003), "The path to operational risk economic capital", in Alexander, C. (Eds), *Operational Risk Regulation, Analysis and Management*, Prentice-Hall, London.
- Anderson, R.L. (1993), "Can stage-gate systems deliver the goods?" *Financial Executive*, Vol. 9 pp.34-5.
- Anthony, R.N. (1988), *The Management Control Function*, Harvard Business School Press, Boston, MA.
- Aumann, R. J., and I. S. Shapley, 1974, *Value of Non-Atomic Games* (Princeton, NJ: Princeton University Press).
- BCBS (2004), *International Convergence of Capital Measurement and Capital Standards: a Revised Framework*, Basel Supervision – BCBS, Basel, available at: www.bis.org/bcbs.
- Billera, L. J., and D. C. Heath, 1981, *Allocation of Shared Costs: A Set of Axioms Yielding a Unique Procedure*, *Mathematics of Operations Research*, 7: 32-39.

Billera, L. J., D. C. Heath, and R. F. Verrecchia, 1981, *A Unique Procedure for Allocating Common Costs from a Production Process*, *Journal of Accounting Research*, 19: 185-196.

Blansfield, D. (2002), *Comshare Survey of Top Financial Executives*, Business Finance/Comshare Executive Research Group, www.bfnag.com.

Block, S. 1997. *Capital budgeting techniques used by small business firms*, *Engineering Economist*, vol. 42, pp. 289-302.

Bracutigam, R. R., 1980, *An Analysis of Fully Distributed Cost Pricing in Regulated Industries*, *Bell Journal of Economics*, 11: 182-196

Brealey, R., Myers, S and & Allen, F. 2005, *Principles of Corporate Finance*, McGraw-Hill, New York.

Brennan, M. and Schwartz, E. 1985, *Evaluating natural resource investments*, *Journal of Business*, vol. 58, pp. 135-57.

Brigham, I I. (1985), *Fundamentals of Financial Management*, Dryden Press, Fort Worth, TX.

Brounen, D., De Jong, A. and Koedijk, K. 2004, *Corporate finance in Europe: Confronting theory with practice*, *Financial Management* (2000), vol 33, pp. 71-101.

Chandra, G. (1987), *The behavioral aspects of budgeting*, in Sweeny, H.W.A., Rachlin, R (Eds), *Handbook on Budgeting*, John Wiley & Sons, New York, NY, pp.833-60.

Chandra, G. (1987), *The behavioral aspects of budgeting*, in Sweeny, H.W.A., Rachlin, R (Eds), *Handbook on Budgeting*, John Wiley & Sons, New York, NY, pp.833-60.

Conine, T.E. (1982), *On the theoretical relationship between business risk and systematic risk*, *Journal of Business Finance & Accounting*, Vol. 9 No.2, pp.199-205.

- Cook, I.J., Rizzuto, R.J. (1989), "Capital budgeting practices for R&D a survey and analysis of Business Week's R&D scoreboard". *The Engineering Economist*, Vol. 34 No.4, pp.291-303.
- Copeland, T., Antikarov, V. (2003), *Real Options A Practitioner's Guide*, Thompson, Tampa, FL.
- De Leeuw, A.C.J. (1990), *Organizations Management. Analyse, Ontwerp en Verandering*, 4th ed., Van Gorcum, Assen.
- Dempsey, M. and Partington, G. (2004), 'The cost of capital equations under the Australian imputation tax system' Accounting and Finance Association of Australia and New Zealand Conference, Alice Springs.
- Doff, R. (2004), "Economic Capital en Risicobeheer bij Banken", NIBE-SVV.
- Doff, R. (2007), *Risk Management for Insurers Risk Control, Economic Capital and Solvency II*, Risk Books, London.
- Douglas, B.R. (1994), "The budgeting process in a multinational firm". *Multinational Business Review*, Vol. 2 pp.59-63.
- Ellis, B. (1966), *Basic Concepts of Measurement*, Cambridge University Press, Cambridge.
- Fama, E. and French, K. 1992, 'The cross-section of expected stock returns', *Journal of Finance*, vol. 47, pp. 427-65.
- Fenton-O'Creevy, M., Soane, F. (2001), "De Subjective Inschatting van Risico". *Mastering Risico*, Financieel Dagblad, pp. 32-38 (in Dutch).
- Freeman, M. and Hobbes, G. 1991, 'Capital budgeting Theory versus practice'. *Australian Accountant*, vol. 61, pp. 36-41.

Froot, K.A., Stein, J.C. (1998). "Risk management, capital budgeting, and capital structure policy for financial institutions: an integrated approach", *Journal of Financial Economics*, Vol. 47 pp.55-82.

Gitman L.J (1988) *Principles of Managerial Finance*, Harper & Row Mohd. Zulkhairi Mustapha and Susan Tho Lai Mooi 290 International, New York.

Gitman, I. and Mercurio, V. 1982, 'Cost of capital techniques used by major U.S. firms: Survey and analysis of Fortune's 1000', *Financial Management*, vol. 11, pp. 21-9.

Gitman, L.J., Forrester, J.R. (1977), "A survey of capital budgeting techniques used by major US firms", *Financial Management*, Vol 6 pp.66-71.

Goto, S. (2007). "The bounds of classical risk management and the importance of a behavioural approach". *Risk Management and Insurance Review*, Vol. 10 No.2, pp.267-

Graham, J. and Harvey, C. 2001, 'The theory and practice of corporate finance: Evidence from the field', *Journal of Financial Economics*, vol. 60, pp. 187-243

Guilding, C., Lamminmaki, D., Crury, C. (1998), "Budgeting and standard costing practices in New Zealand and the United Kingdom", *The International Journal of Accounting*, Vol. 33 No.5, pp.569-88.

Hamel, G and Prahalad, C.K. (1994), *Competing for the Future*, Harvard Business School Press, Boston, MA.

Irving Fisher (1930) put forward a separation theorem theory. *Australian Accountant*, vol. 61, pp. 36-41

Jones, C.J. (1986). "Financial planning and control practices in UK companies: a longitudinal study". *Journal of Business Finance and Accounting*, Vol. 13 pp.161-85.

Joye, M.P., Blayney, P.I. (1990), *"Cost and management accounting practices in Australian manufacturing companies: survey results"*. The Accounting and Finance Foundation, University of Sydney, Sydney, monograph.

Kadondi (2002) *A Survey of Capital Budgeting Techniques Used By Companies Listed at NSE*.

Kim, S.H., Farragher, E.J. (1981), *"Current capital budgeting practices"*, Management Accounting, Vol. 62 pp.26-30.

Klammer IP & Walker MC (1984) *The continuing increase in the Use of Sophisticated Capital Budgeting Techniques*. California Management Review, Fall, 137-148.

Klammer IP (1973) *The association of Capital Budgeting and Firm Performance*. The Accounting Review, (April), 353-364.

Klammer, I. 1973 *"The association of capital budgeting and firm performance"*. The Accounting Review, April 1973, pp.353-64.

Koedijk, K. 2004, 'Corporate finance in Europe: *Confronting theory with practice*'. Financial Management (2000), vol. 33, pp 71-101.

Kuritzkes, A., and Schuermann, T. (2006), *"What we know, don't know and can't know about insurance risk: a view from the trenches"*. in Diebold, F.X., Herring, R.J. (Eds), *The Known, the Unknown and the Unknowable in Financial Risk Management*. Princeton University Press, Princeton, NJ. .

Lawrence, M. (2000), *"Marking the cards at ANZ"*. Operational Risk Supplement. Risk Publishing, London, November, pp.s5-s12.

Lelyveld, I. (2006), in van (Eds) *Economic Capital Modeling Concepts, Measurement and Implementation*, Risk Books, London.

- Levy, H., Sarnat, M. (1986), *Capital Investment and Financial Decisions*, Prentice-Hall, Englewood Cliffs, NJ,
- Levy, H., Sarnat, M. (1986), *Capital Investment and Financial Decisions*, Prentice-Hall, Englewood Cliffs, NJ, .
- Lilleyman, P. 1984, 'Capital budgeting - current practices of Australian organizations', *Australian Accountant*, vol. 54, pp 130-3.
- Matten, C. (2000), *Managing insurance Capital*, 2nd ed., Wiley, New York, NY.
- McLaney, E., Pointon, J., Thomas, M. and Tucker, J. 2004. 'Practitioners' perspectives on the UK cost of capital' *European Journal of Finance*, vol. 10, pp. 123-38
- McMahon, R. 1981, 'The determination and use of investment hurdle rates in capital budgeting: A survey of Australian practice', *Accounting and Finance*, pp. 15-25.
- Monkhouse, P. 1993, 'The cost of equity under the Australian dividend imputation tax system', *Accounting and Finance*, vol. 33, pp. 1-18.
- Monkhouse, P. 1996, 'The valuation of projects under the dividend imputation tax system', *Accounting and Finance*, vol. 36, pp. 185-212.
- Moore, J.S., Reichert, A.K. (1989), "A multivariate study of firm performance and the use of modern analytical tools and financial techniques", *Interfaces*, Vol. 19 No.3, pp.79-87.
- Myers, S. (1977), "Determinants of corporate borrowing", *Journal of Financial Economics*, Vol. 5 No.November, pp.147-75.
- Myers, S.C., and Read, J.A (2001) "Capital allocation for insurance companies", *The Journal of Risk and Insurance*, Vol. 68 No.4, pp.545-80.
- Officer, R. 1994, 'The cost of capital of a company under an imputation tax system', *Accounting and Finance*, vol. 34, pp. 1-36.

Payne, J., Heath, W. and Gale, I., 1999, 'Comparative financial practice in the US and Canada Capital budgeting and risk assessment techniques', *Financial Practice and Education*, vol. 9, pp. 16-24.

Pike RH (1988) *An Empirical Study of the Adoption of Sophisticated Capital Budgeting Practices and Decision Making Effectiveness*. *Accounting and Business Research*, 18 (Autumn), 341-351.

Ruhana A (1998) *Malaysian Capital Budgeting Methods: Survey and Analysis*. In Annual PACAP/IMA Finance Conference on Asia Pacific Financial Market.

Ryun, P. and Ryan, G., 2002, 'Capital budgeting practices of the Fortune 1000: How have things changed?' *Journal of Business and Management*, vol. 8, pp. 355-64.

Saita, F. (1999), "Allocation of risk capital in financial institutions". *Financial Management*, autumn, pp.95-111.

Saita, F. (2004), "Risk aggregation: the risk manager's perspective", paper presented at European Financial Management Association Conference, June 30.

Schall, L.D., Sundem, G.L., Geijsbeck, W.R. Jr (1978), "Survey and analysis of capital budgeting methods", *The Journal of Finance*, Vol. 33 pp.281-7.

Scheffer, S. (2004), "Management control of credit risk in the bank lending process" Twente University, Enschede, PhD thesis,

Schroeck, G. (2002), *Risk Management and Value Creation in Financial Institutions*, Wiley, New York, NY.

Schwartz, H.W. (1987), "Budgeting and the managerial process". in Sweeny, H.W.A., Rachlin, R. (Eds), *Handbook on Budgeting*, John Wiley & Sons, New York, NY, pp.1-20

Srinivasan, U. (1987), *Current Budgeting Practices in US Industry*, Quorum Books, New York, NY, .

Van den Tillaart, and A.H.A.J. (2003), *"Managing operational risk concepts and practices"*, NIBE-SVV.

Van Triest, S. (2000), *The Cost Structure of Firms: Managing Fixed versus Variable Costs*, Twente University, Enschede.

Volberda, H. (1998), *The Flexible Firm How to Remain Competitive*, Oxford University Press, Oxford.

Wack, P. (1985), *"Scenarios uncharted waters ahead"*, Harvard Business Review, September/October, pp.73-89.

Weisenfeld, L., Tyson, T. (1990), *"How to make accounting a positive tool in management's hands"*, Management Accounting (UK), No.November-December, pp.19-20.

White, J.B., Miles, M.P., Robideaux, D.S., Arnold, D.R. *"An exploratory study into the effect of firm size on the utilization of capital budgeting techniques"*, Lander College Business Review, Vol. 5 No.1989, pp.6-10.

Winfrey, F.L., and Budd, J.L. (1997), *"Reframing strategic risk"*, SAM Advanced Management Journal, Autumn, pp.13-21.

Zaik, E. (1996), *"RAROC' at bank of America from theory to practice"*, Journal of Applied Corporate Finance, summer, pp.83-92.

APPENDIX I: QUESTIONNAIRE

Instructions:

- (a) Give brief answers in the spaces provided
- (b) In the boxes given please tick appropriately

1. Please indicate the type of business your organization undertakes _____

2. For how long has this organization been in operation in Kenya? (Tick as appropriate)

- a. Less than 1 year
- b. 1 to 5 years
- c. 6 to 10 years
- d. 11 to 15 Years
- e. 16 years and above

3. Please indicate the ownership of the organization using the categories below (please tick one as appropriate)

- a. Predominantly local (51% or more)
- b. Predominantly foreign (51% or more)
- c. Balanced between foreign and local (50/50)

4. How many full time employees does the organization have (Pleas tick as appropriate)?

- (a) Less than 25
- (b) 26 to 50
- (c) 51 to 75
- (d) 76 to 100
- (e) 101 employees and above

5. For how long have you worked in the organization? (Tick as appropriate)

- Less than 1 year
- Between 1 and 5 years
- Between 6 and 10 years
- Between 11 and 15 years
- 16 years and above

SECTION TWO: CAPITAL BUDGETING AND CAPITAL BUDGETING TECHNIQUES

6. Which kind of capital budgeting techniques does your company use?

- (a) Internal Rate of Return
- (b) Net present Value
- (c) Payback period
- (d) None of the above

7. What areas does your capital budget technique focus?

.....

.....

.....

.....

.....

8. The following are formal methods used in capital budgeting, including the techniques. Rate the methods according to their applicability within your company

Method	Very much applicable	Much applicable	Applicable	Moderately applicable	Not applicable
Net present value					
Internal rate of return					

9 Have these techniques been used by other insurance companies in the industry.

Yes

No

11 Have these capital budgeting techniques been successful in other insurance companies?

Yes

No

12 Has recognition of risk been an important component in capital budget decision making issue in your organization?

Yes

No

SECTION THREE: Capital Budgeting Techniques and Performance

13. To what extent do you agree with the following statements in relation to the relationship between Capital budgeting techniques and firm performance? (Use a scale of 1-5 where 1= strongly agree and 5 = strongly disagree)

Statement.	1	2	3	4	5
Capital budgeting techniques places a high importance on the budget-to-actual comparison for performance evaluation purposes					
Capital budgeting techniques being a standard for performance are used to evaluate managerial performance.					
Capital budget techniques are used by insurance companies in Kenya for setting goals and evaluating performance.					
Capital allocation methods can be assessed only in the context of the company's economic goals					

14. To what extent do the following behavioural outcomes of Capital budgeting process experienced in your organizational planning process which affect your performance?

Behavioural outcomes	Very low extent	Low extent	Moderate extent	Great extent	Very great extent
Enhanced goal congruence					
More universal participation					

15. Does appropriate capital investment decisions increase the company's long-term effectiveness and efficiency?

Yes

No

16. If your answer to the question above is yes, in which ways

.....

.....

.....

.....

17. "Adoption of the appropriate capital budgeting tools provides company managers with both the processes and techniques required to make decisions that will enhance the organization's resource base" to what extent do you agree with the statement?

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

18. Listed below are some of the liquidity ratios for the company. With respect to your organization, please indicate the extent to which each of the listed ratios has influenced the capital budgeting.

Liquidity ratios that have influenced capital budgeting	Response				
	Very much (5)	Much (4)	Somehow (3)	Neutral (2)	Not at all (1)
Current ratio = current assets / current liabilities					
Quick ratio = cash and cash equivalents + short term investments + net trade receivables / current liabilities					
Working capital turnover = revenue / working capital					
Days of cash					

