THE EFFECT OF FOREIGN EXCHANGE RISK ON PROJECT MANAGEMENT: A CASE OF PROJECTS FUNDED THROUGH KENYA MEDICAL RESEARCH INSTITUTE

BY

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DECLARATION

This research project is my original work and has not been presented for the award of any degree at any other University or Institute.

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This research project has been submitted with my approval as the University Supervisor

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DEDICATION

This work is dedicated to my dear wife Scola and my children Kevin, Shawn and Ian for their patience and understanding during my absence from the family to search for knowledge and their encouragement during my down moments in pursuit of the course to contribute towards academic knowledge. I would also like to dedicate this work to my parents for their tireless efforts to build a strong foundation for my future. Thank you all.

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ABSTRACT

The general objective of this research study was to establish the effects of foreign exchange risk on project management in KEMRI with two specific objectives namely; to establish the determinants for exposure to exchange rate risk on projects funded through KEMRI and to explore the effects of exchange rate fluctuation in the medium term period of a project timing, scope and quality.

This research was a descriptive case study of forty five (45) donor funded projects financed in currencies other than the Kenya Shilling through KEMRI. The study population was all foreign funded KEMRI projects in the period 2000 to 2012 (n=363). Quantitative primary data was analyzed from a sample size of forty five projects picked through simple random sampling. Self-administered questionnaires were delivered to key respondents or project officers who were believed to have knowledge about the projects they were representing using 'drop and pick later' technique. Descriptive statistics were used to analyze the data.

The findings in this study were consistent with theoretical literature on the effects of foreign exchange rate risk on project management as documented in CPA Australia Ltd (2009) and UNHCR (2005). Empirically the study was consistent with findings from Ngugi (2006). The independent variables could explain 87.7 % of the exposure to foreign exchange rate risk on projects funded through KEMRI, meaning that 12.3 % could be explained by other factors that affect foreign exchange rate risk but not related to these variables. The results also revealed that financing time lag or delays in release of funds by donors accounted for 91.1 % of the total exposure with inflation and interest rates accounting for 91.1% as well, variation of budget rate from actual rate of exchange accounted for 80%, monthly revaluation explaining 71.1%, conversion rates accounting for 68.9%, management support at 68.8%, lack of dedication at 62.2% and lastly exchange rate fluctuation at 60% of the total exposure if the variables were run individually. In addition to variables used in Ngugi (2006) study, three other variables were introduced namely; inflation, interest rates and budget rates. The inclusion of these

additional independent variables accounted for the rise in percentage from 81.2% in Ngugi's study to 87.7% in this study.

The study recommends that more research be done on the effects of foreign rate risk on project management and focus on the management strategies to curb the negative effect on project management especially in the absence of any hedging strategies. Additionally as the funding trend grows in terms of volumes in grants, it would be wise for donors to embrace foreign exchange risk management techniques to cushion projects from the negative effect of exchange rate fluctuations. Risk management being an integral part of funding and project management should be incorporated in the process of grant applications in addition to formulating benchmarks for decision making in the world of non-profit making organizations. This will ensure that losses incurred by projects through foreign exchange transactions are minimized.

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LIST OF ABBREVIATIONS

ILRI	International Livestock Research Institute
INGO	International Non Governmental Organization
KEMRI	Kenya Medical Research Institute
MoEST	Ministry of Education Science and Technology
MoMS	Ministry of Medical Services
MoPHS	Ministry of Public Health and Sanitation
MSARC	Medical Sciences Advisory Research Committee
NCST	National Council for Science and Technology
NPV	Net Present Values
PMBOK	Project Management Body Of Knowledge
PMI	Project Management Institute
UNHCR	United Nation High Commission for Refugees
VaR	Value at Risk

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Organizations including private, governmental and nongovernmental, for profit and not for profit undertake various types of projects for various reasons. In the case of profit making organizations the main reason for undertaking these projects is to increase the value of the firm by embarking on projects with positive net present values (NPV) which ensure the flow of future cash flows Ngugi (2007).

On the other hand in governmental and non-governmental organizations this may not necessarily be true. Most of these organizations are formed for a specific purpose or to undertake a specific mandate. For instance in the case of Kenya Medical Research Institute (KEMRI) a government institution, the choice of projects is guided by its mandate in research and the importance of a particular research project is pegged on its benefit to the general populations' health. It is therefore not surprising that they can pick a project that does not have a positive NPV just because it meets the mandate of its operation Ngugi (2007).

1.1.1 Foreign Exchange Risk

Foreign exchange risk is the risk that a business's financial performance or position will be affected by fluctuations in the exchange rates between currencies, according to CPA Australia Ltd (2009). The risk is most acute for businesses that deal in more than one currency. However, other businesses are indirectly exposed to foreign exchange risk if, for example, their business relies on imported products and services. Foreign exchange risk should be managed where fluctuations in exchange rates impact on the business's profitability. In a business where the core operations are other than financial services, the risk should be managed in such a way that the focus of the business is on providing the core goods or services without exposing the business to financial risks.

Foreign exchange risk can be measured through the following ways; first, maintaining a register of exposures and their associated foreign exchange hedges. Basically the details

of each hedge are recorded against its relevant exposure. Secondly, tabling projected foreign currency cashflows where the business both pays and receives foreign currency, it will be necessary to measure the net surplus or deficit for each currency. This can be done by projecting foreign currency cash flows. This not only indicates whether the business has a surplus or is short of a particular currency, but also the timing of currency flows. Thirdly, undertaking a sensitivity analysis to measure the potential impact on the business of an adverse movement in exchange rates. Fourthly by using a probability approach when undertaking sensitivity analysis known as 'value at risk'.

The researcher proposes to operationalize foreign exchange risk through five variables, that is, time lag, monthly asset revaluations, conversion rate, budget rate and inflation and interest rate. A questionnaire with specific statements administered to respondents requiring a choice of one response from a range of five possible likert responses from strongly agree to strongly disagree will be used to achieve this.

1.1.2 Project Management

Project management is the discipline of planning, organizing, securing, managing, leading, and controlling resources to achieve specific goals Ireland (2006). The primary challenge of project management is to achieve all of the project goals and objectives while honoring the preconceived constraints. The primary constraints are scope, time and cost Phillips (2003). Secondary and more ambitious challenge is to optimize the allocation of necessary inputs and integrate them to meet pre-defined objectives PMI (2010).

Project management is measured through scope, time and cost also referred to as the project management triangle or triple constraint or the iron triangle. It is often used to illustrate that project management success is measured by the project team's ability to manage the project, so that the expected results are produced while managing scope, time and cost Phillips (2003). Projects need to be performed and delivered under scope, time, and cost constraints. One side of the triangle cannot be changed without affecting the others. The time constraint refers to the amount of time available to complete a project.

The cost constraint refers to the budgeted amount available for the project. The scope constraint refers to what must be done to produce the project's end result. These three constraints are often competing constraints: increased scope typically means increased time and increased cost, a tight time constraint could mean increased costs and reduced scope, and a tight budget could mean increased time and reduced scope.

1.1.3 Effects of Foreign Exchange Risk on Project Management

In project management a falling domestic exchange rate will result in loss of revenues budgeted for project implementation. This will adversely affect the scope, cost and time of the project and consequently bring about undesirable effects like non completion of the project or if the project will be completed the quality may be compromised due to budgetary limitations. This will affect the personnel budgets, equipment budgets and the supplies budgets which are crucial elements in determining the success of any project.

A rising domestic exchange rate will result in gains of revenues budgeted for project implementation. This will favorably affect the scope, cost, time and by extension the quality of the project and consequently bring about desirable effects like completion of the project on time and achieving quality results. This may result in motivating project employees, acquiring quality equipment and supplies which sequentially lead to the success of any project.

1.1.4 Kenya Medical Research Institute

The Kenya Medical Research Institute (KEMRI) is a state corporation established through the science and technology (amendment) act of 1979, as a body responsible for carrying out health research in Kenya. Since its inception, KEMRI has developed a critical mass of scientists and technical personnel to enable it mount a competitive research infrastructure to rank as a leading centre of excellence in health research both in Africa as well as globally.

KEMRI envisions being a leading centre of excellence in human research and its mission is to improve the quality of human life and public health through innovative research, capacity building and service delivery. Its mandates include; to carry out research in

human health, to cooperate with other research organizations and institutions of higher learning on matters of relevant research and training, to work with other research bodies within and outside Kenya carrying out similar research, to cooperate with the MoPHS, the MoMS, the NCST and the MSARC in matters pertaining to research policies and priorities.

KEMRI has, over the years, developed fruitful collaborative links with a large number of institutions locally and abroad, and these links are constantly changing or increasing. Over 90% of KEMRI projects depend on external funding which is received in currency denominations other than the Kenya shilling.

1.2 Research Problem

In the world today, the economic environment in which most firms operate is highly volatile and uncertain Brucaite & Yan (2000). One of the main factors affecting this process is the increased market globalization and internationalization, which is reflected in increased foreign exchange demands, interest, inflation rates, fluctuations, as well as in high competition and demand levels. Consequently, firms will be exposed to the risks. Increased volatility of international markets generates increased financial risk to the companies Brucaite & Yan (2000). Exchange rate fluctuation is one of the financial risks where the increased volatility is reflected to a great extent.

A substantial number of non-governmental and governmental organizations receive funding in foreign currency denominations to fund their projects in Kenya. These organizations are exposed to the effects of foreign exchange rate fluctuations Ngugi (2007). The organizations are particularly exposed to the exchange rate risk when there are delays in releasing funding, when converting the foreign exchange to the expenditure currency, when there are differences between their budget rate and exchange rate, when revaluation of assets is done using the foreign currency denomination and when the interest rates and inflation rates fluctuate. These fluctuations in exchange rates result in unexpected gains and losses for projects. While gains are a welcome windfall for already tight budgets, losses can often be very damaging to the projects in terms of

implementation, scope, quality and reputation to the financiers. To minimize such variances and by large the effects of the foreign exchange exposure on project management, there is need to conduct studies on foreign exchange risk and its management.

Although the findings of the empirical studies are mixed, the bulk of the evidence suggests that exchange rate fluctuations affect to a certain extent shareholders wealth demonstrating that exchange risk exposure does matter in both practical and economic sense A recent study by Ngugi (2007) found out that the independent variables could explain 81.2 % of the exposure to foreign exchange rate risk on projects funded through International Livestock Research Institute (ILRI), meaning that 18.8 % could be explained by other factors that affect foreign exchange rate risk but not related to these variables. The study had major limitations in terms of other sources of exchange rate risk exposures. The study was also carried out within the constraints of time and resources and therefore other issues like finding out strategies to manage exposure to foreign exchange rate risk were not examined and are therefore a gap that the researcher intends to fill. It follows therefore that the limitations in Ngugi's study formed the basis of this study. The researcher sought to answer the research question **"**what are the effects of foreign exchange rate risk on project management in KEMRI"?

1.3 Research Objectives

General Objective:

To establish the effects of foreign exchange risk on project Management in KEMRI

Specific Objectives:

i) To establish the determinants of exposure to exchange rate risk on projects funded through KEMRI

ii) To explore the effects of exchange rate fluctuation in the medium term period of a project timing, scope and quality

1.4 Value of the Study

Theoretically, study findings would contribute to academic literature on the field of foreign exchange risk exposure and management in Kenya where little is known about risk management as pertains governmental organizations due to few studies on the subject. Understanding the systematic effects of changes in foreign exchange rate on operations of the governmental institutions would likely help the institutions better prepare for variations in its contingent liability associated with adverse developments in the macroeconomic and financial market environment, Ngugi (2007). This study would document the problem of limited understanding on the extent and impact of foreign exchange risk on projects of this nature in governmental organizations in Kenya.

The study findings would contribute to policy formulation to govern the management of foreign exchange rate fluctuations in projects funded by foreign currency through governmental institutions, non governmental institutions and private organizations.

This study would also benefit entrepreneurs and research officers applying for funding from the international donor community to run their projects well in terms of knowledge and practice on management of the foreign exchange exposure and how to employ other methods of averting the effects of the exposure in lieu of hedging.

Finally, the study findings would provide direction for further research in topics relating to foreign exchange risk and management in not for profit organizations and governmental organization, an area that has not been extensively researched in the recent past.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter focuses on discussing theoretical and empirical literature review on foreign exchange risk exposure. It also discusses in detail the topic of foreign exchange risk, its measurement and management in both the world of profit making organizations and not for profit organizations. It provides a detailed discussion on the effects of exchange rate risk and the determinants of foreign exchange rate risk on projects.

2.2 Theoretical Review

There are four basic foreign exchange rate parity theories dominating financial academics today, these are; Purchasing Power Parity (PPP), International Fisher relation, Foreign exchange expectations relation and Interest rate parity relation.

2.2.1 Purchasing Power Parity

PPP is the law of one price and argues that every equal product available in two countries should have the same price Ethier (1995). Thus trade flows should ensure the one-price rule. However, this strict application of the rule cannot be expected to apply, since between two countries there is only a single exchange rate linking their respective currencies. This suggests that PPP only makes sense when applied to a bundle of goods and services, implying that we should be looking at a price index for each country. Then PPP tells us that there ought to be an exact connection between inflation rates in two countries, and changes in the exchange rate between them. In practice, empirical support for PPP is quite mixed, though on average over fairly long periods it seems to fit the facts fairly well.

2.2.2 International Fisher Relation

International fisher relation theory states that nominal interest rates and inflation rates in different countries are connected Pandey (2004). The Fisher equation holds that the nominal interest rate is the product of one plus the real interest rate times one plus the expected rate of inflation. Let the nominal interest rate be r, the real rate be R. Let the expected rate of inflation be E(I). Then for a given economy, $(1 + r) = (1 + R).(1 + E(I))$

that is, the nominal rate of return (or rate of interest) is the real return compounded with the expected rate of inflation. In linear approximation, this is simply: r = R + E(I).

2.2.3 Foreign Exchange Expectations Relation

Foreign expectations relation theory states that: F = E(S1), which means that the current value of the forward exchange rate for one period ahead must equal the current expectation of the spot rate that will prevail Pandey (2004). In other words, the forward exchange rate is an unbiased predictor of the future spot rate. However, sometimes it is argued that the relationship, under conditions of risk, needs to be amended by a risk premium. Alternatively, the relationship can be written in the equivalent form involving the forward discount or premium, f: f = E(s).

2.2.4 Interest Rate Parity Relation

Interest rate parity characterizes the relationship between interest rates and exchange rates of two countries Pandey (2004). The theory states that the exchange rate of two countries will be affected by their interest rate differential. The currency of a high interest rate country will be a forward discount relative to the currency of a low interest rate country and vice versa. The exchange rate (forward and spot) differential will be equal to the interest rate differential between the two countries.

Interest rate parity holds that investors should earn the same return on security investments in all countries after adjusting for risk, Ehrhardt and Brigham (2003). It recognizes that when you invest in a country other than your home country, you are affected by two forces, that is, returns on investment itself and changes in the exchange rate.

2.3 Foreign Exchange Rate Risk

Foreign exchange risk is the risk that a business's financial performance or position will be affected by fluctuations in the exchange rates between currencies CPA Australia Ltd (2009). The risk is most acute for businesses that deal in more than one currency. However, other businesses are indirectly exposed to foreign exchange risk if, for example, their business relies on imported products and services. Foreign exchange risk should be managed where fluctuations in exchange rates impact on the business's

profitability. In a business where the core operations are other than financial services, the risk should be managed in such a way that the focus of the business is on providing the core goods or services without exposing the business to financial risks.

Foreign exchange risk arises from trade in imports or exports, capital expenditure denominated in foreign currency, revenue from exports received in foreign currency, royalties, interest and dividends received in foreign currency, business's loans payable in foreign currency, offshore assets valued in a foreign currency or foreign currency deposits.

2.3.1 Measurement of Foreign Exchange Risk

Measuring and managing exchange rate risk exposure is important for reducing a firm's vulnerabilities from major exchange rate movements, which could adversely affect profit margins and the value of assets, Papaioannou (2006). The traditional types of exchange rate risk faced by firms include transaction, translation and economic risks. There are many ways of measuring foreign exchange risk including; i) Maintaining a register of foreign currency exposures and their associated foreign exchange hedges. ii) Projecting foreign currency cashflows to indicate whether the business has a surplus or is short of a particular currency and also the timing of currency flows. iii) Undertaking a sensitivity analysis to measure the potential impact on the business of an adverse movement in exchange rates. iv) Using probability approach when undertaking sensitivity analysis, that is, value at risk.

Value at Risk (VaR) approach is currently the predominant method of measuring a firm's exchange rate risk exposure but there are exchange rate risk management strategies, including tactical versus strategically and passive versus active hedging.

2.3.2 Management of Foreign Exchange Risk

The main methods of managing foreign exchange risk according to Papaioannou (2006) include; Forward exchange contract: which enables the business to protect itself from adverse movements in exchange rates by locking in an agreed exchange rate until an

agreed date. The transaction is deliverable on the agreed date. The problem with this method is that the business is locked into the contract price, even when the rate movement is advantageous to it.

Foreign currency options: which enable an entity to purchase or sell foreign currency under an agreement that allows for the right but not the obligation to undertake the transaction at an agreed future date.

Perfect hedge: which matches any outgoing foreign currency payments against foreign currency inflows received at exactly the same time. This method is rarely used due to the uncertainty of timing of the cash flows. The inflow and the outflow must occur at exactly the same time to provide a perfect hedge.

Foreign currency bank accounts and loan facilities are alternative methods of managing foreign exchange risk that can be used when the timing of the foreign currency inflows and outflows don't match. The timing issues can be managed by depositing surplus foreign currency in a foreign currency account for later use, or by borrowing foreign currency to pay for foreign currency purchases, and then using the foreign currency to repay the loan.

2.4 Effects of Exchange Rate Risk on Projects

A falling domestic exchange rate can have the following effects; it can increase costs for importers, thus potentially reducing their profitability, CPA Australia Ltd (2009). This can lead to decreased dividends, which in turn can lead to a fall in the market value of the business, domestically produced products can become more competitive against imported products, it can increase the cost of capital expenditure where such expenditure requires, for example, importation of capital equipment, the cost of servicing foreign currency debt increases, exporters may become more competitive in terms of costs, potentially increasing their market share and profitability, the business could become a more attractive investment proposition for foreign investors, for the business, the cost of investing overseas could increase.

A rising domestic exchange rate can have the following effects; exports can be less competitive, thus reducing the profitability of exporters. This can lead to decreased dividends, which in turn can lead to a fall in the market value of the business, it can decrease the value of investment in foreign subsidiaries and monetary assets (when translating the value of such assets into the domestic currency), foreign currency income from investments, such as foreign currency dividends, when translated into the domestic currency may decrease, the cost of foreign inputs may decrease, thus giving importers a competitive advantage over domestic producers, the value of foreign currency liabilities will fall. Hence the cost of servicing these liabilities decreases, the cost of capital expenditure will decrease if it is for the importation of capital equipment, for example, the business potentially becomes a less attractive investment proposition for foreign investors, the cost of investing overseas may decrease.

2.5 Determinants of Foreign Exchange Rate Fluctuations on Projects

There are several determinants of foreign exchange rate fluctuations but the focus of this study is on the following;

2.5.1 Time Lag

According to UNHCR (2005) the effect of currency exchange fluctuations on pledges depends on the timing of the pledge, the currency the pledge is denominated in, the date of payment of the pledge and the operational exchange rate in force on those dates. From the time a written pledge or notice of award for funding is received from a donor and recorded, exchange gains and losses are recorded in the accounts till the pledge is paid in full.

2.5.2 Monthly Revaluation of Monetary Assets

According to UNHCR (2005) at the end of each month, most international organizations as well as local governmental and nongovernmental organizations revalue all their monetary assets denominated in currencies other than the Kenya Shilling. This generates exchange gains and/or losses based on the difference between the organizations'

operational rate of exchange in effect when transactions are recorded and the rate of exchange at the end of month closing.

2.5.3 Currency Conversions

The currencies in which contributions to foreign funded projects are received and held differ from the currencies in which a large proportion of expenditures are incurred Ngugi (2007). Because of this multi-currency operational environment, the foreign funded projects must convert one currency to another to fund expenditures, which exposes the office to gains and losses which arise from fluctuations in the applicable operational rate of exchange following the actual fluctuations in international monetary markets. It is not possible to eliminate all gains and losses that arise from foreign exchange rate changes between the functional currency and the currency of assets / liabilities.

2.5.4 Budget Rates

The inevitable discrepancies between the exchange rate used in budget preparation and the actual exchange rates have a more than perceptible influence on the total projected expenditures for the year according to UNHCR (2005). For purposes of illustration, if the foreign currency strengthens against the Kenya Shilling during the year, and everything else remains the same, less expenditure would be incurred in foreign currency terms for the same level of activity as budgeted. On the other hand, if the foreign currency weakens against the Kenya Shilling during the year, more expenditure would be recorded in the foreign currency terms for the same level of activity. In theory, these decreases / increases in expenditure would be offset by an inverse movement on the income side. However, impacts on income and expenditure are, in reality, non-synchronous due to the factors listed in above.

2.5.5 Interest Rates and Inflation

Interest rates, inflation and exchange rates are all highly correlated Pandey (2004). By manipulating interest rates, central banks exert influence over both inflation and exchange rates, and changing interest rates impact inflation and currency values. Higher interest rates offer lenders in an economy a higher return relative to other countries. Therefore, higher interest rates attract foreign capital and cause the exchange rate to rise.

The impact of higher interest rates is mitigated, however, if inflation in the country is much higher than in others, or if additional factors serve to drive the currency down. The opposite relationship exists for decreasing interest rates, that is, lower interest rates tend to decrease exchange rates.

2.6 Empirical Review

Internationally, there are many different approaches to analytically describing how currency fluctuations affect firm value. But before all else, it has to be stressed that exchange risk exposure, the sensitivity of firm value to currency movements, can only be defined with regard to an explicit time period; the exposure of a firm being directly contingent upon the investment horizon Dumas (1978). Lessard (1979) documents the extent to which the nature of currency risk exposure changes as the period for which one considers the exposure is farther in the future. Stulz and Williamson (2000) studied the overall impact of exchange rate movements on firm value distinguishing between transaction contractual exposure, translation exposure and competitive exposure, respectively.

The basic idea is that as exchange rate variations affect the relative prices of goods sold in different countries, they affect a firm's competitive position and indirectly influence its economic environment and future development possibilities Flood and Lessard (1986), The complexity of the relationship between exchange rate fluctuations and competitiveness, makes it quite difficult to correctly estimate competitive exposure and hence, to hedge it efficiently.

Shapiro (1975) modeled the relationship between firm value and exchange rates. His two-country model predicted that a depreciation in the value of the home currency led to an increase in the value of the home country firm and a decrease in the value of its foreign competitors. Describing the impact of currency fluctuations on a profit function that allows for purchasing, sales and payment collection at three different points in time, Dumas (1978) suggests that, whereas a firm's translation exposure is known, its total exposure always remains uncertain: it is a function of future exchange rate fluctuations,

macroeconomic effects and the responsive behavior of the firm. Hodder (1982) argues that exchange rates affect firm value through their influence on prices. Taking the net value of the firm as starting point, he shows that the firm's exchange rate exposure may be split in four different parts; the domestic price related exposure, the foreign real asset exposure, the inflation related exposure and the firm's fully exposed foreign borrowing exposure. Hodder's advance lies in the unambiguous expression of the fact that even a purely domestic firm can be exposed to unanticipated exchange rate movements and that exposure is contingent upon the adjustment of prices.

Flood and Lessard (1986) hold that as the value of a firm is the present value of its current and future cash-flows, a firm's exchange rate exposure can be estimated by focusing on the effects exchange rate movements have on these cash flows. Limiting their analysis to operating cash-flows, they analyze the so-called operating exposure of the firm and distinguish between the competitive and the conversion effect of exchange rate fluctuations.

Booth and Rotenberg (1990) show that the firm's real price and cost structure, its discount rate, the observed deviation from the relative purchasing power parity and the transaction costs related to the economic barriers to arbitrage and the legislative ones imposed by government restrictions are key variables that influence the currency risk exposure of the company. In the model developed by Hekman (1985) corporate valuation theory, corporate macroeconomic linkages and an expectation theory of exchange rate movements are related. Hekman configures the model in such a way that all macroeconomic relationships are only dependent on the initializing rate of the stochastic process that exchange rate are expected to follow.

Levi (1994) explores the relationship between firm value and exchange rates from a microeconomic point of view, relating foreign exchange risk exposure to economic and financial characteristics of the company. He therefore develops a multi-currency model, which takes both the tax rate and the firm's net monetary asset and liability position for each currency into account. Distinguishing between a one-product exporting and a one-

product importing firm, he shows that the sensitivity of the firm to exchange rate changes of currency *j* depends directly on the elasticity of demand for the product in country *j* and on the profit generated in country *j*. He also shows that the impact of exchange rate fluctuations varies inversely with the tax rate and the opportunity cost of capital.

Locally, Ngugi (2006) focused on establishing the determinants of exposure to foreign exchange rate risk on projects funded through ILRI, exploring the effects of exchange rate fluctuations in the medium term period of a project in terms of project timing, scope and quality and establishing the effect of exchange rate fluctuation on the operations of ILRI.

The study found out that the independent variables could explain 81.2 % of the exposure to foreign exchange rate risk on projects funded through ILRI, meaning that 18.8 % could be explained by other factors that affect foreign exchange rate risk but not related to these variables. The results also revealed that financing time lag accounted for 71.3 % of the total exposure with conversion exposure accounting for 55.3 % at US S and monetary monthly revaluation explaining 67.4% at of the total exposure if the variable were run individually. In total, the foreign exchange loss from financing lag time stood at $146,502.55, due to currency conversion there was an exchange loss of$279,706.11, with monetary revaluation contributing to $192,130.48 for the period under study.

Ubindi (2006) found out in his study that most forex bureaus foreign exchange risk management systems were governed by guidelines set by the central bank of Kenya as well as their individual decisions as cases demanded. Transactions that exposed forex bureaus to foreign exchange risks were; buying and selling of foreign currencies, cross currency dealings and investing and financing in foreign currencies. The United States dollar, the Sterling pound and the Euro were currencies that were greatly traded and thus had the greatest contribution to foreign exchange risk. Forex bureaus indicated to face Transaction, Economic and Accounting exposure. Transaction exposure was rated as the most critical compared to the other two forms of exposures. Other foreign exchange risks included; forecast risks, market structure, money laundry and currency fraud. Market

measures of foreign exchange risks were bench marking, price determination, foreign exchange fluctuations, weekly exposure reports and transaction, economic and accounting exposure concepts. The foreign exchange risk management practices they used to mitigate foreign exchange risk emanating from foreign exchange dealings were; use of forward contracts (most frequently used financial instrument), money market hedge, currency swap, currency option, use of fake currency detector, currency scanning machine, dealing with well known customers and holding III adequate resources in terms of foreign currency assets and liabilities. Hedging strategies used include; diversification, matching and risk sharing. Regular and systematic appraisal of foreign exchange risk management policies was a common practice amongst most of them. Most forex bureaus indicated that their foreign exchange risk management systems were governed by guidelines set by the central bank of Kenya as well as their individual decisions as cases demanded.

The findings from most forex bureaus were similar to empirical evidence but considerably inconsistent with recommendations of academic literature. Forex bureaus, regardless of their size, extensively utilized most of the conventional hedging instruments.

Various inferences were drawn from Omagwa (2005) findings; the responding banks employed both conventional and bank-specific foreign exchange risk management practices. Most banks considered credit/default risk to be the most critical of all financial risks though empirical evidence shows that foreign exchange risk is the most critical risk for most firms. A strong majority of the banks did not find the Kenyan currency market to be information efficient. The banks' views on market fundamentals and what constitutes foreign exchange risk management best practices had a significant bearing on hedging practices adopted. Regular and systematic appraisal of exchange risk management policies was a common practice amongst most banks. For most banks, foreign exchange risk management systems were governed by guidelines set at the head office (highly centralized foreign exchange risk management systems). The findings from

most banks were similar to empirical evidence but considerably inconsistent with recommendations of literature.

Kimoro (2010) surveyed the foreign exchange rate risk management Practices adopted by microfinance institutions in Kenya. The study found out that the key foreign exchange reserves risks faced by the Central Bank of Kenya were; credit risk, liquidity risk, political risk, operational risk and market risk. The risk management strategies adopted by the Bank in managing these risks included but were not limited to; internal control procedures, portfolio construction, tranching of reserves and strategic asset allocation.

The study recommended establishment of a framework that identifies and assesses the ris ks of reserves management operations that allows the management of risks within accepta ble parameters and levels. The framework should seek to identify the possible risks that may impact on portfolio values and to manage these risks through the measurement of exposures, and where necessary, supporting internal control procedures to mitigate effects of these risks. The study also recommended the determination of risk parameters that included the minimum acceptable credit ratings for the counterparties to deal with. The study further recommended the continuous monitoring of risk exposures to determine whether exposures had been extended beyond acceptable limits. Value at Risk (VaR) or other simulation methodologies may be adopted as part of the risk management and monitoring framework

A study by Njunge (2010) surveyed the foreign exchange rate risk management practices adopted by microfinance institutions in Kenya. The study found out that there were various foreign exchange risk management practices adopted by micro finance institutions in Kenya. These included price adjustment, delay of payment when foreign currency was strong and delay accelerate when weak, forward covers, use of swaps, Netting and price negotiation. The least used methods of foreign risk management were prepayment, buying and saving currency in advance. The study further found out that the microfinance institutions had employed various methods of measuring foreign exchange risk. These included fluctuation in demand, firm market value analysis and exposure

through decrease in market share. The study recommended that microfinance institutions in Kenya needed to employ risk management policies aimed at reduction of bankruptcy and distress costs, reduction in expected tax payments, reduction in expected payments to stakeholders and reduction in cost of raising funds.

2.7 Summary of Literature Review

Many studies done on the effects of exchange rate exposure were focused on studying the effects of exchange rate fluctuation on the value of the firm and their management or the sensitivity of exchange rate exposure on the value of the firm. Although considerable advances have been made in the understanding of currency risk exposure, many puzzles remain. The puzzles include the question of how firms' hedging activities affect their sensitivity to currency fluctuations, or equivalently, which companies should and which companies should not hedge their foreign currency exposure in order to maximize firm value. Furthermore, the particular effect of increased exchange rate volatility during periods of financial turmoil on shareholder wealth deserves to be empirically assessed.

While theoretical foundations of exchange rate exposure are evident, the empirical research is to a certain extent incomplete. The existing literature on the relationship between international stock returns and exchange rates have only found a non-existing or a relatively weak support of systematic exchange rate exposure. Muller and Verschoor (2006) in their study concluded that although the findings of the empirical studies are mixed, the bulk of the evidence suggests that exchange rate fluctuations affect to a certain extent shareholders wealth demonstrating that exchange risk exposure does matter in both practical and economic sense. A gap exists on the side of empirical research. More effort should be put to solving the puzzle. It is hoped that more research will be conducted to investigate the effects of foreign exchange rates exposure on project management in the developing countries where most of the projects are funded through foreign currency.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter documents the research methodology adopted in conducting the study. It explains the research design giving a definition of the study design and why this type of design was the most appropriate for this study. The chapter then identifies the population and sample size stating the sample design before proceeding to showing the data collection method and the data analysis blue print.

3.2 Research Design

This study was a descriptive case study of forty five (45) donor funded projects financed in currencies other than the Kenya Shilling through KEMRI. A descriptive case study is a research design where data is collected from one or a few study units only. It allows for in-depth exploration of issues in a phenomenon. It is important to identify the level of the case e.g. whether the study is a case at country level, industry level, sector level, organizational level or at individual respondent level. This study was a case at organization level.

3.3 Population

The population of interest in this study consisted of all projects financed through donor funding denominated in foreign currency in the period 2000-2012 inclusively. The target population was medium term projects carried out from 2000-2012.This period was selected for the following reasons; to facilitate at least three years of actual data on project inception implementation and completion. This period would be long enough to achieve the objectives of the study Ngugi (2007).

3.4 Sample Design

This study adopted simple random sampling. Cooper and Schindler (2006) state that simple random sampling is the purest form of probability sampling in which each population element has a known and equal chance of selection, that is probability is equal to sample size divided by the population size. The sample for the study was 45 projects selected from a target population of all projects funded in currencies other than the Kenya

shilling from the year 2000 and were completed by the year 2012 or they had at least one (1) year of existence by the end of 2012. From each project one target respondent was given a self administered questionnaire to fill.

This sample was assumed to be representative of medium term projects financed through KEMRI since according to the institution classification of projects, a short term project is the one that takes a duration of less than one year, a medium term project is the one that takes between one and 3 years while long term projects are those that take above 3 years. It was the opinion of the researcher that short term projects were numerous and while they clearly showed the effects of exchange rate fluctuations, the period would be too short to achieve the objective on the effects of exchange rate fluctuations in the medium term. Similarly long term projects are few to form a representative sample.

Sample Size – The study adopted an ad hoc method of sample size determination which was approximately 12% of all medium term projects (363) funded through KEMRI using currency other than the Kenya Shilling between 2000 and 2012.

3.5 Data Collection

The study had proposed to collect primary data from key informants (project officers) who were knowledgeable and experienced this area of study. Primary Data was collected using self administered questionnaires targeting key informants within the selected sample size. The questions targeted to collect information on; the effects of foreign exchange risk on project management in KEMRI, the determinants of exposure to exchange rate risk on projects funded through KEMRI and the effects of exchange rate fluctuation in the medium term period of a project timing, scope and quality.

No identifying information was required from respondents for the purpose of offering anonymity on the self-administered questionnaires to reduce social pressure, and thus reduce social desirability bias. According to Paulhus (1984) more desirable personality characteristics were reported when people were asked to write their names, addresses and telephone numbers on their questionnaire than when they were told not to put identifying information on the questionnaire.

3.5.1 Data Validity and Reliability

Data is only useful if it actually measures what it claims to be measuring and, in this respect, the concept of validity refers to the extent to which the data collected gives a true measurement or description of reality. To ensure data validity questionnaires were administered to selected key informants from the sample size believed to have the experience and knowledge required to answer the questions.

To ensure data reliability the questionnaire was designed with five likert scale responses ranging from strongly disagree to strongly agree. According to Bowling (1997) a likert-type scale assumes that the strength or intensity of experience is linear, that is on a continuum from strongly disagreeing to strongly agreeing. Likert Scales have the advantage that they do not expect a simple yes or no answer from the respondent, but rather allow for degrees of opinion, and even no opinion at all therefore quantitative data is obtained, which means that the data could be analyzed with relative ease.

Simple random sampling adopted in this study also promoted data reliability since it was the purest form of probability sampling in which each population element had a known and equal chance of selection according to Cooper and Schindler (2006).

3.6 Data Analysis

The study utilized computer spreadsheet packages and the Scientific Package for Social Sciences (SPSS) program for data analysis. A template was prepared on excel spreadsheet for data entry and exported to SPSS for analysis. Descriptive statistics for frequencies were used to determine the measures of central tendencies. Multiple regression was used to establish the independent variables X1…..Xn and the variables that would explain the proportion of the variance in the dependent variable which would be at significant level using a two by two Chi-Square table.

3.6.1 Analytical Model

A multivariate regression model was used to capture variables as follows;

$Y= \beta_0+ \beta_1X_1+ \beta_2X_2+ \beta_3X_3+ \beta_4X_4+ \beta_5X_5+E$

Where; Y= Project management would be measured through three variables namely cost, time and scope using:-(a) the mean of the scale of responses per category of questions and (b) the variance or standard deviation from the mean.

Therefore Coefficient of Variance (C.V) = $1-\left[\frac{\text{Standard Deviation}}{\text{Mean}} \times 100\%\right]$

X_1= the exchange rate exposure caused by time lag between funds notice of award and receipt

X_2= the exchange rate exposure caused by monthly revaluation of assets and liabilities held in the project's name

X_3= the exchange rate exposure caused by currency conversion into expenditure denomination

X_4= the exchange rate exposure caused by the difference between budget rate and actual exchange rate

X_5= the exchange rate exposure caused by inflation and interest rate

E= error term

The strength of the model was tested using coefficient of variance. Coefficient of variance is a statistical method that explains how much of the variability of a factor can be caused or explained by its relationship to another factor. Computed as a value between 0 and 1, where the higher the value, the better the fit. Coefficient of variance is symbolized by r^2, Cooper and Schindler (2006) because it is square of the coefficient of correlation symbolized by r. The coefficient of variance is an important tool in determining the degree of linear-correlation of variables ('goodness of fit') in regression analysis.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter details the findings from data analysis done on the data collected and presents results in form of descriptive statistics, tables and figures. The findings were presented on the demographics of the forty five (45) projects reviewed, the frequencies and measures of central tendency, correlation and the tests of association between the variables. These were followed by interpretation of findings at the tail end of the chapter.

4.2 Findings

A total of 45 donor funded projects administered under KEMRI were reviewed using primary data collected from key respondents from various KEMRI program areas namely; sexual, reproductive and child health 18(40%), infectious & parasitic diseases 13 (28.9%), non-communicable diseases 1(2.2%), public health & health systems 8 (17.8%) traditional medicines & drugs development 3 (6.7%), biotechnology 1 (2.2%) and general administration 1 (2.2%).

Of the 45 projects reviewed 29 (64.5%) were on going, 15 (33.3%) had completed operations and 1 (2.2%) had stalled. A total of 11 (24.4%) projects among the 45 projects sampled were ahead of scheduled time in terms of planned activities, 32 (71.2%) were within the scheduled time and 2(4.4%) were behind schedule.

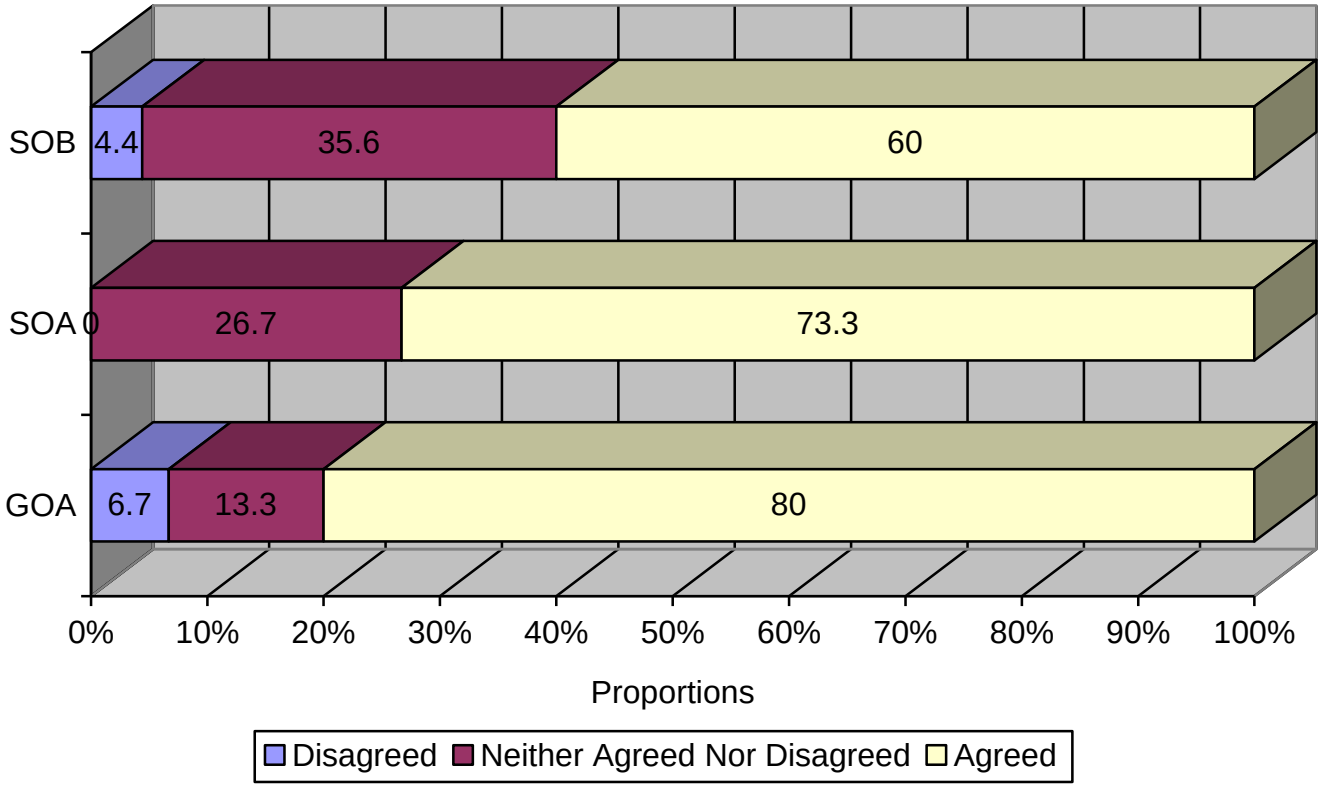
A cost comparison of the budgeted estimates of services and goods verses the actual market rate of the goods and services revealed that 4 (8.8%) of the projects had favorable budgets, 25 (55.6%) of the projects budgeted estimates corresponded to market rates while 16 (35.6%) of the projects had unfavorable budgets. 4 (8.9%) of the projects attained and surpassed their targets with regard to cost, time and quality of output, 34(75.5%) were within their targets while 7 (15.6%) did not attain their targets.

Table 4.1: A profile of foreign funded KEMRI Projects

Project Management Variables	**N (45)**	**%**
Program Area		
• Sexual, Reproductive and Child health	18	40.0
• Infectious & Parasitic Diseases	13	28.9
• Non-communicable Diseases	1	2.2
• Public Health & Health Systems	8	17.8
• Traditional Medicines & Drugs Development	3	6.7
• Biotechnology	1	2.2
• General Administration	1	2.2
Project Status		
• Ongoing	29	64.5
• Completed	15	33.3
• Stalled / suspended	1	2.2
Planned project activities in terms of completion		
• Ahead of scheduled time	11	24.4
• Within the scheduled time	32	71.2
• Behind the scheduled time	2	4.4
Comparison of market prices to project budgeted estimates		
• Below budget estimates	4	8.8
• Within budget estimates	25	55.6
• Above budget estimates	16	35.6
Attainment of project scope/targets with regard to cost, time and quality of output		
• The project surpassed its targets	4	8.9
• The project attained its targets	34	75.5
• The project did not attain its targets	7	15.6

Source: Research Findings

Figure 4.1: Respondents views on the effect of foreign exchange risks (GOA), risk exposure (SOA) and exchange rate fluctuation (SOB) on foreign funded projects



Source: Research Findings

Key:

GOA - Effect of foreign exchange risk on project management in KEMRI

SOA - Determinants of exposure to exchange rate risk

SOB - Effect of exchange rate fluctuations in the medium term period of project timing, scope and quality

Table 4.2: Measures of Central Tendency and Correlation

Parameters	**Sample Total**	**Mean(π)**	**Standard Deviation (∂)**	**C.V (100%) 1-(∂/π)**
GOA	45	3.925	0.748	80.9%
SOA	45	3.862	0.474	87.7%
SOB	45	3.712	0.614	83.5%

Source: Research Findings

Key:

GOA - Effect of foreign exchange risk on project management in KEMRI

SOA - Determinants of exposure to exchange rate risk

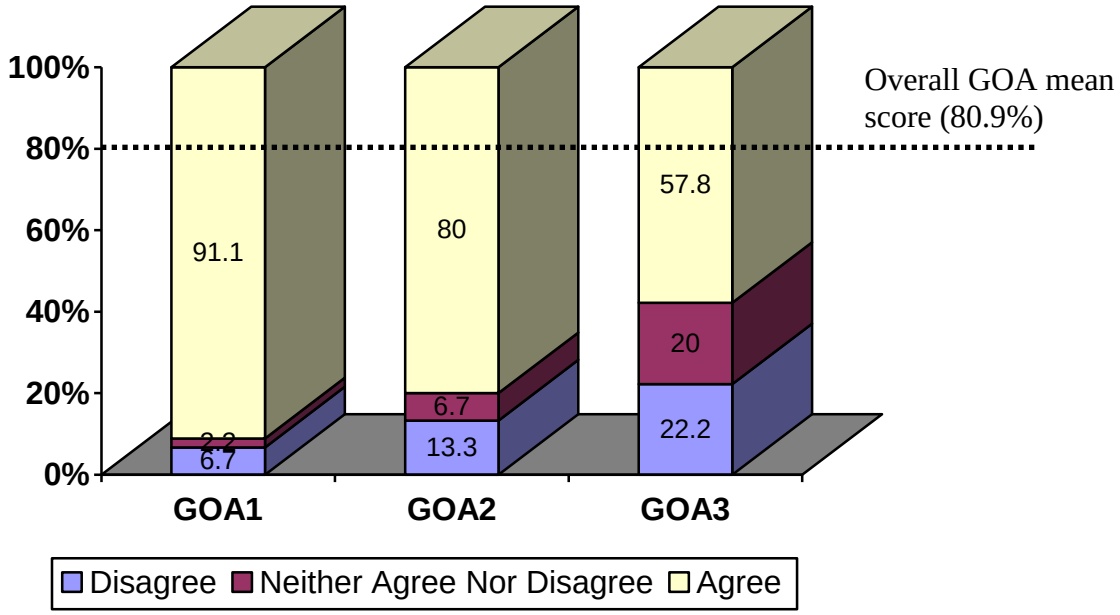
SOB - Effect of exchange rate fluctuations in the medium term period of project timing, scope and quality

∂ - Standard deviation

π - Mean

C.V =1- (Standard Deviation / Mean)

Figure 4.2: Effects of foreign exchange risk on project Management in KEMRI



Source: Research Findings

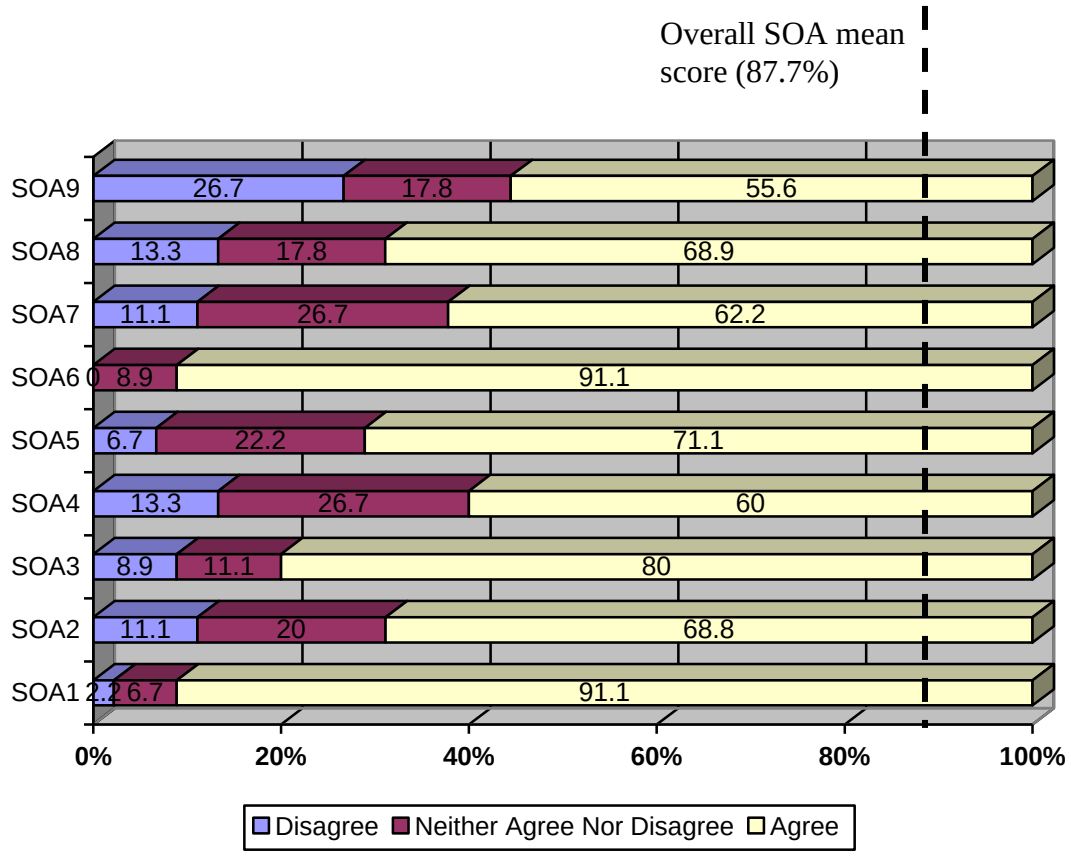
Key:

GOA1 - Time lag, conversion rates, budget rates, monthly asset revaluations, interest rates and inflation rates

GOA 2 - Falling domestic exchange rate

GOA 3 - Rising domestic exchange rate

Figure 4.3: Determinants of exposure to exchange rate risk on projects funded through KEMRI



Source: Research Findings

Key:

SOA1 - Delays in release of funds by donors quality

SOA 2- Management support

SOA 3 - Exchange rate variation between rate used in budget preparation and the actual exchange rates

SOA 4 –Foreign exchange rate changes between the functional currency and the currency of assets / liabilities

SOA5- Revaluation of monetary assets

SOA6- Inflation rates and interest rates

SOA7- Lack of dedication and urgency by National Partners

SOA8 - Conversion rates

SOA9- Exchange rate risk

Table 4.3: Test of Association

Variable		Project Management (n=45)		Test of Association				
		Successful	**Not successful**	**Chi-Square Value**	**F-Computed**	**d.f**	**p-value**	**Sig.**
GOA	Disagreed	5 (11.1%)	4 (8.9%)	0.93	0.76	1	0.05	n.s
	Agreed	22 (48.9%)	14 (31.1%)					
SOA	Disagreed	11 (24.4%)	1 (2.2%)	6.84	0.014	1	0.05	Sig
	Agreed	16 (35.6%)	17 (37.8%)					
SOB	Disagreed	13 (28.9%)	5 (11.1%)	1.86	0.172	1	0.05	n.s
	Agreed	14 (31.1%)	13 (28.9%)					

Source: Research Findings

Key:

F- computed – Fisher exact test (F-test)

d.f - degrees of freedom (2 rows x 2 columns) less 2 units

n.s - not significant (compares $F_{compted}$ vs F_{tables})

p-value = confidence interval. This data was analyzed at 95% C.I

From table 4.3 above, it was found that the determinants of exposure to exchange rate risk impacted on project management progress significantly, (chi-square = 6.84, p-vlaue = 0.014, d.f. = 1, CI = 95%).

Table 4.4: Binary logistic regression of PM against GOA, SOA and SOB

Variable	**β-value**	**d.f.**	**p-value**	**Sig.**
GOA	0.877	1	0.349	n.s.
SOA	-2.619	1	0.031	Sign
SOB	-0.175	1	0.816	n.s
PM - Constant	-0.018	1		

Source: Research Findings

From table 4.4 above the variables under the specific objective to establish the determinants of exposure to exchange rate risk on projects funded through KEMRI were the only significant variables (p-value 0.031)

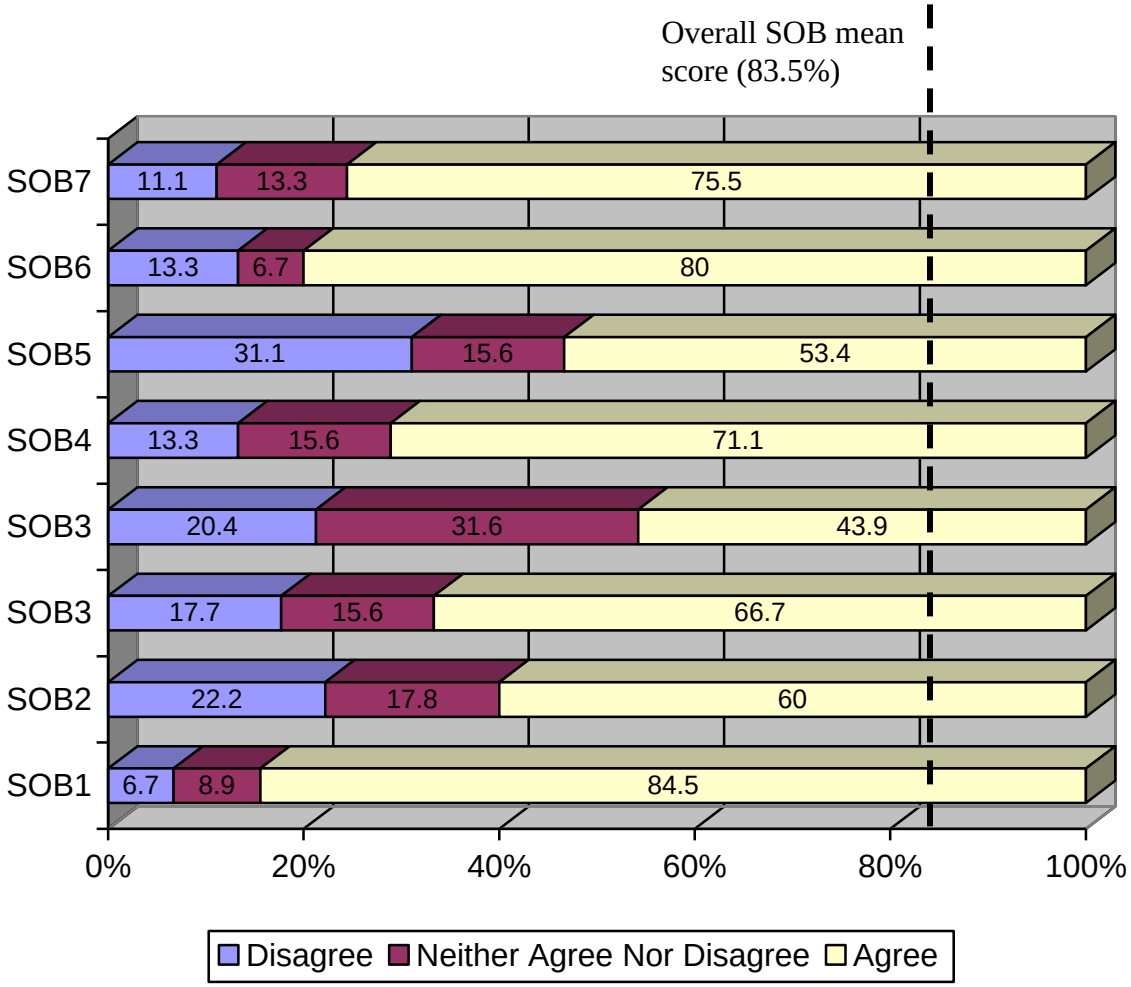
Table 4.5: A binary logistic regression on PM against variables of SOA

Determinates of exposure to exchange rate risk variables	B	S.E.	df	Sig.
SOA1(1)	-1.51	1.86	1	0.42
SOA2(1)	-1.07	1.03	1	0.30
SOA3(1)	0.40	1.25	1	0.75
SOA4(1)	1.66	1.06	1	0.12
SOA5(1)	-1.32	1.01	1	0.19
SOA6(1)	-2.22	2.07	1	0.28
SOA7(1)	-2.22	1.08	1	0.04
SOA8(1)	-3.76	1.64	1	0.02
SOA9(1)	2.41	1.45	1	0.10
Constant	0.38	0.59	1	0.52

Source: Research Findings

Table 4.5 above shows that lack of dedication and urgency by national partners leading to delays that affect the timeframe and delivery dates of projects due to exchange rate exposure and conversion rates leading to cash flow problems affecting the time frame and delivery times of projects, were the primary determinants of exposure to exchange rate risk (significance level 0.04 and 0.02 respectively).

Figure 4.4: Effects of exchange rate fluctuation in the medium term period of project timing, scope and quality



Key:

SOB1 - Delay in the release of funds by donors and delivery time of projects

SOB2 - Logistics and organization of partners and exchange rate exposure

SOB3 - Lack of proper collaboration among project partners and reduction of scope of project

SOB4- Exchange rate fluctuations and personnel budget

SOB5- Exchange rate fluctuations and expenditure coverage within project period

SOB6- Exchange rate fluctuations and procurement of quality materials

SOB7- Exchange rate fluctuations, human resource variations and project quality

Figure 4.4 shows that project management was affected by foreign exchange rate fluctuations on average at 83.5%

4.3 Interpretation of Findings

The study findings show that 80.9% of foreign funded projects were affected by foreign exchange risk. From the analysis 87.7% of the exposure to exchange rate risk could be explained by the independent variables on determinants for exposure to foreign exchange risk included in the study meaning 12.3% of the exposure could be explained by other factors not included in the study. Similarly 83.5% of the factors included in the study could explain the effects of exchange rate fluctuations in the medium term period of project timing, scope and quality meaning there were other factors contributing 16.5% which were not captured in the study.

The general objective of this study was to establish the effects of exchange rate risk on project management in KEMRI. It was noted from the findings that the general objective variables namely time lag, conversion or exchange rates, budget rates, monthly asset revaluations, interest rates and inflation rates were the major contributors of exchange rate risk at 80.9%. From this analysis it may also be noted that there were other additional factors that were not included in this study which would have contributed 19.1%.

It was confirmed from the findings that a falling domestic exchange rate decreases the amount of funding received on conversion to local currency therefore affecting the budgeted activities in terms of time, scope and quality of project output. The reverse is also right that arising domestic exchange rate would increase the amount of funding received on conversion to local currency therefore providing surplus income available for expenditure hence the ability to finance additional activities and purchase of capital equipment for the project. This was consistent with existing literature on the effects of foreign exchange rate on project management as documented in CPA Australia Ltd (2009).

The study had two specific objectives; i) To establish the determinants of exposure to exchange rate risk on projects funded through KEMRI and ii) To explore the effect of exchange rate fluctuation in the medium term period of a project timing, scope and quality.

Under the first specific objective a frequency analysis was run to establish the determinants of exposure to exchange rate risk and a mean of 87.7% (n=45) was obtained from the set of nine questions relating to; delays in release of funds by donors, management support, exchange rate fluctuation, budget rates, revaluation of monetary assets, inflation rates, interest rates conversion rates, lack of dedication and urgency by national partner. This confirms that these variables affect project management to a large extent in terms of exposure to foreign exchange risk. These are however not the only factors determining exposure to foreign exchange risk. There are other factors not included in this study contributing about 12.3%.

The analysis went a step ahead to identify the set of variables which had the most impact on project management progress. A two by two Chi-Square test of association was done and found out that the determinants of exposure to exchange rate risk impacted on project management progress significantly, (chi-square = 6.84, p-vlaue = 0.014, d.f. = 1, CI = 95%).

A binary logistic regression was performed on project management (PM) variable against variables of determinants of exposure to exchange rate risk on projects funded through KEMRI**.** It was noted that lack of dedication and urgency by national partners which lead to delays that affected the timeframe and delivery dates of projects and conversion rates leading to cash flow problems affecting the time frame and delivery times of projects were the primary determinants of exposure to exchange rate risk (significance level 0.04 and 0.02 respectively).

Under the second specific objective a frequency analysis was run to explore the effects of exchange rate fluctuation in the medium term period of a project timing, scope and quality and a mean of 83.5% (n=45) was obtained from the set of seven questions relating to; i) delays in the release of funds by donors and delivery time of projects ii) logistics and organization of partners and exchange rate exposure iii) lack of proper collaboration among project partners and reduction of scope of project iv) exchange rate fluctuations and personnel budget v) exchange rate fluctuations and expenditure coverage within

project period vi) exchange rate fluctuations and procurement of quality materials and vii) exchange rate fluctuations, human resource variations and project quality.

The variables under this specific objective accounted for 83.5% of project management exposure to foreign exchange risk meaning that there were other factors not included in this study that would have contributed to the remaining 16.5%. Delays in release of funds by donors was found to have affected the delivery time of projects to large extent at 84.5% and was therefore the factor that caused highest foreign exchange risk exposure to project management. This was followed by exchange rate fluctuations which affected procurement of quality materials by a staggering 80% in project management. The next variable in that order was exchange rate fluctuations effect on human resource variations and project quality which was at 75.5% closely followed by exchange rate fluctuations effects on personnel budget at 71.1%.

Lack of proper collaboration among project partners was found to reduce the scope of project management by about 66.7% while logistics and organization of partners' effects on project budgets was at 60%. Exchange rate fluctuations were found to impact on expenditure coverage within project period at 53.4% and lastly lack of proper collaboration among project partners which accounted for about 43.9% of reduced scope of project. All these findings were consistent with literature on effects of foreign exchange rate risk on project management, CPA Australia Ltd (2009).

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This study aimed at establishing the effects of foreign exchange rate risk on project management in KEMRI as its general objective. It further sought i) to establish the determinants of exposure to exchange rate risk on projects funded through KEMRI and ii) to explore the effects of exchange rate fluctuation in the medium term period of a project timing, scope and quality as its two specific objectives. On the basis of the above objectives, this chapter will summarize the findings, make a conclusion based on the findings, make recommendations for policy and identify areas of further studies.

5.2 Summary

In summary the findings in this study were consistent with theoretical literature on the effects of foreign exchange rate risk on projects as documented in CPA Australia Ltd (2009) and UNHCR (2005). Empirically the study compares well and is consistent with findings from Ngugi (2006). The independent variables could explain 87.7 % of the exposure to foreign exchange rate risk on projects funded through KEMRI, meaning that 12.3 % could be explained by other factors that affect foreign exchange rate risk but not related to these variables.

The results also revealed that financing time lag or delays in release of funds by donors accounted for 91.1 % of the total exposure with inflation and interest rates accounting for 91.1% as well , variation of budget rate from actual rate of exchange accounted for 80%, monthly revaluation explaining 71.1%, conversion rates accounting for 68.9%, management support at 68.8% lack of dedication at 62.2% and lastly exchange rate fluctuation at 60% of the total exposure if the variable were run individually. However, more variables were introduced in addition to those in Ngugi (2007) namely; inflation, interest rates and budget rates. The inclusion of these additional independent variables accounted for the rise in percentage from 81.2% in Ngugi's study to 87.7% in this study.

5.3 Conclusion

In conclusion looking at the number of studies done on this area, it is clear that this is still a fertile ground for further academic studies. This study has important findings confirming the existing risk of foreign exchange rate on projects funded by currency other than the Kenya shilling. It would be worthwhile to note that a lot of finances go to waste through foreign exchange transactions during conversions to the expenditure currency and also in procurement. The only way to reduce the negative effect of the foreign exchange risk is to embrace hedging strategies and other risk management strategies in the absence of hedging.

5.4 Recommendation for Policy

It is the recommendation of the researcher that more research be done on the effect of foreign rate risk on project management and focus on the management strategies to counter the negative effect of foreign exchange fluctuations on projects especially in the absence of any hedging strategies.

Additionally as the funding trend grows in terms of volumes in grants, it would be wise for donors to embrace foreign exchange risk management techniques to cushion projects from the negative effect of exchange rate fluctuations.

Risk management being an integral part of funding and project management should be incorporated in the process of grant applications in addition to formulating benchmarks for decision making in the world of non-profit making organizations. This will ensure that losses incurred by projects through foreign exchange transactions are minimized.

5.5 Limitations of the Study

It is important to note that this study had limitations. While it is believed that this study would have had better results if it had combined primary data with secondary data in its methodology, availability of secondary data was scanty and therefore not utilized in the analysis.

It would have been helpful to measure the extent of the effects of foreign exchange rate risk to see the actual variances that these projects experienced and be able to quantify the monetary impact. It is also believed that a wider population for the purpose of comparing projects in different sectors of economy would have had a bigger contribution to academics.

The study was also done with limited time and resources and therefore other issues like finding out other sources of exchange rate risk exposures and strategies to manage exposure to foreign exchange rate risk especially in the absence of hedging because of donor conditions, were not examined.

5.6 Areas for Further Research

The researcher suggests that more research be done on; i) the effect of foreign exchange rate risk on project management and focus on the management strategies to counter the negative effect of foreign exchange fluctuations on projects especially in the absence of any hedging strategies, ii) Additional variables that may form part of the determinants of exposure to foreign exchange risk on project management, and ii) the many unsolved puzzles in finance literature especially on foreign exchange risk and value of firms in Kenya.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE TO PROJECT OFFICERS AT KENYA MEDICAL RESEARCH INSTITUTE [KEMRI]

Listed below are questions on project management and statements related to exchange rate risk exposure considered to be affecting the time frame, scope and quality of projects managed by KEMRI. Kindly take your time to respond to questions and rate the statements.

INTRODUCTION

Name of the KEMRI Project:_____

Program Area: _____ KEMRI Centre where Project Operates from: _____

1. *Sexual, Reproductive and Child health*
2. *Infectious & Parasitic Diseases*
3. *Non-communicable Diseases*
4. *Public Health & Health Systems*
5. *Traditional Medicines & Drugs Development*
6. *Biotechnology*
7. *General Administration*

Initials of the Responding Officer:_____

Date when Project was 1st Proposed: _____Date when project closed operation_____

Project status *(tick one)*: (1) Ongoing (2) Completed (3) Stalled / suspended

SECTION ONE

Instructions: Please circle one appropriate box per question

PM1. How would you rate planned project activities in terms of completion in your project?

a. Ahead of scheduled time	5
b. Within the scheduled time	3
c. Behind the scheduled time	0

PM2. Overall how would you compare the market prices of budgeted items [goods and services] to the budgeted estimates?

a. Below budget estimates	5
b. Within budget estimates	3
	0

c. Above budget estimates

PM3. How would you describe the attainment of project scope or targets with regard to cost, time and quality of output?

a. The project surpassed its targets	5
b. The project attained its targets	3
c. The project did not attain its target	0

SECTION TWO

Instructions: Please rate the statements or factors by ticking on the appropriate box in the rating columns using the key below.

KEY:
[1] Disagree to a large extent
[2] Disagree
[3] Neither Disagree nor Agree
[4] Agree
[5] Agree to a large extent

S/no.	**Statement**	**Rating**				
GOA	**Effects of foreign exchange risk on project management in KEMRI**					
GOA1	Project Management is highly affected by time lag in disbursement of funds, conversion or exchange rates, budget rates, monthly asset revaluations, interest rates and inflation rates as the major sources of exchange rate risk	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**
GOA2	In project management a falling domestic exchange rate decreases the amount of funding received on conversion to local currency therefore affecting the budgeted activities in terms of scope and quality.	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**
GOA3	In project management a rising domestic exchange rate increases the amount of funding received on conversion to local currency therefore providing surplus income available for expenditure. Hence the	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**

	ability to finance additional activities and purchase of capital equipment for the project.					
SOA	**Determinants of exposure to exchange rate risk**	**Rating**				
SOA1	Delays in release of funds by donors expose the project to exchange rate risk and compromise on appointments of qualified project agents and can therefore affect project quality	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**
SOA2	Management support may lead to delays that expose the projects to exchange rate risk and hence reduction in the scope of the project	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**
SOA3	The differences between the exchange rate used in budget preparation and the actual exchange rates have a big influence on the total projected expenditures for the year	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**
SOA4	It is not possible to eliminate all gains and losses that arise from foreign exchange rate changes between the functional currency and the currency of assets / liabilities	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**
SOA5	Revaluation of monetary assets denominated in currencies other than the Kenya Shilling at the end of every month generates exchange gains and/or losses based on the difference between the organizations' operational rate of exchange in effect when transactions are recorded and the rate of exchange at the end of month closing.	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**
SOA6	Inflation rates and interest rates are interrelated and are the major cause of foreign exchange rate fluctuations	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**
SOA7	Lack of dedication and urgency by National Partners	**[1]**	**[2]**	**[3]**	**[4]**	**[5]**

	lead to delays that affect the timeframe and delivery dates of projects due to exchange rate exposure.	**[ ]**	**[ ]**	**[ ]**	**[ ]**	**[ ]**
SOA8	Conversion rates lead to cash flow problems and therefore affect the time frame and delivery times of projects.	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**
SOA9	Exchange rate risk leads to compromise on project quality which can make an organization lose reputation with donors and therefore access to future funding.	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**
SOB	**Effects of exchange rate fluctuations in the medium term period of project timing, scope and quality**	**Rating**				
SOB1	Delay in the release of funds by donors leads to changes in project budget values due to exchange rates exposures that affect the implementation, timeframe and delivery time of projects.	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**
SOB2	Logistics and organization of partners leads to delays hence exchange rate exposures that affect the project budget values and therefore project time frame and delivery times.	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**
SOB3	Lack of proper collaboration among project partners lead to delays that expose the project to exchange rate risk leading to reduction in the scope of the project.	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**
SOB4	Exchange rate fluctuations affect the projected personnel budget that can lead to readjustment on the scope of the project due to deficit or surplus caused there from.	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**
SOB5	Exchange rate fluctuations are acute in Kenya and therefore expenditure coverage within the project period is greatly affected and this can affect the	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**

	scope of the project.					
SOB6	Exchange rate fluctuations can lead to compromise on procurement of quality materials and therefore affect overall project quality.	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**
SOB7	Exchange rate fluctuations can lead to personnel budget constraints that result in overworking or layoffs of employees during the project period and therefore affect the project quality.	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**
SOB8	Exchange rate fluctuations are acute in Kenya and therefore expenditure coverage within the project period is greatly affected and this can affect the project quality.	**[1] [ ]**	**[2] [ ]**	**[3] [ ]**	**[4] [ ]**	**[5] [ ]**

Thank you very much for the valuable time you took to respond to these statements.

APPENDIX 2_LIST OF PROJECTS FUNDED THROUGH KEMRI USING CURRENCY OTHER THAN KENYA SHILLINGS (2000-2012)		
S/No.	CODE	PROJECT NAME & PRINCIPAL INVESTIGATOR
1	PJ73	NIH Malaria Study
2	PJ74	National Malaria Control Programme in Kenya
3	PJ75	K-DOD HIV Programme Co-ordination Office
4	PJ76	Fogarty Training Expenses (CWRU)
5	PJ77	WHO/FAME Meeting (Nancy Kamau)
6	PJ78	Indigenous Best Practices (CMMB)
7	PJ79	Virginia/KEMRI GF 10865-120141
8	PJ80	The NYS HIV/AIDS Programme
9	PJ81	Prevention of Mother to Child Transmission of HIV
10	PJ82	KDOD HIV/AIDS Programme
11	PJ83	Octane
12	PJ85	CWRU/Minnesota/Sunny Upstate Salaries
13	PJ86	Malaria Specimen Bank in Africa
14	PJ87	Fetal Immunity
15	PJ88	Microscopy Workshop in Kisumu
16	PJ89	Strengthening Research Development and Financing
17	PJ90	W81XWH-07-02-0047
18	PJ91	KEMRI – KDOD/AHF Program
19	PJ92	EAHRC Meeting – Reach
20	PJ93	W81XWH-07-2-0082 (Director, USAMRU)
21	PJ94	USAMRU/K Co Agreement
22	PJ95	USAMRU/K Co-Ag
23	PJ96	USAMRU/K Co Ag
24	PJ97	Henry Jackson Foundation – Severe Malaria
25	PJ98	REACH - PI
26	PJ99	Malaria Vaccines PATH
27	PJ100	MIM Pan African Malaria
28	PJ101	Automated Microscopic Diagnosis of Malaria
29	PJ102	IRIS Study
30	PJ104	Strengthening Grant. ERC
31	PJ105	Revision of KEMRI Strategic Master Pan
32	PJ106	KEMRI/CDC Third Party Projects
33	PJ107	PENNY STAT2 Severe Malaria
34	PJ108	CONFERENCE COLLECTION
35	PJ109	Management of TB, TB/HIV & Drug Resistant TB

36	PJ110	The Cost of Hydrocele Management in Government Hospitals in Kenya
37	PJ111	Iron deficiency Anaemia Survey
38	PJ112	HIV/AIDS/VIUSID Project
39	PJ113	Strengthening Public Private Partner: TB Project
40	PJ114	Liqua Health
41	PJ115	The Effects of Multimicronutrients Suppliments And HIV
42	PJ116	Development of the IMAAI
43	PJ117	Iodine Deficiency Disorders Survey
44	PJ118	Fortified Maize Meal –Unilever
45	PJ119	Orange Fleshed Sweet Potato Consumption
46	PJ121	Double Fortified Salt (DFS)
47	PJ122	Diabetes Type II
48	PJ123	Response to Accountable priority setting for Trust In Health Systems (REACT)
49	PJ124	Borrow Foundation Project
50	PJ125	KEMRI – FANTA Food Supplement Study
51	PJ126	KEMRI/IUCEA/VICRES HIV/AIDS Project
52	PJ127	Impact of Counselling on Breastfeeding Practice & Infant HIV – 1 Transmission
53	PJ128	Assessment of Patterns, Trends & Determinants of Health Workers Salaries & Benefits in Kenya & Tanzania
54	PJ129	Couples against Transmission (CAT) Study
55	PJ130	Iron Deficiency Anaemia – Hagadera Dadaab
56	PJ131	HIV/AIDS Restore plus Study
57	PJ132	Impact of Home Fortification with a Micronutrient Powder on Anaemia in Kakuma Refugee Camp Kenya
58	PJ133	INSTAPA WP2 STUDY
59	PJ134	The Effects of Market Integration/Transitional Foods
60	PJ135	IAEA STABLE ISOTOPE TECHNIQUES ANALYSIS
61	PJ137	Randomised Camp with Quinine in Severe Malaria (Artemether)
62	PJ138	Laamb-Dose Ranging Study
63	PJ139	African Malaria Vaccine Testing Network
64	PJ140	Anti-Malaria TRM
65	PJ141	Nairobi Cancer Registry
66	PJ142	HIV Labour Productivity
67	PJ143	DNDI
68	PJ144	Micronutrient Supplement in HIV
69	PJ145	Field Evaluation of Novel Diagnostic Tests for V. Leish (DAT)
70	PJ146	Paromomycin Study

71	PJ148	HIV1 Pathogenesis and Treatment of Women
72	PJ149	ISHED II
73	PJ150	Tryleidiag-Leishmania
74	PJ151	Cervical Cancer Mobile Project
75	PJ152	Columbia University ICAP Kenya
76	PJ153	Co-Infection Prophylaxis to decrease HIV-1 Infectivity
77	PJ154	My Child Matters
78	PJ155	AS/AQ Study
79	PJ156	Optimising Heart Study
80	PJ157	Public Health Evaluation
81	PJ158	Infrastructure Development for Kombewa & Siaya Site
82	PJ159	Cancer Awareness
83	PJ160	LEAP – 0104
84	PJ161	Methothexate Project
85	PJ162	The AZCQ Malaria Study
86	PJ163	Pr2 MAL55 Study
87	PJ164	Cancer Registry-2
88	PJ165	Clinical Trials Phase I Facility
89	PJ166	WHO Clinical Trials
90	PJ167	Visceral Leishmaniasis (VL) Rapid Diagnostic Tests Proficiency
91	PJ168	EDCTP-Project CB.2008.41302.024
92	PJ169	Effects of Insecticide treated bednets & simple water filtration device on HIV-1 disease pologression (LLIN)
93	PJ170	(STI) Etiologic Surveillance for Genitals Infection along HIV Infected Adults in HIV Case Programs
94	PJ171	A Phased DOSE ESCALATION STUDY OF ORAL ARTESUNATE IN PATIENTS WITH METASTASIZED CERVIX CARCINOMA
95	PJ172	MAL 058 STUDY
96	PJ173	INTERNATIONAL NETWORK FOR CANCER REGISTRIES
97	PJ174	KOMBEWA MA31967 STUDY
98	PJ175	SUNY GRANT-SALARY FOR NATHAN
99	PJ176	CPX MALARIA Study
100	PJ177	Instititue of theory . Course Molecular Medicine & Genomics in Africa
101	PJ178	Anti T. B. Drugs
102	PJ179	Clinical Management of HIV Infected Adults in Nairobi
103	PJ180	KEMRI/KIT
104	PJ181	Kamiti TB Project
105	PJ182	Placebo controlled Trial of Ampicilin for Treatment

106	PJ183	Oflotub (2003 Kenya)
107	PJ184	RBS Project
108	PJ185	TB Diagnosis Specimen Bank
109	PJ186	Diagnostic Tests for TB in Peripheral Labs
110	PJ187	Family Aids Care and Education Services
111	PJ188	CDC/KEMRI – PEPFAR TB/HIV
112	PJ189	OFLOTUB – WHO
113	PJ190	Global Fund RD.5 T.B Surveys
114	PJ191	Epidemiological Studies of TB in Neonates and Adolescents
115	PJ192	Ethnobotanical Information and Isolation of Antifungal Compounds
116	PJ193	IUD Study
117	PJ194	IPT Study (Isoniazid Preventive Therapy
118	PJ195	REMOx TB Study
119	PJ196	Community Engagements Activities
120	PJ197	Training Grants
121	PJ198	Tibotec TB Study
122	PJ199	Immunology of CDH TB
123	PJ200	KEMRI PATS MECOR 2011
124	PJ201	Molecular Epidemiology of HIV
125	PJ202	Viral Haemorrhagic Fevers
126	PJ203	WHO - Polio Eradication Project
127	PJ204	Dengue Project
128	PJ205	Bioassay-Guided Screening of some Kenyan Medicinal Plants
129	PJ206	MPs Rubella Sero-Prevalence
130	PJ207	Rift Valley Fever
131	PJ208	Climate and Diseases Workshop
132	PJ209	Gates Grand Challenge Exploration Fund
133	PJ210	Rotavirus surveillance using demographic surveillance system
134	PJ212	WHO Grant
135	PJ213	Measles EMRO Laboratory Training
136	PJ214	WHO KEMRI POLIO LAB 2011
137	PJ215	Relationship between Vaccine Vial Monitors and potency status of oral Polio Virus Vaccine among retrieved field samples in Kenya
138	PJ216	UTMB Arbo virus Project-University of Texas
139	PJ217	Population Structure of Anopheles Mosquitoes
140	PJ218	El-Nino Kakamega
141	PJ219	WHO Schistosomiasis Project
142	PJ220	Randomised Double Fluid Placebo Control

143	PJ221	WOTRO-Camera Malaria
144	PJ222	Immunological Recognition of Neutralising Epitopes
145	PJ223	Glycophorin A and Red Cell Invasion
146	PJ224	Georgia T Cell
147	PJ225	CDC/KEMRI Cooperative Agreement Programme Phase II
148	PJ226	Retreatment of Mosquito Nets for Malaria Control
149	PJ227	Youth Sex Reproductive Health Programme
150	PJ228	Determination Resistance in Human Schistosomiasis
151	PJ229	Malaria Anaemia Kisian
152	PJ230	Anti-Larvae Malaria Control in Western Kenya Highlands
153	PJ231	MSP-1
154	PJ232	ITN Voucher Scheme
155	PJ233	Implementation of Intermittent Preventive Treatment with Sulfadoxine – Pyremethamine for Malaria in Pregnancy in Kenya
156	PJ234	KEMRI/CDC Co-op. Agreement Year 5
157	PJ235	Stephen Munga's Training Grant
158	PJ236	Impact of Care Giving on Stress of Health of Older Luo Grandparents
159	PJ237	Rosemary Owigar Study Grant
160	PJ238	KEMRI/CDC Co-op Agreement Year 6
161	PJ239	Evaluation of Laboratory Tests for the Diagnosis of Schistosomiasis
162	PJ240	AQ/SP versus Coartem Clinical Trial SSC 1000
163	PJ241	EBV Persistance in Children
164	PJ242	Malaria Transmission & Immunity in Highland Kenya
165	PJ243	Parasite Diversity
166	PJ244	CDC COAG II Year 2
167	PJ245	Immune Response to U.S.A.
168	PJ246	KEMRI/JKUAT Training Grant
169	PJ247	Ecology of African Highland Malaria – Phase II
170	PJ248	Controlled Trial of Artesunate – Based Combi. Therapy
171	PJ249	Al-Suspension Trial
172	PJ250	YAW Afrane Travel Grant
173	PJ251	Bio-Ecology & Population Genetic Structure of Malaria Vectors
174	PJ252	Risk of Morbidity from Schistosomiasis in Western Kenya
175	PJ253	Transferring the Malaria Epidemic Prediction Model to end users in East Africa
176	PJ254	KEMRI/CDC Collaborative Partners
177	PJ255	Molecular Immunologic Role of Cytokines in Development of Malaria

178	PJ256	CD 19+/cd12+ B Lymphocytes in Resistance to Human Schistosoma Mansoni Infections
179	PJ257	Kenya Youth Interventions Project ITM
180	PJ258	Research Training Grant with B.A. Ngenga (A61102)
181	PJ259	Case BL-2
182	PJ260	YOUGHART
183	PJ261	Evaluation of insecticide resistance and KDR in areas where ITNS and IRS have been sealed up
184	PJ262	HIV Prevention in Youth (ITM)
185	PJ263	Immune Epidemiology of CD 23 expression by Schistosome Activated B. Cells
186	PJ264	Evaluation of insecticide treated wall/ceiling-lining materials
187	PJ265	Malaria Drug Resistance
188	PJ266	Integrated vector management - WHO
189	PJ267	Impact of surface receptors (TLRS)
190	PJ268	Schistosomiasis Project
191	PJ269	Umass (KEMRI BL Project
192	PJ270	Strengthening Primary Health Care in Western Kenya using
193	PJ271	Schisto-IRIS
194	PJ272	Ecology of African Highland Malaria-Phase III
195	PJ273	URBAN CD
196	PJ274	CDC CO AG III -YEAR 1-NON RESEARCH Component Grant
197	PJ276	NIH GRANT-DR. YAW .A. AFRAN2
198	PJ277	NEW SUNY UPSTATE GRANT
199	PJ278	Healthy Futures Project
200	PJ279	Knowledge Sharing IDRC
201	PJ280	Evaluation of the Effect of HIV Infection on Management of Leprosy Cases in (Kenya)
202	PJ281	USAMRU-K GEIS/CIPDCR
203	PJ282	Interaction between Schistosomiasis and HIV Infections
204	PJ283	Malaria Drug Sensitivity Surveillance in Kenya
205	PJ284	T.N.F. and Cellular Immune Responses Associated With Hepatosplenic Diseases
206	PJ285	Evaluation of the Diagnostic Usefulness of Sputum PCR
207	PJ286	Schistosomiasis Vaccine Network
208	PJ287	Evaluation of Schistosoma
209	PJ288	Schisto-Immulogical Antigen
210	PJ289	Kariuki's Mansoni Antigens and Treatment
211	PJ290	Transmission Blocking Vaccines
212	PJ291	Population Genetic Analysis of a Funestus using Molecular DNA

213	PJ292	Detection of Plasmodium Falciparium
214	PJ293	Analysis of the Genetic Control Due to the 5q31-q33
215	PJ294	Praziquantel Resistance
216	PJ295	Comparison of Genetic Similarity within the African Funestus and Asian Minimus
217	PJ296	Machakos Schistosomiasis Salaries
218	PJ297	Monitoring of Anti Malaria Drug Resistance
219	PJ298	Co Factors and Immune Mechanisms Human Hepatosplenic Schistosomiasis Phase II
220	PJ299	Combination Therapy of Plasmodium Falciparum Transmissibility
221	PJ300	Population Genetic Structure and Development of Insecticide
222	PJ301	Evo-Epidemiology of Schistosoma Mansoni in Western Kenya
223	PJ302	Bio Prospecting for Antileishmanial
224	PJ303	Role of Salivary Gland Excretions in Anopholes Mosquito Midget development of Plasmodium
225	PJ304	MUSTSCHISTUMA
226	PJ305	MUSTSCHISTUMA – 2
227	PJ306	Wuchereria Banchrofti Infections in Lamu
228	PJ307	Characterization of Polymorphisms in Host IL-10 & TNF
229	PJ308	Sexing Larval Schistosomes & its Application in Control of Human Schistosomiasis
230	PJ310	Monitoring LF in the Tana Delta Region of Kenya
231	PJ311	Wellcome Trust Basophil
232	PJ312	Evo-epidemiology and schistosoma mansoni in Children in Kenya
233	PJ313	Enhancing Waiburgia Ugandesis Leaf
234	PJ315	Schisto Vac
235	PJ316	Strengthening of Bio risks Management at KEMRI
236	PJ317	Combined DEC and Albendozole Study
237	PJ318	Randomised Controlled Trial of Pelvic Inflammatory Disease (
238	PJ319	Dr. Nderitu Training Grant
239	PJ320	Refaximin Study
240	PJ321	Health Promotion through Infection Control
241	PJ322	Trends in Transmission & Infections with Anopheles Transmitted Lymphatic Filariasis
242	PJ323	Mectizen Distribution
243	PJ324	Evaluation of Anti-filarial Regimens
244	PJ325	Ethnobotanical Studies
245	PJ326	Randomised Trial of BV study
246	PJ327	Study of Population Structure of Wuchereria Bancrofti
247	PJ328	Molecular Epidemiology of C. Post Doctoral Training

248	PJ329	Prep Study
249	PJ330	Field Studies – Liverpool University
250	PJ331	Male Microbicide Safety
251	PJ332	Diaphram Acceptability Trial Study (DAT)
252	PJ333	Family Aids Care and Education Services
253	PJ334	School Health Programme
254	PJ335	Research Strengthening Grant
255	PJ336	UCSF/KEMRI/ITROMID Training
256	PJ337	HIV Incidence Study
257	PJ338	Impact of Antiretroviral Therapy CART on Sexual Risk Behaviour
258	PJ339	Vivagel Study
259	PJ340	KEMRI Hotline Services
260	PJ341	Male Microbicide Study II
261	PJ342	Mwea Model School Project
262	PJ343	MAC AIDS Programme
263	PJ344	Witchcraft Study
264	PJ345	Impact of Mass Treatment of Lymphatic Filariasis
265	PJ346	KEMRI/FACES Family Planning (Dr. E. Bukusi)
266	PJ347	KEMRI/UCSF – PMTCT
267	PJ348	KEMRI/UCSF – Mamas Study
268	PJ349	Couple HIV Conselling and Testing
269	PJ350	KEMRI-IPM-Kisumu Study
270	PJ351	Provider Initiated Testing and Counselling
271	PJ352	Male Circumcision Programme
272	PJ353	Family Planning Services Integration into the HIV Care and Treatment Services
273	PJ354	Immune Responses to cryptosporidiosis
274	PJ355	KEMRI Kwale District NTDs Study
275	PJ356	Vijana Wetu Study
276	PJ357	Training Grant
277	PJ358	Socio-Economic and Behavioural Factors
278	PJ359	Social-Economic II
279	PJ360	Molecular characterization of Echinococcus
280	PJ361	Epidemiology of Environmental Cholera
281	PJ362	IPM-Suba
282	PJ363	SHAIP STUDY
283	PJ364	Global Antibiotic Resistance Partnership (GARP-Kenya)
284	PJ365	Fertility Desires Study

285	PJ366	Epidemiology of Zoonoses and Keepers in E.A.
286	PJ367	Migration Patterns Study
287	PJ368	National Guidelines on Research Development
288	PJ369	RCTP Infrastructure Grant
289	PJ370	Family Planning-Gates
290	PJ371	Pilot Project on Integrated Surveillance of Antimicrobial Resistance Kenya
291	PJ372	An Integrated Surveillance Study of Antimicrobial Resistance in Salmonella spp.
292	PJ373	SEARCH PROGRAMME
293	PJ374	HIV Drug Resistance Study
294	PJ375	KEMRI ADILI PROJECT- UCSF
295	PJ376	KEMRI ADILI PROJECT-UNIVERSITY OF CAPE TOWN
296	PJ377	Women Property Rights
297	PJ378	KEMRI ANDILI PROJECT-EDCTP
298	PJ379	LOST TO FOLLOW UP STUDY –UNIVERSITYOF INDIANA
299	PJ380	Molecular Bases of Non Typhoidal Salmonella Emergency
300	PJ381	CCSP (Cervical Cancer Screening Programme)
301	PJ382	KEMRI TUPANGE PROJECT
302	PJ383	Extended Nevirapine to Breast Feeding Infants
303	PJ384	FOGARTY PROGRAM – Washington University
304	PJ385	Salmonella Vaccin-2 Novartis Vaccine Global Health
305	PJ386	The Role of HIV/AIDS Stigma in PMTCT Failure
306	PJ387	Shamba Maisha Program
307	PJ388	Aspect of Manufacturing Practices on the Quality of Drugs in Kenya
308	PJ389	Screening Medicinal Plants for Anti Malarial
309	PJ390	Pr2clinical Studies on Safety and Efficacy of Herbal Remedies
310	PJ391	An Investigation of the Study, Efficacy and Chemistry of Herbal Medicines
311	PJ392	Anti Malarial Screening for Medicinal Plants
312	PJ393	In-vivo Anti-Malarial Studies of Piperaquine
313	PJ394	Isolation and Biological Studies of Anti-plasmodial Compounds
314	PJ395	Anti Plasmodia Investigation of Herbal Combinations
315	PJ396	Ethno botanical Evaluation & Pr2Clinical Studies of Aloes Species
316	PJ397	Enhancing Participation of DECs in Screening of Natural Products for New Drugs for Malaria
317	PJ398	Investigations of Antiplasmodial & Safety of Kenyan Medicinal Plants in Rodent
318	PJ400	Study on safety efficacy & chemistry of some Kenyans Medicinal plants-Diabetes

319	PJ402	Evaluation of herbal coughs formulation for Antitussive Activity
320	PJ405	Bio prospecting for Anti Malaria Compounds from Kenyan Medicinal Plants
321	PJ406	Evaluating anti plasmodial potential of semi purified and /or purified secondary metabolites from *TURRAEA ROBUSTA GUERKE*
322	PJ407	Evaluating Access to Effective Anti-Malaria Drugs in Kenya
323	PJ408	ESACIPAC Labs Strengthening Project
324	PJ409	URBAN LF Transmission Study
325	PJ410	Home Grown School Feeding Programme
326	PJ411	Urban MDA Study in Malindi
327	PJ412	Determination of Resistance in Anopheles Fenestus
328	PJ413	LF Diagnostic Study
329	PJ414	Partnership for Child Development (PCD) ESACIPAC
330	PJ415	National School Based Deworming in Kenya: Five Year Monitoring and Evaluation of the Programme Impact
331	PJ416	The Immunological Aspects of Resistance and Pathogenesis of Severe Malaria
332	PJ417	Developing a Measure of Brain Insults in Kenyan Children
333	PJ418	Anti Malarial Drug Retailer Training
334	PJ419	KEMRI Wellcome Trust Co-op Agreement
335	PJ420	Strategic – And Developing Research Capacity and leadership in East Africa
336	PJ421	Malaria Vector Control Project
337	PJ422	MVVC-EDCTP -2008
338	PJ423	CDC/EMORY SUB CONTRACT NO KEMRI-1
339	PJ424	Oxford University
340	PJ425	University of Oxford 2
341	PJ275	AvecNet KEMRI Project
342	PJ04	Mirable Trioxolane Study
343	PJ34	HIV/AIDS in Informal Urban Settlements of Nairobi
344	PJ47	Paediatric HIV Diagnosis in Kenya
345	PJ10	CNHR – RLGA
346	PJ11	CNHR – RLGA
347	PJ12	CNHR – RLGA
348	PJ27	Treatment Efficacy and Impact of ACT resistance
349	PJ58	Commercialisation of Medicinal & Aromatic Plant Products in Kenya
350	PJ23	Camel Milk Diabetes Study
351	PJ41	PBK Malaria Studies in the Field of Insecticide Treated Materials
352	PJ21	Cancer of Oesophagus
353	PJ46	Sero-prevalence Survey for Yellow Fever Virus

354	PJ02	African Health Sciences Congress Account
355	PJ03	African Journal of Health Sciences Account
356	PJ05	National Workshop on Occupational Safety and Health
357	PJ22	IVF-ET-Income Generating Project
358	PJ32	Diagnostics-HIV Viral Loads
359	PJ33	Aventis Hepatitis Study
360	PJ09	WHO – KEMRI Production
361	PJ63	Investigation of Mechanisim of resistance to Anti-Malarial Drugs
362	PJ14	KEMRI EAST AFRICA (LNP)
363	PJ50	Integrated Information Technology and Human Resource Capacity Building for HIV Drugs Resistance

Appendix 3: Letter of Introduction

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UNIVERSITY OF NAIROBI

SCHOOL OF BUSINESS

MBA PROGRAMME

Telephone: 020-2059162
Telegrams: "Varsity", Nairobi
Telex: 22095 Varsity

P.O. Box 30197
Nairobi, Kenya

DATE 17/09/2013

TO WHOM IT MAY CONCERN

The bearer of this letter MBOGO ATUB KINYUMA

Registration No. D61/8844/2006

is a bona fide continuing student in the Master of Business Administration (MBA) degree program in this University.

He/she is required to submit as part of his/her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate your assistance to enable him/her collect data in your organization.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
17 SEP 2013
MBA OFFICE
P.O. Box 30197 - 00100, NAIROBI

PATRICK NYABUTO
MBA ADMINISTRATOR
SCHOOL OF BUSINESS