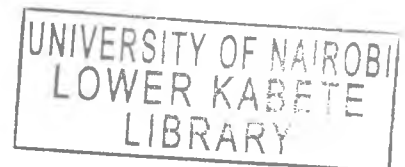


**CHALLENGES OF IMPLEMENTING FINANCIAL INNOVATIONS BY  
COMMERCIAL BANK IN KENYA.**

**BY**

**SUSAN JEPKORIR**

**D61/61412/2010**



**A MANAGEMENT RESEARCH PROJECT SUBMITTED IN PARTIAL  
FULFILLMENT OF THE REQUIREMENT OF AWARD OF MASTER OF BUSINESS  
ADMINISTRATION DEGREE IN THE SCHOOL OF BUSINESS OF THE  
UNIVERSITY OF NAIROBI**

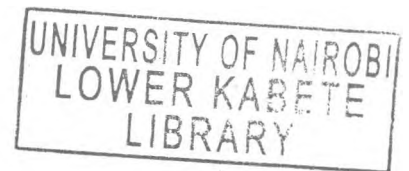
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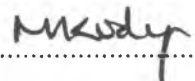
## DECLARATION

This research project is my original work and has never been presented to any other examination body. No part of this Research Proposal should be reproduced without my consent or that of the University of Nairobi.

Name: Susan Jepkor ..... Sign:  ..... Date 7/11/2011 .....

### Declaration by My Supervisor:

This research project has been submitted for examination with my approval as the University of Nairobi Supervisor.

Name MARTIN K. ODIA ..... Sign:  ..... Date 7/11/2011 .....

Lecturer

University of Nairobi

School of Business

## DEDICATION

To my family and friends

## **ACKNOWLEDGEMENT**

I am heartily thankful supervisor Mr. Martin K. Odipo, whose encouragement, guidance and support from initial to final level enabled me to develop an understanding of the subject.

I offer my regards and blessings to all those who supported me in any respect during the completion of the project.

**Susan Jepkorir**

## ABSTRACT

Over the last 20 years there have been many changes in Kenyan banking sector. These changes have had considerable impact in the way they offer their services in the market.

This research project was a census to determine the challenges in implementing financial innovations by the commercial banks in Kenya. In order to achieve these objectives a questionnaire was mailed to all commercial bank financial managers in Kenya. Technology power supply inadequate skills and political factors were the major challenges.

Despite these challenges the implementation banks were able to offer their prober to the market. Further research on the sector can be undertaken by means of a cross sectional survey on financial innovation by the commercial bank who controls significant market share.

## ABBREVIATION

ATM	Automatic Teller Machine
CDS	Central Depository System
NSE	Nairobi Stock Exchange
MICR	Magnetic Ink Character recognition
KEPPS	Kenya Electronic Payment & Settlement system
RTGS	Real Time Cross settlement

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## CHAPTER ONE

### 1.0 INTRODUCTION

#### 1.1 Background

Innovation is normally defined as the introduction of a new product to a market or the production of an existing one in a new manner (Merton, 1995). Financial innovations occur because market participants are constantly searching for new ways to make greater profits (Merton, 1995). The process of "financial innovation" includes changes in financial instrument, institutions, practices and markets. In broad sense, financial innovation affects the nature and composition of monetary aggregates through new financial instruments or changes in old instruments as well as the term and conditions of debt/credit arrangements (Gowland, 1991). Innovation plays a crucial role in improving productivity. Faster diffusion of innovation means a more immediate impact and thus a higher social return on the initial investment.

Innovations can be grouped by a functional basis, "aggressive" or "defensive". Aggressive innovation is the introduction of a new product or process, in response to perceived demand. A very large part of innovation since at least the late 1970s is aggressive innovation in the literature. Defensive innovation is response to changed environment or transaction cost. Financial innovations lower the transaction cost of transferring funds from lower yielding money balances to higher yielding alternatives. Therefore, with financial innovations market participants attempt to minimize risk and to maximize return (Gowland, 1991).

#### 1.2 Financial Innovation

There are several interpretations of the phrase financial innovation. In general, it refers to the creating and marketing of new types of securities. It is the life blood of efficient and responsive capital market (Russo, 1991). Much of the theoretical and empirical work in financial economics considers a highly stylized world in which there are few types of securities (debt and equity, perhaps) and maybe a handful of simple financial institutions (banks or exchanges.) However, in reality there is a vast range of different financial products, many different types of financial institutions and a variety of processes that these institutions employ to do business (Mason et al 1995).

The literature on financial innovation attempts to catalog some of this variety, describe the reasons why we observe an ever-increasing diversity of practice, and assess the private and social implications of this activity.

According to (Akhtar, 1984), financial innovations lower the transaction cost of transferring funds from lower yielding money balances to higher yielding alternatives. Therefore, with financial innovations market participants attempt to minimize risk and to maximize return. Financial innovations are mainly the result of four interrelated factors: (i) High, variable and unpredictable inflation, interest rates and exchange rates, increase in government deficits and their effects on interest rates and financial markets, floating exchange rates: Many financial innovations offer protection against changes in the financial environment, especially changes in exchange and interest rates. (ii) Technology: The development of new technology can stimulate financial innovation by lowering the cost of providing new financial services and instruments by using computers and telecommunication. The rapid development of technology in the financial sector, the introduction of new communication and transmission systems also speeds up information flows. (iii) Changes in the Regulatory Environment: The relationship between regulation and innovation is the most debated in the literature. It is clear that each can cause the other, but it is not clear how significant such effects have actually been. (iv) Changes in Perceived Market Conditions: Financial innovation is fundamentally market driven. Firms offer new products because it is profitable. In other words because the customer demand them or at least will pay for them. The existing structure of the financial industry, degree of concentration and competition in the banking sector, ease of entry, profitability, extent of development and of specialization among different types of financial instruments, available choice of portfolio assets, interaction of market forces with regulations effects financial innovations (Akhtar,1984).

Changes in the international financial environment and the increasing integration of domestic and international financial markets also leads to financial innovation. Financial innovations arise as a device on the part of the private financial sector to solve or to argument conflict between the newly developing economic and technical conditions, old statutory financial framework and regulations which played an important role in the past but which have then become obsolete. Financial innovation is fighter promoted when the financial authorities recognize the

obsolescence of the existing statutory framework and deregulate the essential part of it (Suzuki, 1986).

Economic conditions, technology and regulations led to emergence of new financial instruments which realized in very short span of time, provide higher profit. These instruments are negotiable order of withdrawal account, certificate of deposits, banks credit cards, mortgages, automatic transfer accounts, overnight repurchase agreements, Eurodollars, commercial papers, money market mutual funds, Bankers Acceptances (Akhtar, 1984).

### **1.3 Financial Innovations in a Kenyan Perspective**

The Kenyan financial sector has undergone tremendous changes in the last two decades. A lot of reforms have been undertaken in the sector that have led to proliferation of financial products, activities and organizational forms that have improved and increased the efficiency of the financial system. Advances in technology and changing economic conditions have created impetus for this change. All these developments coupled with changes in the international financial environment and the increasing integration of domestic and international financial markets have led to rapid financial innovation.

### **1.4 Mobile Banking**

This involves provision and availing banking and financial services with the help of mobile telecommunication devices. Among the services offered include: bank and stock market transactions, administering accounts and accessing customized information e.g. easy 24/7 from Equity Bank. Some of the services offered by mobile banking include money transfers, account information, mini-statements, alerts on account activity, monitoring of term deposits, access to loan statements, ordering cheque books, checking of account balance, confirming most recent transactions, PIN provision, blocking stolen or lost cards, and indicating the status of a cheque.

Financial services companies that provide their customers with Mobile Finance services are accustomed to regulatory disclosures and consumer protection requirements that apply to electronic delivery of services. In Mobile Finance, they also need to be mindful of three distinct communications networks that play a part in originating and terminating mobile finance transactions: the traditional wire line network (a.k.a. the "Public Switched Telephone Network"),

the Internet, and wireless cell phone/PCS networks. Unlike the early days of electronic funds transfers, when Financial Institutions were working mainly with one monopoly phone company, there are far more carriers to deal with today to make Mobile Banking a reality. Most parts of the country are served by more than one wireless carrier, each with proprietary technology and their own ways of doing business. Throughout each of these three layers of communications, there are a wide array of legacy regulations and technologies to contend with before a Mobile Banking transaction can be initiated and completed. Safe, secure and cost-effective deployment of Mobile Finance services requires an understanding of how all of these networks inter-operate.

### **1.5 Stock Brokerage and Insurance Services**

Commercial banks are moving to acquire stock brokerage and investment banks to get involved in the stock market activity. Some of the banks that have already acquired stock brokerage firms include, NIC Bank, Cooperative Bank, ABC Bank and Equity that trades directly at the stock exchange using custodial license. Other banks that have a custodial license include; Barclays Bank of Kenya Limited, National Bank, CFC Stanbic Bank, NIC Bank, Equitorial Commercial Bank, Prime Bank, Co-operative Bank and the Kenya Commercial Bank. Bank are also offering Insurance services on behalf of insurance companies for example Equity bank, Commercial bank of Africa and NIC bank are offering insurance services to their customers on behalf of various insurance companies.

In taking a glance of the regulatory structure, a number of challenges arise that these need to be addressed before the exchange can respond to the changes taking place within the economy. The present regulatory regime has resulted in the duplication and overlapping roles in various subsectors of the financial services industry. For instance, both the Retirement Benefits Authority and the Capital Markets Authority regulate the fund managers for pensions funds. This means that issues of compliance are necessarily complicated because each of the individual regulators has specific regulatory goals. In addition, compliance with such a diverse set of regulatory provisions may lead to increased costs of compliance because of the possibility that the requirements may be in conflict with one another. More fundamentally however, the existing situation fails to agree with the basic requirement that regulatory provisions should be simple and flexible.

Besides the main regulatory and policy challenges detailed above, the development path of Kenya's capital markets has been constrained by the increasing resort to informal financial activity in the economy. This directly means that the existing frameworks are not entirely appropriate for the character of financing that a significant portion of the population requires. As a result, the stock exchange cannot register wider acceptance and increased turnover in trade because it does not lend itself to tap into the informal systems of financing and trading. This situation then means that options for deepening the capital markets must begin to reconsider the large informal sector and adopt systems that would be applicable to this section

### **1.6 Islamic Banking**

Islamic banking guided by Islamic (Sharia) law. In the last decade, the Kenyan Banking Sector has shown increase in Islamic banks and banks offering Sharia compliant services. The Islamic banks in Kenya are; Gulf African Bank, Barclays Bank of Kenya, and First Community Bank.

Credit Reference Bureaus:

This involves collecting, managing and disseminating customer information to lenders within a provided regulatory framework. Regulations on credit rating came in effect in 2009 and provide for the licensing and establishment of credit bureau operations.

There is lack of awareness of the existence of their products and also a lack of sharia compliant investment vehicle.

### **1.7 Electronic Banking**

Electronic Banking takes the form of Automated Teller Machines (ATM), Internet Banking and telephone transactions. Access to the banking services is made convenient, fast and available throughout the clock. Banks are also able to provide services more efficiently and at relatively low cost.

This changing financial landscape brings with it new challenges for bank management and regulatory and supervisory authorities. The major ones stem from increased cross-border transactions resulting from drastically lower transaction costs and the greater ease of banking



activities, and from the reliance on technology to provide banking services with the necessary security.

Determining when a bank's electronic services trigger the need for a license can be difficult, but indicators showing where banking services originate and where they are provided can help. For example, a virtual bank licensed in country X is not seen as taking deposits in country Y if customers make their deposits by posting checks to an address in country X. If a customer makes a deposit at an automatic teller machine in country Y, however, that transaction would most likely be considered deposit taking in country Y. Regulators need to establish guidelines to clarify the gray areas between these two cases.

Money laundering is an age-old criminal activity that has been greatly facilitated by electronic banking because of the anonymity it affords. Once a customer opens an account, it is impossible for banks to identify whether the nominal account holder is conducting a transaction or even where the transaction is taking place. To combat money laundering, many countries have issued specific guidelines on identifying customers. They typically comprise recommendations for verifying an individual's identity and address before a customer account is opened and for monitoring online transactions, which requires great vigilance.

In a report issued in 2000, the Organization for Economic Cooperation and Development's Financial Action Task Force raised another concern. With electronic banking crossing national boundaries, whose regulatory authorities will investigate and pursue money laundering violations? The answer, according to the task force, lies in coordinating legislation and regulation internationally to avoid the creation of safe havens for criminal activities.

### **1.8 Statement of the problem**

Commercial bank should understand that financial innovation and risk management are two sides of the same coin, Rogers, (1983). A pre-condition of financial innovation is proper risk management. Commercial banks must identify measure, monitor and control new risks on a timely basis. Commercial banks face big challenges as they try to come up with these

innovations as they lack sufficient resources in place for financial innovation- such as human resources, capital, information technology infrastructure, internal control, risk management and other relevant aspects. The China banking regulatory commission (CBRC) takes pre promotion of financial stability and the advancement of financial innovation as prime criteria of sound supervision (Schenk, 1995). To encourage financial innovation and market development as well to promote risk management are the supervisory principles of CBRC. The CBRC regulates and supervise all innovative activities in compliance with the laws, appropriate regulatory guidelines and best market practices (Schenk, 1995).

No known studies by the researcher have been carried out on financial innovation implementation challenges. To my best knowledge not much has been done in Kenya to establish the challenges in implementation of financial innovation. Therefore there is a gap in literature that the present study seeks to bridge. This study there examines the challenges of implementation of financial innovation in commercial banks in Kenya.

**The study will provide answer to the following question.**

- 1) What are the challenges of implementation of financial innovation in commercial banks?

### **1.9 Main Objective of the study**

To determine the challenges implementing financial innovations by commercial bank.

#### **1.3.1 Specific objective of the study**

- 1) Determine how commercial banks can cope with financial innovation implementation challenges.

### **1.10 Importance of the study**

The study will be of importance to the following to the managers of commercial banks and other managers in other industry to enable them to identify gaps that many require re-evaluation and hence enhance the process of financial innovation.

Researcher and scholars will also benefit from this study. The findings from this study will form a base for future scholars and researchers who may want in future to study the financial innovation challenges.

The study will also be important in creating awareness on the importance of financial innovation implementation challenges measures as an essential process of a new entrance in the Banking sector.

## CHAPTER TWO

### 2.0 LITERATURE REVIEW

#### 2.1 Introduction

Much work in financial economics considers a highly stylized world in which there are few types of securities (debt and equity) and maybe a handful of simple financial institutions (banks or exchanges.) However, in reality there is a vast range of different financial products, many different types of financial institutions and a variety of processes that these institutions employ to do business. The literature on financial innovation attempts to catalog some of this variety, describe the reasons why we observe an ever-increasing diversity of practice, and assess the private and social implications of this activity (Donner, 2007). (Merton's 1992) functional decomposition identifies six functions delivered by financial systems: (i) moving funds across time and space; (ii) the pooling of funds; (iii) managing risk; (iv) extracting information to support decision-making; (v) addressing moral hazard and asymmetric information problems; and (vi) facilitating the sale of purchase of goods and services through a payment system.

#### 2.2 Theoretical Literature review

Traditional theories of intermediation are based on transaction costs and asymmetric information. They are designed to account for institutions which take deposits or issue insurance policies and channel funds to firms. However, in recent decades there have been significant changes. Although transaction costs and asymmetric information have declined, intermediation has increased. The role or roles played by these intermediaries in the financial sector is found in the many and varied models in the area known as intermediation theory. These theories of intermediation have built on the models of resource allocation based on perfect and complete markets by suggesting that it is frictions such as transaction costs and asymmetric information that are important in understanding intermediation. Gurley and Shaw (1960) have stressed the role of transaction costs. For example, fixed costs of asset evaluation mean that intermediaries have an advantage over individuals because they allow such costs to be shared. Similarly, trading costs mean that intermediaries can more easily be diversified than individuals.

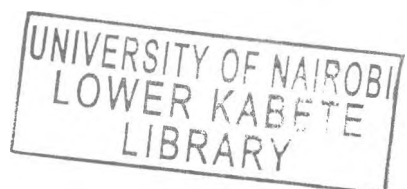
### **2.2.1 Financial Intermediation Theory**

Financial innovations occur because agents in market are searching for new ways to make higher profits. A change in the economic environment will stimulate a search for innovations that are likely to be profitable. Asymmetries can be of an ex ante nature, generating adverse selection, they can be interim, generating moral hazard, and they can be of an ex post nature, resulting in auditing or costly state verification and enforcement. The informational asymmetries generate market imperfections, i.e. deviations from the neoclassical framework. Many of these imperfections lead to specific forms of transaction costs. Financial intermediaries appear to overcome these costs, at least partially. For example, Diamond and Donner (2007) consider banks as coalitions of depositors that provide households with insurance against idiosyncratic shocks that adversely affect their liquidity position. Another approach is based on Leland and Pyle (1977). They interpret financial intermediaries as information sharing coalitions. Diamond (1984) shows that these intermediary coalitions can achieve economies of scale. Diamond (1984) is also of the view that financial intermediaries act as delegated monitors on behalf of ultimate savers.

Frictions that relate more to investors' information sets, numerous authors have stressed the role of asymmetric information as an alternative rationalization for the importance of intermediaries. One of the earliest papers, Leland and Pyle (1977), suggests that an intermediary can signal its informed status by investing its wealth in assets about which it has special knowledge. Diamond (1984) has argued that intermediaries overcome asymmetric information problems by acting as "delegated monitors." Many others followed, expanding on these two contributions and advancing the literature in substantive ways.

### **2.2.2 Transaction Costs Theory**

Transaction costs theory is based on non-convexities in transaction technologies. Here, the financial intermediaries act as coalitions of individual lenders or borrowers who exploit economies of scale or scope in the transaction technology. The notion of transaction costs encompasses not only exchange or monetary transaction costs, but also search costs and monitoring and auditing costs. Here, the role of the financial intermediaries is to transform particular financial claims into other types of claims (so-called qualitative asset transformation). As such, they offer liquidity (Pyle, 1971) and diversification opportunities. With transaction



costs, and in contrast to the information asymmetry, the reason for the existence of financial intermediaries, namely transaction costs, is exogenous.

### **2.2.3 Keynesianism and post-Keynesianism Theory:**

Keynes revolutionized economics as he refuted “Say’s law” and other foundations of the “classical system” (cf. Love, 1991), establishing the field of macroeconomics as it is known today. His macroeconomic concepts had microeconomic foundations with support of some psychological categories (e.g. propensity to consume, expectations, incentives, etc.). Unlike institutionalists and NSE, Keynes did not concentrate his research efforts on the interplay of institutions and technology as the factor inducing change in a socio-economic system. Due to the neoclassical foundation of his economics, Keynes applied closed-system and equilibrium suppositions to his models.

However, that by no means implies that he and his followers neglect innovations. Keynes had important contributions to current understanding of innovations. They are grounded in his understanding that aggregate demand determines the total level of output in an economy. However, firms offer their goods and services based on the expectations of their proceeds in the goods and services markets and the employment level dependent on those proceeds. A point of effective demand is the point when aggregate supply and aggregate demand equalise. This is called principle of effective demand (Setterfield, 2003). This way the uncertainty Keynes stressed came into play. Fundamental uncertainty (a situation in which knowledge about future events simply does not exist at the time of decision-making), ambiguity and risk (a situation in which probabilities of future events can be exactly calculated) influence the production (and therefore innovation process as well) in a negative way. Unlike producing some standardised product, where risk (but never fundamental uncertainty!) and return could be fairly well estimated, innovations have only just come out to the market. Being a process rather than the outcome happening at particular point in time, the algorithm of their coming out to the market is inherently uncertain. And when they do come to the market, demand for them is unknown.

The need for social consensus that ensures a stable level of aggregate demand and provides space for manoeuvre for public policy, is one of the prerequisites for the overall goal Keynes aims for – that of full employment and GDP growth. Since Keynes regarded investment (the variable most

liable to uncertainty and effectuating in a long time frame) as the *causa causans* of his model of economy he believed entrepreneurial decisions were crucial to determining the overall level of output, although they are socially contingent (Sardoni, 2002, p. 8).

Those Keynesian concepts are broadly in line with innovation theories (at the micro level). The principle of effective demand is in line with hypothesis that innovation is determined by demand for a firm's products and/or services. This is known as demand-pull approach. Although there is support for it in the literature (e.g. Brouwer and Kleinknecht, 1999) it fails to explain all innovations since they may be caused by different factors (Andersen, 2007). Even though there have been not enough studies focusing on the direct impact of social consensus on innovation, it can be approximated most closely with the concept of social capital, very used in the economics, sociology and political science. According to one of the fathers of the concept, Robert Putnam, social capital includes "features of social organization, such as trust, norms, and networks that can improve the efficiency of society by facilitating coordinated actions" (Putnam, 1993, p. 167, as quoted in Mihaylova, 2004: 17). It is usually divided into three different parts – i.e. bonding, bridging and linking social capital (cf. Grootaert et al., 2004). Bonding social capital stands for the totality of social ties between people who share some demographic characteristics.

## **2.3 Empirical Literature review**

### **2.3.1 Global Development of Financial innovations**

In Merton Miller's (1986) view on financial innovation, the period from the mid-1960s to mid-1980s was a unique one in American financial history. Looking backward, he rhetorically asked, "Can any twenty-year period in recorded history have witnessed even a tenth as much (financial innovation)?"p 170, Looking forward, he asked the question, "Financial innovation: Is the great wave subsiding?"p 176, Answering "No" to the first question and "Yes" to the second, he concluded that the period was an extraordinary one in the history of financial innovation. However, with 20-20 hindsight, we can disagree with his assessment and answer the two questions somewhat differently.

Throughout history, information asymmetries have prompted a number of innovations. Throughout much of the nineteenth and early twentieth century, firms disclosed very little

credible financial information. Over time, market forces and governmental action materially increased the quantity and quality and thus lowered the cost of information about firms. Early innovations tended to substitute for (or economize on) the use of costly information, while later innovations capitalized on its lower cost. One of the earliest innovations, the nineteenth century practice of issuing assessable stock, provided some mechanisms to squeeze information from firms. An assessable share-holder committed to supply a certain amount of money to the firm, but doled out the cash to the firm in response to regular assessments. (Dewing, 1919). Issuers of assessable common stock were forced to return to their investors regularly and make the case for continued commitment, because each investor held the option to fail to make the assessment and forfeit his interest. The nineteenth century firms' almost complete reliance on secured debt for debt financing (see Ripley cited in Baskin (1988, pp. 215-216)) may also be interpreted as a costly contracting choice that substituted for more precise monitoring prevented by inadequate disclosure.

Later nineteenth century innovations took advantage of the presence of cheaper and more reliable information. Later preferred stocks conditioned their holders' voting rights on firms' failure to comply with covenant terms Johnson (1925) and Wilson (1930), both cited in Dewing (1934)). These covenants, especially after 1900, were more likely to be tied to financial ratios, as were bond covenants keyed to working capital tests or asset maintenance tests (Dewing (1934)). Finally, income bonds, popularized in the late nineteenth century, were completely linked to the availability of accounting information. These unsecured obligations required issuers to pay interest only if the firm earned positive accounting profits in the current period. This early history shows how innovations were a response to information asymmetries. Certain innovations forced the revelation of information and others exploited the low cost information generated through other processes. History shows that financial innovation has been a critical and persistent part of the economic landscape over the past few centuries. In the years since Miller's 1986 piece, financial markets have continued to produce a multitude of new products, including many new forms of derivatives, alternative risk transfer products, exchange traded funds, and variants of tax-deductible equity. A longer view suggests that financial innovation like innovation elsewhere in business is an ongoing process whereby private parties experiment to try to differentiate their products and services, responding to both sudden and gradual changes in the



economy. Surely, innovation ebbs and flows with some periods exhibiting bursts of activity and others witnessing a slackening or even backlash. However, when seen from a distance, the Schumpeterian process of innovation in this instance, financial innovation is a regular ongoing part of a profit maximizing in the economy.

Starting in the 1960 individuals and financial institutions operating in financial markets were confronted with drastic changes in economic environment, inflation and interest rates climbed sharply. Many financial intermediaries thought that these were profit in those funds and in order to survive, they searched new financial products that might be profitable. In contrast to 1960s, 1970s and 1980s have become riskier. Volatility of interest rates were increased. These interest risk also led to financial innovation. The development of variable-rate debt instruments such as certificates of deposits, mortgages, the creation of the futures market for financial instruments and creation of an options market for debt instruments appeared in these periods (Suzuki 1986).

Financial innovation enhances sustainability of institutions and their outreach to the poor. Useful distinctions between different types of financial innovations include : (i) Financial system/ institutional innovations: Such innovations can affect the financial sector as a whole, relate to changes in business structures, to the establishment of new types of financial intermediaries, or to changes in the legal and supervisory framework. Important examples include the use of the group mechanism to retail financial services, formalizing informal finance systems, reducing the access barriers for women, or setting up a completely new service structure. (ii) Process innovations: such innovations cover the introduction of new business processes leading to increased efficiency and market expansion. Examples include office automation and use of computers with accounting and client data management software. (iii) Product innovations: such innovations include the introduction of new credit, deposit, insurance, leasing, hire purchase, and other financial products. Product innovations are introduced to respond better to changes in market demand or to improve the efficiency.

### **2.3.2 Developments in Kenya's Financial Sector**

The financial sector development in Kenya can be reviewed in three phases. The first phase is the 1970s to early 1980s. During this time, the financial sector was largely dominated by the banking sector, which was characterized by financial repression. The government played a key role in allocating credit to investments by utilizing direct instruments of monetary policy such as interest rate controls, exchange rate controls and allocation of credit to priority sectors among other government restrictions. As argued by McKinnon (1973) and Shaw (1973), this phase encouraged insignificant interest rates on deposits, low savings and hence low investments.

The second phase began with the advent of Structural Adjustment Programmes and liberalization policies in the late 1980s and early 1990s. Over this period, relaxation of the interest rate, exchange rate and capital accounts controls were witnessed. The essence of the financial sector reforms this time was to trigger narrow interest rates spreads, increase availability of financial resources through increased savings, enhance efficiency in credit allocation and increase investments. Liberalization was also meant to encourage usage of indirect tools in monetary policy formulation. However, analysis of this phase in terms of influencing interest rate spreads indicate a disappointing scenario in which the lending rates remained high while the deposit rates remained low, with the real interest rates sometimes in the negative zones (Ndung'u and Ngugi 2000). The third phase which is the main focus of this paper is the late 1990s to date and can be classified as the era of financial innovation and emerging financial instruments. The period witnessed emergence of new products such as Islamic banking, automatic teller machines (ATMs), plastic money and electronic-money (e-money) amongst others within the banking sector the number of ATMs has increased steadily indicating reduced demand for cash at hand because they improve access to cash to those holding them. The emergence of new products has also been experienced outside the banking sector. Some of the innovations are noticeable in the financial markets, for instance, the introduction of Central Depository System (CDS) accounts, automation of Nairobi Stock Exchange (NSE), among others and developments in the ICT sector, which has increased the use of e-money and importance of e-money balances.

Developments have also been witnessed in the insurance market, pension funds market,

emergence of unit trust funds among other developments. Such new developments triggered increased interest by investors in raising funds from alternative sources, mainly the stock market.

The developments in the financial sector have not only led to the increase in the number of financial institutions, but also the development in level of sophistication with new payment systems and asset alternatives to holding money. This has resulted mainly from technological advancement and increase in competition as the number of institutions increase. Developments in payment systems have started to create close substitutes for hard currency, thus affecting a core part of central banking.

This is, for example, the case with the use of debit and credit cards, which have also increased steadily from the late 1990s. They have facilitated the use of electronic means of payment and sometimes substituted for the use of physical cash. More importantly, payment cards have also enabled the issuance of electronic money (e-money), which not only directly rivals physical cash in small value payments but also bank deposits through holding e-money balances. This reduces the amount of money that an individual can hold at hand at any particular time, thus affecting the demand for money. As these cards and e-money balances, e.g., M-PESA<sup>1</sup> and ZAP<sup>2</sup> balances, gain wider acceptability, demand for money and even motives for holding cash change significantly with implications on monetary policy transmissions. Other innovations in the banking sector include: increased use of paper money instead of cash.

Cheques are the main paper based mode of payment accounting for 48% of non-cash payments. Use of Magnetic Ink Character Recognition (MICR) ensures clearing of cheques speedily and efficiently. The Central Bank of Kenya launched a Real Time Gross Settlement (RTGS) system known as the Kenya Electronic Payments and Settlement System (KEPSS) in July 2005 in an effort to modernize the country's payment system in line with global trends. The main objective of introducing KEPSS was to: reduce the dominance of cash as a financial instrument in the payment system; reduce risk arising from payment exposure; enhance safety and efficiency of exchange in value between transacting parties, and If the world were free of all "imperfections"- such as taxes, regulation, information asymmetries, transaction costs, and moral hazard-and if markets were complete in the sense that existing securities spanned all states of nature, we could

arrive at an M&M-like corollary regarding financial innovation. Financial innovations would benefit neither private parties nor society and would simply be neutral mutations.

### **2.3.3 Financial Innovation in Kenya**

In the recent past, Kenya's financial system has experienced remarkable financial innovation with possible implications on monetary transmission mechanisms and hence on the conduct of monetary policy. Kenyan financial sector has undergone tremendous changes in the last two decades. A lot of reforms have been undertaken in the sector that have led to proliferation of financial products, activities and organizational forms that have improved and increased the efficiency of the financial system. Advances in technology and changing economic conditions have created impetus for this change. All these developments coupled with changes in the international financial environment and the increasing integration of domestic and international financial markets have led to rapid financial innovation.

Although this evolution in form of new financial instruments and new and more efficient methods of offering financial services constituting the now widely accepted definition of financial innovation has affected the entire global financial system, relatively little research concerning this subject is documented. Only scanty attempts dwelling on its definition, effects on money demand and effects on monetary policy exist in the literature (Hasan, 2009; Sukudhew, 2007; Noyer, 2007; Scott and White, 2002; Glennon and Lane, 1996; Arrau et al., 1995; Niehans, 1993). No systematic qualitative and quantitative analysis of the effects of financial innovation on macroeconomic variables and monetary policy exist in the literature especially on Kenya. Moreover, there is no consensus on the linkages between financial innovation and monetary policy transmission mechanisms even in the ongoing debate in the more developed economies. Conflicting opinions abound in the literature regarding the effects of financial innovation not only on monetary policy in general but also on various monetary transmission mechanisms (Exchange rate, asset prices; credit; interest rate; expectations) identified by (Mishki, 1995; Era and Holger 2006).

While some authors have highlighted the importance of financial innovation in monetary policy effectiveness based on the various channels, others have pointed out risks and uncertainties associated with financial innovation, particularly with respect to the complexities it poses to the conduct of monetary policy (Pradhah, 2008; Mario, 2007; Noyer, 2007; Iris and Grimes, 2003). In the latter scenario, central banks operate monetary policy efficiently only in the short term. After sometime, when new instruments are introduced to the market, new challenges emerge which disrupt the conduct of monetary policy. Moreover, new developments in the financial system also require new regulations to ensure the effectiveness of monetary policy is not compromised. Financial innovation and change in monetary procedures and control follow each other. Central banks have therefore to change their tools, targets and operating procedures from time to time so as to cope with innovation and ensure the sustainability of the financial system.

Whether financial innovation has facilitated or hindered the conduct of monetary policy in

Kenya remains unclear. Fully addressing this concern requires a broad approach of examining financial innovation-monetary policy nexus in general and the linkages between financial innovation and all the major monetary policy transmission mechanisms as identified by Mishkin (1995). As a first step, this paper empirically examines the financial innovation-monetary policy nexus and in particular the linkages between financial innovation and the interest rate channel in Kenya. Moreover, financial innovation may facilitate emergence of bubbles and imbalances, particularly if policy actions diverge from investor expectations. In this case, financial markets may be upset leading to increased volatility and disorderly effects on liquidity and asset prices which may create ineffectiveness in policy actions through the interest rate channel.

The need to closely monitor the financial innovation- monetary policy transmission mechanism linkages by central banks therefore arises, evoking a number of research questions. Would it be possible that financial innovation has changed monetary policy impact in general? Does financial innovation strengthen the standard interest rate transmission channel or not? And what implications do these possible changes if they exist have on future monetary policy operations? While it may not be possible to fully exhaust answers to these questions in this paper, this paper attempts to provide some answers by: identifying financial innovations that have taken place

since liberalization of the financial sector and analysing their impact on the interest rate channel of the monetary policy transmission mechanism in Kenya.

The rationale of studying possible implications for monetary policy of existing changes in the financial systems and expected new innovations and developments emanates from the need to, first, inform monetary authorities of what to incorporate in future policy formulations and interventions for effective monetary policy. Second, it is also important for central banks to monitor developments in financial innovation and try to predict the consequences of innovations before any distortions to the financial system emerge. Such an understanding will provide insights on the risks associated with financial innovation that is not properly regulated or monitored. Third, understanding the behaviour of monetary policy variables in a changed financial sector environment, particularly in the context of rapid financial innovation is necessary so as to predict the likely effects of changes in such policy variables on the key macroeconomic variables, which constitute the overall goals of any monetary authority.

The rest of the paper is organized as follows: The next section highlights innovations in the financial sector while section three provides literature review. The methodology is developed in section four while section five provides analysis of the results. The last section provides conclusions and policy implications.

### **2.3.4 Knowledge Gap**

Against this backdrop, a sizeable body of literature attempts to understand how various “imperfections” (and changes in these imperfections) stimulate financial innovation. These imperfections prevent participants in the economy from efficiently obtaining the functions they need from the financial system. Generally, authors establish how financial innovations are optimal responses to various basic problem or opportunities, such as incomplete markets that prevent risk shifting or asymmetric information. Some of these analyses are “institution-free” in that they do not explicitly consider the role of innovators in the process, while other institutionally-grounded explanations study the parts played by financial institutions using innovation to compete provide an on-line settlement system that would enable both banks and individuals to transfer funds electronically on a real time basis. The KEPSS system operates on a

credit push basis whereby final irrevocable settlements only occur when funds are available in the commercial bank's account with Central Bank.

## **2.4 Summary of literature review**

The activity of financial innovation implementation challenge is large, but the literature on the topic is relatively small and spread out broadly among a number of fields. Unlike some other areas represented in this volume, where our profession had made a great deal of progress, the subject of financial innovation implementation remains one in which our intellectual maps show vast uncharted—and potentially interesting—lands to be explored.

## **CHAPTER THREE**

### **3.0 RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The study looked at the subject under the following sub-topics; research design, population, data collection method and data analysis.

The study method was selected as it will enable the researcher to have a deeper understanding of strategy implementation, challenges and solutions to these challenges at the commercial banks.

#### **3.2 Research Design**

This research problem was best be studied through the use of descriptive strategy as it describes characteristics of a population. It seeks to determine the answer to what, who, when, where and how questions. Descriptive information is needed to solve business problems (Mugenda and Mugenda, 2003,).

#### **3.3 Population**

The population of the study was all commercial bank in Kenya. Currently they are 44 licensed commercial banks as 3<sup>st</sup> December 2010.

#### **3.4 Data Collection method**

The study used primary data as it is designed specifically to meet the needs of the research. Primary data will be collected using questionnaire. The questionnaire was semi- structured with both closed and open-ended questions. The questionnaires were administered using the drop and pick later method. In the correspondents were the managers heading finance functions of commercial banks since they recommends and are involved in financial innovations.



### 3.5 Data Analysis

The primary data was in qualitative in nature. The qualitative method was used to uncover and understand what lies behind a phenomenon under study. It can also be used to gain quite some fresh materials even in what was thought to be known.

Stated amount of data analysis is to treat evidence fairly by relating casual relationships to produce analytic conclusions that rule out alternative interpretations i.e. it can stand reliability test. Descriptive analysis was used to analyze the data received from the commercial bank. This involves descriptive tools such as percentages and frequency distribution. This method was used by Muturi (2000).

The findings were summarized to include the adoption of commercial bank with a view of getting a conclusive to study problems.

## CHAPTER FOUR

### DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

#### 4.1 Introduction

This chapter contains findings from the analysis of data collected from the study's respondents using questionnaires as discussed in chapter three, presentation of findings and interpretation. The study sought to investigate the challenges of implementing financial innovations by commercial banks in Kenya. The chapter is divided into; questionnaire return rate, respondents' background information, challenges to financial innovations and the business operational environment.

#### 4.2 Questionnaire return rate

The questionnaire return rate was 75%, that is, 33 out of 44 questionnaires. The questionnaires were administered by dropping and then allowing the respondents enough time to fill in their responses. Thereafter the completed questionnaire were picked the next day thus ensuring the high return rate and hence representativeness of the target population and validity of the result of the study.

#### 4.3 Background of the respondents

This section presents and discusses findings on the respondents' gender, position and working experience with the financial institution. These characteristics were relevant to the study since they had a bearing on the respondent's ability to provide valid, reliable and relevant information that assisted the study to arrive at the conclusions.

##### 4.3.1 Distribution of the respondents by gender.

The respondents were asked to state their gender. Their responses are as shown in table 4.1.

**Table 4.1: Gender distribution of the respondents**

Gender	Frequency	Percentage
Male	18	55
Female	15	45
<b>Total</b>	<b>33</b>	<b>100</b>

The study utilized 18 (55%) male and 15 (45%) female respondents as shown in table 4.1 above. This indicates good data stratification gender wise, providing some degree of reliability due to an almost equal gender representation.

**4.3.2 Distribution of respondents by functional position.**

The study sought to establish the position held by the respondents in their respective financial institutions. The findings are as shown in table 4.2.

**Table 4.2: Distribution of respondents by their functional position.**

<b>Position</b>	<b>Frequency</b>	<b>Percentage</b>
Administrator	8	24
Financial Manager	21	64
Accountant	4	12
<b>Total</b>	<b>33</b>	<b>100</b>

The findings indicate that there were 21 (64%) financial manager respondents, 8 (24%) administrators and 4 (12%) accountants interviewed. The combined majority of financial managers and administrators indicate that the information obtained was largely homogenous and from respondents with good knowledge in financial innovations, study and thus reliable.

**4.3.3. Distribution of respondents by working experience**

The respondents were asked to indicate how long they had been in their current position. The findings are as shown in table 4.3.

**Table 4.3: Distribution of respondents by working experience**

<b>Duration</b>	<b>Frequency</b>	<b>Percentage</b>
Less than a year	2	7
1-5 years	12	36
6-9 years	11	33
More than ten years	7	23
<b>Total</b>	<b>33</b>	<b>100</b>

The results show that 12 (36%) of the respondents had worked in their current positions for between 1-5 years, 11 (33%) for 6-9 years, 7 (23%) for more than 7 years while only 2 (7%) had

a less than a year's experience. Therefore, majority of the respondents had adequate experiences as to the challenges generally facing the financial institutions, especially with respect to the research question.

#### 4.4. Challenges to financial innovations

The study sought to establish the respondents' views on the challenges of implementing financial innovations in their respective financial institutions. This section presents findings on the respondents' views on inadequate technological skills, complexity of financial innovations, insecurity, fear of job loss by the employees and unreliable power connection.

##### 4.4.1. Inadequate technological skills.

The respondents' views on inadequate technological skills as a challenge to financial innovations are shown in table 4.4.

**Table 4.4: Inadequate skills**

<b>Respondents view</b>	<b>Frequency</b>	<b>Percentage</b>
Most important	2	6.3
Very important	2	6.3
Important	6	18.8
Somehow important	20	62.5
Not important at all	2	6.3
<b>Total</b>	<b>32</b>	<b>100.0</b>

The results show that 20 (62.5%) of the respondents say that inadequate skills was somehow important whereas only 2 (6.3%) of the respondent found it to be most important

#### 4.4.2. Complexity of financial innovations

**Table 4.5: Complexity of financial innovations**

<b>Respondents view</b>	<b>Frequency</b>	<b>Percentage</b>
Most important	18	56.3
Very important	8	25.0
Important	3	9.4
Somehow important	1	3.1
Not important at all	2	6.3
<b>Total</b>	<b>32</b>	<b>100.0</b>

The results shows that 18 (56.3 %) of the respondent found that complexity of financial innovations was the most important whereas 1 (3.1 %) found it to be somehow important.

#### 4.4.3. Insecurity

**Table 4.6: Insecurity**

<b>Respondents view</b>	<b>Frequency</b>	<b>Percentage</b>
Most important	1	3.1
Very important	1	3.1
Important	2	6.3
Somehow important	7	21.9
Not important at all	21	65.6
<b>Total</b>	<b>32</b>	<b>100.0</b>

The results show that 21 (65.6 %) of the respondents found out that security is the least important.

#### 4.4.4. Fear of job loss by the employees

Table 4.6: Fear of job loss by the employees

Respondents view	Frequency	Percentage
Most important	3	9.4
very important	13	40.6
Important	10	31.3
Somehow important	4	12.5
Not important at all	2	6.3
<b>Total</b>	<b>32</b>	<b>100.0</b>

The results show that 13 (40.6 %) of the respondent found that fear of job loss was very important.

#### 4.4.5. Unreliable power connections

Table 4.7: Unreliable power connections

Respondents view	Frequency	Percentage
Most important	1	3.1
very important	1	3.1
Important	1	3.1
Somehow important	3	9.4
Not important at all	26	81.3
<b>Total</b>	<b>32</b>	<b>100.0</b>

The results show that 26 (81.3 %) of the respondent feel that unreliable power supply was not important.

#### 4.4.6. The challenges compared.

**Table 4.8: The challenges compared (Descriptive Statistics)**

<b>Respondents view</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
Inadequate technical skills	32	2.44	.948
Complexity of financial innovation	32	4.22	1.157
Insecurity	32	1.56	.982
Fear of job loss by the employees	32	3.34	1.035
Unreliable power connection	32	1.38	.942

The results shows that unreliable power connection has the least mean and standard deviation while complexity of financial innovation has the most challenge on business.

**Table 4.9: The challenges compared (Friedman Ranking)**

<b>Respondents view</b>	<b>Mean Rank</b>
Inadequate technical skills	3.09
Complexity of financial innovation	4.63
Insecurity	1.95
Fear of job loss by the employees	3.73
Unreliable power connection	1.59

The results show that unreliable power connection is ranked the least while complexity of financial innovation is the most challenge on business.

#### 4.5. Business operational environment.

The study sought to establish the extent to which some factors within the business environment affected the operations of the financial institutions under study. This section presents findings on the respondents' view on the political and legal, economic, Social, technological and physical environmental (global warming and pollution) factors.

#### 4.5.1. Political and legal factors

The respondents were asked to indicate the extent to which political and legal factors affected the business of their respective banks. Their responses are as shown in table 4.10.

**Table 4.10: Effects of Political and legal factors on business**

Extent of effect	Frequency	Percentage
Moderate	2	6.3
Great	10	31.3
Very great	20	62.5
<b>Total</b>	<b>32</b>	<b>100.0</b>

The response show that 62.5% of the total respondents show that there is a positive effect of political and legal factors on business.

#### 4.5.2. Economic factors

**Table 4.11: Effect of economic factors on business**

Extent of effect	Frequency	Percentage
Great	4	12.5
Very great	28	87.5
<b>Total</b>	<b>32</b>	<b>100.0</b>

The response show that 87% of the respondents find that economic factors have a great effect on business.

#### 4.5.3. Social factors

**Table 4.12: Effect of Social factors on business**

Extent of effect	Frequency	Percentage
Great	4	12.5
Very great	28	87.5



<b>Total</b>	<b>32</b>	<b>100.0</b>
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The response show that 87.5% of the respondents find that there is a very great effect of social factors on business.

#### 4.5.4. Technological factors

**Table 4.13: Effect of technological factors on business**

<b>Extent of effect</b>	<b>Frequency</b>	<b>Percentage</b>
Little	1	3.1
Moderate	4	12.5
Great	14	43.8
Very great	13	40.6
<b>Total</b>	<b>32</b>	<b>100.0</b>

The response show that 43.8% of the respondents find that there is a great effect of technological factors on business.

#### 4.5.5. Environmental factors

**Table 4.14: Effect of environmental factors on business**

<b>Extent of effect</b>	<b>Frequency</b>	<b>Percentage</b>
Not at all	7	21.9
Little	8	25.0
Moderate	13	40.6
Great	2	6.3
Very great	2	6.3
<b>Total</b>	<b>32</b>	<b>100.0</b>

The response show that 40.6% of the respondents find that there is a moderate effect of environmental factors on business.

#### **4.5.6. The factors compared**

The factors were compared and ranked to establish those that had very great effect on business operations. The results are as shown in tables 4.15(a) and 4.15(b)

**Table 4.15(a): Factors compared (Descriptive statistics)**

<b>Factor</b>	<b>N</b>	<b>Mean</b>	<b>Std.</b>	<b>Minimum</b>	<b>Maximum</b>
			<b>Deviation</b>		
Political and legal factors	32	1.44	.619	1	3
Economic factors	32	1.13	.336	1	2
Social factors	32	4.41	.979	1	5
Technological factors	32	1.78	.792	1	4
Environmental factors	32	3.50	1.107	1	5

The results show that social factors is the least when ranked according to the mean and environmental factors has the maximum standard deviation on business.

**Table 4.15(b): Factors ranked (Friedman Ranking)**

<b>Factor</b>	<b>Mean Rank</b>
Political and legal factors	2.03
Economic factors	1.59
Social factors	4.83
Technological factors	2.52
Environmental factors	4.03

Economic factors is ranked the least according to Friedman whereas social factors is the most on business

## **CHAPTER FIVE**

### **SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

From the analysis of the data collected, the following conclusions and recommendations were made. The conclusions and recommendations drawn were focused on addressing the objectives of this study.

#### **5.2 Summary of the findings**

The aggregate response rate had the majority of the response rate coming from male. The response shows gender parity. Majority of the respondent show that majority had worked for more than 5 years in the bank. The banks embrace the principle of equal opportunity employment.

Majority of the respondent felt that technology was of great importance in the banks for them to be able to carry their work effectively. The fear of job loss is rocking the boat in innovation and results into problems. Social economic factors was of great importance and that the bank managers need to put into more efforts to ensure that they will be able to implement the innovation. Political and legal factors also need to be considered so that the banks can be able to implement innovation.

#### **5.3 Conclusion of the study**

The objective of this study was to determine the challenges of implementing financial innovation by commercial banks in Kenya. The results have shown that most of the challenges in implementing financial innovation are mostly due to financial complexities and inadequate technology.

#### **5.4 Recommendations**

Based on the challenges that were identified in the study as regard to challenges of implementing financial innovation, the study makes the following recommendation: The banks should put more efforts on economic factors so that they may be able to meet the demands. Secondly, they

should also be able to put into consideration the technological factors so that they will be able to provide up to date products to the market .Lastly the bank managers should also let their employees have wide knowledge on the products.

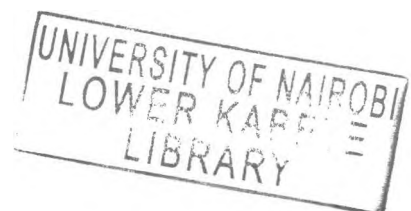
### **5.5 Limitation of the study**

The studies form various limitations. Some of these limitations were centered on the research methodology, while others were centered on other premises. A major methodological limitation may have been due to the data collect instrument. The researcher cannot undermine the possibility that some respondents did not quite understand how they were supposed to respond.

The nature of respondent was also a major limitation. Many of the banks are not based in one area.

### **5.6 Areas for further research**

More research needs to be done in this area of implementation. This study did a case of challenges in implementation of financial innovation. In order to further inform the practice and the discipline, more research needs to be done to establish implementation challenges; this will help establish whether implementation of financial innovation has any significance influence on banks bottom-line.



## References

- Akhtar, M. (1984) "Financial Innovations & Monetary Policy: A Framework for Analysis" *BIS Economic Papers*, pp.3-25
- Akhavein, J., W. S. Frame and L. J. White (2001), "The diffusion of financial innovations: An examination of the adoption of small business credit scoring by large banking organizations", unpublished manuscript, Federal Reserve Bank of Atlanta, April 2001.
- Allen, F. (2001), "Presidential Address: Do financial institutions matter?", *Journal of Finance* 56(4): 1165-1175.
- Allen, F. and D. Gale (1988), "Optimal security design", *Review of Financial Studies* 1(3): 229-263.
- Allen, F. and D. Gale (1991), "Arbitrage, short sales and financial innovation", *Econometrica* 59(4):1041-1068.
- Allen, F. and D. Gale (1994), *Financial Innovation and Risk Sharing* (MIT Press, Cambridge, MA).
- Bank for International Settlements (1986), "Recent innovations in international banking", *Bank for International Settlements Report dated April 1986*.
- Baskin, J. B. (1988), "The development of corporate financial markets in Britain and the United States, 1600-1914", *Business History Review* 62:199-237.
- Beatty, A., P. G. Berger and J. Magliolo (1995), "Motives for forming research & development financing organizations", *Journal of Accounting and Economics* 19(2-3): 411-42.
- Bhattacharyya, S. and V. Nanda (2000), "Client discretion, switching costs, and financial innovation." *Review of Financial Studies* 13(4):1101-1127.
- Black, D. G. (1986), "Success and failure of futures contracts: Theory and empirical evidence", *Salomon Brothers Center for the Study of Financial Institutions Monograph Series in Finance and Economics* 1986:1
- Black, F. and M. Scholes (1974), "From theory to a new financial product", *Journal of Finance* 29(2):399-412.
- Boot, A. and A. Thakor (1997), "Banking scope and financial innovation", *Review of Financial Studies* 10(4):1099-1131.
- Carosso, V. (1970), *Investment Banking in America: A History* (Harvard University Press, Cambridge, MA)
- Carrow, K.A. (1999), "Evidence of early-mover advantages in underwriting spreads", *Journal of Financial Services Research* 15(1):37-55.
- Cleveland, F. A. and F. W. Powell (1920), *Railroad Finance* (D. Appleton and Co, New York).
- Crane, D. et al. (1995), *Global Financial Systems: A Functional Perspective* (Harvard Business School Press, Cambridge, MA)
- Crawford, G. and B. Sen (1996), *Derivatives for Decision Makers* (John Wiley, New

York).

- Dewing, A.S. (1919), *The Financial Policy of Corporations* (Ronald Press, New York)
- Dewing, A.S. (1934), *Study of Corporate Securities* (Ronald Press, New York). This book quotes a number of unpublished and now-unavailable studies.
- Duffie D. and M.O. Jackson (1989), "Optimal innovation of futures contracts", *Review of Financial Studies* 2: 275-296.
- Duffie, D. and R. Rahi (1995)," Financial market innovation and security design: An introduction", *Journal of Economic Theory* 65:1-42.
- Elul, R. (1995), "Welfare effects of financial innovation in incomplete markets economies with several consumption goods", *Journal of Economic Theory* 65:43-78.
- F. Allen and D. Gale (1988), "Optimal security design," *Review of Financial Studies* 3(3):229-263.
- Finnerty, J. D. (1992), "An overview of corporate securities innovation", *Journal of Applied Corporate Finance* 4(4):23-39.
- Finnerty, J.D. (1988), "Financial engineering in corporate finance: *An overview*", *Financial Management*, 17:14-33.
- Finnerty, J.D. (2001), *Debt Management* (Harvard Business School Press, Cambridge, MA)
- Fisher L, I. Brick and F, Ng (1983), "Tax incentives and financial innovation: The case of zero-coupon bonds and other deep discount corporate bonds." *The Financial Review*, 292-305.
- Franks, J. and O. Sussman (1999), "Financial innovations and corporate insolvency," unpublished manuscript, London Business School.
- Garber, P. (1999), "Derivatives in International Capital Flows," in M. Feldstein, ed., *International Capital Flows* (University of Chicago Press, Chicago).
- Gastineau, G. (2001), "Exchange traded funds: An introduction," *Institutional Investor*
- Geanuracos, J. and B. Millar (1991), *The Power of Financial Innovation* (Harper Business, New York).
- Gergen, M. P. and P. Schmitz (1997)," The influence of tax law on securities innovation in the U.S.: 1981-1997", *Tax Law Review* 52:119-.
- Graham B. and D. Dodd (1934) *Security Analysis* (Whittlesey House, New York)
- Gowland, (1991), "Financial Innovation in Theory and Practice: *Survey in Monetary Economics*". Press, p. 79-101
- Hannan, T. and J. McDowell (1984), "The determinants of technology adoption: The case of the banking firm." *Rand Journal of Economics* 15 (Autumn):328-335.
- Hannan, T. and J. McDowell (1987), Rival precedence and the dynamics of technology adoption: *An empirical analysis. Economica* 54(May):155-171.
- Harris, M. and A. Raviv (1989), "The design of securities", *Journal of Financial Economics* 24:255-287.

- Harris, M. and A. Raviv (1991), "The theory of capital structure", *Journal of Finance* 46(1):297-355.
- Haugen, R.A. and L.W. Senbet (1991), "Resolving the agency problems of external capital through options", *Journal of Finance* 36(3):629-647.
- Heaton, J.B. (2000), "Patent law and financial engineering", *Derivatives Quarterly* 7(2):7-15
- Heinonen, T. (1992), Financial Innovation, Ph. D. dissertation, Helsinki School of Economics.
- Hendershott, P. H., and J. D. Shilling (1989), "The impact of agencies on conventional fixed-rate mortgage yields," *Journal of Real Estate Finance and Economics* 2:101-115.
- Hornberger, D. J. (1933), "Accounting for no-par stocks during the depression," *Accounting Review* (March)
- Hu, H. T. C. (1989), "Swaps, the modern process of financial innovation and the vulnerability of a regulatory paradigm", *University of Pennsylvania Law Review* 138:333
- Hu, H. T. C. (1995), "Hedging expectations: 'Derivative reality' and the law and finance of the corporate objective", *Texas Law Review* 73:985.
- Huang, P. (2000), "A normative analysis of new financially engineered derivatives", *Southern California Law Review* 75:471-41
- Jagtiani, J., A. Saunders and G. Udell (1995), "The effect of bank capital requirements on bank off-balance sheet financial innovation", *Journal of Banking and Finance* 19:647-658.
- Jameson, M., S. Dewan, and C. F. Sirmans (1992), "Measuring welfare effects of "unbundling" financial innovations: The case of Collateralized Mortgage Obligations," *Journal of Urban Economics* 31:1-13.
- Jarrow, R. and M. O'Hara (1989), "Primes and Scores: An essay on market imperfection", *Journal of Finance* 44:1263-1287.
- Kane, E. J. (1986), "Technology and the regulation of financial markets," in *Technology and the Regulation of Financial Markets: Securities, Futures and Banking*. A. Saunders and L.J. White, eds. (Lexington Books: Lexington, MA) 187-193.
- Kim, Y. and R. Stulz (1988), "The Eurobond market and corporate financial policy: A test of the clientele hypothesis", *Journal of Financial Economics* 22 (2), 189-205.
- Knoll, M. S. (1997), "Financial innovation, tax arbitrage and retrospective taxation: The problem with passive government lending", *Tax Law Review* 52(4), 199-224.
- Knoll, M. S. (2001), "Put-call parity and the law," unpublished manuscript, U. Penn. Law School and The Wharton School.
- Kollbrenner, S. M. (1995), "Derivatives design and taxation", *Virginia Tax Review* 15:211-.
- Leland, H. and Pyle, H. (1977) "Informational Asymmetries, Financial Structure, and



Financial Intermediation," *Journal of Finance*, Vol. 32, No.2 May

- Lerner, J. and P. Tufano (1993), ALZA and Bio-Electrical Systems (A) Technological and Financial Innovation, Harvard Business School Case number 293-124.
- Lerner, J. (2002), "Where does State Street lead? A first look at finance patents, 1971-2000", *Journal of Finance* 57(2), 901-930.
- M. Grinblatt and F. A. Longstaff (2000), "Financial innovation and the role of derivative securities: An empirical analysis of the Treasury STRIPS program", *Journal of Finance* 55 (3): 1415-1436.
- Madan, D. and B. Soupra, B. (1991)," Design and marketing of financial products", *Review of Financial Studies* 4(2):361-384.
- Mason, S., R. Merton, A. Perold and P. Tufano (1995), Cases in Financial Engineering: Applied Studies of Financial Innovation (Prentice Hall, Englewood Cliffs, NJ)
- Masson, R. L. and S.S. Stratton (1938), Financial Instruments and Institutions: A Case Book (McGraw Hill Book Co., New York).
- Matthews, J.O. (1994), Struggle and Survival on Wall Street (Oxford University Press, New York)
- McConnell, J.J. and E. S. Schwartz (1992), "The origin of LYONS: A case study in financial innovation," *Journal of Applied Corporate Finance* 4(4):40-47.
- McLaughlin, R. (1999), Over-the-counter Derivative Products", (McGraw Hill, New York)
- Merton, R.C. (1989), "On the application of the continuous time theory of finance to financial intermediation and insurance," *Geneva Papers on Risk and Insurance* 14(July):225-262.
- Merton, R.C. (1992), "Financial innovation and economic performance", *Journal of Applied Corporate Finance* 4(4):12-22.
- Merton, R.C. (1995), "A functional perspective of financial intermediation," *Financial Management* 24(2):23-41
- Merton, R.C. (1993), "Operation and regulation in financial intermediation: A functional perspective," in P. Englund , Ed. Operation and Regulation of Financial Markets (The Economic Council, Stockholm)
- Miller, M. H. (1986), "Financial innovation: The last twenty years and the next", *Journal of Financial and Quantitative Analysis* 21(4):459-471.
- Miller, M.H. (1991), Financial innovation and market volatility, (Blackwell, Cambridge, MA).
- Miller, M.H. (1992), "Financial innovation: Achievements and prospects", *Journal of Applied Corporate Finance* 4:4-11.
- Miller, Merton H. (1977). "Debt and taxes." *Journal of Finance* 32, 261-275.
- Molyneux, P. and N. Shamroukh (1996), "Diffusion of financial innovations: The case of junk bonds and note issuance facilities", *Journal of Money, Credit and Banking* (August) 502-526.
- Molyneux, P. and N. Shamroukh (1999), Financial Innovation (John Wiley, Chichester,

- England).
- Nanda V. and Y. Yun (1996), "Financial innovation and investor wealth: A study of the poison put inconvertible bonds", *Journal of Corporate Finance* (3)1: 1-22.
- Obay, L. (2000), *Financial Innovation in the Banking Industry: The Case of Asset Securitization* (Garland Publishing, New York)
- Partnoy, F. (1997), F.I.A.S.C.O. (W.W. Norton, New York)
- Perold, A. and S. Brown (2001), Merrill Lynch HOLDERS, Harvard Business School case 201-059
- Persons, J.C. and V. A. Warther (1997), "Boom and bust patterns in the adoption of financial innovations", *Review of Financial Studies* 10(4):939-967.
- Pouncy, C. R. P. (1998), "Contemporary financial innovation: Orthodoxy and Alternatives", *Southern Methodist University Law Review* 51:505
- Reinganum, J. (1989), "The timing of innovation: Research, development and diffusion" in R. Willig and R. Schmalensee, eds., *The Handbook of Industrial Organization* (North Holland).
- Riegel, R. (1920), "The installment plan and the baby bond," *Annals of the American Academy of Political and Social Sciences* 88 (March):169-176.
- Rogalski, R. J. and J. K. Seward (1991), "Corporate issues of foreign currency exchange warrants", *Journal of Financial Economics* 30:347-366.
- Rogers, E.M. (1983), *The Diffusion of Innovations* (Free Press, New York).
- Ross, S.A. (1989), "Presidential address: Institutional markets, financial marketing and financial innovation", *Journal of Finance* 44(3):541-556.
- Russo, T. A. and M. Vinciguerra (1991), "Financial innovation and uncertain regulation: Selected issues regarding new product development", *Texas Law Review* 69:1431
- Saloner, G. and A. Shepard (1995), "Adoption of technologies with network effects: An empirical examination of the adoption of automated teller machines", *Rand Journal of Economics* 26(Autumn):479-501.
- Santangelo, R. and P. Tufano, (1997), "Financial engineering and tax risk: The case of Times Mirror PEPS," *HBS Note* 297-056.
- Schenk, D. H., (1995) "Colloquium on financial instruments: Foreward", *New York University Tax Review* 50:487-.
- Scherer, F. M. and D. Ross, (1990), *Industrial Market Structure and Economic Performance*. (Houghton-Mifflin)
- Suzuki, (1986) "A Comparative Study of Financial Innovations, Deregulation Reform in Japan and US." *Bank of Japan, Monetary Economic Series* 4(10), 1986
- Schmookler, J. (1967), *Invention and Economic Growth* (Harvard University Press, Cambridge, MA).
- Schumpeter, J. A. (1950), *Capitalism, Socialism and Democracy* (Harper and Brothers,

## QUESTIONNAIRES

### Part A: General Information

1. What is your gender?

Male

Female

2. What is your functional position?

Administrator

Financial Manager

Accountant

3. How many years have you been in that position

a. less than a year

b. 1-5 years

c. 6-9 years

d. more than 10 years

4. Institutional ownership

Local

Foreign

Others (specify)

**Part B: Specific Questions to Research**

1. What are the challenges of financial innovation in your organization?

Please tick in order of priority 5- most important, 1- not Important at all.

- (i) Inadequate technological skills (1) (2) (3) (4) (5)
- (ii) Complexity of financial innovation (1) (2) (3) (4) (5)
- (iii) Insecurity (1) (2) (3) (4) (5)
- (iv) Fear of job loss by the employees (1) (2) (3) (4) (5)
- (v) Unreliable power connection (1) (2) (3) (4) (5)

2. Does the management support the financial innovation projects?

Yes

No

3. Do you regularly review your financial innovation?

Yes

No

4. If yes, how often?

a. once a month

b. mid of the year

c. never at all

5. Are there possible solution to the challenges of financial innovation at the bank?

Yes

No

**Part C: The environment**

12. To what extent do the following factors affect the operation of your business?

▪ Political and legal factors (political stability and taxation policy)

1. Very Great

2. Great

3. Moderate

4. Little

5. Not at All

▪ Economic Factors(Business cycles, interest rates and inflation)

1. Very Great

2. Great

3. Moderate

4. Little

5. Not at All

▪ Social Factors (Beliefs, Values attitudes and lifestyles of persons)

1. Very Great

2. Great

3. Moderate

4. Little

5. Not at All

▪ Technological factors (Innovations and improvement of products and techniques)

1. Very Great

2. Great

3. Moderate

4. Little

5. Not at All

▪ Environmental factors (Global warming and pollution)

1. Very Great

2. Great

3. Moderate

4. Little

5. Not at All