

Effect of Financial Innovations and Operationalization on Market Size in Commercial Banks: A Case Study of Equity Bank, Eldoret Branch

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Abstract

The study aimed at establishing the effect of financial innovations and operationalization on market size while focusing on Equity, a commercial bank. Further, the study was guided by the following research questions: a.)To what extent has Equity Bank Engineered Financial Products? b.)To what level has the market size been attained in relation to the Current Financial Innovations Undertaken? c.)And what are the pre –existing customers' needs that need to be met, those that will influence the Current and Future Financial Innovations? The study adopted a Case design approach and used both questionnaires and interview schedules in data collection. The study targeted a population of 1600 people who comprised Equity Bank Staff and Customers who formed its primary sample group. A sample of 200 respondents was drawn from the target population. The collected data was coded, entered and analyzed using the STRATA program; the analysis of the result was based on descriptive statistics (mean, standard deviations, frequencies and percentages). Interview schedules were analyzed thematically using content analysis. Frequency distribution tables and percentages were generated. On tabulation of the data, the researcher interpreted the unique trends that assisted to evaluate whether the objectives of the study have been met. Regression models were used to show relationships between the variables. The key finding was that a significant relationship between the various types of accounts and the assets growth of the bank ($p=0.006$) and on the profitability of the bank ($p = 0.007$). The study findings also indicated that there was an effect on the loans issued by the bank on the assets ($p = 0.007$) and on the profitability of the bank ($p = 0.002$). Finally, the Correlation indicated no significant relationship between the transaction channels employed and market size ($p = 0.011$) but a significant relationship between the various market needs and products developed. Thus more innovations were recommended to meet the customer need and expand the market size.

1.0 Introduction

1.1 Background to the Problem

Financial innovation is the introduction of new financial instruments or service or practice, i.e. introducing new uses of funds, or finding out new sources of funds, or introducing new process or techniques to handle day-to-day operations, or carrying out a new organization with these changes being on the parts of existing financial institutions and channels. In addition, the emergence and its spectacular growth of new financial institutions and markets is also part of financial innovation Patrya (2006).

Financial innovations encompass a wide range of changes in the financial system which leads to the broadening deepening, diversification, structural transformation internationalization and sophistication of the financial system. They result in the financialization of the economy whereby financial assets to total assets ratio tends to increase.

Changes in the financial market during the Nineteen Century witnessed considerable amount of financial innovations. They are generally the outcome of the changing needs for financial services and the availability of new technology to provide them. There are continuous efforts to innovate and serve consumers better by introducing new products, new functions of financial institutions and call for changes in the strategies of regulating agencies. Certain innovations disrupt the normal trajectory of life and organizations, and hence they are also called disruptive innovations. Disruptive innovations introduce a new value proposition either by creating new markets or reshaping existing markets, Christensen (2003).

In his Innovator's Dilemma, Christensen (2003) proposes three types of Disruptive innovations: Sustaining innovations provide better quality or additional functionality for a firm's most demanding customers. These innovations move companies along established improvement categories. These are basically incremental innovations along an established product or brand on dimensions historically valued by customers. Typical examples are new flavors of ATM cards i.e. Master Card, Visa Card and the Auto Branch which come with incrementally benefits.

Low-end disruptive innovations occur when existing products or services are so transformed that they become "too good" that they can be sold at premium prices. They all began by offering existing customers a low-priced, relatively straightforward product or service i.e. ATM charges were priced at Kshs. 30 at a market whose benchmark was Kshs. 50.

New-market disruptive innovations do not entail those that by traditional measures, do not meet existing customer needs nor do they characterize existing products and services. They are typically simpler, more convenient, less expensive, and so they appeal to less demanding customers. Typical examples are: Agency Banking, ATM Deposits, and Easy 24/7 Methods. All these are low-cost, no-frill, less sophisticated products that served a large underserved market for their affordability, even though limited capabilities. These occur when characteristics of existing products limit the number of potential consumers or force consumption to take place in inconvenient, centralized settings. These products create new growth by making it easier for people to do something that historically required deep expertise or great wealth, and hence invite non-consumers.

According to the Disruptive Innovation Theory, Christensen & Bower (2005), organizations can use relatively simple, convenient, low-cost innovations to create growth and triumph over powerful competitors. That is established incumbents almost always lose to attackers armed with disruptive innovations.

Christensen, Anthony & Roth (2004) identify three customer groups that provoke different types of innovations: non-consumers, undershot consumers, and overshot consumers. Each customer group provide unique opportunities. Companies can create new-market disruptive innovations to target non-consumers; they can launch up-market sustaining innovations to reach undershot consumers, and they can generate low-end disruptive innovations or modular displacements to reach overshot customers. Equity Bank has vigorously and extensively adopted the three models of innovation, earlier highlighted, to attain and maintain its clientele.

Christensen et al. (2006) describe a sub-category of disruptive innovation, called catalytic innovations. Catalytic innovators share five qualities. They create systemic social change through scaling and replication, they meet a need that is neither observed (because the existing solution is more complex than many people require) nor not served at all, they offer products and services that are simpler, less costly than existing alternatives, and may be perceived as having a lower level of performance, but users consider them to be good enough, they generate resources, such as donations, grants, volunteer labor, or intellectual capital, in ways that are initially unattractive to incumbent competitors, and they are often ignored, disparaged or even encouraged by existing players for whom the business model is unprofitable.

Catalytic innovations take place under all structures, pro-profit and non-pro-profit, private or public, big or small. Examples of catalytic innovations are the Wings to Fly program, Financial Literacy Program (Fika) financed by Master Card Program.

Financial innovations improve market integration and the efficiency of international financial markets by bringing about structural changes and by offering broader and more flexible range of instruments. These results in improved allocations that would strengthen global financial intermediaries and would provide hedge exposure to risk associated fluctuation in many financial parameters through a variety of techniques. A number of companies have come out with new financial instruments in the recent years. The innovative corporate new financial instruments include zero interest bonds, deep discount bonds, partially convertible debentures, zero coupon convertible notes, Debt for equity swap and so forth.

1.1.1 Profile of EBL

1.1.1.2 Equity Bank's History

Equity Building Society was established in 1984 to provide financial services to the ordinary Kenyan citizens. From inception it had a compelling social vision of bringing financial services to the "unbanked" poor strong social mission, which was to empower Kenyans by providing them access to financial services. However, Equity's performance was not impressive as the Confidence in the Financial Sector had been adversely affected by the Collapse of many Financial Institutions, Kenya Banking Survey, (2000).

Between 1986 and 1993 Equity grew savings by only KSh 2 million and loans and advances Increased by KSh 5 million. By 1993, 54% of loans were non-performing, accumulated losses Totaled KSh 33 million. The firm was declared insolvent by the Central Bank of Kenya (CBK), which then gave the management one year to turnaround the Firm, instead of shutting it down. At that time three depositors accounted for about 85% of total deposits, the National Health Insurance Fund, Kenya Ministry of Water and other depositors.

In 1994, Equity applied for and was granted a license to operate as a Micro Finance Institution. As an MFI, it had access to short term savings and could grant short term facilities (tenure of 6 to 12 months) of average size of \$300(Kshs.20, 000). The Bank started experiencing significant growth in all dimensions and to support this growth and IT system was put in place with the support of UNDP in 2000. The new system helped the bank to reduce customer time at the teller from 30 to 5 minutes. The Bank was, therefore, in a position to introduce mobile banking to help extend the reach in the rural areas. This was the beginning of the rapid transformation of Equity Bank.

In 2003, Equity began recruiting key senior management positions in order to strengthen Marketing, human resources management, finance, IT and internal audit functions. In the Same year, AfriCap bought a 16% stake in Equity, joined the Board and provided some Valuable technical assistance in the areas of risk management and management information System.

Stretch goals, targets, measures and activities were agreed for each critical success factor. With the commonality of vision and understanding of the strategic plan and the activities necessary to achieve it, Equity was able to further delegate responsibility and empowered managers. At the beginning of 2005, Equity Building Society, legally transformed into Equity Bank. The smooth change and rapid admission of the Bank to the central clearing system reflected the detail and care with which the transformation process had been planned and executed.

Equity Bank still remained a broad-based Bank in line with its vision and mission. This was also evident from the Bank's product portfolio; for while the savings product range had grown to include personal and business current accounts, about 80% of savings accounts by volume were ordinary savings accounts. The core Equity customers were low-income workers, small business traders, farmers, and government employees. However, more recently, the Bank had moved up-market and across into other market segments such as higher income earners, students and youth, as well as larger scale corporations. The professional image of Equity's banking halls and Auto Branches had encouraged the higher value customers to see it as a bank that could meet their needs too.

On 7th August 2006, Equity Bank was listed on the Nairobi Stock Exchange, valued initially at KSh.70 per share, but quickly traded up to a high of KSh.182 per share. This completed Equity's progression from what was effectively a small family firm to a high potential Organization on to a high performing and finally a listed institution. On 4th February, 2010 Equity Bank was listed in the Uganda Stock Exchange and thereafter acquired the then Uganda Microfinance Bank (UMB).

Currently, EBL is present in all the East African Countries (Rwanda, Uganda, Tanzania and Kenya) with expansion plans into Burundi being underway. Moreover, Southern Sudan also falls into EBL's market portfolio where three (3) branches have been established.

1.2 Statement of the Problem

Financial Innovation entails the development and expansion of the financial markets through the various institutions that enhance the financial monetary policies. It is a continuous activity that every financial institution has to undertake to ensure that it perpetually produces profits to its shareholders in line with the Agency Theory. Financial innovation was developed in the early 19th Century as a tool to meet and exceed market needs.

Since the mid-1960s, the growth of financial innovation has been swift but over the last two or three decades, the growth rate of bank deposits relative to the growth rate of other liabilities has been decreasing.

The level of Financial Engineering has been influenced by; Technological advances in telecommunications, Profit-seeking opportunities, and regulatory avoidance and increased competition from other intermediaries and nonfinancial firms. The growth rate of competition among financial intermediaries has increased dramatically. FIs are becoming more diversified.

Moreover, Financial Innovation is stirred by the excessive competition among banks, overly risky loans and the stock market crash that caused the default on many bank loans. With Financial Innovation taking place in the Banking System the Geographic barriers to the provision of financial services are disappearing, are more automated, and the financial instruments have become less specialized. The avoidance of regulations played a key role in the process of financial innovation in the 1960s.

Other innovations include: fungibility which refers to the ease to which one financial instrument can be transformed into another; deposit insurance which was developed to eliminate Bank runs while giving banks a greater incentive to make riskier loans thus enhancing high profit margins; Disintermediation is the removal of funds from financial intermediaries, the disposing of assets by intermediaries to obtain funds to pay depositors and disruptive to the process of allocating resources to capital formation. A free safe deposit box for opening a savings account is an example of an implicit interest payment.

Securitization is the process whereby relatively illiquid assets are packaged together and sold to individual investors and have taken the forms of Credit cards, Student loans, and Small business loans. Financial futures and options have been developed due to Greater interest rate and exchange rate risks. A Eurodollar borrowing is a financial innovation that evaded both Regulation Q (interest rate ceilings) and Regulation D (reserve requirements).

Patrya & Hartya (2010), indicated that without a clearly formulated legal framework to aid Regulatory bodies in combating the effects of Financial Innovation and Engineering then the Financial markets are prone to collapse as happened in the Great Depressions of the 1930's and the Economic Crisis In 2009 in the USA and the European Countries. Financial Institutions collapsed due to excessive competition among themselves, having overly risky loans and the Stock market Crash caused by the default on many Bank Loans.

The creativity towards enhancing financial engineering is driven by price volatility, increased competition in the financial markets, technological advancement in telecommunications, volatile interest rate, inflation, changes in regulation and collateralized mortgage obligations.

Yet, recognizing its potential to make a valuable contribution to serving the poor in Kenya, the Central Bank of Kenya allowed Equity Bank to continue in business after a capital injection. Within two years, in 1995 the organization had made a small operating profit. Since then Equity has moved by leaps and bounds. On January 1st, 2005 Equity Building Society transformed into a bank and on August 7th 2006 it was listed on the Nairobi Stock Exchange with an initial valuation of Ksh 6.3billion, and with a current valuation of over KSh.103 billion. This accomplishment has only been possible through tailor-made financial products and services. A key finding of the study was that there is a fundamental paradigm shift in Banking practices and products from the traditional forms which have continued to drive market size and by extension profitability. Moreover, Equity Bank needs to continually innovate products to meet their clients' current and emerging financial needs.

The Automated Teller Machines (A.T.M.) have been rolled out through the Robust System that the Bank Operates in , with the numbers increasing rapidly with a total of 743 under the Equity Bank Branches with 15 A.T.M.'s being run by the Equity Bank Limited , Eldoret 1 flagship.

The Bank had leveraged on this system to launch new products and host other delivery channels. This had decongested the banking halls, with over 50 percent of customers' cash withdrawals taking place at the ATMs. The system also made it possible for the Bank to embark on an aggressive branch and Point of Sale terminals expansion programs .The Bank has a network of 142 branches supported by 700 VISA branded ATMs and 2,500 Point of Sale terminals. . Customers could make withdrawals, payments and check their balances at the Bank's ATMs.

Through the ATM, Equity bank linked with Safaricom, a mobile Phone Company with in excess of 5 Million customers who are linked to the M-PESA mobile transfer, and enabled them to withdraw money via the ATM's without actually being Equity Bank Members. Cash Back/ Swipe and Shop with an ATM, an equity Account holder can do shopping at various malls and pay through them with the support of various Point Of Sale (P.O.S.'s).

Moreover, the ATM Card Holder can withdraw through the Cashier at the shopping mall through the Cash Back Concept. Further, a registered Member can access and avail for a Bank Overdraft from an A.T.M. without setting foot inside a banking hall. The Bank introduced mobile phone banking, which had the capability to allow airtime top-ups; cash back services at different points of sale, that enabled customers to withdraw cash from cashiers at supermarkets. In addition debit cards were launched in 2007 which have enabled the Bank to increase its ATM reach by adding 110 ATMs to the network through the signing-up with Pesa Point.

With the great advent and usage of the Mobile Phone, the volume of mobile-phone banking ("m-banking") transactions has exhibited the most rapid growth in the recent past and will endeavor to do so. Broadly, defined as the delivery of the range of financial services—including electronic transfers, bill payment, banking transactions, and brokerage services—through mobile devices, m-banking radically reduces the cost of delivery and increases convenience for customers.

Equity Bank Limited has continued to Engineer Financial Products to enable it meet its current market needs and by extension maximize profits. Examples include the M-Kesho(Mobile- Money Transfer), Easy 24/7, Jijenge Account etc.

Using the Equity Bank model as a benchmark, this study examines the financial innovations that have led to a large market size of 230,000 (56%) clients within a town (Eldoret) with 39 Commercial Banks and a population of 440,000 people (KNBS,2010 Census) and by extension the Bank holds 7.3 Million Customers, ranking it as Africa's largest Bank through customer base, African Banker Magazine, November (2011).

1.3 Research Questions

- a.) To what extent has Equity Bank Limited Engineered Financial Products?
- b.) To what level has the market size been attained in relation to the Current Financial Innovations Undertaken?
- c.) What are the pre-existing customers' needs that need to be met, those that will influence the Current and Future Financial Innovations?

1.4 Significance of the Study

This study will be useful to all stakeholders in the Financial Industry as a guide on the current and emerging customer needs thus will facilitate Product development to close the existing gaps. The Central Bank of Kenya will use the findings of this paper to draw up the expected Legal Framework to facilitate Financial Innovation while mitigating the risks that have resulted due to the same. The findings of this paper will guide Academicians to Identify the Knowledge gaps in this Field and provide systematic ways to close the gaps reported. Finally the EBL various products they need to implement to satisfactorily meet the market needs and by extension maintain and expand on a large market size.

1.5 Scope and Delimitation of the Study

The geographical scope of investigation was in Eldoret CBD, Kenya where a 39 Commercial Banks operate with a recently emerging marketing campaign in a quest to woo more customers and increase market dominations.

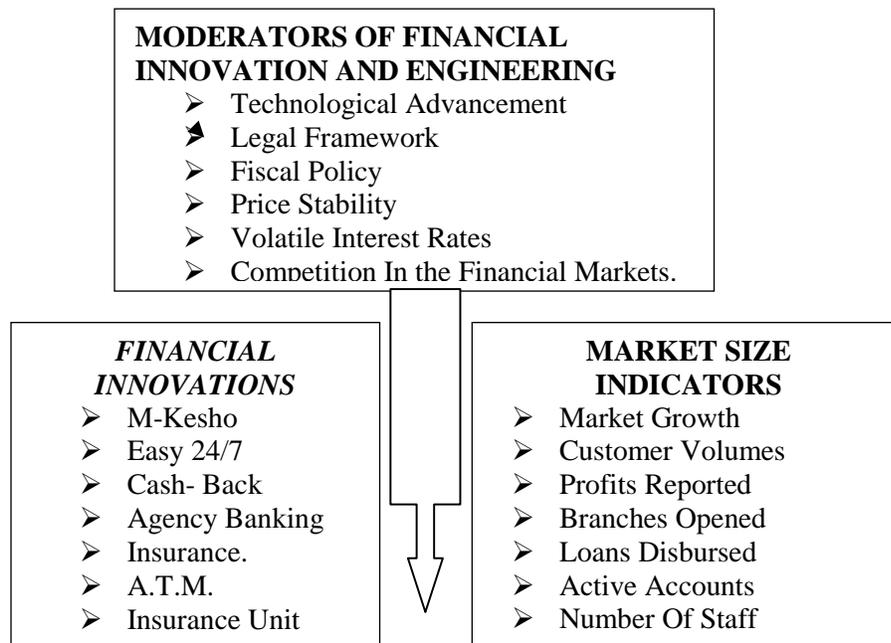
The Time scope was the period between 2005 and 2011, identifying the Financial Products initiated and their resulting effect on market size.

1.6 Conceptual Framework

The process of product innovation is driven by the prevailing market needs measured through the various strategic analysis tools while factoring in the concept of economies of scale. Equity Bank strategies have always moved from being product-led to market-led with focus on the rural areas and the unbanked has changed the business model of the firm from Mortgage Bank to Micro Finance Institution (MFI).

Moreover the level of Information Technology and the Financial Legal framework influences the product output. Below is a table comparing between the Independent and Dependent Variables.

Figure 1.1: Conceptual Framework



Source: Researcher, (2012)

2.0 Literature Review

2.1 Review of Theories

2.1.1 Base of the Pyramid Protocol

According to Prahalad & Hart (2010), the global population can be divided into three segments depending on their purchasing power parity. At the top are those whose purchasing power parity is greater than US\$ 15,000 (Kshs. 120,000). There are around 800 million such people in the world. In the middle there are around 1,500 million people whose purchasing power parity is between US\$ 1,500-15,000 (Between Kshs.12000 and Kshs. 120,000) . At the bottom are over 4 billion people with purchasing power parity of less than US\$ 1,500 (Kshs. 12,000), which is the minimum required to sustain a decent life. Over 1 billion consumers have a per capita income of less than one dollar a day (World Economic Forum Paper, 2011)

The poor have to pay what is called ‘poverty penalty’. This refers to the premium that they are required to pay for products for which the rich pay a lower price. For example, the poor pay more for water, food and electricity. If corporations can identify the gaps in demand and supply of the products among the low end consumers, they can cater to their demands. At the same time, the poor will also be benefited as they will have more choice and get quality products at a reasonable price.

Corporations realized the importance of targeting the BoP consumers when their sales began stagnating in the developed markets.

There is a huge potential in the market and to reach these consumers, the companies needed to combine their capabilities with the local needs to arrive at business models that were completely different from the existing one. The proponents of the BoP Protocol say that corporations could identify sustainable new products and businesses by understanding and partnering with BoP consumers and developing products targeted at them.

According to I'rahalad, 2001, "The aspiring poor present a prodigious opportunity for the world's wealthiest companies. But it requires a radical new approach to business strategy." Bop Protocol aimed at identifying and developing sustainable new products and business models in association with BoP communities for low-income markets.

According to Hart, "The Base of the pyramid Protocol is a model for business co-creation that marries a multinational corporation's capabilities, resources, and technologies with those of Base of the Pyramid communities."

The BoP strategy entails developing Financial Products that meet the majority of persons on the lower Earning Scale. It entails deep listening towards the needs and feedback from the consumer, Reduction of price points, having various distribution centers, Having an arm's length relationship with the consumers and Redesigning packaging.

The BoP concept is enforced toward attaining organizational profitability through the application of the Economies of Scale Concept where an organization produces and sells large volumes of a Product while ensuring a small profit margin per unit sold, Mathrya (2000).

BoP Concept as Applied By Equity Bank Limited

Equity Bank's Business Model has primarily been based on Customer Focused Business Approach with a strong bias on the Low income earners who form a majority of the social hierarchy of needs.

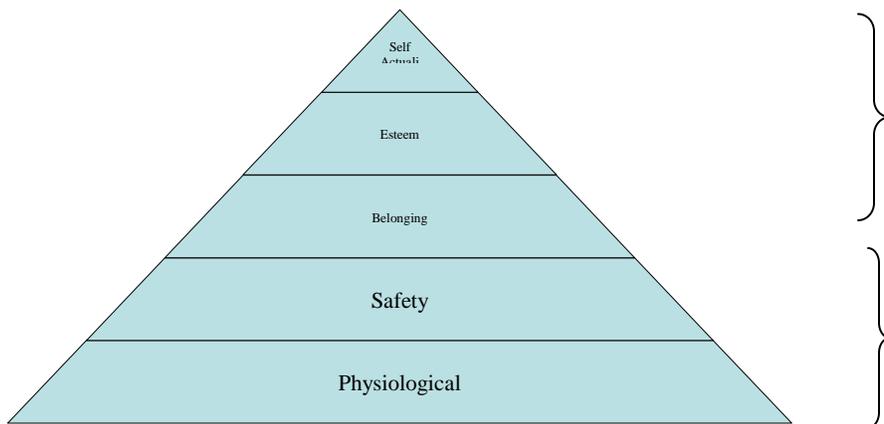


Figure 2.1; Maslow Hierarchy of Needs

To attract deposits, a member was not mandated to deposit money to open an account. Account holders could deposit money anytime and also withdraw anytime against the then convection of the Kenyan Banking Environment. Ledger and account maintenance fees were eliminated whereas this was at a time when other Banks had minimum deposit requirements to open an account and withdrawals were allowed once a week.

The loan product range expanded to include asset finance, business overdrafts and insurance premium finance products. However, small value (\$300-500), salary advances and farm input loans still accounted for about 72% of the volume of loans and about 12% by value. Business loans comprised 10% by volume and 43% by value. The delivery channels reflected the broad-based nature of the Bank. The channels consisted of large urban branches that can serve high transaction volumes, smaller branches in rural centers, ATMs and mobile branches. In addition, the larger branches had special "corporate" sections that ensured that the higher value customers were given rapid and more personalized service.

Equity responded to the need for local, rural financial services by creating mobile branches, which used secured vehicles to establish a branch for one or two days per week in a local village, which coincided with the day that the local market operated.

The mobile banks were fitted with modern information technology systems powered by solar panels and backed by advanced security systems. Account details and transactions were relayed to the head office in Nairobi through satellite. Each mobile banking unit was attached to an Equity branch. A Village satellite branch was established in a simple rented structure that was served once or twice per week by a mobile banking unit. Customer data was downloaded at the beginning of each day from the hub branch server, and staff, cash and armed security were transported to the satellite branch.

At the end of each day the mobile unit returned to the hub branch and transactions were downloaded. Where the mobile branch was particularly successful, additional banking days were added. Some of the most successful mobile branches were graduated into full branches.

2.1.2 Theory on Enterprise Innovation

Innovation is the application of new knowledge to the production of goods and services; it means improved product quality and enhanced process effectiveness. Innovation generates wide improvements in productivity, which is the primary source of enhanced well-being, higher real incomes and resources for Government. Successful innovations are often imitated by other players in the same industry or applied in other industries. Lehtoranta, (2005)

Innovation can basically be either, Product innovation where new goods and services are released into the market, process innovation where changes are established in the manufacturing process of a product or behavioral innovation where an organizational routine is replaced with a new one. Quite often, the innovation turns out to be a mix of all three categories, as in the case of introduction of a new product that requires new productive competencies and changes in the organization. Furthermore, what to a supplier is a product innovation can be a process innovation to a user, as in the case of a new machine that revolutionizes the process of manufacturing. In this case, investment is the means by which innovation is spread over the economy.

Although technology is often at the heart of an innovation, marketing and financing Organizations can also be sources and multipliers of innovation. In an enlarged meaning, Innovation embraces the introduction of known things to new markets or different industries. The environment in which something is said to be an innovation is also relevant. Thus, we can have an innovation simply relative to past achievements of the innovator or to the (local) market or to the world frontier. In the first two cases, it is possible to achieve the innovation just by imitating world-class practices.

A useful distinction can be made between radical innovation and incremental innovation.

Radical innovations comprise entirely new products, often undertaken by new entrants with a diversified knowledge base. Minor improvements in existing products and processes constitute incremental innovations, often undertaken by incumbent firms with a specific knowledge base. The following broad definition of innovative activities is used here: innovative activities refer to all those activities the target of which is to develop and launch an innovation onto the market. Examples of these activities include acquisition of R&D, and acquisition of external knowledge and financing. These activities are measured by R&D performing, recruitment of highly qualified personnel and participation in an R&D collaboration project.

2.1.2.1 The Central Role of Innovation in growth Theory

Economics has a range of growth theories, but all give a central role to innovation as a driver of growth where long-term growth processes rest ultimately on innovation and technological change. This is especially important in advanced economies where innovation plays a key role in improving the quality of inputs and in how these are incorporated in the production process.

The Schumpeterian Approach

In the 1940s the economist Joseph Schumpeter assigned the key role in economic growth firstly to the disruptive activity of entrepreneurs, and secondly to large corporations, each of which fed a process of *creative destruction* by causing continuous disturbances in the economic system. The source of these disturbances was innovation, which created as Schumpeter put it: ‘competition from the new commodity, the new technology, the new source of supply, the new type of organization, competition which commands a decisive cost or quality advantage and which strikes not at the margins of the profits and the outputs of the existing firms but at their foundations and their very lives’.

Schumpeter's analysis was descriptive rather than formal, but later economists developed formal growth models based on his insights, placing innovation at the heart of growth. There is recent empirical evidence, discussed below, to suggest that the extent of creative destruction is linked to the rate of growth.

Neoclassical Exogenous Growth Models

In the 1950s and 1960s Robert Solow developed a formal neoclassical model of growth, based on the concepts of production function where output is a function of inputs (capital, labor, management services and materials), and reaches a long run equilibrium. If the population grows, then increasing all inputs in the appropriate proportions increases output until equilibrium in goods markets is achieved, at which point the capital stock is in steady state, and investment is only to cover depreciation.

In the long run, growth in per capita output depends only on the rate of technological progress. However the theory offered no account of how this occurred: technological improvements emerged from outside the economic system, and were not shaped by decisions within it. In empirical applications of the theory, Abramowitz and later Solow showed that US long-run economic growth derived overwhelmingly from technological progress rather than increases in capital and labor inputs, a result which emphasized the importance of innovation, though without explaining it.

Neoclassical Endogenous Growth Models

The Solow growth model treated the sources of technological process as external to the operations of firms. Later, 'endogenous' growth models attempted to provide a deeper analysis of the sources of long-run growth, by building knowledge-creating investment into the models. This allowed two-way causation between innovation and growth. Endogenous innovation models saw technological progress as the key to long-run growth, but made it internal to the economic process, dependent on investment in innovation, primarily through investment in R&D and human capital. In these models, the basic process used to explain economic growth is the phenomenon of increasing returns to scale, which follow from the externality aspects of technological change. Several of the most important approaches within this field involve modeling a specific "research sector" of the economy, which produces both specific new inputs, plus general scientific and technical knowledge.

In these models, growth results partly from increases in the productivity of tools and equipment (intermediate inputs) resulting from technological change, and partly from "spillovers" of knowledge from one area to another. It is the spillovers which generate increasing returns, basically because production functions are not independent, and the knowledge input can enter into many or all firm-level production functions. A key difference then emerges between this type of growth model and neo-classical growth theory: the growth rate can be permanently raised by activities which increase the flow and use of collective knowledge in the system.

The Evolutionary Approach

The evolutionary approach to growth focuses on innovation as a mechanism of economic change. In evolutionary theories firms are forced to innovate by technological competition: they constantly introduce new varieties of products, and new production technologies. Both market and non-market processes (such as public procurement) select successful technologies, and out of this growth emerges, as successful technologies and firms replace those that are diminishing in importance. Innovation therefore drives growth, but is accompanied by significant change in either the structure of the economic system, or in the composition of its activities.

A central contribution of recent evolutionary approaches to previous theories is the 'innovation system': the set of institutions and organizations which contributes to the development and diffusion of new technologies, processes, and organizations. Within this system, firms seek to survive by developing a variety of diverse strategies and products with selection by the market, with Government intervention through support, procurement and regulation shaping the evolution of the population of firms.

2.1.2.2 Innovative Activities as a Source of Business Productivity Growth

The strength of the relation between innovation and growth is supported by a long-standing range of empirical studies that show positive correlations between various innovation investment and outcome proxies (such as R&D and patent performance), and growth outcomes. More recent studies have drawn on direct measures of innovation investment and innovation output, to show that firms that innovate do better than those that do not and that innovation drives productivity growth.

Data Sources and Models

A major data source known as the Community Innovation Survey provides a wealth of evidence on a variety of firm innovation activities, from investment in innovation (expenditures on design, training, new capital goods, licenses, market exploration and R&D), innovation outputs (in terms of sales of new and modified products and processes), and a range of related activities. At the present time it is the only comprehensive data source that seeks directly to measure innovation inputs (across all of their range) and innovation outputs (in the form of sales from wholly new or technologically changed products).

The most rigorous attempt to use this data to look at the link between innovation activity and firm growth is an econometric approach known as the Crepon- Duguet-Mairesse (thereafter CDM) model. It explores the impact of innovation activity of firms from manufacturing and most non-public service industries in terms of the links between innovation investment and firm productivity. The CDM model explores the innovation-growth relationship through a three stage analysis. Thus; an investment decision phase in which firms' decisions to engage with innovative activities and the intensity of their investment is modeled then a knowledge production function which models how that investment relates to sales of innovative goods; and finally an output productivity stage in which the link between those innovative product sales and labor productivity is considered.

Nesta's Innovations and Surveys

The primary recent work on intangible investment for innovation in the UK has taken place through the NESTA Innovation Index. NESTA's work on innovation investment has two parallel strands where; high level estimates, using a wide range of metrics and consistent with national accounts, of spending by firms on R&D, software, design, business organization, skills and reputation and an undertaking of pilot surveys of what firms say they spend on these knowledge investments with estimates of how long the new investment lasts.

In this document the Innovation Index estimates of intangible investment are used as a reference point because they allow macroeconomic international comparisons. Key findings from surveys allow a microeconomic understanding of firm behaviors. It entails the analysis of the categories of investment confirmed the importance of training and software investment, reflecting the importance of skills and ICT applications across industries; an incidence of both non-R&D and R&D intangible spend was found to be more common in larger and older firms.

Further, R&D spend was much more common in services relative to manufacturing, especially in financial services. Thus much of the incidence of innovation spending in the service sector, a major part of the economy, is not fully captured in the R&D statistics; the breakdown between in-house and purchased investment differed across broad sectors. The overall share of in-house investment was significantly higher among firms in services than those in the production sector. This suggests a strong role for digitalization in current services activity.

In summary, innovation takes many forms i.e. can be a process, product, service, or anything that helps firms to perform better. Also Innovation can originate from anyone. Anyone can innovate, as innovation requires a mindset that probes perceived boundaries to bring new ideas to fruition. Moreover, Innovation is not creativity alone. Innovation is more than creativity as it begins with an idea and subsequent implementation to produce new value. Innovation is more than improvement. Improvement is the refinement of existing methods to get more output from the same input while innovation breaks new ground, giving new outputs from less or different inputs. Innovation pays in quantum amounts. The impact of innovation results in quantum leaps in value creation that encompasses effective results.

2.1.3 Agency Theory in Banking

Financial intermediaries have long been identified as unique institutions in free-market economies. The negative externalities deriving from bank failures have prompted a body of government regulation paralleled among non-financial firms. In the U.S. a large segment of this regulation was enacted in the Depression era of the 1930's.

For the next four decades all seemed reasonably well but the 1980's brought a wave of bank failures that produced losses that exceeded in real terms the losses of the 1930's. Quite naturally this led to a questioning of the rationale and efficacy of the then current bank and thrift regulation. One major segment of research focused on the problem of moral hazard and the perverse incentives arising out of a federal safety-net. We know from the theory of financial intermediation that deposit contracts provide better risk sharing than other contractual arrangements. But deposit contracts also inevitably allow the possibility of bank runs thereby mandating government insurance for the depositors, Diamond& Rajan, (2008).

Merton (2007) first quantified the moral hazard issue by identifying the value of deposit insurance as the equivalent of a put option on the FDIC. At that time deposit insurance premiums were charged at a fixed rate, regardless of risk, thereby providing an incentive for banks to increase their risk. Subsequent empirical studies of the propensity of banks to increase risk in order to maximize the value of their deposit insurance have produced mixed results. Marcus & Shaked (1984) were the first to make Merton's deposit insurance valuation equations operational. Their conclusion was that the deposit insurance premium was substantially higher, not lower, than it should have been given the historic level of bank losses. Duan, Moreau and Sealey (1992) employed a specific test for risk-shifting behavior by banks. They argued that if a bank was able to increase the value of the risk-adjusted deposit insurance then they had appropriated value from the FDIC.

Their empirical findings were that only 20% of their sample banks were successful in risk-shifting behavior and therefore it was not a wide-spread problem. Hovakimian & Kane (2000), however, used the same empirical design as Duan, Moreau & Sealey and obtained opposite results. They used a more current period and found that highly-leveraged banks have higher risk-shifting incentives than less-leveraged banks which are consistent with the presence of moral hazard. Another researcher discussing the problem was Keeley (1990). He raises the question as to why it was not until the 1980's that banks started to exploit the value of deposit insurance since the insurance had been enacted in the 1930's. Keeley notes that while both book-value capital ratios and market-value capital ratios had been declining for quite a while, the market-value of equity had moved from a premium over book-value to a discount under book-value. This, of course, reflects a decline in charter value which in turn is a reflection of the de-regulation of banking that was taking place. During the 1970's and the 1980's banks had received increased powers both as to their geographic expansion and their product offerings.

But increased operational flexibility means increased competition and, therefore, a reduction in market power and a related reduction in charter value. Keeley concludes that when charter values are high banks are motivated to minimize risk so as to protect their charter value, but when charter values are low banks are inclined to increase their risk since there is less to lose. The second major segment of financial research considered here deals with the agency problems between shareholders and managers. In this literature bank managers are viewed as unwilling to increase risk to the level that would maximize shareholder value.

2.2 Criticism of Theory

2.2.1 Criticism of Bottom of Pyramid Concept

By an organization focusing all its capabilities on developing and satisfying the needs of the majority of the population, it will be closing up its doors to the persons at the pinnacle of the pyramid who not only contain the economic ability to invest but also who are willing to spend a substantial part of their resources when attaining need satisfaction.

2.2.2 Criticism of Agency Theory, Financial Innovation and Engineering.

Agency problems can be traced to the original work of Jensen and Meckling (1976), Holmstrom (1979) and many others. Amihud & Lev (1981) brought the literature into the specific arena of incentive compensation and risk. Looking for explanations of conglomerate mergers that destroy shareholder value, the authors suggest that managers, in an effort to protect un-diversifiable human capital, are motivated to reduce risk. Here again, empirical studies have produced conflicting results. In a study focused on banking firms, Saunders, Strock and Travlos (1990) found that management stock ownership induces risk taking.

Using capital market measures of risk and the percentage of stock owned by managers as a proxy for ownership structure, they provide evidence that stockholder-controlled banks take on higher risk than managerially-controlled banks. In another study Lee (2002) argues that risk-averse managers respond to incentive compensation more aggressively if the risk of bank failure is low. On the other side of the question, Houston and James (1995) argue that compensation in the banking industry does not promote risk-taking. In their study they find no evidence that equity-based incentives increase the level of risk taking. On the contrary, they find a positive relationship between the use of equity-based compensation and the ratio of market-value to book-value.

The use of more equity-based incentives by banks with high charter values is completely inconsistent with a propensity to increase risk. Gorton and Rosen (1995) produce similar results. Their conclusion is that managers with controlling interests tend to make safe loans while entrenched managers make more risky loans.

They find a robust negative relationship between risk and franchise value and a statistically significant relationship between risk and ownership structure only for banks with low franchise values. Another related study is Hughes, Lang, Moon and Pagano (2003). These authors also consider the interaction between safety-net subsidies and managerial incentives and its impact on capital structure. Their empirical findings establish the presence of dichotomous strategies for value maximization, a concept first identified by Marcus (1984). In capsule form, one strategy is to pursue low risk (low leverage) opportunities in order to maximize charter value while the second strategy is to embrace high risk (high leverage) in order to exploit the federal safety net.

The authors go on to argue that the choice between strategies is a function of agency problems with low risk and high charter value associated with a higher consumption of agency goods by managers. Recent financial instability triggered by the collapse of the U.S. subprime mortgage market has many features with great resonance from financial history. The crisis occurred following two years of rising policy interest rates. Its causes include lax oversight and a relaxation of normal standards of prudent lending and a period of abnormally low interest rates. The default on a significant fraction of subprime mortgages has produced spillover effects around the world via the securitized mortgage derivatives into which these mortgages were bundled, to the balance sheets of hedge funds, investment banks and conduits (which are bank owned but off their balance sheets) which intermediate between mortgage and other asset backed commercial paper and long term securities. The uncertainty about the value of the securities collateralized by these mortgages spread uncertainty about the value of commercial paper collateral, and uncertainty about the soundness of loans for leveraged buyouts. All this led to the freezing up of the interbank lending market in August 2007 and substantial liquidity injections by the ECB and the Federal Reserve

The instruments, often devised to avoid regulation, are then proved to be successful or not by the test of financial stress such as we have been recently encountering. The rise and fall of financial institutions and instruments occurs as part of a long standing pattern of booms and busts in the markets for equities, land, commodities, foreign exchange and other assets. The cycle is financed by credit, lending booms and busts and the credit cycle are also intimately connected to the business cycle.

Stock market crashes can be serious events leading to a decline in wealth and in consumption and also a scramble for liquidity in turn contributing to incipient banking crises. Housing busts also have serious consequences for the banking system via defaults on mortgages, and on the real economy via declining wealth on consumption expenditure, the collapse of residential investment and a financial accelerator effect as net worth decline. The recent housing boom in the U.S was largely triggered by a long period of abnormally low interest rates, likely attributed to loose monetary policy from 2001 to 2004 in reaction to earlier financial turbulence and then fear of deflation and to a global savings glut, Bernanke, (2007). The bust was likely induced by a rise in rates in reaction to the inevitable inflationary pressure.

2.3 Empirical Review

Literature on the area of credit migration risks are based on the structural and reduced-form models. Earlier classical structural models are represented by circumstances under which a default occurs as soon as the asset value of a firm falls below the face value of its liabilities. Examples of Black and Scholes, (1973) and Merton (1974) describe the asset value of the firm as a stochastic process under which; $dV(t) = (\mu - \gamma) V(t)dt + \sigma V(t)dW(t)$

Where: μ is the drift rate on the assets,

γ is proportional cash payout rate,

σ is the asset volatility, and

$W(t)$ is a standard wiener process.

Unfortunately, the problems of using structural models come from the determination of the value and volatility of the firm's assets, and to model the stochastic process driving the value of the firm adequately. In addition, the fact that both the drift rate and volatility of the firm's assets can depend on the future economical environments is not considered in their evaluations. The reduced-form model represents modern approach of credit migration that captures not only the event to default but also ratings change. The first reduced form approach was introduced by Fons, (1994) and later extended by several authors, including Jarrow et al (1997), Duffie and Singleton (1999).

The discrete-time approach represents the most popular form which usually assumes a time homogeneous Markov model.

The Markov property means that ratings migrations are independent of the past ratings (stable, upgrade, and downgrade). The time-homogeneity means that the transition intensities given in the annual transition matrix are independent of time period considered. These two assumptions clearly affect the estimation of credit migration matrices.

Furthermore, the time-homogeneity assumption neglects the cyclical effects of the economy (i.e. during periods of downturn of the economic, the likelihoods of further downgrades exceed those during periods of growth). Nickell et al., (2000), Bangia et al., (2002), Krüger et al., (2005) pointed out that transition matrices are not constant through time and different during periods of expansion and recession of the economy.

These are due to the contagion effects in the economy where failure of an important organization threaten the stability and survival of others very sound organizations and might lead them to default as well. During periods of growth, companies can obtain cheap credits from banks to help them fund their business activities and survive. In addition, Truck and Rachee (2005) show substantial effects on risk figures for credit portfolios when credit migration matrices take into account the cyclical effects. Lando & Skødeberg (2002) show that assuming that transition matrices follow a Markov property neglects past ratings movements which are important determinant of the likelihood of a downgrade versus that of an upgrade over a certain period of time.

Kreinin & Sidelnikova (2001) show that computing the six-month transition matrix can be performed by taking the square root of annual transition matrix. Unfortunately, despite the attractiveness of such feature in mathematical sense, the result might have little sense in risk assessment. Data quality of ratings transition observed within shorter periods are either not available or too scarce to make a reliable estimate of the migration matrices because obligors usually take more than a year to default and keys financial data are provided at year end in annual reports. The mathematical limitations of fractional power occur when trying to estimate short-term transition matrices for less than a year because there is no guarantee that the transition matrices obtained are stochastic matrices. Transition matrices are stochastic matrices when they satisfy two conditions: square matrices with nonnegative entries and row sums equal to 1. Typically, fractional powers generate matrices with negative entries despite having row sums still equal to 1. Thus, the resulting matrices cannot be considered stochastic matrices. In addition to these numerical problems, there might be more than one root to the transition matrices and it is not exactly clear which roots represent the right choice, Higham & Lin (2009).

In most cases, approximation methods are required for generator matrices with negative off-diagonal elements. Israel et al. (2000) show that it is possible more than one generator exists and the transition matrix of the valid or unique generator if it exists must satisfy three conditions: determinant must be greater than 0.5, distinct positive values, and distinct real values. A preferred approach may be to directly estimate the generator from the data, then to estimate the transition matrices within the required time horizon. An important issue in continuous time approach is that data (e.g. accounting report, external and internal ratings, etc.) are usually reported once a year.

Lando and Skødeberg (2002) showed the non-Markov evolution (for instance, dependence on previous rating) of the transition matrices while still assuming the time homogeneity. Lando et al (2002) demonstrate the advantages of using continuous-time approach to capture the probabilities of rare events (e.g. default of a firm with AAA) that may not have yet occurred but could occur in the future compare to discrete-time approach which assume the probability values of zero. Christensen, et al (2004) introduce a continuous-time hidden Markov chain model to capture the non-Markov effect in which downgraded firms have an increasing probability of experiencing further downgrades.

2.4 Knowledge Gap

The foregoing review of theories, criticism of the theories and empirical literature shows that gaps exist as regards financial innovation on market size e.g. the bottom of the pyramid concept intends to satisfy the needs of the majority population ignoring other participants in the financial sector. Secondly, Mihud & Her,(1989) look at incentive compensation and risk, Saunders, Strock & Travlos, (1990) found that stock ownership induces risk taking which they found a positive relationship. Thirdly, Hughes, Lang, Moon & Pagano, (2003), consider the interaction between safety-net subsidies and managerial incentives and its impact on capital structure.

Further, they argue that the choice between strategies is a function of agency problem with low risk and high charter value associated with a higher consumption of agency goods by managers.

We look at financial Innovation which entails improving access to financial services and the fostering of economic growth for all stakeholders in a financial cycle. The above can be effective if all the pertinent departments i.e. government, infrastructure, diversification, cooperation, technology, proportionality, and the relevant legal framework; close on the relevant gaps appropriately. The government has failed on providing the necessary commitment in alleviating poverty through financial need attainment.

Further, the lack of a clear understanding of the prevailing competition and delivery of sustainable financial access and usage of a broad range of affordable services (savings, credit, payments and transfers, insurance) as well as a diversity of service providers calls for the development of a steady solution through innovations and engineering.

3.0 Methodology

3.1 Research Design

Qualitative research design was adopted which is a naturalistic, interpretive approach concerned with understanding the meanings which people attach to phenomena (actions, decisions, beliefs, values etc.) within their social worlds (Denzin & Lincoln, 2000; Snape & Spencer, 2004). The key elements of qualitative research are small and carefully selected sample populations; close, interactive contact between researcher and research participants; detailed data which are extensive and information rich; exploratory and interpretive in nature; suitable in exploring complex issues; studying processes that occur over time; and produces output that focus on interpretation of social meaning (Snape & Spencer, 2004; Ritchie & Lewis, 2004).

Based on the research questions derived in the preceding section, one seeks to understand and interpret the perspectives, history and, experiences of the research participants. This research sought to identify the participants' appreciation to the various Financial Products that Equity Bank has released into the market and their resulting impact on customer numbers. The research participants need to have different demographics, career paths and working experience, and personal circumstances in order to give balanced and representative view. The research approaches used are closely aligned with the key elements of qualitative analysis, hence, the research methodology used for this study was qualitative approach, taking on the form of an explanatory research, which is concerned with why phenomena occur and the forces and influences that drive their occurrence (Ritchie & Lewis, 2004).

3.2 Population

The population comprised of Equity Bank staff and Customers who formed the primary sample group. There are 61 staff and 161,000 Customers with Registered accounts. Sample selection was based on two principles of qualitative sampling i.e. symbolic representation and diverse sample within the boundaries of the defined population (Ritchie & Lewis, 2004). Samples of 200 respondents were selected to fill the survey through the filling of properly constituted questionnaires.

3.3 Research Instruments

Data was collected by use of questionnaire and interview schedules. The questionnaire consisted of both open and closed ended questions. The interview schedules was used to solicit for more information from the respondents. According to Mugenda (2003), interview schedule guard against confusion because questions can be clarified at the time of data collection. This study therefore employed the respondent's type of interview where the interviewer retains control throughout the process. Some examples of methods to collect naturally occurring data are participant observation, observation, documentary analysis, discourse analysis, and conversation analysis. Some methods to generate qualitative data are biographical methods; individual interviews, paired (or triad) interviews, and focus groups.

In selecting the appropriate data generation method, due to the somewhat sensitive and personal nature of the research topic, an in-depth interview method was used. In-depth interviews are commonly used in qualitative research and allow focused attention on the research participant. The key features of in-depth interviews are flexibility, interactive, enable researchers to achieve depth of answer through use of appropriate techniques, and allow generation of new thoughts or knowledge, Legard, Keegan & Ward, (2004).

3.4 Sample and Sampling Procedures

The sample size was decided at planning stage together with the sample design. The sample size depended upon the estimated levels of precision required. To minimize the standards error we used a larger sample size (Mutai, 2000). We adopted the Kerlinger (1993) argument that 30% of the target population is able to reflect the results of the target population. This implies that a sample of about 200 respondents were included in the sample. The researchers choose this sample size of 30% of the target population basing on the resources and time available to the researcher. Patton (2002) argues that the sample size depends on what one wants to know, the purpose of the inquiry, what is at stake, what is useful, what had credibility and what can be done with available time and resources. Convenience sampling technique was used to select the respondents who are in management positions because of their busy schedules of the day at the period of study. Stratified sampling was used to select the other respondents and this was to ensure that different groups of a population are adequately represented in the sample so as to increase reliability when estimating parameters. It uses available information on the population to divide into groups such that the elements within each group and more alike and elements in the population as a whole. Considerably reduces the cost of execution Frankfort, C. & Nachmias, D. (2006).

3.5 Description of the Data Collection Procedures

We used the services of a research assistant who was familiar with the bank environment so as to effectively assist in administering the questionnaires to the respondents. The research assistant accompanied the researcher in piloting and modifying the instruments so as to comprehend the purpose and method of data collection. The researcher personally interviewed the respondents basing on the fact that the information given was deemed confidential to the Equity Bank and the researcher.

3.6 Data Analysis Procedures

Data collected was analyzed using descriptive statistics, which according to Peter (2004), is done in stages. Data was analyzed in stages of editing questionnaire and interview schedules to ensure accuracy, completeness and uniformity. The questionnaires were given numbers consequence in zero serial. This was followed with coding. The next stage after categorization, was quantifying data i.e. assigning numerical values to various categories to facilitate the statistical representation of the data in the first stage.

The third stage involved transfer of data to computer storage to facilitate computation of data using statistical package STRATA. This was followed by tabulation, which is demonstration of data using suitable methods of statistical representation. Frequency distribution tables and percentages were generated.

After tabulation of the data, the researcher interpreted the unique trends that assisted to evaluate whether the objectives of the study have been met.

We formulated the Model below:

$$Y_o = A_o + B_o(X_b)$$

Where:

Y_o = Factor Leading To Financial Engineering

A_o = All Dependent Variables.

B_o = Independent Variables e.g. Market needs

X_b = Constant Environmental Factors.

4.0 Presentation and Discussion

4.1 Presentation of Findings

We sought to find the background information of the respondents in regard to: gender, age, educational level, occupation and number of years the respondent had held a bank account in Equity Bank Limited.

Table 4.1 Background Information

Gender		Frequency	Percent
	Male		124
Female		76	38
Total		200	100
Age		Frequency	Percent
	18-25	56	28
26-35	53	26.5	
36-45	71	35.5	
46 years and above	20	10	
Total		200	100
Occupation		Frequency	Percent
	Employed	40	20
Business	50	25	
Student	44	22	
Farmer	54	27	
Retired	4	2	
Job searching	6	3	
Casual Labourer	200	100	
Total			
Educational level		Frequency	Percent
	Tertiary and Below	68	34
Diploma	58	29	
Degree	42	21	
Masters	21	10.5	
Doctorate	11	5.5	
Total		200	100
Time held the account		Frequency	Percent
	Less than 1 year	89	44.5
Between 1 and 3 years	62	31	
More than 3 years	49	24.5	
Total		200	100

Source: *Researcher, (2012)*

On gender, the study established that male respondents were 62 % (124) while the female respondents were 38 % (76). This could be the case because most male work thus keeping their money in the bank compared to women who are house wives.

The age bracket too was important because some of the bank loans such as Vijana Business Loans are targeted to the youth. It was found out that the highest percentage 28 % (56) of the respondents had their ages between 18 and 25 years. The others with the ages between 26 and 35 and above 46 years were represented by 26.5 % (53) and 10 % (20) respectively.

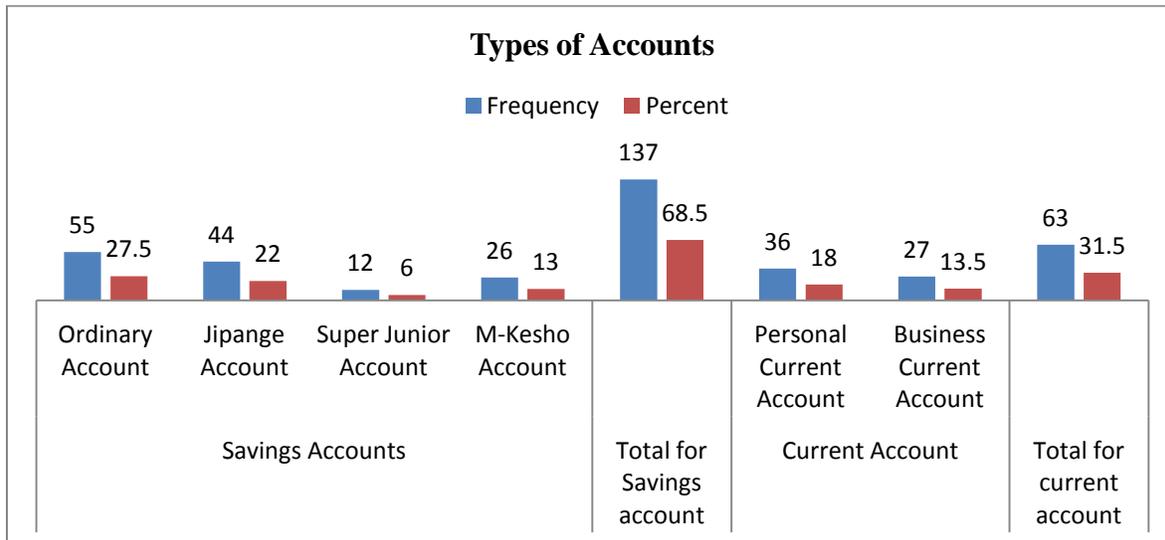
Finding out the occupation of the respondents was significant for the study because it would give a trend on which accounts are most used by people from a specific occupation. Also it could help future innovation specifically related to that occupation. The majority of the respondents 27% (54) were farmers, 25% (50) were business people, 22% (44) were students while the rest. 20% (40), 3% (6) and 2% (4) were employed, job seekers and the retired respectively.

In using some of the channels of transaction in Equity Bank a customer has at least to know how to read. If not the person has to be helped by an Equity Bank staff. Thus it was important to find out the educational level of the respondents. It was found out that the most of the respondents had their highest level of education being tertiary and below were represented by 34 % (68) of the respondents. Others who had theirs being diploma, degree, masters and doctorate were represented by 29 % (68), 21 % (42), 10.5 % (21) and 5.5 % (11) respectively.

4.2 Financial Products Engineered by Equity Bank Limited

4.2.1 Different Types of Accounts

Figure 4.1: Different Types of Accounts



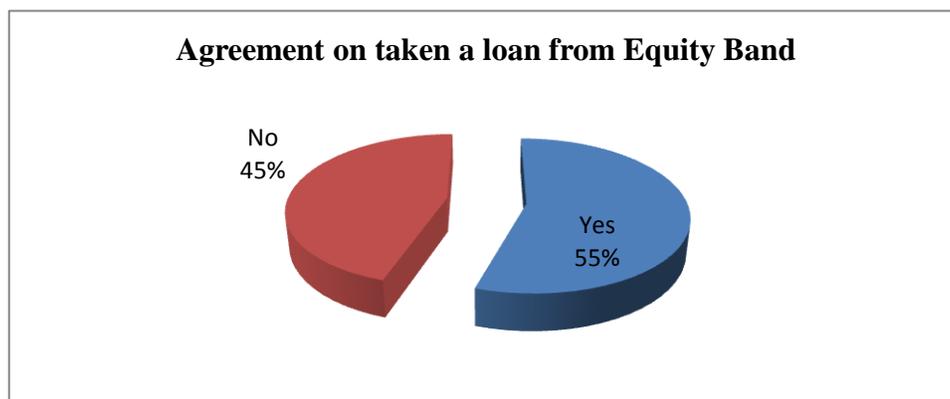
Source: Researcher, (2012)

The researcher sought to know the types of accounts available at Equity Bank Limited. There are different options of the accounts; the broader categories are the Savings accounts and Current Accounts which have the sub-categories.

In the savings account the most familiar sub-category was Ordinary account that was represented by 27 % (55); The second in this category was Jipange account 22 % (44); M-Kesho and Super Junior Accounts were represented by 13 % (26) and 6 % (12) of the respondents respectively. The Ordinary and Jipange accounts could have been the most familiar accounts because these accounts were started earlier than the others. Also, important to mention is that ordinary accounts do not have many conditions when applying for opening and Jipange account was advertised and sold out as a convenient account for the youth.

4.2.2 Invention of Different Types of Loans

Figure 4.2 Agreements on Taken a Loan from Equity Bank



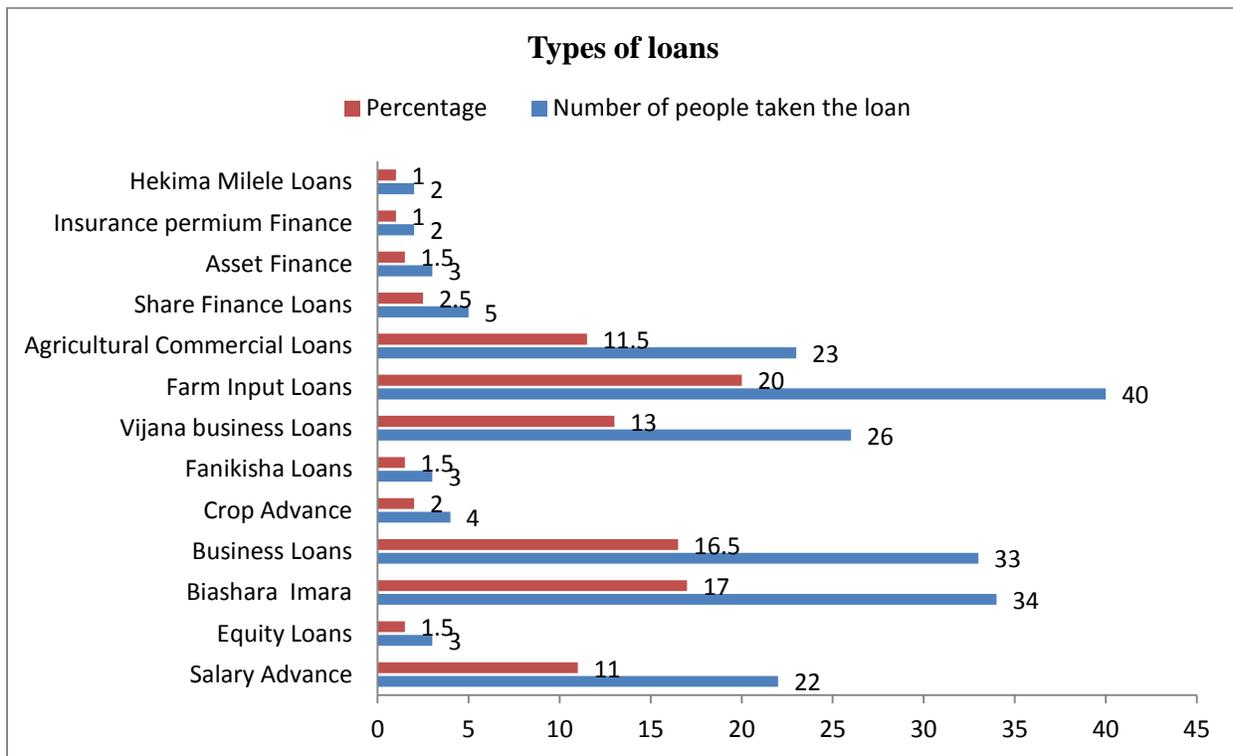
Source: Researcher, (2012)

The researcher sought to establish the number of loans taken from Equity Bank. The findings are shown in figure 4.2 above where 55% (110) had taken loans and the balance not. The customers that had taken the loans to buy farm inputs; this is because Eldoret is in the North Rift of Kenya where agriculture is the main economic activity. Some took to pay school fees, expand their businesses or even start a new business enterprise. The one that had not taken the loans gave reasons such as high interest rate and fear of risks emerging from defaulting.

4.2.2 Types of Loans

The researcher sought to establish if the respondents knew about the loan types offered by the bank. The results are presented in the figure 4.2

Figure 4.3 Types of Loans in Equity



Source: Researcher, (2012)

The researcher established that the majority of the respondents knew about Farm Inputs Loan that was represented by 20 % (40) of the respondents. BiasharaImara Loans were the second most know type of loan which was represented by 17 % (34). Another 16.5% (33) of the respondents were familiar with Biashara Loans while. Hekima Milele Loan was the least known with 2% (4).

The Farm Input Loans and Biashara Loans were the loan were widely known by the respondents, this could be because most people living in Eldoret participate in agriculture as the main economic activity, while Business people borrow loans to expand their business or start other businesses elsewhere.

4.2.4 Types of Transaction Channels Offered by Equity Bank Limited

Another innovation in Equity bank Limited that made it expand in the market share in Eldoret was the introduction of a variety of ways of transacting.

The researcher needed to identify knew about them. The results on channels offered are presented in table 4.2 below:

Table 4.2 Transaction Channels Offered

Automated Teller Machines	Frequency	56
	Percentage	28%
Agency Banking	Frequency	17
	Percentage	8.50%
Easy 24/7	Frequency	3
	Percentage	1.50%
Cash Back	Frequency	3
	Percentage	1.50%
Over The Counter	Frequency	80
	Percentage	40%
M-Kesho (M-Pesa)	Frequency	37
	Percentage	18.50%
Swipe and Shop	Frequency	2
	Percentage	1%
E-Banking	Frequency	2
	Percentage	1%
Total	Frequency	200
	Percentage	100

Source: *Researcher, (2012)*

Since most of the respondents knew more than one of the transaction channels, we restricted them to making only one choice.

The highest percentage of 40 % (80) were familiar of over the counter services, Automated Teller Machines (28 % (56), and 18.5% (37) knew about M-Kesho (MPesa). The other respondents 8.5%(17), 1.5%(3), 3%(6), 1%(2) and 1%(2) represented those who knew about Agency Banking, Cash Bank, Easy 24/7, Swipe and Shop and E-Banking respectively. Over the counter was the most known but also complain because of the long queues and high charges on over the counter services especially when withdrawing. However most of the respondents thought it was safer than other transaction channels and large sums of money could be withdrawn over the counter. The ATM on the other hand was deemed quickly especially the recently introduced capability where the customers can deposit cash. However the amount of money withdrawn/deposited from the ATMs is limited.

4.3 Products Offered

Table 4.3 Products Offered to Satisfy the Customer Needs

		SA	A	UD	D	SD	Total	Mean
A variety of loan provision	Frequency	111	34	25	18	12	200	4.08
	Percentage	55.5	17	12.5	9	6	100	
Deposit and withdrawal options such as the ATM	Frequency	101	45	12	22	20	200	3.93
	Percentage	50.5	22.5	6	11	10	100	
Provision of pay bill options	Frequency	5	7	122	35	31	200	2.61
	Percentage	2.5	3.5	61	17.5	15.5	100	
Funds access through mobile phone subscribers such as Mpesa on Safaricom	Frequency	5	30	102	54	9	200	2.85
	Percentage	2.5	15	51	27	4.5	100	

Source: *Researcher, (2012)*

Although there are different types of loans offered to the customers by the Bank they do not meet the specific customer needs, and an introduction of other varieties that are specific needs to be introduced, this was according to 81.6% (Mean of 4.08) of the respondent who agreed.

4.4 Market Size Trends

4.4.1 Indicators of Growth (Market Size)

The study sought to identify the market size indicators that the bank has employed over the years. The responses are shown in the table below:

Table 4.4: Indicators of Growth (Market Size)

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Deposits	200	2.6200	1.05887	.07487
Loans	200	2.4050	.97247	.06876
Profits	200	2.7400	1.26109	.08917
Assets	200	3.0000	2.18722	.15466
Customers	200	2.2000	.92969	.06574

Source: Researcher, (2012)

Majority of respondents noted that the asset base of the bank has been the most common indicator of the growth of the bank mean (3.000). This could have been attributed to the fact that the bank is keen to ensure that it opens up many new branches in the country as its operations continue to grow. The study also noted that profits (mean = 2.74) and deposits (mean = 2.62) are also used as a common indicator of the bank's performance. The common indicator of the number of customers and the number of accounts were identified as not being indicators of market size due to the duplication of this indicator.

4.4.2 Growth of the Market Size

The indicators of market size were standardized and the data collected from secondary data was used to compute the overall effect of the financial innovations on the bank. This was done for the period starting in 2003 – 2011 (9 years). A test value of 1.5 was employed after standardizing the data in scales of 4 units.

Table 4.5: One-Sample Test

	Test Value = 1.5					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Deposits	14.959	8	.000	1.12000	.9724	1.2676
Loans	13.161	8	.001	.90500	.7694	1.0406
Profits	13.906	8	.000	1.24000	1.0642	1.4158
Assets	9.699	8	.003	1.50000	1.1950	1.8050
Customers	10.648	8	.001	.70000	.5704	.8296

Source: Researcher, (2012)

The results show that all the market size indicators had significantly grown over the period of 4 years. This means that by employing a base value which was the value at the beginning of 2003, the deposits by 2011 had considerably grown ($p = 0.000$), loans issue had grown ($p = 0.001$), profits had considerably grown ($p = 0.000$), assets had significantly grown ($p = 0.003$) and the number of customers had also considerably grown ($p = 0.001$). The study therefore concluded that as the financial innovations were being introduced into the market, the indicators of the market size as had been illustrated by the secondary sources of data were considerably growing.

4.4.3 Correlation Effects of the Financial Innovations on the Market Share

To confirm if the financial innovations could have led to the increases in the market share, we sought to establish the correlation effects of the new financial products in the identified major indicators of market size. This were the effects of the different account types, different types of loans and a variety of transaction channels on the assets and profit bases. The results of the correlation are shown in the table below.

Table 4.6: Correlation Effects of the Financial Innovations on the Market Share

Correlations			
		Assets	Profits
Accounts	Pearson Correlation	0.141	-0.121
	Sig. (2-tailed)	0.006	0.007
	N	200.000	200.000
Loans	Pearson Correlation	-0.135	0.002
	Sig. (2-tailed)	0.007	0.000
	N	200.000	200.000
Transaction_Channels	Pearson Correlation	-0.180	0.473
	Sig. (2-tailed)	0.011	0.000
	N	200.000	200.000
**. Correlation is significant at the 0.01 level (2-tailed).			
*. Correlation is significant at the 0.05 level (2-tailed).			

Source: *Researcher, (2012)*

There was a significant relationship between the various types of accounts and the assets growth of the bank ($p=0.006$) and on the profitability of the bank ($p = 0.007$).

The study findings also indicate that there was an effect on the loans issued by the bank on the assets ($p = 0.007$) and on the profitability of the bank ($p = 0.002$). Finally, there was no significant relationship between the transaction channels employed ($p = 0.011$) but a significant relationship between the various transaction channels employed such as M-KESHO and the profitability of the bank.

4.4.4 Strategies for future Innovations

Table 4.7: Strategies Future Innovations

		SA	A	UD	D	SD	Total	Mean
More use of technology	Frequency	144	23	20	7	6	200	4.59
	Percentage	72	11.5	10	3.5	3	100	
Collecting customer views	Frequency	123	55	12	7	3	200	4.91
	Percentage	61.5	27.5	6	3.5	1.5	100	
Mergers and Acquisition	Frequency	21	25	78	66	10	200	2.44
	Percentage	10.5	12.5	39	33	5	100	
Research and development	Frequency	122	34	24	15	5	200	4.53
	Percentage	61	17	12	7.5	2.5	100	
Effective recruitment and Selection of qualified personnel	Frequency	14	34	45	66	41	200	2.11
	Percentage	7	17	22.5	33	20.5	100	
Contracting experienced auditing companies	Frequency	15	16	55	44	70	200	2.07
	Percentage	7.5	8	27.5	22	35	100	

Source: *Researcher, (2012)*

Financial innovations just like technological, economical and other types of innovation come up as a result of need from the society. Financial innovations too are brought about to solve problems facing the customers thus improving the customer satisfaction.

Collecting information and views from customers and more use of technology were thought to be the main strategies employed by the bank which would influence the current and the future innovations, 98.1% (mean of 4.91) and 91.8 % (mean of 4.59). Other strategies such as Research and development, Mergers and Acquisition, contracting experienced auditing companies and Effective recruitment and Selection of qualified personnel were represented by 90.6% (mean of 4.53), 48.9% (mean of 2.44), 42.1% (mean of 2.11) and 41.4% (mean of 2.07) respectively.

Collecting the views of the customers gives the bank an upper hand because it will bring to the attention of the management the real issues on the ground also research might help in identifying these issues. Technology has been a key improvement strategy in other sectors and its more use will expand the market share of Equity Bank Limited.

5.0 Summary

5.1 Summary of the findings

Equity Bank limited has engineered financial products from different angles: First the Bank has introduced different types of bank accounts targeting specific categories of people, Jijenge account for customers that would like to build their businesses, Super Junior Accounts for the Children, M-Kesho accounts for those who are far from Equity branches in and Business accounts for the those in business. This covers age, geographical distance and occupation

Equity bank has undertaken different financial innovations for example loan provisions targeting the needs of the customers. Due to this, the market size increased in turn increasing profits, deposits, customers and loan borrowing. This is according to Strahan (1997) who stated that improvement in technology is closely related to increased profitability.

Strategies aim at solving the current and help influence the future innovations. In Equity Bank ,Collection of information and views from customers and more use of technology were thought to be the main strategies to influence current and the future innovations.

5.2 Conclusions

The study finds a positive significant relationship between emerging customer needs and the need for financial innovation. Equity Bank has continually strived to develop new products with resulting market size increase and increased brand loyalty with a positive impact on Company profitability through market needs satisfaction. In the large commercial banks, product range is a key criterion in determining a firms profitability as it is significantly but related to profitability. To continually have a grip over its growing clientele Equity Bank need to innovate products that close the gaps. To close the gaps, Equity Bank needs to initiate an Underwriting and Trading department. This will act as a way to hold and nurture the corporate customers who engage in both domestic and International trade through the processes of structured financing in origination, structuring and arrangement. The process of underwriting of both listed and unlisted issues. If with the relevant level of knowledge, arrangement of syndications through its walls should be made a reality.

Equity Bank may adopt a different strategy on its loan portfolio commonly known as differential strategy. Differential pricing is a strategy that every company should incorporate in its business operations because the underlying message is that the same product can be sold to different customers at different prices. Members who borrow large amounts of Loans should benefit from low interest rate costs, different from that charged on members who borrow low volumes of finance. This is possible due to the large pool of resources held by Equity Bank.

Equity Bank may develop its structure to provide Investment Banking Services. This entails, besides the bank performing its tasks it will further specialize in sales of new securities to the public, typically by underwriting the issue. Investment bankers also act as an advisor to the firm in providing information about the type of security to be sold; the features to be offered with the security; the price and timing of the sale. They usually purchase securities from the issuer at a discount rate before offering them to the public at par value, or premium. Investment bankers can protect themselves by forming a syndicate—a group of investment bankers. This allows diversity in their risk.

There is need for integration of the member accounts in various banks. Equity Bank should develop an Automated Teller Card that can be used across different networks i.e. instead of a member having multiple A.T.M.'s for his accounts in various banks; one should have one card which will enable Him/ Her access His funds in various banks.

5.3 Recommendations

We recommend that:

The management should draw up a mechanism through which its customers will give feedback, which will further be analyzed to draw up channels to close Customer needs.

Equity Bank should embark on an aggressive marketing exercise to make known its current Products in a bid to enhance its usage amongst its Customers as it develops new products. For example, most of its customers do not know how to use Easy 24/7 Mobile Banking, Bima ya Mifugo among others.

The government and all stakeholders should draw up the required legislation on the level of Financial Products being offered in the market to avoid a relapse of the Financial Crisis witnessed in 2009, which was directed at the manipulation of Financial Instruments. Further, the government should embark on being supportive on newly cut down import tax on technology equipment to allow their broad use in the Banking sector thus enabling innovations.

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