Effect of Financial Inclusion on Financial Performance of Banks Listed At the Nairobi Securities Exchange in Kenya

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ABSTRACT: This study sought to determine the effect of financial literacy programs, usage of agents and representatives, increased proliferation of ATMs and Mobile banking services on the financial performance of listed banks in Kenya and to determine the effect of bank branch spread on performance of listed banks in Kenya. The main theories reviewed in this study were the Grameen Model of Banking, Bank Led Theory, Financial intermediation theory and Contemporary Banking Theory. The study adopted a descriptive research design, and the study population included management and operational level employees of the 11 banks listed on the Nairobi Securities Exchange. A census study was conducted with primary data being collected using questionnaires. The NIC Bank provided data for pilot testing to determine the reliability and validity of the research instruments. The analysis of data based on SPSS software (version 2.3) and regression analysis presented using charts and tables. The results of the studied determined that financial inclusion elements have a positive and strong impact on the financial performance of banks in terms of return on equity. The study determined that financial literacy programs have positive but weak impact on financial performance of banks. The use of agents and representatives had positive and strong effect on performance of banks. The proliferation of ATMs and Mobile banking services had positive but weak effect on financial performance of banks. Bank branch spread had positive but weak effect on financial performance of banks. The study recommends that policy makers in the financial institutions such as banks should make use of financial inclusion elements to improve financial performance of banks. The study recommends further research using moderating and intervening variables such as size and ownership of business entity.

Key Words: Financial literacy programs, usage of agents and representatives, increased proliferation of ATMs, Mobile banking services, financial performance

1. Introduction

The business of banks involves taking deposits and using the same deposits to make loans (Fuhrmann, 2017). It could be complicated, but this is the basic model used in banking. In the past Kenyan banks have been accused of not reaching out in areas where the transaction or deposit size is very low. In places with low deposits, the volumes are usually low, and the costs of serving are high. The banks did not see any sense to open up branches in areas with low volumes and the high cost of operation.

The above situation has changed though, and most firms have embraced the concept of financial inclusion where they strive to open up to the new areas by biometric devices and mobile money. This practice has opened up access to financial services even in the remotest areas of the country. The policy changes by the government permitted banks to use agents to deliver financial services through (Finance Act, 2009). Most of the financial institutions have been encouraged to use this model due to the cost advantages to the financial institution, the agents, and the customers. For the client, the advantages include the lower cost of the transaction, the shorter lines, longer operational hours and easy access by the illiterate part of the population who feel intimidated by the set up in branches.

The relationship between financial inclusion and banks profitability forms two ideological perspectives. It is a multiple of low costs, multiple locations and small deposits that amounts to huge deposits and high levels of profitability (Okun, 2012). The low costs incurred by banks mean that the population in the rural and semi-urban settings can gain access to loans. In a typical sense, the loans are given collateral free, meaning that they are charged at very high-interest rates. The financial institutions gain from such strategy because the repayment rate is around 90% since most people from the rural setup fear to default on their loan obligations (Develtere & Huybrechts, 2002). The second perspective of profits is determined as a multiple of small loans, good interest rate and high repayment leading to higher profitability.

Financial inclusion is a process that cannot take place in isolation without the support and effort from the government (Fuhrmann, 2017). Research has shown that there is a relationship between financial exclusion and poverty. The finding has pushed the Central Bank to create a policy with the intention of ensuring financial inclusion (Oruo, 2013). The government understands the fact that financial inclusion cannot happen on its own, hence the need to have policies that guide the process in the economy.

The government has to be involved regarding the creation of policies because financial services are unavailable in some regions and that financial services are only accessible and used by a certain section of the population. As much as the majority of people demand the services, their provision has not been effective until recent days. The regions excluded are poor, rural areas and people living in areas with harsh climatic conditions. The excluded population relies upon services from the informal sector for the availability of finances; such services offered at high-interest rates (Lusardi & Mitchelli, 2012).

The reliance on the informal sector has led to a vicious cycle within the population (Waihenya, 2012). The high costs mean that the individuals in the rural setting must earn an average income higher compared to those with access to finance at a lower cost. The second effect is that a huge portion of the income pays back the moneylenders within the informal sector hence the people remain in poverty. The second reason as to why there has been a financial exclusion in the past is the high costs incurred in financial services. The poor people living in the living in urban and rural areas have failed to utilize important financial services since they believe that they are unaffordable and costly. Even though the financial services could be available, they remain unutilized due to the costs associated with them.

From a global perspective, according to CGAP (2018) estimates show that 2 billion working age adults, which is more than half the total adult population, do not have formal accounts with financial institutions. Financial inclusion efforts seek to ensure that all the businesses and households gain access and utilize financial services regardless of their levels of income. Digital payment terminals are important elements of financial inclusion around the world. In Russia there are over 70 million individuals using terminals once every month (CGAP, 2018). In Azerbaijan, there is about 10 bank branches for every 100,000 adults hence the use of payment terminals seven times more than Russia. The use of payment terminals in other countries such as Brazil, Colombia, India and the USA works as per expectations (CGAP, 2018).

In Philippines and Bangladesh, it takes up to one month for an individual to get access to a small loan. In Denmark banking, services such as loan processing are instant (Narain, 2012). The requirement that account holders maintain a minimum balance in the past deterred most individuals from opening bank accounts. One unique case that cited is in Cameroon where for one to open an account they must maintain a minimum of $700 (Mutua, 2013). In South Africa, no minimum requirement applies for the account holders. The cost of managing an account has deterred several people in the past, and a good example is in Sierra Leone where the checking account annual fee is at 25 percent of the per capita. When small businesses are in a position to gain access to quick loan, financial inclusion is at its best. Kenya is trying to adopt the practice in Denmark where such services are instant.

Other issues that have inhibited financial inclusion are not on price barriers. When an individual is seeking to access formal financing services, they need several documents of proof. Majority of the poor people do not have such formal documentation, which has limited their access to formal financial services (Narain, 2012). They may subscribe to the services, but face difficulties in gaining access to the banks due to the distance from the institution and poor infrastructural development.

The other element that has limited financial inclusion in the past is behavior. Research conducted in the field of behavioral economics has indicated that majority of people have certain reservations when it comes to using of financial services (Agrawal, 2013). They cite various reasons such as language barrier and several documentations that are required before getting services. The Kenyan government over the past few years has been among the leading African countries that have created policies to enhance financial inclusion. The National Financial Access Survey conducted in 2009 indicates that Kenya is second to South Africa regarding access to financial services (Mwega, 2014).

The element of financial inclusion has developed widely with more than eight banks offering agency-banking services. The most common banks that offer such services include NIC Bank, Eco Bank, Kenya Commercial Bank, Co-Operative Bank, Family Bank, Post Bank, Equity Bank and Diamond Trust Bank. The Central Bank intended to improve financial inclusion in Kenya and created an environment for agency banking in May 2010 when it created the guideline on agent banking after a study that indicated the advantages it had for countries that had engaged in it (Otieno, 2016). The regulatory framework that had created by the Central Bank led several banks to adopt the practice that has improved financial inclusion.

Financial Inclusion through an agency and mobile banking offer banks opportunities to improve their revenue generation. Past researches done on the branchless form of banking show the importance of mobile phones and agents play in certain models

(Mwange, 2011). The outcome of the researchers is consistent with the idea that electronic money brings about increased efficiency and reduction in transaction costs. From a theoretical point of view, the use of mobile and agency banking in the electronic form promises to raise the levels of efficiency and reduce the costs of the transaction (Mwangi, 2014). It translates to better financial performance since better financial inclusion results in more profits for banks through commission and interest income and reduction in overhead expenses such as marketing and administration costs.

On an international context, Chauvet and Jacolin (2017) studied financial Inclusion, Bank Concentration, and Firm Performance in 79 countries, which forms the basis of understanding the international context. It was determined that distribution of financial services across firms had positive impact on the growth of the firm. The study established that in the United States the impact becomes greater when the markets of the banks are less concentrated. Furthermore, the study established that banks which are highly competitive favour growth at high levels of inclusion and bank concentration is only favourable at the state-owned firms. The international elements highlighted above are critical in advising the nature of this paper.

In Kenya, researches that have looked at financial inclusion's impact on performance by breaking it into its two main elements, which are agency banking and mobile banking. Mwaniki (2014) found that mobile banking has transformed the business of money transfer and created various innovations that have cut on the transaction costs for the banks and the customers that have resulted to high financial performance in the sector.

Mutua (2010) researched mobile banking and financial performance of banks and determined that there is a weak positive relationship between financial performance and mobile banking. Ondieki (2015) researched the effect of Agency Banking on the financial performance of commercial banks and determined that the number of agents operated by commercial banks does not have a direct correlation with the financial performance measured on the return on equity.

According to FSD Kenya (2018), financial inclusion is growing at a fast rate. The adults in Kenya excluded from any form of financial services went down from above 40% to 17% between the years 2006 and 2016. Access to different forms of formal financial services increased from 27% to above 75% (FSD Kenya, 2018). The growth is continuing as the number of Kenyans not using formal financial services went down from 25% in 2013 to 17.4% in 2016 (FSD Kenya, 2018).

Many banks keep innovating and inventing with an aim of satisfying the ever-changing customer demands. Bank customers benefit from financial inclusion through reduced costs of transactions, ease of access to services and increased level of efficiency. Financial inclusion influences the performance of banks (Nthambi, 2015). According to Ranchama (2011), better financial inclusion improves the financial performance of banks.

Dichotomy exists among researchers. It is not clear whether financial inclusion influences performance positively or negatively. While some researchers find financial inclusion affecting performance positively (Mwaniki, 2014); others find financial inclusion to be affecting performance negatively (Ondieki, 2015; Oruo, 2013) while some find financial inclusion to be affecting performance under a weak positive relationship (Mutua, 2010).

Researchers such as Nthambi (2015) researched financial inclusion, bank stability, bank ownership and financial performance of commercial banks in Kenya and argued that financial inclusion has an impact on the performance of banks. Others such as Simboley (2017) studied the effects of Agency Banking on the financial performance of commercial banks in Kenya. Cherungong (2015) conducted a study on the effects of financial literacy programs on the performance of small and medium scale enterprises in Trans Nzoia County. KipNgetich (2013) studied agency banking and financial inclusion in Kisumu. Kithaka (2014) studied the effects of mobile banking on the financial performance of commercial banks in Kenya. Despite all these studies and many others, this area still remains grey and with minimal studies and no published study on financial inclusion and how that influences performance of listed banks in Kenya and hence the need to fill this gap by conducting this study

The general objective of this study was to determine the effect of financial inclusion on the financial performance of banks listed in the Nairobi Securities Exchange in Kenya. The specific objectives were: to determine the effect of financial literacy programs on financial performance of banks listed in Kenya, to investigate the effect of usage of agents and representatives on financial performance of banks listed in Kenya, to evaluate the effect of increased proliferation of ATMs and Mobile banking services on financial performance of banks listed in Kenya and to assess the effect of bank branches spread on financial performance of banks listed in Kenya.

2. Literature Review

2.1 Theoretical Framework

This section analyzes theories advanced to explain the relationship that exists between financial inclusion and financial performance of banks. The main theories explored in this area include the Financial Intermediation Theory, Grameen Model of Banking, Contemporary Banking Theory and Bank Led Theories. The main theory in this study was the financial intermediation theory.

2.1.1 Financial Intermediation Theory

The work of Raymond Goldsmith (1969) is the basis of the financial intermediation theory. In work, Goldsmith gave wide-ranging facts related to the financial structure and the economic development. It was determined that in the course of economic development of a nation, the financial system develops faster than the wealth of the nation. Determining of the size of the financial system in a country is the division of the role of saving and investment among the various units in the economy (Goldsmith, 1969). The observation made in the 1960s is still relevant to the modern-day format of financial intermediation. The contemporary society has continued to appreciate the role played by financial intermediation in development of the economy (Scholtens & Van Wensveen, 2003). Theoretical and empirical researchers have shown that financial intermediation plays an important role in the growth of the economy.

The study establishes that one of the reasons for financial exclusion is low income and assets among some people in the society. With financial intermediation, there is an efficient allocation of capital within the economy with the aim of ensuring that economic growth. Another factor mentioned to contribute to financial exclusion is limited information related to certain financial aspects. Financial intermediation provides information to the owners of capital and the borrowers of capital. The financial intermediation process brings together the deficit and surplus units in an environment not known to them (Mandell, 2008).

The banks through financial intermediation ensure that there is financial inclusion. In the process of ensuring that there is access to information, financial literacy and efficient allocation of the resources in the country, there is a risk that the banks take on behalf of the different players in the economy (Scholtens & Wensveen, 2003). The risk taken during the financial intermediation process has to cover the financial institution through the charging of the interest rate. This part of financial intermediation is critical to the study in this paper since it highlights the fact that financial institutions can earn through their role of financial intermediation hence improving their financial performance. The elements of financial intermediation have proven critical in ensuring financial inclusion, meaning that research of this nature would want to determine whether the financial inclusion results to profits for the financial institutions that offer intermediation services.

2.1.2 Grameen Theory

The Grameen Bank through its creation of the Grameen Bank Model developed the Grameen theory. The bank created a program aimed at elevating poverty among the poor Bangladeshis from which the now famous Grameen theory was developed (Develtere & Huybrechts, 2012). The Grameen theory looks at the income expected by the financial institution from entrepreneurial borrowing. It states that poor members of the society are better borrowers since they value the relationship that they have with the bank.

The study in Grameen case looked at the dynamics of banks operating under monopoly conditions granting loans and taking deposits from future generations of entrepreneurs with varied levels of expected returns (Develtere & Huybrechts, 2012). The evidence shows that Grameen would focus on individuals with lower expected income, and did not give out the dividends until it attained the level of potential borrowers. The theory does not fit well into financial inclusion research because it ignores the effect of the model on high-income earners in the society.

In a study of the effect of financial inclusion on the financial performance of banks, the concern is whether the various elements of financial inclusion lead to better returns for the financial institutions. The Grameen theory provides empirical evidence of the positive returns where the study covered the household survey in Bangladesh (Develtere & Huybrechts, 2012). The empirical results of the theory indicated that various measures of the income expected by the bank are positive and significantly related to the default probabilities. The Grameen theory should encourage banks to view the low-income borrowers are the best form of business since they have the low rate of default and they are charged high-interest rate over a short period. It means that policies structuring is in a way that low income and financially excluded groups form the targeted by the banks to gain from their good payment record.

2.1.3 Bank Led Theory

The bank led theory arose under various efforts by banks to come up with new models of reaching their clients through agents. Various researchers have studied the theory (Kiburi, 2016; Kendall, 2012). Under the model, a financial institution licensed to operate in a country, in most cases a bank, uses retail agents to deliver financial services. The banks create the financial products and services and then distributed them to the retail agents who handle all the interactions with the customers. The ultimate providers of the financial services are the banks, and the customers have to maintain an account with the primary bank.

Under this arrangement, the retail agent maintains a face-to-face contact with the customer in the same manner as a teller at a branch. They handle cash functions through taking deposits and processing of withdrawals. In other countries, the use of retail agents is at an advanced level where they open accounts, identify customers and service them with loans (Kiburi, 2016). The outlets that provide cash services are close to the customers and at the same time perform as retail agents. The retail agent has a direct electronic communication with the bank that they serve.

The bank led theory is critical in this research as it forms the basis of agency banking which is an important element of financial inclusion. While looking at the use of agents and proliferation of ATMs and mobile banking services, what comes to mind is the bank led theory (Kendell, 2016). The analysis of the theory explains why banks have continued to use the elements prescribed under the variables as modes of enhancing financial inclusion. Even though the theory forms the backbone of the element of agency banking, it has not established the outcome of the practice regarding the returns to the banks and the customers. In a simple form, it has highlighted the manner in which the process of agency banking occurs within business environment.

2.1.4 Contemporary Banking Theory

Bhattacharya and Thakor advanced the Contemporary Banking Theory in 1993 and it is an extension of financial intermediation theory. The theory states that commercial banks together with other financial intermediaries are important when it comes to proper distribution of capital resources in the economy. The financial intermediaries play an important role in the economy through reduction of the transaction costs for the services.

In review of the contemporary theory of financial intermediation, the main areas of focus include the contribution it has had over the past decade, and the advancement of the understanding of the existence of the financial intermediaries. Even though the theory has helped in understanding the elements of financial intermediation, it includes the financial intermediation theory elements. The second aspect is that it has complicated regulation of financial intermediaries due to its expansion of scope of financial intermediation (Bhattacharya & Thakor, 1993).

The contemporary banking theory is relevant to this study in relations to bank branch spread variable. Commercial banks can operate in a single branch, but due to competition and the need for financial inclusion, they operate a network of branches. The operation of a network of branches is one of the roles of the contemporary banks that seek to narrow the distance between the customer and the services rendered.

2.2 Conceptual Framework

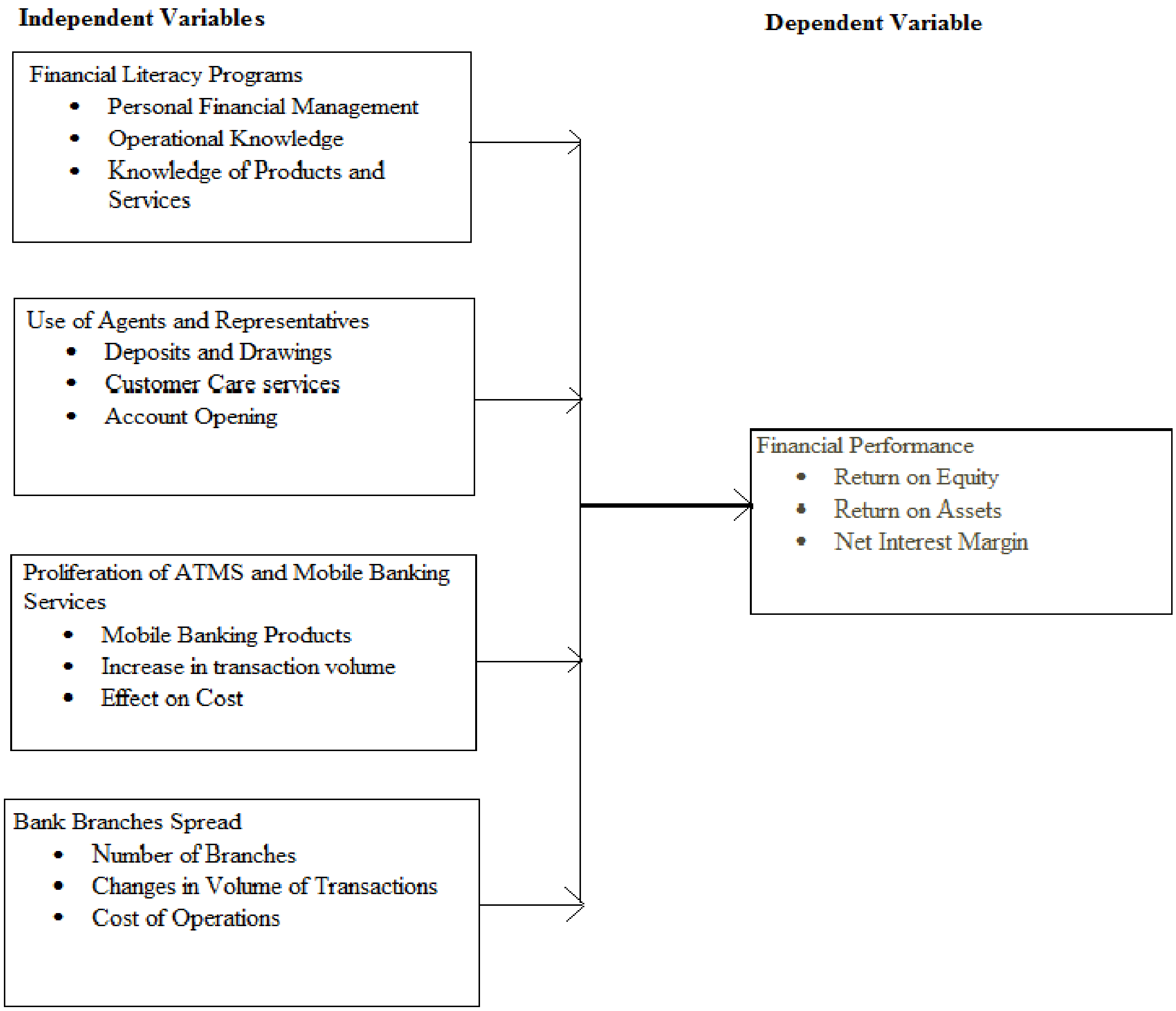

Figure 2.1: Conceptual Framework

2.2.1 Financial Literacy Programs

Financial Inclusion includes double aspects that include the demand and the supply side. The financial literacy programs make up the demand side and it is inclusive of elements such as financial literacy credit counselling, knowledge of the products and the credit absorption capacity. The elements are satisfied through the supply side (Joshi, 2011).

The strategies that are used by the banks to meet the demands include refining the existing credit delivery mechanisms, strengthening the credit absorption capacities and development of new models for effective reach (Joshi, 2011). The strategies used to ensure that they attain the desires of the sub variables of financial inclusion, which include personal financial management, information on different financial management services and products and the operational knowledge.

When financial inclusion is successful in meeting the sub variables highlighted above, the financial performance of banks is better (Joshi, 2011). The main aspects of performance of the banks include establishing proper business delivery models; ensure access to the financial services and targeting all the sectors of the economy.

2.2.2 Use of Agents and Representatives

Agent banking is one of the innovative models of delivering banking services to the population. The strategy has brought trained financial service providers within the reach of millions of people in Kenya. However, there is little knowledge regarding the effect of agents and representatives on financial inclusion and performance of banks (Sanford, 2014). The agents and representatives have managed to ensure person-to-person payments and ensuring that there is delivery of credit, savings and other financial products to the poor.

In Kenya, household heads in most cases tend to visit banking agents regularly. The agents perform customer's services (deposits and drawings), account openings, and customer care services (Sanford, 2014). The use of the agents has however not opened up to accessing new financial services other than the ones above. The extent to which such services have influenced the financial performance of banks must be determined through analysis of the different sub variables.

The agents have ensured that there is increase in financial inclusion through serving the part of the population that was underserved (Sanford, 2014). The individuals that make use of agents and representatives include the poor, less educated and female members of the society. The impact of agents and representatives on financial inclusion in Kenya is not clear. This study has highlighted three critical areas that are customer care services, deposits and drawings and opening of accounts as the main elements of inclusion.

2.2.3 Proliferation of ATMs and Mobile Services

Through mobile banking, millions of people gain financial access as long as they have a cell phone. The use of mobile banking has made basic financial services access easy. It reduces the time and distances to the neared bank branches. In any case, an individual customer does get to the branch; the ATMs make it easy for them to access deposit and withdrawal services rather than queuing at the teller. According to CGAP (2018), the use of ATMs and Mobile banking services reduces the bank's overhead and transaction related costs. The use of mobile banking is an opportunity for institutions to extend the banking services to the new customers hence opening up their market.

The main areas of mobile banking services and use of ATM that are of interest to this research include the mobile banking services and products, the effect they have on the volume and the cost of transactions for the banks and the customers. According to Constable (2017), E-Banking relies on the need to reduce the operating cost and maximizing the revenues.

It is evident that in developed markets the use of online banking and ATMs has an impact in terms of reduced costs hence the increase in terms of revenues. This study seeks to determine whether Kenyan banks gain from the multiple of cost reduction and increase in volume due to ATM and online banking services.

2.2.4 Bank Branches Spread

In the past, most Kenyan banks had limited the spread of their branches to established urban centers. During that period of financial exclusion, few banks had shown interest in the rural areas of the country. According to Mandell (2008), some banks recorded reduction in financial performance during that period hence they were discouraged from establishing such branches. However, with the growth in financial inclusion, banks have to opening up branches in different parts of the country. The biggest concern is whether the spread of the branches have an effect on financial inclusion and whether it amounts to better financial performance.

As banks open up branches to rural areas, the biggest concern is whether the number of branches amount to higher volumes of transactions. The opening up of branches is aimed at ensuring that the customers gain access to new services, which cannot be provided using agents, representatives, or mobile banking (Musyoka, 2011). In the past, banks were reluctant to open up branches due to the element of cost. It is important to study whether proper spread of branches across different geographical location can have an impact on the financial performance of banks.

The main areas of concern for this study under the fourth variable include the number of branches and their spread across the country, the effect in terms of changes in volume of transaction, and the cost incurred in the operations.

2.2.5 Financial Performance

Financial performance is a subjective process through which an analysis of how the business can utilize its primary assets (Mutua, 2013). It is as a measure of the financial health of a firm, and it is a means of comparison of the performance of various firms that operate in the industry. Several measures apply in analysis of financial performance, but the most important thing is that financial measures are in aggregate. The measures can use line items such as operating income or cash flows, revenues from annual operations and the total sales units.

Net Interest Margin of a bank is the difference between interest income generated by a banking financial institution and the interest paid out to the lenders about the assets of the company. Financial institutions earn percentage income from the loans within a given period and the other assets less the interest paid by the firm on the borrowed funds (Mwangi, 2014). The return on investment is what the shareholders look forward to gaining from the organization at the end of the financial period. It shows the profit that earned about the total equity that held by the shareholders.

Financial inclusion using mobile and agency banking can have a huge contribution to the performance of banks. Improved performance leads to better customer satisfaction, increased customer share, and expanded the range of productivity (Mwangi, 2014). Mobile banking and agency banking are important tools that enhance acquisition and retention of customers. A strategy leads to increased profitability of the organization if properly implemented.

2.3 Empirical Review

This section reviewed the past studies conducted on the variables of this research. They entail financial literacy programs, financial performance of banks, use of agents and representatives, financial performance of banks and proliferation of ATMs and mobile services, and financial performance of banks.

2.3.1 Financial Literacy Programs

Hung *et al.* (2009) studied the role of financial literacy in solving the problem of low financial security among the Americans. The researchers analyzed the secondary data of the empirical research done on role of financial inclusion. The primary data was collected using internet-based survey. It was determined that the three knowledge tests have a strong degree of correlation and that all the correlations are statistically significant. Even though there was degree of stability in the measurement strategy. The study concluded that there is no systematic method applicable in determination of the impact of financial literacy programs. The lack of systematic method creates an opportunity for this research to determine a model to determine the effect of financial literacy on performance.

Onyango (2014) sought to determine whether financial literacy had an impact on the financial management practice among the employees of commercial banks. The study adopted the survey method and conducted purposive sampling. The sampling selected the major banks in Nairobi, and random sampling used to select the 100 respondents from five commercial banks. The study established that financial literacy has a positive influence on personal financial practices, but the same time the research determines that employees of the Kenya Commercial Bank have financial literacy yet they are not good managers of their finances. The study recommended that individuals should adopt comprehensive saving methods and prudent expenditure. Based on the recommendation above, there is a gap regarding determining whether increased savings translates to the better financial performance of listed banks.

After establishing that financial literacy has some impact on the financial activities of individuals, the next question is to determine whether the effect trickles down to financial advantage to the banks. Mwaniki (2014) studied the impact of financial literacy training on financial performance of women self-help groups. The study adopted a survey method, and collected both qualitative and quantitative data. The data was analyzed using inferential and descriptive statistics. The main finding stated that majority of the members were keeping a budget since training, they were borrowing for investment and the training on loan management positively influenced their loan graduation. The study concluded that the knowledge gained meant that the self-help groups would find new means or alternative-banking channels as members had new desire to access financial services. It meant that financial literacy training had opened up more business avenues for the self-help group. The studies indicated that financial literacy programs affect how individuals invest and manage their expenditure. But it is not clear as to whether such elements of financial literacy translate to better financial performance of banks.

2.3.2 Use of Agents and Representatives

Belita (2013) sought to establish the effect of Agency Banking on the financial performance of commercial banks in Kenya. The research used a descriptive survey study that covered 16 banks. The research finding showed that there exists a positive relationship between the volume of deposits, cash deposits and volume of withdrawals and the financial performance of banks. The numbers of agents were important part of the assets of the banks, meaning that the increase in the size of the bank asset had a positive impact on financial performance of banks. The study concluded that there is a positive relationship between the increase in the number of banking agents and the financial performance of banks.

Monica (2015) sought to determine the impact of Agency Banking on the financial performance of commercial banks in Kenya. The study adopted descriptive survey methodology and studied 17 commercial banks. It was determined that there is a strong positive relationship between return on assets of banks and the volume of transactions as well as the size of the bank and financial performance of the banks. The study concluded that an increase in the number of agents of commercial banks leads to an increased financial performance, meaning that there is a positive correlation between the agent outlets and financial performance of banks.

Ndirangu (2011) also sought to determine the effect of Agency Banking on the financial performance of commercial banks, but he used census method to study a population of all the banks licensed to operate in the country. The study covered ten banks and determined that the number of agents of a commercial bank and the volume of transactions did not have a positive correlation with the financial performance of banks as measured using the return on equity of the banks. The study looked at the number of agents and deposits, loan repayment transactions and withdrawals undertaken through the agents. It was determined that other factors apart from those highlighted could contribute to the financial performance of banks that conduct agency banking.

2.3.3 Proliferation of ATMs and Mobile Services

Asia (2015) conducted a study to determine the contribution of E-Banking on the performance of banking financial institutions in Rwanda. The research adopted a descriptive research methodology using qualitative and quantitative approach. The findings indicated that there is a positive relationship between electronic banking and performance of banks in Kigali. The significance level was 0.01. The research concluded that electronic banking methods such as Pay Direct, electronic check conversion, e-transact, use of ATM and mobile banking have a great impact on the performance of the banks regarding reduction in the cost of operations, increase in assets of the bank and efficiency and the increase in the level of profitability.

Jegede (2014) investigated the effect of ATMs on the performance of banks in Nigeria. The study used descriptive survey methodology where questionnaires applied in collection of data from a sample of 125 employees of five selected banks in the Lagos state. The study determined that there was less than benefit in use of ATMs to offer financial services since the use of ATM terminals has been average regarding the improvement of performance of banks in Nigeria. This is a contradiction to Asia (2015). The latter stated that, there is a relationship between use of ATMs and improved financial performance of banks. The disparity in outcome occurred out of the difference in the research environments provided in Rwanda and Nigeria. It is prudent to conduct similar research in Kenya and establish the relationship between the variables.

The Kenyan context has also seen several types of researches conducted to determine the relationship between use of ATMs and Mobile Banking and financial performance of banks. Munyoki (2013) used a descriptive study to determine the impact of online banking on the financial performance of Kenyan commercial banks. The study concluded that generally, the element of online banking has a weak and positive relationship on the financial performance of commercial banks in Kenya. The effect attributed to the fact that use of online banking cut costs, reduces the staffing levels, and makes banking convenient to customers.

Vekya (2017) sought to establish the impact of electronic banking on the profitability of Kenyan commercial banks. Using descriptive study applied in conducting a survey of all the banks in Kenya. The multiple regression results of the study indicated that there was a significant positive relationship between ATM transactions and the profitability of the banks. The study also indicated that there was a positive significant relationship between the profitability of the bank and the point of sale transaction. The study established that ATM transactions had a positive trend over time, which reflected in the profitability of the banks.

2.3.4 Bank Branches Spread

Musyoka (2011) conducted a study that sought to establish the relationship between branch network spread and the financial performance of banks in Kenya. The study was through descriptive research design in an attempt to collect qualitative and quantitative data. The population included all the banks licensed and operating in Kenya under the Banking Act. The study also collected secondary data through a review of bank financial statements between the year 2000 and 2010. It was determined that there is a positive relationship between branch network and financial performance of banks. As much as the study was conducted using some of the best research models, the fact that it was conducted between 2000 and 2010 means that other dynamics might have changed between 2010 and now prompting a new research in the same area.

Chelangat and Muturi (2016) sought to establish effect of branch network on financial performance in private colleges in Kenya. Even though the study was in an industry that is not banking, it contained elements that are important in this research. The specific objectives of the study included to impact of spread of branches on financial performance, the relationship between number of branches and financial performance and relationship between sizes of branches to financial performance. All the three variables are important part of this study. The study also adopted a descriptive approach used in this study. It was determined that number of branches and their geographical spread had an impact on the revenues and cost. It was also determined that as organizations grew the revenues and costs increased significantly.

Under the American context, Hirtle (2017) sought to establish the impact of network size on bank branch performance. The study used descriptive technique to analyze the branch networks held by large banks. The study sought to determine network elements and their effect on the performance of banks. The findings suggested that banks that operate through midsized branch networks face competitive disadvantages in branching activities. The study established that there is no relationship between size of the network and the overall profit of the bank. The above research is relevant to this study as it helps as a guide to the question of whether banks optimize banks size as part of the overall strategy involving the branch based and non-branch-based activities.

2.3.5 Financial Performance

Islam (2014) analyzed the financial performance of National Bank Limited using financial ratio. The study adopted both qualitative and quantitative methodology in determining the financial performance of the bank. The study determined that financial analysis is a structural and logical manner of assessing the overall financial performance of financial institutions. The most commonly applied method in the financial analysis of business entities with stakeholder interests is ratio analysis. In the analysis of financial performance of financial institutions, few categories of financial ratios are identical. The stakeholders tend to concentrate on the business regarding profitability, asset management, solvency, and liquidity ratio analysis.

Okinyi (2012) studied the performance and financial ratios of commercial banks in Kenya from 2006 up to 2010. The study sought to determine the factors that shape bank's performance through the measure of return on assets and return on equity. The study adopted quantitative survey method and covered all 49 commercial banks in Kenya. The findings showed that capital adequacy, liquidity and the size of the bank explained the variations in performance of the banks over time. The study showed that larger banks earn superior

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returns compared to the smaller banks. The study concluded that certain banks in Kenya seem to be earning higher returns in comparison to their competitors even though they operate under the same micro-economic environment. The research recommends that there is need to move forward and study the variations in the Return on Assets and Return on Equity.

Awuor (2011) studied the use of financial ratios for credit evaluation by commercial banks in Kenya. The study adopted a descriptive research method, and it involved 28 banks. The finding showed that all the banks had teams for management of credit risk and that all the banks relied on ratios on the evaluation of the corporate customers and most credit evaluations based on liquidity and profitability ratios. The study recommended further research on the use of financial ratio to determine the financial performance of banks.

2.4 Critique of Literature

Nthambi (2015) sought to determine the effect of financial inclusion on the performance of banks using the moderating and intervening variables of bank stability and bank ownership respectively. The research concluded that the joint effect of financial inclusion, NPL and Z score was greater than the effect of financial inclusion on the financial performance of commercial banks in Kenya. The researcher failed short of determining how the moderating and intervening variables would influence the data if they had not been included as part of the research.

Chemungong (2015) studied the impact of financial literacy on small and medium scale enterprises while Mwaniki (2015) studied the impact of financial literacy training on women self-help groups. The dynamics in the two industries are not the same as in the banking industry. Hence, performance could be different under the same element of financial literacy. The study by Jayantilal (2017) has determined the impact of financial literacy among the employees of Bank of Baroda, yet such a group of people is not an important part of efforts to ensure financial inclusion in the banking sector.

A study by Muema (2013) sought to determine the impact of financial inclusion strategies on the financial performance of banks but in the variables did not include financial literacy as one the variables that were to be tested. The study determined that financial inclusion strategies had an impact on the performance of commercial banks in Kenya since there was greater variation in performance of banks due to changes in agency banking, micro banking, Islamic banking and Micro banking. It did not capture the element of financial literacy as one of the strategies of financial inclusion.

The research on the effect of Agency Banking on the financial performance of banks in Kenya has partly indicated that there is a positive relationship between agency banking and financial performance (Belita, 2013; Monica, 2015). At the same time, another research indicates that there is no relationship between agency banking factors and financial performance of banks (Ndirangu, 2011). The contradiction creates a gap in the study that needs filling through further research of agency banking and financial performance of banks.

2.5 Research Gaps

The studies discussed above sought to determine the relationship between various elements of financial inclusion and profitability. Nthambi (2013) failed to determine the effect of financial inclusion on profitability without the intervening and moderating variables. Other studies on financial inclusion such as Chemungong (2015) and Mwaniki (2015) studied financial institutions other than banks. When banks were part of the study, some of them such as Jayantilal (2017) studied the individual customers rather than the banks. The elements highlighted above provide avenues through which this study can make this area of research better than the initial researches.

The studies have not successfully established whether there is a relationship between financial inclusion and financial performance of listed banks in Kenya. The researchers have not established the direction of the relationship between financial inclusion and the financial performance of banks. Most researchers have looked at financial inclusion elements as the focus of their research, and have not managed to look at the contribution of financial inclusion as a whole in the financial performance of banks. This research aimed at dealing with the lack of clarity regarding general effect of financial inclusion and not a single element such as agency banking. The study hinged on the importance of financial inclusion and the amount of time and resources invested by policy makers in ensuring that it is a success. The Central Banks and listed banks are concerned about the prospects of the element of financial inclusion in future and will be keen on research that seeks to identify its significant in the present day.

3. Methodology

The study used descriptive survey design. Under descriptive survey research design, the aim is to define the subject matter using the collected data, tabulated based on frequencies on the variables (Schindlrer & Cooper, 2003). The descriptive research design was suitable for this study as it allows the analysis of the relationship between the variables under study. The descriptive study design was appropriate in the sense that the study is concerned with elements that are already in existence and no variable was altered extensively

(Polit & Beck, 2003) The focus of the study was quantitative, but it also made use of some qualitative aspects to get a deeper understanding of the concepts.

According to Lavrakas (2008), a population is any collection of individual elements that is finite or infinite. The study targeted all the senior management staff of the 11 listed commercial banks in Kenya, and the staff working the various departments. According to Cyntonn Investments (2017), there are 11 listed commercial banks in Kenya. Top management employees were the respondents of this study as they are the ones with prerequisite information required by this study. The staff working in different departments of the banks provided supporting information.

The sample frame is the list of all units of the population from which the sample is drawn (Schindlrer & Cooper, 2003). The sampling frame in this study included managers and staff from all the 11 listed banks. These banks were Barclays Bank, Stanbic Bank, I&M Bank, Diamond Bank, Housing Finance Bank, KCB, National Bank of Kenya, NIC Bank, Standard Chartered, Equity Bank and the Cooperative Bank. The study derived the sampling frame from the Cyntonn Investment Banking Sector Report of 2017.

The Study used judgmental sampling technique and simple random sampling to pick five respondents from the senior management and five employees from operational level staff for each of the 11 listed banks in Kenya. The senior management used in the study was the heads of departments. The study used census method since it was not possible to sample the 11 listed companies. Hundred and ten respondents were part of the sample size for this study.

The research used both qualitative and quantitative data. The research used questionnaire as the main research instrument. According to Mugenda & Mugenda (2003), the elements in the questionnaire had to address the specific objective of the study and the research questions. The questionnaire made use of the structured (closed-ended) questions. Primary data was collected using questionnaires; on the other hand, secondary data was collected using publications from scholars and institutionalized reports such as financial statements of the listed banks.

The questionnaires are easy to administer and are low cost (Mugenda & Mugenda, 2003). The respondent has time to read the questions, think and then provide the answers. According to Kothari (2008), the questionnaires allow for assessment of a large number of respondents, meaning that the outcome will be highly reliable. The scores by the respondents in the questionnaire were determined using the Likert Scale. The responses were assigned numbers ranging from 1 up to 5 where Strongly Agree is represented by 1, and neither agree nor disagree represented by 5.

The data collected included primary and secondary data. The primary data was collected using questionnaires. The collection of the primary data was through the administering of self-administered questionnaires. The researcher visited the institutions under study with the intention to gain permission to distribute the questionnaires. According to Kothari (2008), questionnaires are more objective and can gather information in a structured way compared to interviews. The questionnaires were favored because they are easy to administer and they can collect a wide range of information. The secondary data was collected using information from Central Bank of Kenya (CBK), Nairobi Securities Exchange (NSE), Kenya National Bureau of Statistics (KNBS), and Annual Financial Statements and Reports of the banks. According to Ember and Ember (2009), secondary data is the data collected by other researchers and accessed by other researchers through histories, censuses, and ethnographies. The data from the published reports and materials made up the secondary data for this study.

Before conducting the actual study, it was important for the researcher to determine whether there are any limitations or weaknesses in the data collection methods and instruments. The pilot study applied (Adams *et al.,* 2007). Traditionally the rule of thumb applied in which the pilot study of 1% of the total sample was selected (Mugenda & Mugenda, 2003). According to Polit and Beck (2003), the aim of the pilot test is not to test and prove the hypothesis under study but to test the data collection instruments, the strategies of creating the samples, and other aspects of the study in readiness for the actual study. The aim of the pilot test is to determine the validity and the reliability of the instruments of the research. Pilot testing based on validity and reliability testing.

According to Mugenda and Mugenda (2003), validity refers to the accuracy and the meaning of the inferences made based on the results of the research. The expectation is that validity will provide the degree with which the results obtained will represent the phenomenon and variables under study.

According to Sireci (2008), several behavioral scientists argue that the assessment of social indicators must be content-valid. Content validity, in this case, looked at whether the subject under study is well covered. Experts in the area of finance reviewed the questionnaires to determine whether they consistent and could cover the variables in the research. The second test of validity that was construct validity, which is an experimental demonstration that the test measures the claim (Brown, 2000). In this study, the experiment took the form of differential group study and the performance divided into two: one had the construct and another one did not (Brown, 2000).

According to Saunders *et al.* (2009), the term reliability refers to the extent to which the procedures for data collection and analysis yield findings that are free from bias and consistent. It is concerned with the determination of whether different researchers made similar observations, transparency and whether similar inferences appear from the same data.

The study made use of Cronbach (Alpha – α) model in the determination of the reliability of the data. The Cronbach reliability coefficient is expected to range between 0 and 1 in which zero represents no consistent variance and one if all variance is consistent. According to Brown (2002), the closer to 1 the coefficient is, the higher the internal consistency of the items put to the scale. When there is an alpha score of 0.70 or above, the study is reliable (Gliem & Gliem, 2003).

The data analysis based on the descriptive model and it included the use of the standard deviations, percentages and the relative frequencies. The descriptive statistic applied in the analysis of the qualitative data while the Statistical Package for Social Sciences (SPSS version 2.3) applied in the analysis of quantitative data (Mugenda & Mugenda, 2003).

Kothari (2008) defines analysis as computation of measures together with searching for relationships within the groups of data. Analysis involves operations conducted with intention of summary of the data collected and organizing it in a manner that answers the questions in the research. In the study, the data was edited, coded, classified and tabulated using SPSS. The SPSS analysis based on the multiple regression equation below:

$Y = \beta 0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$

Whereby:

Y = Financial Performance of Listed Banks

X_1 = Financial literacy programs

X_2 = Use of agents and representatives

X3 = Increased proliferation of ATMs and Mobile Services respectively)

β0 = Constant and

ε is the error term.

β_1- β_3 = Coefficients of variables in the regression model

The study used multiple regressions because it provides for analysis of a research hypothesis that is highly sophisticated than when a single correlation is used. The study was exploratory in nature since it seeks to gather new insights into an existing phenomenon, ask questions about the phenomena and assess the phenomena in a new way (Saunders *et al.*, 2009).

The data was classified and tabulated based on the objectives of the study. The tabulated and classified data analyzed both quantitatively and qualitatively. The quantitative data in the tables was useful in the sense that it provided information that is quantifiable and easy to understand. The qualitative data presented through techniques such as tables, pie charts and bar charts.

4. Findings and Discussion

4.1 Results for Response Rate

Table 4.1 is a summary of the response rate that stands at 84.54%. The data refers to the fact that out of 110 expected responses, there were only 93% actual responses. According to Mugenda and Mugenda (2013), response rate above 60% is good and above 70% is perfect. The response 84.54% is both good and perfect hence it can be conclude that the representation was excellent.

Table 4.1: Results for Response Rate

Population	Frequency	Percentage
Filled and Returned	93	84.54%
Not Returned	17	15.46%
Total	110	100%

4.2 Results for Experience of the Respondents

Information from the Table 4.2 indicates that majority of the respondents have experience of 1-5 Years at 60% of the respondents. 36.7% of the respondents have experience ranging between 6-10 years and only 3.3% of the respondents have experience of over ten years. The information is a critical indicator that all the respondents used in the study had experience in the banking sector. The experience of the respondent is important to the study because the responses will be factual only if people who have an understanding of the area provide them.

Table 4.2 Results on Level of Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5 Years	55	60.0	60.0	60.0
	5-10 Years	34	36.7	36.7	96.7
	10-20 Years	4	3.3	3.3	100.0
	Total	93	100.0	100.0	

4.3 Result for the Department of Respondent

The Figure 4.1 is a graphical representation of the departments of the respondents. The figure indicates that majority of the respondents were drawn from the finance department, followed by the administration department, sales and marketing and IT departments. The data is critical in terms of making sure that every department in the organization took part in the study. This information implies that majority of respondents had served in their current department for a long time, therefore, were well abreast with their departmental requirements and operations and thus their experience would provide a good sense of information relevant for this study.

Figure 4.1: Departments of the Respondents

4.4 Results for Duration of Stay in Current Organization

The duration of time spent by the respondents in the current organization based on information in figure 4.2. The data indicates that majority of the respondents had stayed in the organization for more than 3 years. Only 6% of the respondents had stayed in the organization for a period of one year. The information is critical since it is an indication that the respondents are vast in the issues related to the organization due to their experience in the organization.

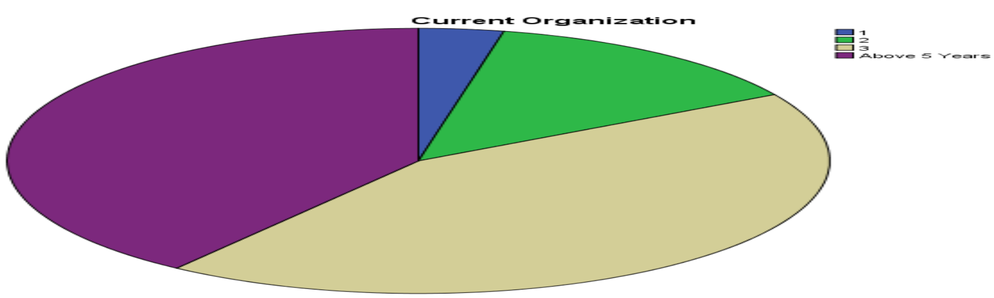

Figure 4.2: Duration in Current Organization

4.5 Results for Duration in Current Position

The table 4.3 is a representation of the information about the number of years an individual has taken in the current position. Forty percent of the respondents have been in the current position for 3 years followed by 33% of the respondents who have been in the organization for more than 5 years. The longevity in a given position within the organization means that the individual is a proper source of information due to knowledge gathered while working in the same position.

Table 4.3: Duration in Current Position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	10.0	10.0	10.0
	2	16	16.7	16.7	26.7
	3	37	40.0	40.0	66.7
	Above 5 Years	31	33.3	33.3	100.0
	Total	93	100.0	100.0	

4.6 Results of Diagnostic Test

4.6.1 Test for Normality

When testing for normality, the Shapiro-Wilk model applied because the respondents were less than 100. In the case of the study the respondents were 93 hence the Shapiro-Wilk test of normality applied. In examining the normality of the variables, Skewness and Kurtosis applied. Based on the information provided below, the study rejected the null hypothesis and accepted the alternate hypothesis because the sig. value was less than 0.05. The data was not normally distributed as per the outcome of table hence it was important to normalize it using logarithm method.

Table 4.4: Result for Test of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
ROA	.273	93	.000	.774	93	.000
NIM	.474	93	.000	.422	93	.000
ROE	.251	93	.000	.687	93	.000

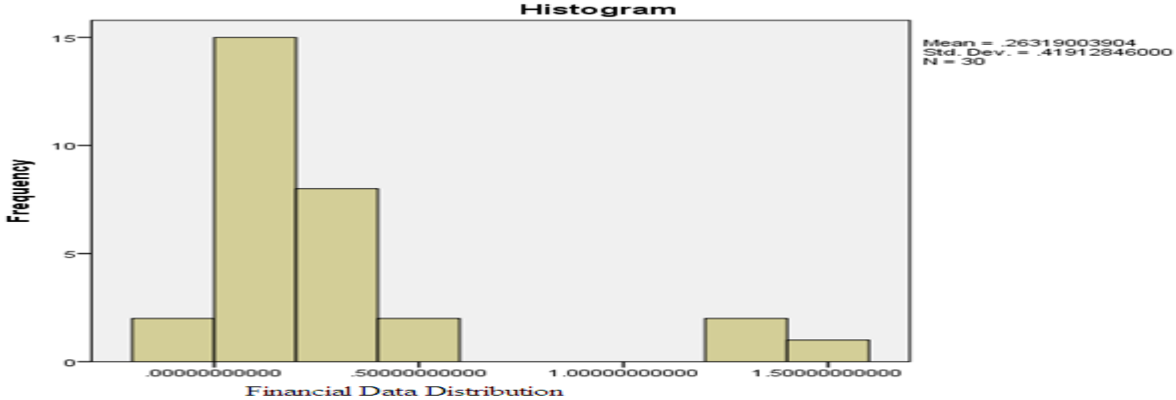

Figure 4.3: Results of Financial Data Distribution

The K density histogram indicates that the financial data is not evenly distributed which is in line with the findings of the Shapiro-Wilk test above.

4.6.2 Test for Reliability

To determine the reliability level of the study, Cronbach's alpha test applied. The Table 4.5 below is an indication of the outcome of the Cronbach's test on the questionnaires used in the collection of the data.

Table 4.5: Cronbach's Alpha Test

Variables	Cronbach's
Financial Literacy Programs	0.721
Use of Agents and Representatives	0.76
Proliferation of ATMs and Mobile Banking	0.78
Bank Branch Spread	0.756

The average value from the Cronbach's test is 0.75425, which indicates that the data collection instrument was reliable as the value is above the rule of thumb value of 0.7 (Cronbach, 1951).

4.7 Results of Substantive Test

4.7.1Regression Analysis Tests

The research sought to determine the relationships that existed among the variables. Simple and multiple regression were used to help in understanding how the values of the dependent variable (Financial Performance) changes when one of the variables that are independent are altered while the other remain fixed.

4.7.2 Regression Results on Net Interest Margin

Table 4.6: Regression Results on Net Interest Margin

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.429[a]	.184	.029	.179625273283709

a. Predictors: (Constant), Number of Customers, Number of Agents, Number of ATMs, Number of Bank Branches

From the Table to determine strength and direction of the relationship between the dependent and independent variables the study used regression analysis. The relationship between the net interest margin and the number of customers, agents, ATMs and branches is positive and weak. The finding contradicted Hung et al (2009) and agreed with Onyango (2014) and Mwaniki (2014). According to Hung et al. (2009), there was no systematic model of determining the effect of financial inclusion on performance.

The finding of this study means that number of customers, number of agents, number of ATMs and number of branches explains 18.4% of Net Interest Margin. Additional variables to the study are a possibility since the outcome of the model is less than 50%. The ANOVA sig value of .337 means that the value is above 0.05 hence it is proper to accept the null hypothesis and state that the number of customers, branches, ATMs and Agents influences the Net Interest Margin.

The meaning of the finding above is that the variables of the study positively influence the Net Interest Margin, even though the influence is weak. It means that positive changes in any of the variable will have positive effect on the net interest margin even if the change is minimal.

The model that was developed for the independent and dependent variables above can be represented based on NIM= α0+ α1 +α2+α3+ α4+ £. The model appears together with the data elements collected from the ANOVA test. The model is as shown below with extracts from Table 4.6

NIM=.215+-.002 Number of Banks+-.06 Agents+.01ATMs+.09 Customers

Table 4.7: Coefficients of Results of Net Interest Margin

Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.

		B	Std. Error	Beta		
	(Constant)	.215	.092		2.331	.030
	Number iof Bank Branches	-.002	.001	-.953	-1.601	.124
1	Number of Agents	4.733E-006	.000	.184	.576	.571
	Number of ATMs	.001	.001	.416	.707	.487
	Number of Customers	1.879E-009	.000	.063	.169	.867

a. Dependent Variable: NIM

4.7.3 Regression Results on Return on Asset

Table 4.8: Regression Results on Return on Asset

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.432[a]	.187	.032	.03926747431978

a. Predictors: (Constant), Number of Customers, Number of Agents, Number of ATMs, Number of Bank Branches

From the table above it is evident that there is a weak but positive relationship between ROA and the number of customers, the number of agents, number of ATMs and Number of bank branches. R square of 18.7% means that the remaining 81.3% of ROA refers to other variables that are not part of the study. Using the ANOVA the sig. 0.338 is above the rule of thumb value of 0.05 meaning that the null hypothesis is accepted. The number of customers, agents, ATMs and bank branches has significant impact on ROA.

The finding above is in line with Belita (2013) who established that number of agents is an important part of the assets of the banks, meaning that the increase in the size of the bank asset had a positive impact on financial performance of banks. Monica (2015) agreed that increase in bank agents and ATMS leads to positive performance of the assets of the company. The study contradicted Ndirangu (2014) which stated that it was not clear as to whether increase in number of agents, bank branches, and mobile banking transactions had positive impact on performance of banks.

The model used in the analysis of ROA is given as ROA= α0+ α1 +α2+α3+ α4+ £. Based on the model and the outcome of the regression analysis the value of the model is: ROA=.034+-.001 Number of Banks+-.006 Agents+.000ATMs+.01 Customers.

Table 4.9: Coefficients of Return on Asset

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.034	.020		1.670	.110
	Number iof Bank Branches	-.001	.000	-1.290	-2.172	.041
1	Number of Agents	1.421E-006	.000	.252	.791	.438
	Number of ATMs	.000	.000	.954	1.623	.119
	Number of Customers	4.800E-010	.000	.073	.197	.845

a. Dependent Variable: ROA

4.7.4 Regression Results on Return on Equity

Table 4.10: Regression Results on Return on Equity

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.934[a]	.873	.849	.15073245198807

a. Predictors: (Constant), Number of Customers, Number of Agents, Number of ATMs, Number of Bank Branches

The results from the summary above shows that 87.3% of Return on Equity is explained by the number of customers, number of agents, number of ATMs and number of Bank Branches. It is an indication that the elements are good predictors of Return on Assets and that no other variable should be included. The ANOVA sig. 0.000 is below 0.05 that is an indication that we reject the null hypothesis and accept the alternative hypothesis. The number of customers, agents, ATMS and Bank Branches has no significance on the ROE.

The finding above is in line with the findings in Asia (2015) which stated that ATMs, e-transactions, and mobile banking services had positive effect on the net interest margin of banks. The reason for contradiction is the significance level where Asia (2015) had significance level of 0.01 that is higher than significance level of this study. The study was in contradiction with Jegede (2014) which stated that there was less benefit from use of ATMs and mobile banking n the net interest margin of banks. Munyoki (2013) established that the number of banking agents, the number of branches and the number of online transactions the banks engaged in positively influences the net interest margin.

The model used to determine the relationship between the variables and ROE is given as ROE= α0+ α1 +α2+α3+ α4+ £. The statistical representation of the variables is as shown below. ROA=.0034+-.33 Number of Banks+-.006 Agents+.000ATMs+.01 Customers

4.7.5 Results for Test for Correlation

Correlation is the measure of association between the independent variables. It is used in the same manner as regression to determine the direction and strength of relationship between the dependent and independent variables.

Table 4.11: Results for Test for Correlation

		Number of Agents	Number of Customers	Number of Bank Branches	Number ATMs
	Pearson Correlation	1	.746**	.765**	.744**
Number of Agents	Sig. (2-tailed)		.000	.000	.000
	N	93	29	29	26
	Pearson Correlation	.746**	1	.833**	.830**
Number of Customers	Sig. (2-tailed)	.000		.000	.000
	N	93	93	93	93
	Pearson Correlation	.765**	.833**	1	.943**
Number iof Bank Branches	Sig. (2-tailed)	.000	.000		.000
	N	93	93	93	27
	Pearson Correlation	.744**	.830**	.943**	1
Number of ATMs	Sig. (2-tailed)	.000	.000	.000	
	N	93	93	93	93

The rule of thumb dictates that rejection of null hypothesis occurs if the significant value is below 0.05 and the alternative hypothesis adopted. The study rejected null hypothesis based on the information in the table above, and the alternate hypothesis adopted that there is no correlation between the variables of the study.

The result above is an indication that the variables of financial inclusion are not related and they affect the dependent variable in different ways. It is an indication that each variable will lead to a different outcome if analyzed from a standalone point of view.

4.8 Results of Financial Inclusion on Financial Performance of Banks

This section is a review of the effects of financial literacy programs, use of agents and representatives, proliferation of ATMs and Bank Branch spread on financial performance of banks.

4.8.1 Results of Financial Literacy Programs

This section is a review of the financial literacy programs on the performance of banks. The section looks at the financial literacy levels, customer understanding of risk aversion, level of savings of the customers, and the changes in number of people seeking formal banking services.

From the table 4.12 it is evident that majority of the respondents agreed and strongly agreed that financial Literacy levels have improved over the past five years at 66.7% and 33.3% respectively. Majority of the respondents (56.7%) agreed that customer understanding of risk aversion has led to more savings while 30% neither agreed nor disagreed with the statement. Only 6.7% disagreed with the statement above. It is an indication that more customers tend to save more because they have become financially rational.

The study contradicted the findings of Onyango (2014) which could not establish whether savings and prudent expenditure had an impact in the financial performance of banks. Mwaniki (2014) established that financial literacy programs had positive impact on financial performance of self-help groups. The finding was in line with the finding of this study.

The study determined that 66.6% of the respondents believe that customers are saving more due to better knowledge of financial choices while 10% of the respondent disagreed with the statement. The data indicates that majority believe that financial literacy levels have improved hence the better choices made by customers.

The study found that 63.3% of the respondents agree that increase in literacy levels has increased the number of people seeking formal banking services. Furthermore, 36.7% of the respondents strongly believe that increase in literacy has led to growth in the formal banking. It is an indication that knowledge of financial choices and existence of formal financial institution has led to an increase in number of people seeking the services. The above factors are indicators of the fact that financial literacy programs elements have an effect in the nature of operation of banks.

Table 4.12: Results of Effects of Financial Literacy Programs

Effects of Financial Literacy programs on Financial Performance	Ranking				
	Strongly Agree	Agree	Strongly Disagree	Disagree	Neither Agree/Disagree
Financial Literacy levels have improved over the past five years	33.3%	66.7%	0%	0%	0%
Customer understanding of risk aversion has led to more savings	6.7%	56.7%	0%	6.7%	30%
Customers are saving more due to better knowledge of financial choices	20%	63.3%	0%	10%	6.7%
Increase in literacy levels has increased the number of people seeking formal banking services	36.7%	63.3%	0%	0%	0%

4.8.2 Results of Use of Agents and Representatives

The data above collected from the respondents sought to determine the effect of agents and representatives on the financial performance of banks. The data showed that 53.3% of the respondents agreed that increased number of account holders have led to increased revenue for the bank. Up to 40% of the respondents neither agreed nor disagreed with the statement maybe because they could not categorically state the effect of increased number of account holders.

The finding above determined that 83.3% of the respondents agree that account-opening representatives have increased the number of customers for the bank. It is an indication that opening of new accounts has an impact on increase in the number of customers. The study posed the question of whether customer service agents have led to reduction in customer service costs, 50% strongly agreed, and 33.3% agreed with the statement. Further, five percent of the respondents neither agreed nor disagreed. It is an indication that agents have made it easy for the banks to cut on costs in terms of time and money.

The research sought to determine whether customer service agents have increased the number of customers served annually. The data above indicates that 50% strongly agreed that agents had increased the number of customers served each year. The same percentage agreed with the statement. The increase in the number of customers served annually has an impact on the performance of the bank.

The findings above are in line with the outcome of Belita (2013) which stated that there is positive relationship between the increase in the number of banking agents and the financial performance of banks. The study was also in line with Monica (2015) who established that increase in the number of agents of commercial banks leads to an increased financial performance, meaning that there is a positive correlation between the agent outlets and financial performance of banks.

Table 4.13: Agents and Representatives

Effects of Use of Agents and Representatives on Financial Performance of Banks	Ranking				
	Strongly Agree	Agree	Strongly Disagree	Disagree	Neither Agree/Disagree
Customer service agents	50%	50%	0%	0%	0%

have increased the number of customers served annually.					
Customer service agents have led to reduction in customer service costs	50%	33.3%	0%	0%	5%
Account Opening Representatives have increased the number of customers for the bank	6.7%	83.3%	0%	3.3%	6.7%
Increased number of account holders have led to increased revenue for the bank	3.3%	53.3%	0%	3.3%	40%

4.8.3 Results of Proliferation of ATMs and Mobile Services

The paper sought to determine the effect of increased proliferation of Mobile Banking Services and ATMs on financial performance of banks. The respondents gave their views on whether mobile banking services have led to better financial penetration and 56.7% agreed with the statement while 40% of strongly agreed with the statement. 3.3% of the respondents gave a contrary opinion. It means that banks have gained better financial penetration due to the use of ATMs and mobile banking services.

An interesting aspect of the study was whether the cost of banking reduced through mobile banking services. The above data indicates that 30% of the respondents believe that the cost has not reduced due to use of ATMs and mobile banking services. However, 56.7% of the respondents believe that cost reduced due to use of ATMs and mobile banking services.

Further, 63.6% of the respondents indicated that financial performances of banks have improved due to increased mobile banking services. Only 16.7% of the respondents disagreed with the statement and believed otherwise. The financial performance of the banks in relation to the use of mobile banking and ATMs appears to be an important part of banks. However, the research showed that the aspect of mobile banking has led to reduction in the use of ATMs with 80% of the respondents stating that ATMs are losing to mobile banking in terms of popularity.

This study was in line with the findings of Asia (2015) who established that electronic banking methods such as Pay Direct, electronic check conversion, e-transact, use of ATM and mobile banking had positive impact on the performance of banks. The study contradicted Jegede (2014) and agreed with Munyoki (2013) who established that mobile banking and ATMs have a positive effect on the performance of banks.

Table 4.14: Proliferation of ATMs and Mobile Services

Effect of Increased Proliferation of ATMS and Mobile Banking Services	Ranking				
	Strongly Agree	Agree	Strongly Disagree	Disagree	Neither Agree/Disagree
Mobile banking services have led to better financial penetration	40%	56.7%	0%	3.3%	0%
The Cost of Banking has been reduced through mobile banking services	3.3%	56.7%	0%	30%	10%
Financial performance of banks have improved due to increased mobile banking services	0%	63.3%	0%	16.7%	20%
Mobile banking services have reduced the need for ATMs in most places	16.7%	80%	0%	3.3%	0%

4.8.4 Results of Bank Branch Spread

The study sought to determine the effect of bank branch spread on financial performance of banks. The study posed questions to the respondents and their responses summarized above. From the data, 77.3% agree that the number of banks branches positively influences financial performance of the bank. 3.3% of the respondents had contrary opinion.

The assumption that volume of transactions in the bank changes with the changes in the number of branches was set as a statement and the response indicated that 63.3% agree with the statement while 26.7% neither agree nor disagree. The outcome above is an indicator that changes in branch may not necessarily influence the volume of transactions. The explanation for the outcome is that the study did not find any significant correlation between the two variables.

Compared to the number of people who disagreed that mobile banking has reduced cost of service provision, 4.6% of the respondents disagree that the cost associated with management of branches are influenced by the spread of bank branches across the country. Significantly, only 46.7% agree and 3.3% strongly agreed with the statement.

The study also sought to determine whether the number of customers served has increased due to bank branch spread and 96.7% of the respondents agreed with the statement. It means that bank branch spread has a significant impact on the number of customers served by the banks, as it has been determined in the correlation of variables above.

The study was in agreement with the outcome of Musyoka (2011) who established that there is a positive relationship between branch network and financial performance of banks. Chelangat and Muturi (2016) had findings similar to this study where they established that the number of branches and their geographical spread had an impact on the revenues and cost. The contradiction arises when it comes to the findings of Hirtle (2007) where it was established that that there is no relationship between size of the network and the overall profit of the bank.

Table 4.15: Bank Branch Spread

Effect of Bank Branch Spread on Financial Performance	Ranking				
	Strongly Agree	Agree	Strongly Disagree	Disagree	Neither Agree/Disagree
The number of banks branches positively influences financial performance of the bank	23.3%	77.3%	0%	3.3%	0%
The volume of transactions in the bank changes with the changes in the number of branches	3.3%	63.3%	0%	6.7%	26.7%

The cost associated with management of branches are influenced by the spread of bank branches across the country	3.3%	46.7%	0%	6.7%	43.3%
The number of customers served by the bank has increased due to spread of bank branches	3.3%	96.7%	0%	0%	0%

5. Summary, Conclusions and Recommendations

5.1 Summary of the Study

This section provides the summary of the findings of the study. The summary of the findings follows the objectives of the study, which includes financial literacy programs, the use of agents and representatives, the proliferation of ATMs and Mobile Banking Services, and bank branch spread.

5.1.1 Financial Literacy Programs

Majority of the respondents are of the opinion that financial literacy programs elements such as customer knowledge of risk aversion, customer savings, and the increased literacy levels have a positive impact on the financial performance of banks. The respondents argued that the growth in financial literacy programs has enhanced the financial knowledge of the customers' hence positive performance of the banks.

The results above is in line with Kumunduu *et al.* (2016) who concluded that high level of financial literacy within the population leads to greater financial performance of medium scale enterprises. The results of the study indicated a strong and positive relationship between financial performance and financial literacy levels. Many of the respondents indicated that financial literacy levels have improved over the past five years, which has subsequently increased the number of people seeking formal financial services. Subsequently it leads to better financial performance of the banks.

5.1.2 Use of Agents and Representatives

In the study majority of the respondents, believe that customer service agents have increased the number of customers served annually with 50% agreeing and another 50% strongly agreeing. The study determined that number of agents explains 87.3% of Return on Equity. The finding is in line with Waihenya (2012) who revealed that agency banking has a significant and positive effect on the ROE of Kenyan Banks.

It was also evident from the study that costs of services have reduced due to agency banking as 50% of the respondents strongly agreed with the statement while 33.3% agreed over the same. It is in line with the findings of Monica (2015) who indicated that elements of agency banking have cut on the cost of services for the customers and the banks as well. The other elements studied include the effect of account opening agents on the financial performance of banks. It was determined that 53% of the respondents agree that accounts opening agents have improved the performance of banks (Supported by Monica, 2015).

5.1.3 Proliferation of ATMs and Mobile Banking Services

The study sought to determine the effect of proliferation of ATMs and Mobile on the financial performance of banks. Majority of the respondents believe that mobile banking services have led to better financial penetration whereby 56.7% agreed and 40% strongly agreed with the statement. The outcome is in line with Monyoncho (2015) in her study where it revealed that companies have changed the ATMs from cash dispensers into relationship management control and has helped to enhance loyalty among customers.

The study also revealed that cost of banking reduced extensively through adoption of mobile banking and ATMs services. Monyoncho (2010) stated that mobile banking is likely to have a big impact on the profitability of commercial banks as the operations become smoother and mobile internet banking becomes part of the conducting business. In this study, the 63.3% of the respondents agree that financial performance of banks have improved due to increased mobile banking services.

5.1.4 Bank Branches Spread

The study determined that there is no significant relationship between bank branch spread and financial performance of banks. However, it is contrary to the outcome of Nyatika (2017) that established a positive and significant relationship between bank spread and financial performance. This study established that bank branch has no significant effect on the return on asset of the company, which is in line with the findings of Nyatika (2017) that return on asset is not subject to bank branch spread.

The respondent believe that the number of bank branches have a positive impact on the financial performance of bank, with the numbers standing at 77.3% of the total respondents. It is in line with the findings of Musyoka (2011) who determined that there is positive relationship between bank branch network and financial performance. The study also determined that 46.7% of the respondents believe that the spread of branches across the country influences the cost associated with the management of the branch.

5.2 Conclusion of the Study

This section of the paper provides the conclusions drawn from the study. The conclusion of the study focuses on the objectives of the study, which include financial literacy programs, use of agents and representatives, proliferation of mobile banking services and ATMs and bank branches spread.

5.2.1 Financial Literacy Programs

Financial literacy programs significantly influence the performance of banks listed in the Nairobi’s security exchange. Most of the respondents agreed with the fact that financial literacy programs have led to better financial knowledge that has led to better financial outcome for the banks.

Some of the most important factors under the financial literacy programs included improvement of the financial literacy levels, better understanding of risk aversion by the customers, and better saving by the customers due to better financial knowledge. In conclusion, the respondents provided that better financial inclusion has led to more people seeking formal banking services.

5.2.2 Use of Agents and Representatives

The use of agents and representatives was determined to have a strong positive impact on the returns on equity of the banks. It means that the more the agents, the better the performance of the bank in terms of returns on equity. It was determined that the customer agents have increased the number of customers served each year. At the same time, the study established that customer service agents have led to reduction of the costs associated with services offered to the customers. The impact of the account-opening representative was also determined whereby it was determined that they have an impact on the number of customers served by the banks. The increase in the number of accounts holders mean better financial outcome for the banks.

5.2.3 Proliferation of ATMs and Mobile Banking Services

The study sought to determine the impact of ATMs and mobile banking services on financial performance of banks. It was determined that mobile banking services have increased the level of financial penetration by banks. At the same time majority of the respondents determined that, the cost of banking services have reduced due to mobile banking services and the use of ATMs. The respondents also observed that financial performance of banks have improved due to increased mobile banking services. Interestingly, the study determined that the growth in mobile banking services has reduced the importance of ATMs within the banking environment.

5.2.4 Bank Branches Spread

The study was concerned with the effect of bank branches spread on financial performance. It was determined that bank branch spread has a significant effect on the ROE. It means that bank branch spread is a determinant of the financial performance of banks with regard to the returns on equity. The areas of concern included the number of bank branches and the positive impact it has on the financial performance. The study also determined that the volume of transaction of the bank changes with the number of branches held by the bank. Generally, the study found out that the number of customers served annually has increased due to bank branch spread.

5.3 Recommendations for Banks and Government Policy Makers

5.3.1 Policy Makers in Banking Institutions

The study established that to some extent, financial literacy programs have a positive impact on the financial performance of banks. The study recommended that policy makers of the banking financial institutions should continue to invest in financial literacy programs through arrangement of workshops and seminars in which potential customers learn different aspects of financial management. It has been determined that the use of agents and representatives have an impact on the financial performance of banks. It means that financial institutions of the same nature as banks should also be encouraged to come up with policies that aim towards increasing the number of agents. Such policies open up the banks to new clients and new sources of revenues. The use of ATMs has gone down due to increase in the number of customers using the element of mobile banking. Banking policy makers should emphasize on the creation of more internet and mobile-based platforms while cutting down on the number of ATMs around the country. Even though ATMs have a positive effect on financial inclusion, they tend to play almost the same role as the mobile banking element.

5.3.2 Government Policy Makers

The government of Kenya in the year 2010 allowed banks to use creative methods to gain access to customers in marginalized areas in terms of financial access. Over the past seven years, the debate has been on whether the financial inclusion measures established by banks have been effective in opening up most parts of the country to financial services. This research established that financial inclusion elements are critical in making access to financial services better. Therefore, government policy makers, especially at the Central Bank should encourage banks to continue using aspects of financial inclusion in expanding their businesses across the country due to its effectiveness.

5.4 Areas for Further Research

Research on effects of financial inclusion on the financial performance of banks is at its developmental stage. Most of the studies have concentrated on single variables such as agency banking, ATMs and Mobile banking. This study has sought to fill the gap through studying financial inclusion as a whole, combining all the elements that are associated with it. Yet certain gaps still exist especially in terms of methodologies used to conduct similar study.

Based on the above factors, this study recommends further study of the same area in future with attention on different sub variable elements. This study has shown that the variables used explain a small part of financial performance; hence, more variables are applicable especially under Return on Assets and Net Interest Margin.

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