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THE EFFECTS OF PLASTIC MONEY TRANSACTIONS ON FINANCIAL PERFORMANCE OF SAVINGS AND CREDIT CO-OPERATIVE SOCIETIES IN NAIROBI COUNTY, KENYA

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Abstract

This study sought to establish the effect of plastic money transactions on the financial performance of savings and credit cooperative organizations in Nairobi County, Kenya. The study reviewed the Transaction Cost Theory, The Efficiency Theory, Agency Theory and The Structure Conduct Performance (SCP) Model which explains the effect of plastic money transactions on the financial performance of savings and credit cooperative societies in Kenya. The study variables of the study were mobile money, Visa card, debit/credit card and ATM card. The study reviewed the existing literature on effects of plastic money and financial performance and came up with the research gap. The study adopted a descriptive cross-sectional survey. The study population for this study was 486 employees of 35 Saccos in Nairobi County. Stratified random sampling was used to select 146 respondents. The research used questionnaire as the main data collection instrument. The study carried out a pilot study to pretest and validates the questionnaire. Descriptive statistics mostly frequency distribution tables were used to capture the characteristics of the dependent and independent variables in the study. Inferential statistics that include multiple linear regression and bivariate correlation was used to analyze the relationship between the dependent variable and the independent variables. The study conducted a correlation analysis to establish the strength of the relationship between the independent and the dependent variable. The study found out that mobile money, visa card, debit/credit card and ATM cards had positive relationship with performance of Sacco's. The study concluded that mobile money, visa card, debit/credit card and ATM cards are positively related to performance of Sacco's. The study recommends that recommends that the management of Sacco's should encourage their customers to use mobile money because it is very convenient and the customers are able to access the services for 24 hours. Organization will also increase. The management should communicate the importance of visa cards to customers, so that to increase the number of users of visa cards and the management should also encourage customers to use debit/credit card. This will help improve performance of Sacco's.

Keywords: ATM card, Credit Card, Debit Card, Financial performance, Mobile money and Visa card.

Introduction

Plastic money has its roots in the United States of America and its origins can be traced to the Second World War (SWW). The evolution of the various types of plastic money as we know them today already begun with the introduction of the vouchers system of payment that was used during the Second World War (Rotchana, Kitumnuai & Speece, 2014). Here in Kenya the adoption by banks and subsequent use by various consumers has led to the various plastic monies becoming an integral part of the financial system in Kenya. The various forms of plastic money in Kenya today ranging from Automated Teller Machine cards to credit cards including connect cards have definitely had an impact on financial institutions (Wafula 2015). Everywhere in the society, credit cards have become a fact of life for most of the consumers and a part of the consumers' culture. In USA, as of 2017, 89% of US adults owned at least one credit card and, in average, a card holder owns 8.3 credit cards (Mansfield, 2017). In 2017 the professionals are not the only credit card users but the students are also significant stakeholders of credit cards (Mansfield & Pinto, 2014; Robb & Sharpe, 2013). From the 1960s, consumer credit cards have become a topic of academic research. In the earlier stage the research works were mainly based on evolving the descriptive characteristics like number of cards and card users (Plummer, 2011; Slocum & Mathews, 2010).

Manivannam (2013) studied on the conceptual framework of plastic money on the users and showed different factors that influence the people to hold the cards. The prospects and usability of plastic money is not same everywhere. People are reluctant to use plastic money in some countries like Pakistan, mostly because of misperceptions about the plastic money (Ullah *et al.*, 2014). Lack of education, poor banking systems, and insecurity of transactions are also the responsible factors for that reluctance. In another study Soman and Cheema (2002) explained that propensity to spend increases as a function of the credit limit, especially, as credit limit increases, subject using a credit card report a higher likelihood of making a purchase, other things remaining constant. When a consumer once has a credit card and a credit line available, sometimes unnecessary spending gets unavoidable. Sometimes, gender and educational background also play role about holding and usages of plastic money (Kaseke, 2012). Hausman (2012) showed, the tendency of young adults to seek fulfillment through hedonic activities such as shopping, hanging out, and high life styles by using credit cards. The habit of spending is largely controlled by the credit cards (Judge & Simon, 2011).

In Pakistan Bazmi, Nazir, Raza and Javed (2014) did a study on the effect of plastic money on the performance of banking sector. They argued that e-banking is recognized as to have a substantive affect banks' overall performance. ATM or maybe automatic teller machine continues to be the norm of the day time inside electronic bank. The idea helps you to save period to the customers and charge of services the results suggest so Automatic Teller Machine is a normally used method to withdrawal of cash from the traditional bank. Digital money usually takes a number of types both on the web as well as real world, with the potential for correct a digital income pending later on. Moreover the bright future e-money is depended upon its growth and its regulation to increase its importance for the security of plastic money.

In India Kumar (2016) established that ATM was created to execute an important function on the lender, the amount of money exchange. It's operated along with credit card having its special attributes. Therefore the financial institutions, consequently home-based as well as dangerous is

generally carrying out added on delivering around the buyers when using the brand-new technologies on account of age verifying. Computer program verifying, portable verifying, ATM, electric resources move, bill for you to bill move, spending costs on-line, on-line assertions along with cards etc. are the products and services distributed by financial institutions. Kumar (2016) argued that early 90's the total numbers of cards used around the world were round about one million in which half are Visa cards and 30% are Master cards.

In Bangladesh Sultana (2016) investigated consumers' perception towards usage of plastic money in Bangladesh, an application of confirmatory factor analysis. The study revealed that most respondents are using plastic money usually for shopping and international purchases, and also for purchasing expensive products. Sultana (2016) argued that among the influential variables, people are mostly influenced for using plastic money because they think it adds value in their lifestyle. Secure transaction is the most beneficial reason of using plastic money according to the respondents. The problems of using plastic money as found through confirmatory factor analysis, are unavailability of money in ATM (Automated Teller Machine) booths, unavailability of technology of payment through plastic money in purchase points, and the technological complications faced by the card holders.

In Zimbabwe, the government in conjunction with the financial sector, as with the case in many other countries, is exploring ways to encourage the use of plastic money (Dabson, 2013). The installation of automated teller machines (ATMs) by the Standard Chartered Bank Zimbabwe Ltd and the Central African Building Society (CABS) in the early 1990s signaled the beginning of the use of plastic money in Zimbabwe (Dube, Chitura & Runyowa, 2011). However, in Zimbabwe, the use of plastic money has remained sluggish despite the convenience that it brings to the customers and the business community (Dube*et al.,* 2011). Other forms of electronic innovations that have found their way into Zimbabwean banks are Electronic Funds Transfer Systems (EFT), telephone banking, personal computer (PC) banking and recently internet banking (Dabson, 2013).

In Nigeria, the Automated Teller Machine (ATM) was introduced into the market in 1989; as a matter of fact the very first ATM in Nigeria was first installed by National Cash Registers for the defunct Society General Bank in 1987. Access to ATM was the through the use of Personal Identification Number (PIN) and a plastic card that contains magnetic strips with which the customer is identified (Jegede, 2014). Ogbuji (2012) states that in Nigeria, ATM allows a bank customer to conduct his/her bank transactions from almost every other ATM machine in the world. However, the spread of the machines has been generating a lot of heat, as customers face a splurge of frustration in using it; either the machines will not dispense cash, or debit transactions when cash is not dispensed or cards get stuck in them. Dapo (2014) indicate that the proliferation of the machines in Nigeria is giving more concern. As with every other technological breakthrough the ATMs have generated astronomical challenges and problems for the beneficiaries of financial services in Nigeria. Most users of ATM have encountered the problem of Scam. Apart from epileptic services rendered by the machines, faceless crooks steal from the accounts of hundreds of bank customers via the ATM technology. The fraudsters perpetrate this financial crime by stealing the personal identification number, PIN, a special secret code that grants access to the usage of the cards, and consequently, getting hold of the funds of the susceptible ATM users (Dapo, 2014).

In Kenya Wafula (2015) did a study on the effect of plastic money on the financial performance of commercial banks in Kenya. According to Wafula (2015) argued that plastic money has a strong and significant effect on the profitability of commercial banks in the Kenyan banking industry. The study established that there exists positive relationship between plastic money and bank performance. The significance test showed that the influence of plastic money on bank profitability was statistically significant meaning that the combined effect of plastic money in this research is statistically significant in explaining the profits of commercial banks in Kenya (Wafula, 2015).

According to Anyanzwa (2013) in Kenya, the usage of card payments in the country has risen by seven percent. This follows increased efforts to extend financial services to millions of Kenyans either under banked or unbanked. Data from Central Bank (CBK) shows that the number of automated teller machines (ATMs), ATM cards, prepaid cards, charge cards, credit cards, debit cards and Point of Sale (PoS) machines increased by seven percent to 11.61 million in October 2016, up from 10.86 million in January 2016. Odhiambo (2012) on his study on credit cards and performance of commercial banks portfolio in Kenya and particularly Migori town argues that credit cards have contributed positively to satisfaction of credit card holders and adoption of credit cards improved commercial banks revenue. Kyalo, 2014, in her study on effect of credit card usage on financial performance of banks, found that there was 0.612 coefficient of determination between credit card usage and performance of commercial banks in Kenya. Kyalo (2014) stated that commercial banks should revise the interest rates charged on credit cards to boost credit card usage. Odhiambo (2013) on his study on the e University of Nairobi M.B.A project found that e-banking including credit and debit cards, and A.T.M cards has a strong effect on the profitability of commercial banks in Kenya. He argued that statistical significance between e-banking and profitability. Highly profitable banks adapted quickly to innovations, thus recommendation to management to adapt quickly to e-banking.

In Kenya, adoption of plastic money leads banks providing for bad debts, this is because there is no clear framework in Kenya to follow up credit card defaulters thus some customers takes advantage on this. It also leads to fraud in card business. Fraudsters come up with counterfeit cards whereby sometimes they successfully manage to steal from the banks. Issuers rather than individual cardholders bear the initial cost of fraud (Mwangi, 2010). An example of a fraud is the "Salami technique." This involves the slicing of small amounts of money from a computerized transaction or account. The sliced amounts are then re-routed to the perpetrators accounts if computer hackers or other criminals were to break into ATMs machines, they could instantaneously filch the electronic wealth of thousands or even millions of innocent consumers (Information Systems and Audit Control Association, 2015).

In Kenya, SACCO comprises over 50% of all cooperatives, and as financial institutions they play a critical role of financial intermediation in the financial landscape focusing mostly on personal development (SACCOs Review, 2012). Generally, the SACCO sub-sector is on the growth regime. For instance, in December 2012, the total assets for the SACCO sub-sector stood at Ksh.216 billion, representing a growth of 11% from the Ksh.194 billion recorded in 2009. During this period, the growth in assets was funded mainly by member deposits and share capital at Ksh.164 billion comparing favorably with loans and advances which accounted for 73% (or Ksh.158 billion) of the total assets. The balance of the funds is financed by retained earnings and loans from commercial banks and other financial institutions (Muchemi, 2015).

SACCOs are found in almost all sectors of the economy and about 80% of the Kenyan population derives their income either directly or indirectly through SACCO initiatives. In practice, SACCOs in Kenya face stiff competition from other players in the financial services sector like commercial banks, micro-finance institutions, shylocks, and investment groups. Out of the approximate population of 41 million, a significant 24.6million people (63%) participate either directly or indirectly in SACCO enterprises (Republic of Kenya, 2013). However, despite the significant government initiative to support cooperative movements through legislation, a significant 3457 (51%) of the SACCOs were not operational. This high failure rate of SACCOs continues to frustrate Millennium Development Goals (MDGs) and Vision 2030 objectives of increasing financial inclusion (Pollet, 2013). Further, due to the high failure of SACCOs, it is estimated that less than 50% of the target SACCO enterprises are able to participate in SACCO enterprises.

Statement of the Problem

In the last 5 years savings and credit cooperative societies in Kenya, have been embracing the usage of credit cards, through issue to ATM, Visa cards to member and even having ATM machines where members can access their cash (SASRA, 2016). Over 80,000 credit cards and 618,000 debit cards had been issued in Kenya in the last 3 years (Ogony, 2015). Savings and credit cooperative societies have realized the need to embrace plastic money in their operations. As a result, Saccos have come up with technology that facilitated issuance of modern products like debit, credit cards and Visa cards to their members. This has in turn led to increased usage of debit and credit cards by its customers, which has enhanced their performance (Katz, 2015).

Plastic money usage is expected to increase the profitability of financial institutions (Sathye, 2014). Statistics indicated that Nacico Sacco revenue grew to Ksh 535 Million's in 2014 up from 446 Million in year 2013 representing a 9.8% increase, this was largely attributed to the introduction of ATMs. In Stima Saccos there 15% growth in members deposit from Ksh 1.91Billions in 2012 up from Ksh 1.66 Billion in the year 2013, this was largely attribute to the adoption of mobile money in 2013. In Mwalimu Saccos there was 24.4% growth in advance to member from 196 million in year 2015 to 244 million in years 2016, this was attributed to the adoption of mobile money platform which allowed members to access advance through their mobile money.

Odhiambo (2012) did a research on credit cards and performance of commercial banks portfolio in Kenya and particularly Migori town. Kyalo (2014) in her study on effect of credit card usage on financial performance of banks. Odhiambo (2013) did a study on the effect of electronic banking on financial performance of commercial banks in Kenya. From the empirical studies done in Kenya none of them has been in issue of plastic money in relations to saving and credit cooperative societies , most of the study has been done on commercial banks who operative environment is different from the of saving and credit cooperative societies, hence the research gaps. This study sought to fill the existing research by conducting a study to establish the effect of plastic money transactions on the financial performance of savings and credit cooperative societies in Nairobi County, Kenya.

Objectives of the study

The general objective of the study was to establish the effect of plastic money transactions on the financial performance of savings and credit cooperative societies in Nairobi County, Kenya. The study was guided by the following objectives

1. To ascertain the effect of mobile money on financial performance of savings and credit cooperative organizations in Nairobi County
2. To analyze the effect of visa card on financial performance of savings and credit cooperative organizations in Nairobi County
3. To evaluate the effect of debit/credit card on the financial performance of savings and credit cooperative organizations in Nairobi County
4. To investigate the effect of ATM card on the financial performance of savings and credit cooperative organizations in Nairobi County

Theoretical Review

This section reviews theoretical foundations that discuss and explain the effect of plastic money transactions on the financial performance of savings and credit cooperative societies in Kenya. The theories assist in appreciating how plastic money transactions affect the financial performance of savings and credit cooperative societies in Nairobi County. The theories discussed are the Transaction Cost Theory, The Efficiency Theory, Agency Theory and The Structure Conduct Performance (SCP) Model.

Agency Theory

According to Jensen and Meckling (1976) described the agency relationship as a contract in which a person (principal) hires a second person, the agent, to perform an action. The principal will delegate the decision making authority to the agent. Jensen and Meckling (1976) began by assuming that each party to the contract consistently chooses those actions that are likely to satisfy their own interest. Although an agent's motivation may include the desire to work hard to achieve the principal's goals, he may also be motivated by desire to maintain the prestige or perquisites associated with the job. For the case of plastic money usage, the bank is the principal and the plastic cardholder is the agent. The bank expects the cardholder to make use of the card properly making purchases using the card and repaying it on time. This is because it will be the way the Saccos can increase the asset levels through the commission they are paid by the merchants and the interest the mobile money user pays at the end of the month. The study used the agency theory to ascertain the effect of mobile money on financial performance of SACCOS in Nairobi County.

The Efficiency Theory

Anthanasoglou *et .al.* (2006) came up with the efficiency hypothesis which posits that banks earn high profits because they are more efficient than others. There are two distinct approaches within the efficiency; the X- efficiency and Scale-efficiency hypothesis. According to the X-efficiency approach more efficient firms are more profitable because of their lower costs. Such firms tend to gain large market shares which may manifest in higher levels on market concentration but without any causal relationship from concentration to profitability .The scale approach emphasizes economies of scale rather than differences in management or production technology. Large firms can obtain lower unit cost and higher profits through economies of scale. This enables firms to acquire large market share which may manifest in higher concentration and then

profitability. In relation to plastic money, firms that adopt plastic money and use it appropriately will benefit greatly from the large market share which comes about as a result of higher market concentration. The study used the efficiency theory to analyze the effect of visa card on financial performance of SACCOS in Nairobi County.

Transaction Cost Theory

This was developed by Schwartz (1974) and it states that suppliers may have an advantage over the lenders in checking the real financial position or the credit worthiness of the clients. In relation to plastic money and specifically the credit card usage, the bank is in better position to know the credit worthiness of a cardholder by evaluating the six months statements and the pay slip at the point of application of a credit card. The bank can also decide to review the credit limit of the cardholder by assessing how the customer has been using the credit card and how the customer has been making the payment. Trade credit may reduce the transaction costs of paying bills, (Ferris, 1981). Rather than paying bills every time goods are delivered, a buyer might want to cumulate obligations and pay them only monthly or quarterly. This will also enable an organization to separate the payment cycles from the delivery schedules. There may be strong seasonality in consumption patterns for a firm's products. In order to maintain smooth production cycles, the firm may have to build up large inventories. This has two costs: the cost of warehousing the inventory and the costs of financing it. The firm could lower the prices in order to affect early sales but there could be menu costs in doing this as well as a loss in discretionary ability. By offering trade credit selectively, both across customers and over time, the firm may be able to manage its inventory position better (Emery, 1987). In relation to plastic money, different card products in the financial institutions are due for payment in different dates during the month. This will make the customer choose a card product which is convenient as far as making payments is concerned. The financial institutions will divide the payment cycles within the course of the month so as to utilize the available funds from the customer. This study used the transaction cost theory to evaluate the effect of debit/credit card on the financial performance of SACCOS in Nairobi County.

Task Technology Fit Theory

The task technology fit (TTF) theory contends that it is more likely to have a positive impact on individual performance and be used if the capabilities of information communication and technology (ICT) match the tasks that the user must perform (Goodhue & Thompson, 1995). They further discussed the factors that measure the task-technology fit as; quality, locatability, compatibility, eases of use/training, production timeliness, systems reliability, and relationship with users. This model is useful in the analysis of various context of a diverse range of information systems including electronic commerce systems and combined with or used as an extension of other models related to information systems outcomes. The study used the Task Technology Fit Theory to investigate the effect of ATM card on the financial performance of savings and credit cooperative organizations in Nairobi County.

Conceptual Framework

A conceptual framework is a logically developed, described and elaborated network of interrelationships among variables integral in the dynamics of a situation being investigated. It explains the theory underlying these relationships and describes the nature and direction of these

relationships. A variable is a measurable characteristic that assumes different values among the subject. It is therefore a logical way of expressing a particular attribute in a subject (Mugenda & Mugenda, 2008).

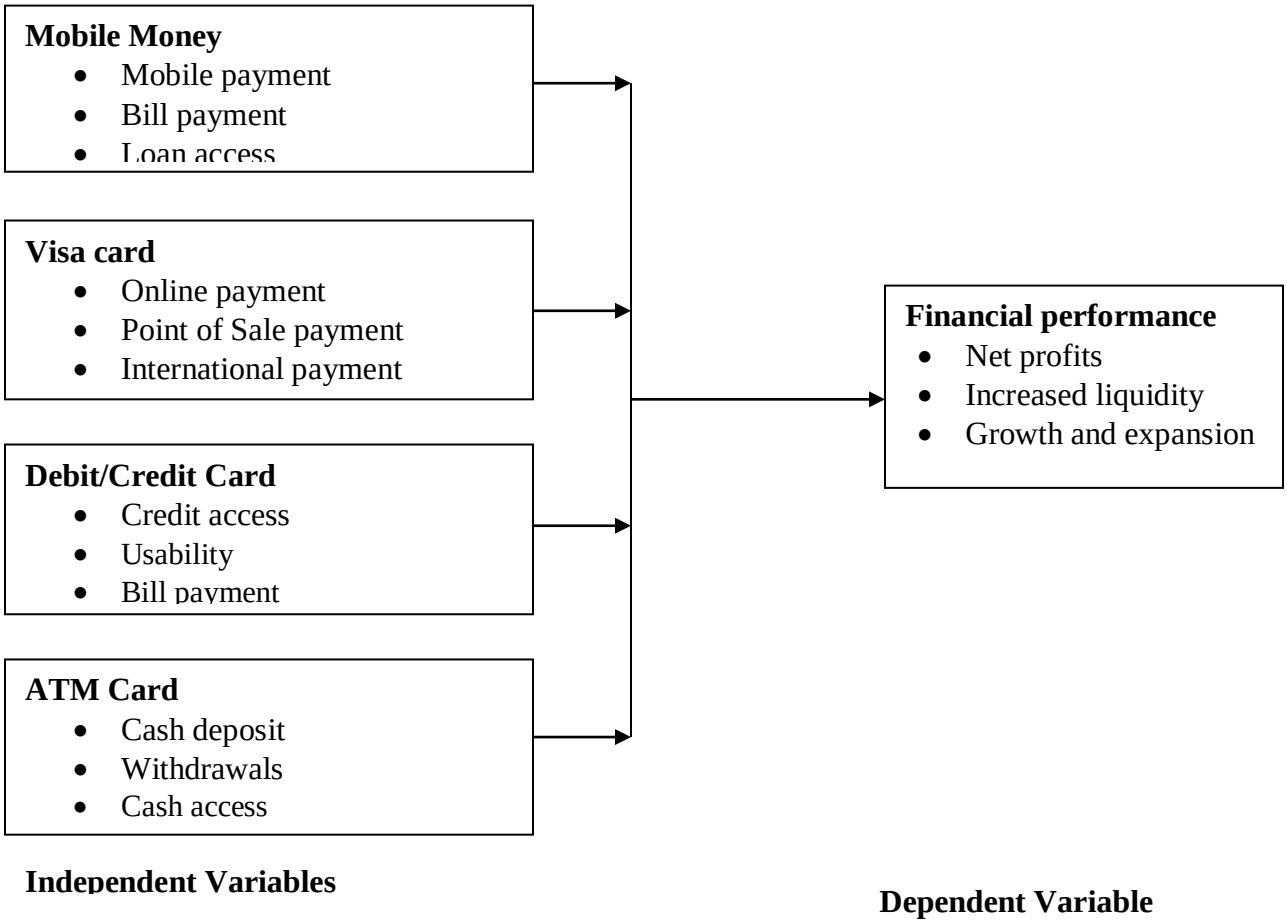

Figure 1: Conceptual Framework

Critique of existing Literature

Ngaruiya, Bosire and Kamau (2014) did a study on the effect of mobile money transactions on financial performance of small and medium enterprises in Nakuru central business district. This study was conducted in Nakuru County and the results cannot be generalized to small enterprises in other counties. Also, Huang (2014) conducted a study to determine the impact of mobile phones on SMEs performance in Auckland, New Zealand, the study indicated that the use of mobile devices had enabled SMEs to increase their annual turnover due to additional business networking opportunities. This study was carried out in New Zealand which is a developed country and the results cannot be generalized to developing countries. Wambari (2013) did a case study in Kenya to determine the impact of mobile banking in developing countries, Escobari (2010) assessed the use of mobile phones by SMEs in developing countries and Chogi (2012) did a study to investigate the impact of mobile phone technologies on SMEs in Nairobi. These studies were conducted in developing countries and therefore cannot be generalized to developed countries since they have different economic trends.

Sultana (2016) did an investigation on consumers' perception towards usage of visa card in Bangladesh: an application of confirmatory factor analysis. Loewenstein and Hafalir (2012) conducted a study on the impact of visa cards on spending; Kamal (2012) conducted a study on the electronic credit card (VISA) usage and their impact on Bank's profitability: The Rate of Return on owner's equity model, Subhani (2011) conducted a study on plastic money/visa cards charisma for now and then. The study was based to find out the charisma of plastic money, its usability and affordability and its impact on its preference to use. These studies focused on impact of visa cards on consumer spending and therefore did not consider how the use of the visa cards by consumers influence a firm's performance.

Kibe (2013) carried out a study on the effect of credit card default on the financial performance of the Kenya Commercial Bank. The independent variables were number of accounts closed, non-performing loan and bad debts written off and the depended variables were Earnings per Share, Dividends per Share, and Loans to customers, total assets and customer deposits. The study focused on bank's performance and the variables were all related to the bank, the study failed to consider how credit cards affect the customers. Bazmi, Nazir, Raza and Javed (2015) did a study on effect of automatic teller machine on the performance of banking sector of Pakistan. The study was carried out in Pakistan and hence cannot be generalized to other countries.

Research Gaps

Odhiambo (2012) did a research on credit cards and performance of commercial banks portfolio in Kenya and particularly Migori town. The study sought to determine the relationship between adoption of credit cards and credit card holder's satisfaction and to establish whether adoption of credit cards has improved commercial banks performance. The results showed that credit cards have contributed positively to satisfaction of credit card holders and adoption of credit cards improved commercial banks revenue. This study failed to show how debit/credit card affect the financial performance of savings and credit cooperative societies in Kenya, which is the gap this study seeks to fill.

Kyalo (2014), in her study on effect of credit card usage on financial performance of banks, she found that there was 0.612 coefficient of determination between credit card usage and performance of commercial banks in Kenya. This study was carried out in bank industry which is different from savings and credit cooperative societies, where the current study will be conducted. Odhiambo (2013) did a study on the effect of electronic banking on financial performance of commercial banks in Kenya. The study found that found that e-banking including credit and debit cards, and A.T.M cards has a strong effect on the profitability of commercial banks in Kenya. This study was carried out in bank industry which is different from savings and credit cooperative societies, where the current study will be conducted.

Though related to the topic of study, this was an umbrella coverage hence the need for specific study in relation to effect of plastic money transaction on the financial performance of savings and credit cooperative societies. It is in light of the above problems that this study attempts to underscore the important roles that plastic money transaction has played in boosting Sacco's financial performance in Kenya. This study sought to fill the existing research by conducting a study to establish the effect of plastic money transactions on the financial performance of savings and credit cooperative societies in Nairobi County.

Research Methodology

A research design is the plan for selecting the sources and types of information to be used to answer the research question. The study adopted a descriptive cross-sectional survey. According to Cooper and Schindler (2006), cross sectional studies are carried out once. Creswell and Clark (2003) suggest that a descriptive research design deals with the what, how and who of a phenomenon which is the concern for this study. This research design was the most appropriate since the objective of the study was to establish the effect of plastic money transactions on the financial performance of savings and credit cooperative societies in Nairobi County, Kenya. The unit of analysis was the Saccos within Nairobi County and the unit of observation was the employees of the Saccos. The study population was employees of 35 Saccos in Nairobi County at their head office in Nairobi. The study population composed of 486 selected members of staff in different managerial levels then working at different Saccos within Nairobi County.

Stratified random sampling technique was used to select the sample. From each stratum the study used simple random sampling to select 146 respondents; this was 30% of the entire population, According to Mugenda and Mugenda (1999), a representative sample is one that represents at least 10% of the population of interest. Random sampling frequently minimizes the sampling error in the population. This in turn increases the precision of any estimation methods used (Cooper and Schindler, 2003).

Table 1: Sample Size

Level	Frequency	Sample reference	Sample size
Top Management	35	30	11
Middle Level Management	169	30	51
Low Level Management	282	30	85
Total	**486**	**30**	**146**

Primary data is information gathered directly from respondents. The research used questionnaires. The questionnaire was used to collect mainly qualitative data. The qualitative data was collected from the open ended questions. Secondary data involved the collection and analysis of published material and information from other sources such as annual reports, published data. The study administered a questionnaire to each member of the target population. The questionnaire was designed and tested with a few members of the population for further improvements. This was done in order to enhance its validity and accuracy of data to be collected. A pilot test was conducted with 48 management staff to test the reliability and the validity of the data collection instrument (Kothari, 2004). The 48 members of staff in the pilot test were randomly selected. A pre-test sample of 10% of the sample size was used as advocated by Mugenda and Mugenda (2008). The questionnaire was tested with a selected sample which was similar to the actual sample. Subjects in the actual sample were not used in the pilot study. In this study a threshold of 0.70 was adopted to establish the reliability of the data collection instrument. Cooper and Schindler (2008) have indicated 0.7 to be an acceptable reliability coefficient.

Data was collected, tabulated and analyzed for purpose of clarity using the statistical program for social sciences (SPSS) software version 22. SPSS is software used for statistical analysis and has the ability to handle statistical presentation with array of formulae for easy interpretation. Analyzed data was presented using tables and charts. Descriptive statistics mostly frequency distribution tables will be used to capture the characteristics of the dependent and independent variables in the study. Inferential statistics that included multiple linear regression and bivariate correlation was used to analyze the relationship between the dependent variable and the independent variables. Correlation analysis is the statistical tool that can be used to determine the level of association of two variables (Levin & Rubin, 1998).

The study conducted a correlation analysis to establish the strength of the relationship between the independent and the dependent variable. Correlation value of 0 showed that there was no relationship between the dependent and the independent variables. On the other hand, a correlation of ±1.0 means there is a perfect positive or negative relationship (Hair *et al.*, 2010). The values were interpreted between 0 (no relationship) and 1.0 (perfect relationship). The relationship was considered weak when r = ±0.1 to ±0.29, while the relationship was considered medium when r = ±0.3 to ±0.49, and when r= ±0.5 and above, the relationship was considered strong.

Multiple regression Analsyis was done to establish the effect of plastic money transactions on the financial performance of savings and credit cooperative societies in Nairobi County, Kenya. Data was presented using tables, and pie charts to make them reader friendly. Data was presented in order to highlight the results. Multiple linear regression attempts to determine whether a group of variables together predict a given dependent variable (Cooper & Schindler, 2003). The multiple linear regressions equation was used in this model was:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Results and Discussion

These include the analysis of descriptive and inferential statistics. The study sampled 146 staff members in different managerial levels working at different Sacco's within Nairobi County. The researcher administered 146 questionnaires to the respondents, 140 questionnaires were filled and returned, and this formed 95.9% response rate. A response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent (Mugenda & Mugenda (2008). Hence in our case the response rate is excellent. This is as shown in Table 2

Table 2: Response Rate

Questionnaires	Frequency	Percent
Filled and Returned	140	95.9
Unreturned	6	4.1

Total	**146**	**100**

Reliability Analysis

This was conducted to determine the reliability of the questionnaire. The Cronbach's Alpha was used to test the reliability analysis. Gliem and Gliem (2003) established the Alpha value threshold at 0.7, thus forming a benchmark for the study. The findings were as shown in table 4.2.

Table 3: Reliability Analysis

Scale	Cronbach's Alpha
Mobile Money	0.799
Visa Card	0.789
Debit/Credit Card	0.811
ATM Card	0.821

Correlation Analysis

The correlation analysis is used to show the relationship between dependent and independent variables. The Pearson Moment Correlation analysis was used to established the relationship between mobile money, Visa Cards, debit/Credit card, ATM Card and performance of Saccos. The results were presented in Table 4.

The findings established that there was a strong positive correlation between mobile money and performance of Sacco's as shown by r = 0.751, statistically significant p = 0.000<0.01; there was also a positive correlation between Visa Cards and performance of Sacco's by r = 0.801, statistically significant P = 0.000; there was a positive correlation between debit/credit cards and performance of Sacco's as shown by r = 0.779, statistically significant P = 0.000; there was a positive correlation between ATM cards and performance of Sacco's as shown by r = 0.814, statistically significant P = 0.000. This implies that mobile money, Visa Cards, debit/credit cards, ATM card are related to performance.

Table 4: Correlations Analysis

		Performance	Mobile Money	Visa Card	Debit/Credit Card	ATM card
Performance	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	140				
Mobile Money	Pearson Correlation	.751**	1			
	Sig. (2-tailed)	.000				
	N	140	140			
Visa Card	Pearson Correlation	.801**	.411	1		
	Sig. (2-tailed)	.000	.061			
	N	140	140	140		
Debit/Credit Card	Pearson Correlation	.779**	.501	.489	1	
	Sig. (2-tailed)	.000	.043	.081		
	N	140	140	140	140	
ATM card	Pearson Correlation	.814**	.336	.454	.301	1
	Sig. (2-tailed)	.000	.069	.063	.195	
	N	140	140	140	140	140

**. Correlation is significant at the 0.01 level (2-tailed).

Regression Analsyis

Model Summary

Model summary analyzes the variations of dependent variable due to the changes of independent variables. The study analyzed the variations of performance due to changes of mobile money, visa card, debit/credit card and ATM cards. Adjusted R squared was 0.601, this is an implication that there was 60.1% postive increase in performance of saccos as a result of changes in mobile money, visa card, debit/credit credit and ATM cards . Other factors whic influence performance of saccos are represented by 39.9%.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.802	0.643	0.601	0.00321

Analsyis of Variance

The analysis of variance ANOVA is used to determine the significance of data used in the study. The processed data had a significance level of 0.002 which shows that the data is ideal for making a conclusion on the population's parameter as the value of significance (p-value) is less than 5%. The significance value (0.002) was less than 0.05, an indication that the model was statistically significant. This shows that model had goodness of fit and that mobile money, visa card, debit/credit credit and ATM cards signficnatly influnece the performance of Saccos.

Table 5: Analysis of variance

Model		Sum of Squares	DF	Mean Square	F	Sig.
1	Regression	14.413	4	3.603	67.449	0.002
	Residual	7.212	135	0.053		
	Total	21.625	139			

Coefficients

Regression analysis was used to model, examine, and explore the relationships financial performance of savings and credit cooperative societies and mobile money, visa card, debit/credit card and ATM card, this was important in measuring the extent to which changes in one or more variables jointly affected changes in another variable. Based on the analysis, the regression equation for the independent variable on the dependent variable the regression equation was; The regression equation was

$Y = 0.919 + 0.411 X_1 + 0.856 X_2 + 0.514X_3 + 0.745X_4$

From the above regression equation, it was revealed that holding mobile money, visa card, debit/credit card and ATM card constant, financial performance of savings and credit cooperative societies would stand at 0.919. From the findings in Table 6;

Mobile Money and Performance of Sacco's

Mobile money is statistically significant to performance of Savings and Credit Cooperative Organizations as shown by ($\beta = 0.411$, $P = 0.012$). This implies that mobile money had a positive relationship with performance of Savings and Credit Cooperative Organizations. Therefore, a unit increase in mobile money will lead to 0.411 increases in performance of Savings and Credit Cooperative Organizations.

Visa Card and Performance of Sacco's

The findings revealed that visa card is statistically significant to performance of Savings and Credit Cooperative Organizations as shown by ($\beta = 0.856$, $P = 0.004$). This indicates that visa card had a positive relationship with performance of Savings and Credit Cooperative Organizations. These results indicate that a unit increase in visa card will lead to 0.856 increases in performance of Savings and Credit Cooperative Organizations.

Debit/Credit Card and Performance of Sacco's.

The findings also revealed that Debit/Credit Card is statistically significant to performance of Savings and Credit Cooperative Organizations as shown by ($\beta = 0.514$, $P = 0.000$). This implies

that Debit/Credit Card had a positive relationship with to performance of Savings and Credit Cooperative Organizations. Therefore, a unit increase in Debit/Credit Card will result to 0.514 increases in performance of Savings and Credit Cooperative Organizations.

ATM card and Performance of Sacco's

Finally the findings revealed ATM card was statistically significant to performance of Savings and Credit Cooperative Organizations as shown by (β = 0.745, P = 0.000). This implied that ATM card had a positive relationship with performance of Savings and Credit Cooperative Organizations. This shows that a unit increase in ATM cards will result to 0.745 increase in performance of Savings and Credit Cooperative Organizations.

Table 6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.919	0.146		0.134	0.019
	Mobile Money	0.411	0.112	0.146	3.670	0.012
	Visa Card	0.856	0.153	0.198	5.595	0.004
	Debit/Credit Card	0.514	0.079	0.232	6.506	0.000
	ATM card	0.745	0.095	0.298	7.842	0.000

Conclusions

The study found that mobile money was statistically significant to performance of Sacco's. This implied that a unit increase in mobile money will lead to increase in performance of Sacco's. The study therefore concludes that mobile money is positively related to performance of Sacco's. The study revealed that visa card was statistically significant to performance of Sacco's. This indicates that visa card had a positive relationship with performance of Sacco's. Therefore, a unit increase in visa card will lead to an increase in performance of Sacco's. The study concludes that visa card is positively related to performance of Sacco's.

The study also revealed that Debit/Credit Card was statistically significant to performance of Sacco's. This implies that Debit/Credit Card had a positive relationship with to performance of Sacco'. Therefore, a unit increase in Debit/Credit Card will result to increase in performance of Sacco's. The study concludes that Debit/Credit Card is positively related to performance of Sacco Finally the study revealed ATM card was statistically significant to performance of Sacco's. This implied that ATM card had a positive relationship with performance of Sacco's and that a unit increase in ATM cards will result to increase in performance of Sacco's. The study concludes that ATM card is positively related to performance of Sacco's.

Recommendations

The study recommends that the management of Sacco's should encourage their customers to use mobile money because it is very convenient and the customers are able to access the services for 24 hours. The management should encourage the use of mobile money by educating the employees on how to use it hence, this will increase the number of users and therefore the performance of the organization will also increase. The study recommends that the management should communicate the importance of visa cards to customers, so that to increase the number of users of visa cards. The customers should be told that the visa cards are secure and that they can be used all over the world to access finances, in this way more customers will be encouraged to use visa cards. This will therefore improve organization performance.

The management should also encourage customers to use debit/credit card. This will help the to purchase items with the credit card instead of carrying cash which is very risky. The organizations which have not introduced the debit/and credit card should introduce so that they can compete with other organizations. This will indeed improve organization performance. The management should encourage their customers to use ATM cards since they can be used to access many banking services, and they can also be used at the convenience of the customers since the services are available for 24 hours. This will help to improve organization performance.

Suggestions for Further Research

The study suggests that other studies should be conducted to establish the effect of plastic money transactions on the financial performance of savings and credit cooperative societies, so that to determine other factors which will cover 39.9% that affect the financial performance of savings and credit cooperative societies which the study did not cover.

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