

Factors Promoting and Hindering the Use of Electronic Payment among Kenyans: A Survey of Supermarkets in Thika Town

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ABSTRACT: *The purpose of this study is to access the uses of credit or debit card payment systems and see why they have different strengths and weaknesses with respect to their requirements: security, acceptability, ease of use, transaction cost, additional cost (e.g. point of sale hardware), privacy or traceability, durability and immediate control. Nevertheless, there have been doubts regarding the safety and authenticity of electronic payments. In newspapers, we regularly read reports on e-payments fraud, security threats and electronic thefts. The public acceptance of the new system of payment in Kenya has been slow. Old habits die-hard and, accordingly, some segments of our society are reluctant to give up paper for electronic systems. Hence, Kenya per capita is still low, standing at only \$281, and the lowest in the region. This makes the cost of transactions through banks too high. The demand for holding deposits with banks and making payment transactions through banks is very low. Most of the Kenya populace tends to prefer to use cash in payment transactions rather than non-cash instruments.*

Key Words: *Electronic payment, wire transfers, cash deliverables, currency, cost of transactions, . traceability, durability and immediate control.*

I. INTRODUCTION

Electronic payment first emerged with the development of wire transfers. Early wire transfer services such as Western Union enabled an individual to deliver currency to a clerk at one location, who then instructed a clerk at another location to disburse funds to a party at that second location who was able to identify himself as the intended recipient. Cash was delivered to customer only after identity was established. In this scenario, there was no banking environment; Western Union was a telegraph company. Assurance of payment relied on the financial stability of the firm. Security was provided to the extent that Western Union was a privately controlled transmission facility used to send messages about funds transfer; its lines were not shared with the public and transactions were private. Authentication was provided only by a signature at the other end of the transmission that verified that the intended party had indeed received the funds (Kalakota and Whinston, 1997).

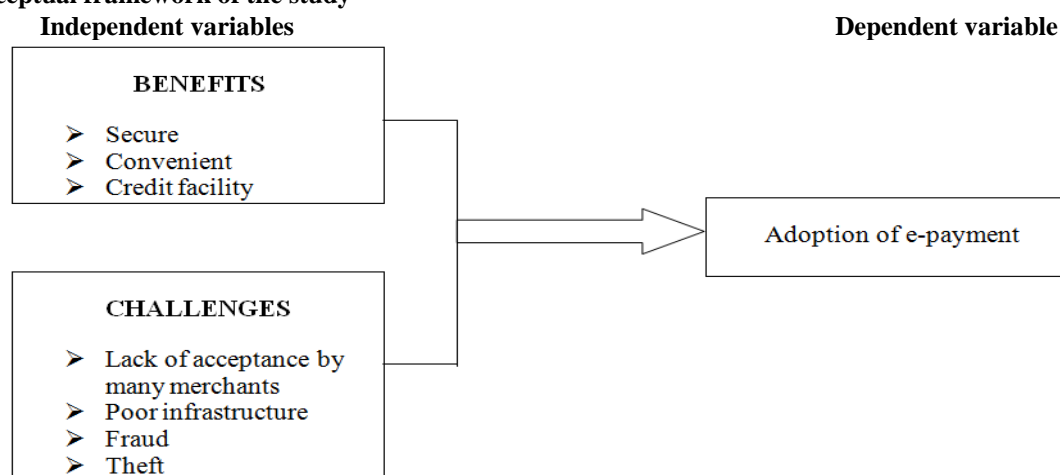
With the increase in technological advancements, e-commerce has taken its position in the current world. E-commerce is the use of the internet and the web to transact business. More formally, it focuses on digital enabled commercial transactions between and among organizations and individuals. Digitally enabled transactions include all transactions mediated by digital technology meaning that transactions involve the exchange of value e.g. money, across organizational or individual boundaries in return for products and services assisted by technology.

E-commerce possess some unique issues for merchants who want to reliably and efficiently collect revenue from customers and for customers who would like a reliable trustworthy way to pay for goods and services online. E-commerce has also created the potential for new forms of payment systems. Electronic payment was enhanced by e-commerce. Electronic payment is proliferating in banking, retail, health care, on-line markets and even government in fact, anywhere money needs to change hands. Electronic payments on and off the web are growing by 75billion dollars a year (Kalakota and Whinston, 1997).

II. LITERATURE REVIEW

2.1 Conceptual Framework

Conceptual framework of the study



The adoption of e-payment by the supermarket clients is determined by the benefits and the challenges that clients face as a result of using e-payment instruments instead of the other modes of payments available. On one hand, for the supermarket clients to adapt to the usage of e-payment instruments available in the supermarkets they must have something that will motivate them to do so. Some of the factors motivating them are the benefits of e-payment instruments over other modes of payments. For instance, e-payment involves use of plastic money which is easy to carry around compared to money especially when one has to carry a large sum of money which is bulky. This makes use of e-payment convenient as well as secure for no one can realize that one is carrying an e-payment instrument. On the other hand, they can be demotivated from using the e-payment instruments due to the challenges associated with the use of e-payment instruments compared to those of other payment modes. For instance, fraud of the e-payment instruments is frequently reported but unfortunately there is no clear legal structure dealing with fraud in e-payment and this can put off potential users of e-payment instruments.

2.2 An overview of electronic commerce

The cutting edge for business today is electronic commerce (e-commerce). It is growing at an incredible pace. Many organizations and individuals are looking to the web as the future, definitive source for information, goods, services and communication. As the amount of business transacted over the web grows, the value of goods, services and information exchanged over the internet seems to double or triple each year. Often organizations – small and large, nonprofit and for-profit, privately and publicly held – are being pushed to the web by both customers and competitors. All indications are that e-commerce will continue to grow and hence, so many organizations may find themselves either having to go online or go out of business (Trepper, 2000).

Broadly defined, electronic commerce is a modern business methodology that addresses the needs of organizations, merchants and consumers to cut costs while improving the quality of goods and services and increasing the speed of service delivery. The term also implies to the use of computer networks to search and retrieve information in support of human and corporate decision making (Kalakota and Whinston, 1996). E-commerce has created the potential for new forms of payment systems. E-payment came up as a result of e-commerce. They are proliferating in banking, retail, health care, on-line markets and even the government in fact, anywhere money needs to change hands (Kalakota and Whinston, 1996). E-payments on and off the web are growing by 75 billion dollars a year (Jaspford and Beckett, 2001). Research into e-payment systems for customers can be traced back to the 1940s, and the first application of credit cards appeared soon after. To avoid the complexity associated with digital cash and electronic check, consumers and vendors are also looking at credit card payment on the internet and telecommunication lines as one possible time-tested alternative (Kalakota *et al*, 1996).

2.3 An overview of electronic payment

Electronic commerce would never have developed without electronic payment systems and infrastructure. These systems transfer electronic currency, incurring less transaction costs than traditional forms of currency payments. Forms of electronic payment range from credit and debit cards, direct account transfers, to online value-added services such as PayPal and b-Pay (Ecommerce Security Issues, 2008).

Electronic payment (e-payment) is an integral part of electronic commerce. Clearly, payment is an integral part of the mercantile process and prompt payment (or account settlement) is crucial. If the claims and debits of the various participants – individuals, companies, banks and nonbanks – are not balanced because of payment delay or, even worse default, then the entire business chain is disrupted. Hence an important aspect of e-commerce is prompt and secure payment, clearing and settlement of credit or debit claims (Kalakota and Whinston, 1996).

E-payment is a financial exchange that takes place online between buyers and sellers. The content of this exchange is usually some form of digital financial instrument (such as encrypted credit card or debit card numbers, electronic checks, or digital cash) that is backed by a bank or an intermediary, or by legal tender. Three factors are stimulating interest among financial institutions in e-payment: decreasing technology cost, reduced operational and processing costs and increasing online commerce. The desire to reduce costs is the major reason for the increase in e-payments. Cash and checks are very expensive to process and banks are seeking less costly alternatives.

E-payment first emerged with the development of wire transfers. Early wire transfer services such as Western Union enabled an individual to deliver currency to a clerk at one location, who then instructed a clerk at another location to disburse funds to a party at the second location who was able to identify himself as the intended recipient. Cash was delivered to the customer only after identity was established. In the scenario, there was no banking environment; Western Union was a telegraph company (Kalakota and Whinston, 1997).

Research into e-payment systems for consumers can be traced back to the 1940s and the first applications – credit cards – appeared soon after. In the early 1970s, the emerging e-payment technology was labeled electronic funds transfer (EFT). EFT is defined as “any transfer of funds initiated through an electronic terminal, telephonic instrument, or computer or magnetic tape so as to order, instruct or authorize a financial institution to debit or credit an account”. EFT utilizes computer and telecommunication components both to supply and to transfer money or financial assets. Thus EFT stands in marked contrast to conventional money and payment models that rely on physical delivery of cash or checks (or other paper orders to pay).

2.4 Electronic payment and the economy

According to the research that Visa International has commissioned, there is a very clear relationship between the use of electronic payment systems and the growth of the economy. The Nation of August 18, 2006 reported that Mr Clark the Visa international’s vice president and general manager for sub-Saharan Africa told reporters at Nairobi Serena Hotel, “It is estimated that increasing the existing share of electronic payments by 10 per cent will generate an increase of 0.5 per cent in consumer spending and up to 0.5 per cent GDP (Gross Domestic Product),” he said. Cards bring more people to the formal banking system to pool their savings for onward lending to other sectors of the economy. He said almost two thirds of the world's population has no access to banks - about four billion people who use cash in transactions”.

Visa's member banks in Kenya have issued more than a million debit and credit cards through their efforts to win more customers. For the year ending June 2005 there were 828,937 Visa cards in the country, which generated Sh8 billion in expenditure. For the year ended June 2006 the number of cards rose 39 per cent to 1.1 million creating expenditure amounting to Sh1.1 billion.

However, although the number of debit cards has risen 43 per cent during the period to one million cards, the number credit cards dropped two per cent to 66,105 cards. Mr Clark attributed the increasing demand for debit cards to the growing preference to buy now and pay now rather than buy now and pay later.

Consumers with debit cards tend to spend more because their funds are more accessible while consumers with credit cards spend more because credit cards make it possible for people to buy things throughout the month and then pay for them with a single transaction at the end of the month. This makes it possible for people to conduct their regular business affairs with less money than would otherwise be needed. Thus, the widespread use of credit cards will tend to reduce average quantity of money people hold (Gwartney *et al*, [n.d.]

In addition, electronic payment is also valuable to the economy because of the following reasons analyzed in point form from a number of authors.

1. E-payment creates new opportunities for environmental and social sustainability. As once said, the defining characteristic of new economy is not technology but innovation (Wilsdon, 2001); therefore, e-payment has helped creative minds to develop entirely new ways to deal with the traditional payment systems.

Combining new technologies with social and institutional innovation means a radical rethinking of the way companies and governments are to deal with payments and wider responsibilities.

2. The use of e-payment refreshes the parts that other payment systems revolutions have not reached, by spread of its benefits to all regions and all sectors of society. This is because e-payment transactions are mediated by digital technology and thus the digital economy takes off. Increased emphasis is being placed on the need to bridge the digital divide by ensuring that the benefits of the internet are available to all, regardless of location, age, language, disability or income. As a result of this, the e-payment can be a vehicle for revitalizing marginalized areas and communities if the institutions concerned can find ways to spread the use of e-payment and hence their benefits around (Wilsdon, 2001).
3. An on-line relationship, supported by the use of e-payment adds a valuable extra dimension to real world interaction. Despite fears that the internet and e-payment will contribute to the erosion of social relationships and undermine local communities, research has found that the trend is in the opposite direction, towards the creation of online relationships as an additional to, not a substitute for, existing social networks. More commonly, though, it strengthens existing patterns of social interaction, or enables people with shared interests to exchange ideas and coordinate activity. Even if the initial contract with an individual or organization is electronic, it usually turns into face-to-face relationship (Wilsdon, 2001).
4. E-payment changes the relationships between companies and their stakeholders and users in a new era of corporate transparency and accountability. By the fact that e-payment can be used to transact business online, this changes the balance of power between companies and consumers. The most obvious benefit of this is cheaper products and services, as consumers learn to compare prices at the click of a mouse. As use of e-payment become more sophisticated, purchases –whether in business-to-customer (B2C) or business-to-business (B2B) transactions- are likely to want assurance on a wide range of issues, including the social and environmental credentials of products and services. Companies will have to capitalize on their reputation to offer that assurance (Kalakota *et al*, 1997).
5. E-payment has benefits also to government in various ways as listed by the Government Finance Officers Associations, (1998).

2.5 Prerequisites of efficient use of credit cards

As noticed by Visa International, the international banking card merchant in the Saturday Nation of February 24th, 2007, increased access by Kenyans to formal banking can boost economic growth through increased efficiency in transaction settlement, “Social advancement in Kenya hinges on the emergence of small and medium enterprises, and the promotion of business,” noted Mr. Rob Clark, Visa International’s vice president and general manager of sub-Saharan Africa. Therefore in order to increase the users of credit and debit cards, the company believes effort can help bring more people into the formal banking system. “Bringing an increased number of people into the formal banking system through the provision of banking services gets this wheel of economic activity rolling, driving the engine of growth through consumption.” Currently, over 38 percent of the 17.4 billion people bankable population does not have bank accounts. The rate, the company notes, could even be more enhanced by switching to debit and credit cards instead of cash as a means of payment.

Therefore, the credit and debit card firm uses theatre to convince more Kenyans to use plastic money for their shopping, through the Visa Financial Literacy Campaign in Kenya. The campaign is meant to help consumers learn how to handle their finances and understand the benefits and responsibilities of banking. The education will convey key information, such as how to get access to financial services, keep PIN numbers safe and pay at the point-of-sale, using the card instead of cash, and importance of budgeting and saving. The teaching will be carried out through theatre production; a means that the company says has been identified as the most appropriate and effective way to communicate. All-in-all the communication is aimed at taking financial literacy education to as great a number of Kenyans as possible.

“We believe that an efficient payment infrastructure is a prerequisite for economic development and social reform, not a consequence,” quoted Mr. Clark. Safe credit and debit card based commerce will not be possible until security standards are in place. Security standards ensure the negotiation of payment schemes and protocols, and the safe transport of payment instructions. Microsoft/VISA and Netscape/Verifone contend that they can vastly simplify the payment process by developing software for both banks and merchants. The bank software would allow banks to use their existing computer systems to verify and process encrypted credit and debit cards coming from the online world. The merchant software would allow merchants to by one single package integrated with a Web server that serves as a storefront and payment system. The customer can simply continue to use his/her current browser to interact with the electronic storefront (Kalakota and Whinston, 1996).

Secure Electronic Transactions (SET) is a protocol for encrypted credit and debit card payment transfer which is also necessary for credit and debit card transactions to take place smoothly. Encryption is instantiated when credit and debit card information is entered into a browser or other electronic commerce device and sent securely over the net-work from buyer to seller as an encrypted message. Announced in February, 1996, by Visa International and MasterCard, SET establishes a single technical standard for protecting payment, card purchases made over the internet and other open networks. Participants in the SET consortium include Microsoft, Netscape, GTM, IBM, SAIC, Terisa Systems, and Verisign. SET is based on public-key encryption and authentication technology from RSA Data Security. The objectives of payment security are to: provide authentication of cardholders, merchants and acquirers; provide confidentiality of payment data; preserve the integrity of payment data; and define the algorithms and protocols necessary for these security services (Kalakota and Whinston, 1996).

2.6. Consumers' Advantages and Disadvantages of Using Credit Cards

Credit card holders will only use these cards if they are attracted by what they gain from them, which are the advantages and would be discouraged to use the cards if they felt that they will not gain much from the credit cards, which are the disadvantages. Advantages and disadvantages constitute respectively factors promoting and hindering the use of credit cards.

2.6.1 Advantages of using credit cards.

1. **Convenience:** This is the most obvious strength of credit cards. Having a credit card in your wallet means no more running to the bank for cash, counting out change, or hurriedly scribbling in a check box when you need to make a purchase. In addition to enabling the purchase of items now, it also allows a person to carry less cash and to order out of catalogs.
2. **Emergency protection:** Situations arise when extra money is needed fast. Credit cards allow for emergency car repairs, health care or any number of contingencies when access to saving or checking accounts is not possible.
3. **Budgeting:** Buying on credit allows for predictable payment of large-ticket items in installments you can afford. Your credit card can help you budget expenses each month, provided you pay your bill in full every time.
4. **Security:** Making a purchase with your credit card gives you a degree of theft protection. While everyone hopes it will never happen, be sure to let your credit card issuer know if your credit card is stolen. Most credit card companies will work very hard to resolve theft issues, as fraud is one of the industry's biggest concerns. A new card can generally be sent to you within a matter of days and you will only be responsible for paying back the first \$50 of the thief's total spending, which could save you a lot of cash if the crook has expensive tastes (you may not even have to pay that amount if you ask nicely).
5. **Traveling:** No matter whether you are traveling across town or across the country, it is usually easier with a credit card. Most hotels and rental car companies will not take a reservation without a credit card.
6. **Financial risk:** Credit cards have advantages over checks in that the credit card company assumes a larger share of financial risk for both buyer and seller in a transaction.
7. **Record keeping:** Credit cards keep automatic records. An automatic record is an after-the-fact transcription of what happened, created without any explicit effort by the transaction parties. Automatic records are: available for permanent storage; accessible and traceable; held within a payment system database; and capable of providing data to the payment maker, the bank, or monetary authorities. This is one of the features consumers value because of disputes and mistakes in billing.
8. **Reference:** The use of credit card is directly connected to your credit card, the report card for borrowers. The responsible way you handle your credit card is recorded in your credit history for lenders to review. Your high score in that credit report shows creditworthy you are deemed by other lenders and that you pay your bills on time and spend conservatively. Conversely, irresponsible use of a credit card will produce low credit scores which can result in either being denied for future credit or paying much higher interest rates.

2.6.2 Disadvantages of credit cards.

The disadvantages are compiled from different authors such as Kalakota and Whinston (1996), Trepper, (2000), Laudon *et al*, (2002) and White (1996), and are summarized in point form.

1. **Risk management:** One of the perennial problems of credit card payment system is the inadvertent shifting of credit and liquidity risk through "timing gaps" in the exchange of assets. Such gaps create float (interest-free loans) and lead to credit and liquidity risk. Two major risks in the operation of credit card payment system are: fraud and credit risk, each of which requires attention. Dealing with fraud requires

improvements in the security framework. Curtailing credit risk requires devising procedures to constrict or moderate credit and reduce float.

2. **Security:** Recently, as technology advances, fraudsters have also become high tech by being able to manipulate information on credit cards and effect an instant transaction without the knowledge of the owner. However, to curb such instances of theft, and apparently make use of the plastic money more secure, banks, including credit card issuance companies are investing huge sums of money to enhance the security of credit cards.
3. **Overspending/impulse buying:** While a credit card makes it easy to buy something now and pay for it later, one can lose track of how much one has spent by the time the bill arrives if one is not careful.

III. Research Design

This study was based on a survey design type of research. Wiley *et al*, (2004), defines survey as a technique where data are collected from the members of a portion of the population with no particular control over the factors that may affect the characteristics of interest or the results of the survey. The research findings were recorded exactly as given by the respondents. It was a quantitative research which was descriptive in nature. According to Kothari (2004), quantitative research is based on the measurement of quantity or amount. Therefore, the research investigated on factors promoting and hindering the use of e-payment among Kenyans.

Gay (1983), defines descriptive research as the process of collecting data in order to test hypothesis or to answer questions concerning the current status of the subject in the survey. Mugenda and Mugenda (2003), adds that the purpose of this type of research is to determine and report the way things are. The researcher carried out a descriptive analysis of the data collected to determine the current status of use of e-payment and the identification of the key drivers behind e-payment so as to deepen understanding and explanation of them as instruments of e-payment. The researcher carried out the survey in the three major supermarkets accepting the use of e-payment as a mode of payment in Thika town. These supermarkets were; Tuskys, Mathai and Leens.

IV. Results and Findings

4.3 Factors promoting the use of e-payment among supermarket clients. This comprises of the acquaintances influencing supermarket clients towards the use of e-payment, the transactions carried out using e-payment i.e. the uses of e-payment and the advantages of e-payment among supermarket clients.

4.3.1 Acquaintances

According to the survey undertaken, friends emerged to have influenced majority of the e-payment users and accounted for 31.8% of the responses from the e-payment users. This is mostly done during their leisure time e.g. week-ends and during vocations when discussing on their life style. Friends have great impact on one another because in most cases they may be belonging to the same social status in the society. To test this more analysis was undertaken using cross tabulation of acquaintances against their main motivation factors towards using e-payment. The e-payment card marketers emerged as the second group of people that influence e-payment users during e-payment promotion days, on the streets, supermarkets, shopping malls etc. Work colleagues emerged as the third group of people who influence others to use e-payment. They accounted for 14.6% of the all the responses. However, it was amazing as well as a surprising adventure to find out that, although radio, television and magazines are among the main means of media communication, they only accounted for 2.5%, 1.9% and 2.5% respectively of all the responses.

4.3.2 Uses of e-payment

According to the survey carried out, there were three major transactions identified as the most important transactions where e-payment is mostly used. The first transaction mentioned as the first most important transaction was shopping which accounted for 51.6% of all the responses.

The second transaction mentioned as the second most important transaction was cash withdrawal and accounted for 29.9% of all the responses. This involves withdrawing cash using the e-payment instrument at the point of payment in the supermarket. Clients with debit cards as their e-payment instrument enjoy this facility for free while those using credit cards as their e-payment instruments are charged a higher interest on such a transaction but this does not hinder them from withdrawing cash in times of emergency.

The third transaction mentioned as the third most important transaction was fueling of the motor vehicles. This got 36.9% response from the supermarket clients. In the current world especially in Kenya, most of the petrol filling stations accept e-payment and also there are quite a number of people who own motor

vehicles and mostly use them for transport instead of public transport means, thus having to fueling the frequently.

4.3.3 Advantages of using e-payment among supermarket clients

It is worth noting that advantages are also factors that promote the use of e-payment among supermarket clients. This is because; people tend to go for things that are of great advantage to them. Thus, these advantages influence people to use e-payment as a mode of payment instead of cash payment while carrying out their transactions in the supermarkets.

According to the survey carried out, there were three most important advantages that were identified from both the supermarket clients and the supermarket managers in the order of their importance. The first most important advantage of using e-payment is convenience which accounted for 54.1% of all the responses. This comprises of the fact that one can carry large sum of money only in the form of a small and very light card. The second most important advantage of using e-payment is security which accounted for 52.2% of all the responses. This comprises of the fact that one does not have to carry cash along with him/her when making payments and also the e-payment instruments are small and light such that no one can notice that the clients have them as opposed to large sum of cash money which is bulky and noticeable thus exposing the clients to the risk of theft.

The third most important advantage of using e-payment in the supermarket is that the instruments provide a credit facility and accounted for 49.7% of all the responses.

4.3.4 Factors hindering the use of e-payment among supermarket clients

This comprises of the risks of using e-payment among supermarket clients, reasons leading to low usage of e-payment in supermarkets and the challenges of using e-payment in the supermarkets.

4.3.5 Risks of using e-payment among supermarket clients

It is worth noting that the risks of using e-payment in the supermarkets are also factors hindering the use of e-payment by most of the supermarket clients'. This is because people do not tend to envy things that they are likely to be worse off, thus risks hinder people from using e-payment as a mode of payment in the supermarkets.

According to the survey carried out the risks were mentioned in order of how crucial they are to the supermarket clients using e-payment as a mode of payment. The mostly mentioned risk as the first crucial risk was overspending and accounted for 54.8% of all the. Overspending occurs as a result of impulse buying because of the availability of means of payment which does not involve cash whenever a transaction is made.

The second risk mentioned mostly as the second most crucial risk was high charges and accounted for 32.5% of all the responses. These are charges charged by the issuing institutions and are incurred mostly when clients with credit cards as their e-payment instruments withdraw cash from the supermarket cashier, misuse of the e-payment instrument and due to late payment.

The third risk mentioned mostly as the third most crucial risk was fraud and accounted for 52.2% of all the responses. This is as a result of the advancement of technology by the fraudsters and therefore, they have become high tech to be able to manipulate the information on the e-payment instruments.

4.3.6 Reasons leading to low usage of e-payment in supermarkets

According to the research undertaken, there are various reasons leading to the low usage of e-payment in supermarket. First, the reasons why most of the supermarket clients do not use e-payment as a mode of payment on a macro view were divided into three categories: education related factors; socio-economic factors; and institution related factors.

The education related factors are those factors that are caused due to inadequate information and knowledge of the supermarket clients on issues related to e-payment. This may include issues like: an overview of what is e-payment; proper usage of e-payment instruments; consequences of bad usage of e-payment instruments; actions to take in case the e-payment instrument is stolen; and the actions to take in case of fraud etc. This was the factor commonly mentioned as the first reason why most supermarket clients do not use e-payment and accounted for 61.1% of all the responses.

E-payment instruments. From the findings of the survey there were several factors that are institution related on the macroeconomic view and were commonly mentioned as the second reason why most supermarket clients do not use e-payment. These factors were lack of acceptance by most merchants due to centralization of the PDQ machines only in the urban supermarkets and accounted for 36.9% of all the responses from the supermarket clients. This is a clear indications the issuing institutions have not recruited many merchants

especially in the rural areas to accept e-payment instruments as a mode of payment. Hence, the potential e-payment users' in the society as well as the public probably fear that they will acquire e-payment instruments but will end up using cash in most of their business transactions because of lack of acceptance by most merchants.

Socioeconomic factors are factors in the society that directly or indirectly affect the economic at large and thus the usage of e-payment. On the macroeconomic view socioeconomic factors were commonly mentioned as the third reason why most supermarket clients do not use e-payment as a mode of payment. Non-credit worth of clients due to poverty in the society as well as the public as a whole was commonly mentioned under the third reason and accounted for 43.9% of all the. This comprises of those people without bank accounts because of lack of regular income and also due to the high level of poverty in Kenya mostly because of low income of the population majority resulting to the usage trend of their income been hand-to-mouth.

Although the supermarket clients using e-payment as a mode of payment face some challenges when carrying out their transactions in the supermarkets, the supermarket managements are taking some measures to overcome some of these challenges. According to the survey carried out through the use of interview schedules on the management staffs of the supermarkets, poor infrastructure was the first challenge to be mentioned in all the three supermarkets. In order to overcome the challenge, the managements are taking measures of working on increasing their efficiency of switch boards and updating the systems whenever there is need to do so.

The second mentioned challenge was fraud and the managements are taking measures to overcome it by training their staffs on security features of the e-payment instruments as well as request for identification documents before swapping the instrument on the PDQ machines. In cases of suspicion or transactions of items beyond KShs.5,000, the supermarket cashier calls that particular card centre which issued the e-payment instrument and uses codes in their conversation only understandable to them. In some cases the card centre notifies the cashier that the cardholder is not the genuine owner and goes further to call the nearest police station to that particular supermarket in order for the arrest of such a client.

V. Conclusions And Recommendations

5.1 Conclusions

From the findings and conclusions drawn from the research, it is recommended that e-payment instruments issuing institutions rethink on how to create advertisements probably that show friendship to aid in recruitment of more e-payment users'. It is also required that these advertisements attract the attention of all the age groups but particularly the ages between 36 to 45 years.

Education to the e-payment users' as well as to the public on the proper use of the e-payment instruments, their benefits, actions to take in case of fraud and theft etc should be the most important strategy aimed at promoting the use of e-payment to both the users and the potential users of the public.

5.2 Recommendations

It is also recommended that the e-payment instruments issuing institutions improve on their infrastructure as well as the software especially in cases of skimming of the instruments. This will also involve updating of their technology so as to be able to cope with the rapid advancement in technology in the entire world. It is also recommended that the e-payment instruments issuing institutions improve on the identification of the instrument holders at the point of payment. For instance, it was highly recommended by the supermarket managements that the institutions should go the CHIP and PIN way or introduce the use of finger prints for identification.

There is need to carry out research on a larger population using a random sampling technique because the study used a non-random sampling technique to identify the sample size which was also small. The research can be well handled by a researcher with an access to the e-payment instruments issuing institutions documents of people with e-payment instruments so as to select them randomly and a larger sample size.

There is need for research to identify other general factors promoting the use of e-payment among supermarket clients' for instance, gender because the study only identified the level of education and age. The research can be forecasted on whether gender bias on the adoption and use of e-payment in the supermarkets.

References

- [1]. Alan, L. and Gail, L. (1994). *Improving your credit and reducing your debt*. New York, NY: John Wiley & Sons, Inc.
- [2]. Beardshaw, J., Brewster, D., Cormark, P.. and Ross, A. (2001). *A Student's Guide*. 5th Edition, Gosport, GB: Ashford Colour Press Ltd, David, K., D., Viehland., E., T. and Jae, L. (2004). *Electronic Commerce A Managerial Perspective*. U.S.A: Pearson Education Inc.
- [3]. David, K., E., and Michael, C. (2000). *Electronic Commerce: A Managerial Perspective*. U.S.A: Prentice-Hall, Inc.

- [4]. David, N. *et al.* (2005). *The Rapid Rise of Supermarkets in Kenya: Impact on the Fresh Fruit and Vegetables Supply System*. Paper presented to the Journal of International and Agribusiness Marketing: U.S.A.
- [5]. Gay, L.R. (1992). *Educational Research: Competence for Analysis and applications*. 4th Edition, New York, NY: Macmillan Publishers.
- [6]. Gwartney, D. *et al* ([n.d]). *Private and Public Choice*. 10th Edition, St. Louis, MO: Von Hoffmann Press India: Pearson Education (Singapore) Pte Ltd, Indian Branch, 482 F.I.E Patparganj, Delhi 110092, India.
- [7]. Kalakota, R.. and Whinston, A. (1996). *Frontiers of Electronic Commerce*. New Delhi, IN: pearson
- [8]. Kalakota, R. and Whinston, A. (1997). *Electronic Commerce: A Managers Guide*. New Delhi,IN: Pearson Education India.
- [9]. Kothari, C. R. (2004). *Research Methodology Methods and Techniques*. 2nd Edition, New Delhi, IN: New Age International (P) Ltd
- [10]. Laudon, K.. and Traver, C. (2002). *E-Commerce business technology society*. New Delhi, IN: Pearson Education, Inc.
- [11]. Mugenda, O. M. and Mugenda, A.G. (2003). *Research methods: Quantative and Qualitative Approaches*. Nairobi, KE: Acts Press.
- [12]. Prem, S. M. (2004). *Introductory Statistics*. Fifth Edition, United Sates of America: John Wiley & Sons, Inc.
- [13]. Republic of Kenya. (2003). *Payment Systems in Kenya*. Report of Central Bank of Kenya.
- [14]. Nairobi, KE: Kenya Press Trepper, C. (2000). *E-Commerce Stratégies*. Washington, DC: Microsoft Press.
- [15]. White L.H. (1996). *“The technology revolution and monetary evolution”*: *The future of money in the information age*. Cato Institute’s 14th Annual Monetary Conference, Washington, D.C.
- [16]. Wilsdon, J. (2001). *Digital Futures: Living in a networked world*. London, U.K: Earthscan publication ltd.
- [17]. Ecommerce Security Issues (2008). *Ecommerce Digest*. Available <http://www.ecommerce-digest.com/ecommerce-security-issues.html>. Last accessed PayPal (2008). *Online Payment, Merchant Account – PayPal*. Available <https://www.paypal.com/>.