

STRATEGIES USED BY MPESA AGENTS AND THEIR EFFECTIVENESS IN DETERRENCE OF COUNTERFEIT BANK NOTES FRAUD IN NAIROBI CITY COUNTY

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ABSTRACT

M-pesa is a mobile money transfer and agent banking system that has become popular over the years due to its easy and cheap access to financial services, especially to the middle and lower classes of the society. However, this type of service has lately been threatened by many cases of counterfeits in Bank notes and fraudulent transactions which ultimately challenges the effectiveness of the strategies used to deter counterfeits. The study employed descriptive survey design and targeted population was M-pesa agents, police officers, Safaricom, and the Banking Anti-fraud unit in Nairobi City County. Using both Purposive and Simple Random sampling techniques the sample size of 109 was drawn. To collect data for the study, both qualitative and quantitative methods were used. Descriptive Analysis was used to analyze the data. The study revealed that there were fraud-related challenges deterring M-pesa agents in countering fake bank notes in their operation, the prevalence of these challenges in the deterrence of counterfeit notes was found to be very high in Mpesa agent operation. Lack of skills and detection Kits were the main challenges facing Mpesa agents in the deterrence of counterfeit banknotes fraud. Other challenges facing Mpesa agents in the deterrence of counterfeit banknotes fraud includes Poor enforcement and coordination mechanism, easy counterfeited Security features on bank and Lack of advanced technology. Study further revealed that only a few Mpesa

agents use detectors due to their high prices of acquiring the device. Those had employed the use of detectors to counter fake money in their operation said that this method was effective. Mpesa Agents are looking much on training so as to be in a position to recognize the fake money. Safaricom officials are working hard to ensure that the challenges to the deterrence of fake bank notes comes to an end by doing Monitoring, coordinating and doing reviews of their agents. Mpesa agents are continuously reviewing and improving on their internal controls such as surveillance and internal audit, primarily in the defense against fraud. There was a strategy to increase funding for advance equipment and technology and also there was hope for Safaricom's mobile money agents were to start using photos to identify those withdrawing or depositing money on the M-Pesa platform to curb fraud. Police officers were found to co-ordinate with the Law enforcement to end the challenges to the deterrence of fake bank notes. The study recommended the central bank of Kenya to research and develop new notes with innovative security features that are both easy to check and hard to counterfeit. The study recommends further research to be done to establish other challenges other than deterrence of counterfeiting that is facing Mpesa business in Nairobi City County.

Key Words: *mpesa, m-pesa agent, counterfeit, bank notes, fraud, fraud deterrence, counterfeit strategies*

INTRODUCTION

M-Pesa is a service which is branchless banking based, and the customers can withdraw and deposit cash through a network of agents and institutions that include retail outlets and airtime vendors who act as the banking agents of the service provider (M-pesa Tariff, 2015). According to Jack & Suri (2010), the M-Pesa service has developed very quickly spreading across the developing world and by 2010 had become the most successful mobile phone-based financial service. According to the author, a stock of approximately 17 million M-Pesa accounts had been registered in Kenya by 2012. By June 2016, a total of 7 million Vodacom M-Pesa accounts have been opened in Tanzania. This mobile service has received high accolades by giving the millions of people accessibility to transact in the formal financial system and more so reducing crime in otherwise largely cash-based society (Mutiga, 2014).

Counterfeit banknotes are a problem that challenges the effectiveness of Mpesa transfer transactions; as a result, various strategies have been put in place to help in the deterrence of the bank notes fraud. Despite these strategies, the problem persists as mobile money transfer agents still lose money due to counterfeit bank notes fraud. However, few studies have examined the effectiveness of the strategies in place. Studies that have been conducted have examined the physical features of the bank notes as security to deter bank notes fraud.

To address the menace of counterfeit banknotes many countries have put in place measures to address the vice. According to Burge (2010), global central bank cooperation, group of ten (G10), central bank governors was established for the purposes of international cooperation on strategies related to banknote counterfeiting. Later named the 'Central Bank Counterfeit Deterrence Group (CBCDG), the global authority was mandated with the mission of identifying emerging threats to banknotes security and to ensure that, where required, common international responses are developed for implementation by issuing authorities of respective countries (Burge, 2010). The CBCDG works with the law enforcement and the industry to assess the threats to banknotes. It also supports and promotes the application of anti-counterfeiting technologies by manufacturers of products that encourage the development of counterfeiting. Further, according to Burge (2010), the CBCDG sponsors the deployment and development of technologies that deter the application of digital equipment to counterfeit currency by creating features that can be added to banknotes at a low performance/ integration cost for vendors.

The problem that underpins this study was that although the various strategic responses on counterfeit banknotes have been put in place, little is known on the effectiveness of these methods used as deterrence in the fraud, especially in regard to M-Pesa agents; This study, therefore, evaluated the current strategies to determine their effectiveness in counterfeit banknotes fraud, targeting the M-Pesa agents.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

According to Prime and Solomon (2010), counterfeiting, whose origins began centuries ago even before banknotes, was referred to as "the second oldest profession." According to the authors, the advent of banknotes was a welcomed idea for counterfeiters who found it more profitable business than reproducing works of art or coins while it had a larger market or population for its products. Since banknotes cost relatively low cost of production, the success of passing a forgery is virtual all a profit game (Prime & Solomon, 2010). One main challenge here is how the authorities can prevent the production of fake serial numbers. The current conventional approaches on banknotes are based on security features embedded into the banknotes. These security features have become susceptible to forgeries through the use of advanced copiers that can replicate the same banknotes with similar security features. Further, due to the rapidly growing technology, intensive industries legal remedies tend to be rather slow and very costly for regulating complex technologies, ownership rights, and intellectual property (Deakins and Wilkinson, 2008).

Sachs (2009) observes that quite a number of challenges face anti-counterfeiting institutions in effectively addressing the issue of counterfeiting. The author attributes these challenges to lack of legal, administrative mechanism, supply chain factors, and the lack of intelligence mechanisms. The challenge of lack of adequate intelligence mechanism refers to the general transnational nature of counterfeiting, which is reflected in the process of globalization and has intensified over the recent years. The emergence of e-commerce, together with the social dimension of the internet and associated crime, is an open instance of a challenge to the independence of countries to regulate economic and social order within their states (Sheptycki, 2000). It is not clear whether the legal and administrative mechanisms in Kenya can help agents of M-Pesa deal with counterfeiting.

Another challenge which is notable and lies within the administrative factors involves the laws and operationalizing policies of countries. According to Kim et al (2003), counterfeit agencies do not have adequate organizational structures and dedicated resources to counterfeiting; as well as, the governments' lack to adequately manage counterfeit products. The administrative challenges, like the lack of proper policy-making and law enforcement, suggest difficulties institutions and the state may face in counterfeit products generalizing to various products. However, the administrative challenges that face Mpesa agents on counterfeits may face have not been empirically determined. This makes the M-Pesa agents vulnerable to losses related to counterfeiting of bank notes. The envisaged challenge of inadequate legal framework has been evasive in many countries in so far as trade on counterfeit products is concerned. According to Newman and Clark (2003), the current laws in most states differentiate faking private property like brands and faking public property like banknotes. The authors noted that counterfeiting of products attracts longer jail terms, whilst tougher penalties are attracted by copying banknotes. It is not clear whether the established laws of the land have been overtaken by new advancements

in technology; Kenya Bureau of Standards needs to look and amend such acts to incorporate modern technology. Whether M-Pesa has such structures also remains unclear.

According to Ndungu (2012), businesses and organizations should continuously review and improve on the internal controls of the firm, such as surveillance and internal audit, primarily in the defense against fraud and abuse. This could happen if structures set up within the firm are involved and contain the capacity to pick out fraudulent activities. If fraud is detected, it is the ultimate concern of the firm to identify if the fraud is an external or internal issue. Investigations of a case of fraud could involve covert operations (such as undercover agents), informants, surveillance, and other sources of information regarding the fraud (Apostolou, 2000). It was not clear if M-Pesa agents in Kenya improved or continuously reviewed their internal controls within their operations; also, if internal audit took place regularly to deter counterfeiting of bank notes.

To investigate the effectiveness strategies in place to counter fraud in M-Pesa services, the study was anchored on the Planned Behaviour Theory. According to the Planned Behavior theory, human action is led by mainly three considerations; i.e. behavioral beliefs – regarding the outcomes of a behavior that is likely to occur and evaluating those outcomes (in this study it touches on the M-Pesa customers and their attitude towards counterfeiting); normative beliefs – expectations that are normative for others and the motivation to comply (what drives the customers to use counterfeits); control beliefs – factors that are present which facilitate or impede the performance of a behavior (people will fear to give counterfeit notes – deterrence mechanisms in place), together with the perceived power of those factors (Ajzen, 1991).

RESEARCH METHODOLOGY

The researcher used a descriptive survey research design and conducted the research in Nairobi City County. The targeted population for this study was the selected M-Pesa agents operating in the sub-counties in Nairobi City County. The targeted population also consisted of officials from Safaricom Limited, police officers from the anti-fraud unit, and personnel from the treasury specializing in banknote fraud. The study used a multistage sampling technique to obtain a sample size of 100 respondents. The sample from the officers and officials from the police, Safaricom, and the Treasury was purposively selected. The researcher used two tools for data collection; i.e. interviews and Questionnaires. The questionnaire was used to solicit general information about the M-Pesa as well as activities that can be applied or adapted to solve the issue of counterfeit banknotes using M-Pesa agents from a larger sample, while interviews were used to gather in-depth information about M-Pesa based on personal experiences. Descriptive statistics were used in the analysis quantitative data while thematic analysis was employed for qualitative data. The results are presented and discussed in the next section. Research ethics were observed

RESEARCH RESULTS

Demographic Features

From the findings, none (0%) of the respondent was below 18 years, this finding was associated with the fact that only 18 years and above persons in Kenya are issued with the national identification card hence can register Mpesa Business. It was also associated with the children's right where children less than 18 years cannot be employed (Constitution, 2010). A majority (42.86%) of the respondents were between 36 and 45 years. This finding is consistent with the findings by Kumar (2011) who observed that most SMEs were middle-aged adults. It was clearly noted that more than (61.54%) half of the respondents aged above 36 years. However, only 15.38% were between 18 and 25 years. The low number of youths between 18 to 25 years would be attributed to the fact that to start M-Pesa you need capital which most young people do not have. In general, this finding indicated that the respondents were drawn from all the age categories hence data was reliable.

From the result, 45.05% were on a permanent job while 54.95% were on a contract. This finding correlates to that of William and Tavneet (2010) observed that most people who operate Mpesa businesses do not own the Agents. The findings on the employment status clearly indicated that most of the people who are working on the M-Pesa agents are on contract basis. This increases fraud challenges in Mpesa business due to more people coming in without required skills. Further, majority (57.1%) of those who were willing and able to respond were female while 42.9% were male. This reflected a large number of women in Mpesa businesses which concurs to Kumar (2011) that more women are involved in Small and medium-sized enterprises than men. Similarly, this implies that more women have involved in Mpesa business as compared to men in Nairobi County. This finding is as a result of many benefits that Mpesa has and its simplicity in operation. The results also imply that there was a fair engagement of respondents in terms of their gender.

Among the respondents interviewed none of them was found not to have enrolled in school. This implied that education was the key requirement when choosing whom to operate the Mpesa Agent. The finding is in line with White (2012) who stated that highly skilled and experienced personnel leads to a better performance in Mpesa business. Further, more than half (60.4%) of the respondents had attained secondary education. This high percentage of respondents with secondary education could be associated with the simple processes and procedures required to operate Mpesa business. This has the implication that the service may not require formal training and form four being the recognized basic level of education (Government of Kenya, 2010), it is assumed to be adequate to enable people to operate the business. Most (36.3%) of the respondent had a high level of education as they had attained college and university level of education while 3.3% of the Mpesa Agents had attained a primary level of education. This finding indicated that the majority of those operate Mpesa agents had basic education and

therefore could be vulnerable to Mpesa fraud. For the respondents' with a high level of education enabled this study to collect accurate and quality data.

Fraud Related Challenges Facing M-Pesa Agents in the deterrence of Fake Bank Notes

The study sought to establish whether there were fraud-related challenges facing M-Pesa agents in countering fake bank notes in Nairobi City County. The respondents were asked to respond with yes or no indication whether there were fraud-related challenges deterring M-Pesa agents in countering fake bank notes and also state how prevalent the challenges are in the deterrence of counterfeit notes.

The majority (87.9%) of the respondents indicated that there were fraud-related challenges deterring M-Pesa agents in countering fake bank notes in their operation. This high response was an indication that fraud related challenges in Mpesa shops are common and known by almost every person who operates in an M-Pesa Agent in Nairobi County. The findings resonate with Sachs (2009) who observed that quite a number of challenges face anti-counterfeiting institutions in effectively addressing the issue of counterfeiting. The author attributes these challenges to lack of legal, administrative mechanism, supply chain factors, and the lack of intelligence mechanisms.

Further, the agents were requested to indicate how prevalent the challenges were in the deterrence of counterfeit notes. From the finding Majority (58.2%) of the Mpesa agents indicated that the challenges in the deterrence of counterfeit notes was high while only 16.5% said it was low. This implies that deterrence of counterfeit notes is a major challenge facing the Mpesa Agents today but perhaps the prevalence differs from one region to the other. This finding is in line with Sachs (2009) who observed that quite a number of challenges face anti-counterfeiting institutions in effectively addressing the issue of counterfeiting.

The researcher also interviewed the officials from Safaricom Limited, police officers from the anti-fraud unit, and personnel from the treasury specializing in bank notes fraud to establish challenges to the deterrence of fake bank notes and it's prevalent. The police officers said that more cases were being reported on fake bank notes than before. The senior police officer gave an example and stated that;

"Yesterday a young man came in my office seeking for assistance, he was carrying a Ksh.100, 000 fake notes having been conned in Mpesa shop". The officer added that " the young man did not know whether he was given fake money by his customer until he issued the money to another customer when the customer notified him the note was fake".

As can be seen from the quote fraud through counterfeit banknotes is real. Losing Ksh 100,000 can bring down a business person. Some M-Pesa operators start a business with low capital and build their resources as the business grows. Therefore, losing such amount is devastating.

Officials from Safaricom clearly indicated that deterrence of fake bank notes were the main problem to their agents and this had cost many businesses a great losses some close their business. The Chief Enterprise Business Officer said that;

"I have witnessed some of our Mpesa Agent shutting down due to fake note, like last years over 50 cases of fake notes were reported by our customers"

This quote shows that the fraud through counterfeit banknotes was trouble to Mpesa business and if it can be avoided, more people are would invest in Mpesa. An officer from the treasury unit also said that;

"Fraud prevalent is very high among the Mpesa agents in Nairobi and I think this is because of the poor enforcement & co-ordination mechanism".

Further, the researcher sought to establish the challenges M-Pesa agents face in the deterrence of counterfeit banknotes. The researcher listed the key challenges known and requested the respondents to tick appropriately (Kim *et al*, 2013).

Findings revealed a lack of skills, at 30.6%. This was not surprising since there was no form of training for the entrepreneurs in the M-Pesa business. Accordingly, although it involves handling money there was no prior training and as revealed in the data in which respondents had this to say "Most people employed in Mpesa today are form four leavers. Majority of those involved in the business has just basic education with little training in checking for counterfeit notes. The findings revealed that some were waiting to join colleges, these young people most of them have no skills to identify the fake notes hence vulnerable to fraud." The police officer added that;

"Lack of training and skills to recognize fake money is the major problem facing Mpesa Agents today"

The findings resonate with Mbiti and Weil (2015) who noted that M-Pesa agents were not trained on security agents and might have limited ability to detect security features. Equipment and Detection Kits were revealed as the main challenge facing Mpesa agents as shown by 26.3% was the next challenge faced. Accurate detection of counterfeit banknotes requires special equipment that was beyond the reach of the entrepreneurs who venture in the M-Pesa businesses.

Further, the respondents outlined Poor enforcement & co-ordination mechanism, Security features on Bank notes are easily counterfeited and Lack of advanced technology as the other challenges M-Pesa agents face in the deterrence of counterfeit banknotes. The finding concurs to that of Kim *et al* (2013) that counterfeit agencies do not have adequate organizational structures and dedicated resources to counterfeiting; as well as, the governments' lack to adequately manage counterfeit products. However, the effort to the deterrence of fake bank notes was hindered by relaxed internal controls and accounting systems, inadequate supervision of subordinates, disregard for customer due to diligence requirements and poor personnel policies.

This correlates to the finding by Kim *et al.*, (2013) who noted that counterfeit agencies do not have adequate organizational structures and dedicated resources to counterfeiting; as well as, the governments' lack to adequately manage counterfeit products. Interviewees further indicated that many Mpesa Agents did not have Detection Kits and they lack the knowledge to recognize the fake notes. This finding was in line with SussMann (2013) who observed that law enforcement agencies in several jurisdictions have not been able to respond to the problem of counterfeit effectively, even to the most advanced countries in the world. Further, the interviewees revealed that main challenges faced by the agents were lack of enough resources. This included poor staffing and low budget allocation. Lack of proper equipment and access to latest technology was also mentioned as a reason.

Fraud Related Strategic Responses Adopted by Mpesa Agents

The study sought to establish the strategic response that M-Pesa agents use to stop fake bank notes. The respondents outlined the strategic response that they use as shown in table 4.5. The result indicated that most (39.6%) M-Pesa agents were employing the use of detectors; this was in line with Ndungu (2012) who proposed the businesses and organizations to continuously use money detectors to avoid fraud. Further, 29.3% said they were looking much on training/ Skills development to counter fake money in their operation.

Further, an official from Safaricom Limited who was interviewed said that;

“We are working very hard to ensure that the challenges to the deterrence of fake bank notes come to an end by doing Monitoring, coordination and doing reviews of our agents”

This implies challenges of fake bank notes was serious and therefore a need to improve the administration, Internal Checks, and Audit. A senior police officer said that;

“We are coordinating with the Law enforcement to challenges to the deterrence of fake bank notes comes to an end”

Further, the interviewees indicated that Mpesa agents are continuously reviewing and improving on the internal controls of the firm, such as surveillance and internal audit, primarily in the defense against fraud and abuse. Further, the bank officers said that some strategic responses were been employed by many Mpesa Agents despite the challenge of funding. Therefore they indicated there was a need to increase funding for advanced equipment and technology. This finding was in line with Cheptumo (2010) that the risk of fraud is an agenda that should be included in every corporate strategy planning meeting. The Chief Enterprise Business Officer also said that;

"We are launching a new strategy soon where mobile money agents will soon start using photos to identify those withdrawing or depositing money on the M-Pesa platform to curb fraud"

From the quote, it could be seen that Safaricom was working tirelessly to come up with new innovation and technologies to curb the fraud in this line of businesses.

DISCUSSION OF THE FINDINGS

The findings found that there were fraud-related challenges deterring M-Pesa agents in countering fake bank notes in their operation. The findings resonate with Sachs (2009) observed that quite a number of challenges face anti-counterfeiting institutions in effectively addressing the issue of counterfeiting. The author attributes these challenges to lack of legal, administrative mechanism, supply chain factors, and the lack of intelligence mechanisms.

The study found that among the key challenges on Counterfeit Bank Notes included; Lack of Training/ Skills, Lack of Equipment and Detection Kits, Poor enforcement & co-ordination mechanism, High costs for acquiring Equipment and Kits, Security features on Bank notes are easily counterfeited, and Lack of advanced technology. The findings resonate with Mbiti and Weil (2015) who noted that M-Pesa agents are not trained on security agents and might have limited ability to detect security features. However, the effort to the deterrence of fake bank notes was hindered by relaxed internal controls and accounting systems, inadequate supervision of subordinates, disregard for customer due to diligence requirements and poor personnel policies. This correlates to the finding by Kim *et al.*, (2003) who noted that counterfeit agencies do not have adequate organizational structures and dedicated resources to counterfeiting; as well as, the governments' lack to adequately manage counterfeit products. Interviewees further indicated that many Mpesa Agents did not have Detection Kits and they lack the knowledge to recognize the fake notes. This finding was in line with SussMann (1999) who observed that law enforcement agencies in several jurisdictions have not been able to respond to the problem of counterfeit effectively, even to the most advanced countries in the world.

Study further revealed that only a few Mpesa agents use detectors due to their high prices of acquiring the device. Those had employed the use of detectors to counter fake money in their operation said that this method was effective. Mpesa Agents are looking much on training so as to be in a position to recognize the fake money. Safaricom officials are working hard to ensure that the challenges to the deterrence of fake bank notes comes to an end by doing Monitoring, coordinating and doing reviews of their agents. Mpesa agents are continuously reviewing and improving on their internal controls such as surveillance and internal audit, primarily in the defense against fraud. There was a strategy to increase funding for advance equipment and technology and also there was hope for Safaricom's mobile money agents were to start using photos to identify those withdrawing or depositing money on the M-Pesa platform to curb fraud.

Police officers were found to co-ordinate with the Law enforcement to end the challenges to the deterrence of fake bank notes.

CONCLUSION

Based on the finding, the study concludes that fraud related challenges deterring M-pesa agents in countering fake bank notes exist with high prevalent. The study concludes that lack of skills and detection Kits are the main challenges facing Mpesa agents in the deterrence of counterfeit banknotes fraud. Lack of knowledge to recognize the fake notes costed many businesses a great loss making some close their business. Further the study concluded that lack of enough resources, proper equipment and access to latest technology was a challenge facing Mpesa Agents.

Further the study concluded that the use of detectors to counter fake money was an effective strategy, however only a few Mpesa agents use detectors due to their high prices of acquiring the device. Mpesa Agents are priotizing training so as to be in a position to recognize the fake money and are continuously reviewing and improving on their internal controls such as surveillance and internal audit, primarily in the defense against fraud. Strategy to increase funding for advance equipment and technology are employed and Safaricom's mobile money agents are to start using photos to identify those withdrawing or depositing money on the M-Pesa platform to curb fraud. Police officers co-ordinate with the Law enforcement to end the challenges to the deterrence of fake bank notes. Study also concluded that strategies employed by M-pesa agents in the deterrence of banknotes fraud are less effective. This was as a result of Mpesa agents lacking the skill and knowledge to implement the strategies. Some said finances were a challenge to acquire the detectors and Monitoring, coordination and reviews were poorly done by the officers responsible. Technology was also another major factor that was limiting the implementation of the strategies.

RECOMMENDATIONS

The study recommends the following strategic interventions to be adopted by Mpesa agents in the deterrence of counterfeiting in Nairobi County; trainings by banks, co-ordination with law enforcement, Investment in Technology and Advanced Equipment, Monitoring, Coordination and Reviews and Improve Administration, Internal Checks and Audit. Further the study recommends that Kenya government need to incorporate new security features into paper currency.

To stay a step ahead of the technology available to counterfeiters the study recommends the government efforts to embrace a proactive strategy focused on innovation rather than their traditional focus on integrating existing security features and awareness of the security features of the banknotes should be made because this is the only best means of protection against counterfeiting.

The study recommends to the central bank of Kenya to research and develop new notes with innovative security features that are both easy to check and hard to counterfeit, working with police agencies and prosecutors to monitor and respond to counterfeiting activity, teaching Kenyans, especially those who handle cash on the job, how to quickly check their bank notes and also by providing Kenyans with quality notes and a secure form of payment that they can use with confidence.

To fight counterfeiting, the Bank need to offer free training materials to help the public business and police agencies use the security features in genuine bank notes.

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