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University of Nairobi

**Mobile Loan Interest Rates and Wakulima Market, Growth Performance in Nairobi
County**

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Abstract

Mobile lending refers to the process of lending over hand-held devices by a financial firm to an applying customer. Mobile-based lending has grown in Kenya over the last 10 years with estimates placing the platforms over 49. The problem with the industry, is that it is mostly unregulated despite including some of the biggest financial players such as Equity Bank, Kenya Commercial Bank and Cooperative Bank. The explosion of the industry is made possible by the expanding financial technology industry. Despite the small amounts of loans offered, interest rates are very high, some in excess of 43% with the borrower charged for late payments. The platforms depend on constantly attracting new borrowers sending unsolicited messages and utilizing aggressive methods such as contacting friends and family when seeking repayment. It is usually unclear what the borrower will have to repay and the terms of agreement. This is a problem because the users of the platforms are usually the poor and unbanked. The aim of this research is to determine the effect this exorbitant mobile lending rates has on the growth and socio-economic outcomes of this crucial part of the population with a focus on vendors and customers who utilize Wakulima market in Nairobi County, Kenya. Small and medium enterprises (SMEs), which form the largest part of enterprises in the market are particularly exposed to this trend. The study concludes that high mobile lending rates are bound to curtail the growth of SMEs in Kenya especially in agricultural-based markets such as Wakulima, thus more regulation such as improving disclosure to the borrower on interest rates and reforming the current digital credit system.

CHAPTER ONE

INTRODUCTION

Background of the Study

The prevailing notion in developing countries is that the poor and those of low income are not bankable. Mobile banking options available have dispelled this belief. The development of mobile banking in developing nations are in line with Sustainable Development Goals (SDGs) that aim to create a better fairer world by 2030. The SDGs set in 2015 by the United Nations are meant to serve as a blueprint to ensure no country is left behind especially those in the developing world. Among the 17 targets of the goals is eliminating endemic and cyclical poverty.

Mwangi (2018) highlights how financial technology has been influential in aiding the growth of medium and small enterprises in Wakulima market and other avenues of selling small wares. She highlights how information technology has worked miracles for financial institutions. In 2005, the UN dubbed the year as one for awakening of microcredits. The frontrunner, Muhammed Yunus, was awarded a Nobel Prize in 2006 as a prophet for the development of microfinances in the developing world mostly fueled by information technology.

In the African context, the main drivers of growth medium and middle-sized enterprises. They are integral to the economies since they generate employment and wealth to a majority of the people. Middle and small enterprises receive a lot of attention in Africa because they are linked to the rural economies, which form the backbone of the countries in the continent promoting equitable distribution of income.

Development partners and policymakers on the continent agree that information communication technology plays a critical role in promoting growth and development globally. The relatively low adoption among medium and small enterprises in the developing world is cited as a major hindrance to their growth. ICT has the potential of streamlining operations in the business, which often fail within the first five years of formation due to high fixed costs. The parameters for evaluating performance of an MSE is formation, growth, survival, success, and competitiveness.

Many in developing countries grow vegetables and other edible products most for domestic use but also to sell to generate daily income. It is a vital source of income for many poor small

households and those involved within the supply chain. This paper highlights the major constraints of and identifies potential opportunities for improving the efficiency of domestic vegetable marketing systems in two countries – Kenya and Tanzania. Emphasis is given to tomato and onion as commonly marketed and consumed vegetables throughout the region. The authors also look at indigenous vegetables marketed domestically. Finally, they consider the importance of the export vegetable subsector as a role model for improving the efficiency, growth and economic value of domestic vegetable marketing systems in East Africa.

Problem Statement

The current report highlights the main constraints of running SMEs and identifies potential opportunities such mobile technologies solutions for improving the efficiency of domestic vegetable marketing systems within agricultural markets such as Wakulima. Emphasis is given to sellers selling small wars such as edible vegetables and other fast-moving products. ICT can be an important tool of the SME subsector as a role model for improving the efficiency, growth and economic value of many in developing countries.

SMEs are a key pillar in social and economic development in Kenya. They encourage participation of majority of the population and foster equity in the distribution of resources. When economic empowerment opportunities are available in marginalized areas, they enhance quality of life and stimulate growth of the overall economy. The active poor rural dwellers can focus on income generating ventures knowing that other logistical aspects are readily available. Technology adoption is part of SMEs reviewing operational processes.

Technologies such as mobile banking and internet banking and even marketing through short messaging have a potential of smoothing operations in the sector. Vendors can access information, pay, and receive funds anywhere and anytime. However, the benefits are many, there needs to be caution due to low penetration of ICT in the region. Still IT tools are invaluable in improving, transforming, and redefining SMEs. The major issues in implementing mobile solutions frameworks are trust and legislation. In markets such as Wakulima set up to serve people of low-income and literacy, they may be the notion that the systems are not secure and are unreliable.

Kigen, (2011) assert that despite the challenges the benefits are many in SMEs adopting mobile solutions. Flexibility is one advantage, thereby, increasing customer service quality. Other benefits include bridging the information, decreased cases of fraud and theft, and easy payments. The researchers dismiss the prevailing argument that mobile phones are a means of reaching rural populations. However, they agree that they reduce operational costs translating into financial and non-financial parties to a transaction. Studies done in places such as in Brazil, Asia, and Africa show that using mobile payments solutions are cheaper than using conventional banking. The purpose of this study is to establish how SME vendors in agricultural-based markets such as Wakulima have benefited by revamping operational processes by embracing mobile technology solutions.

Research Questions

1. Has use of mobile banking led to reduction in operational costs for smallholder vendors in agricultural-based markets such as Wakulima?
2. What is the rate of increase in SMEs adopting information technologies in their operations?
3. How has mobile banking improved service provision and the challenges vendors and customers using mobile-based technology solutions?

Research Objectives

1. To determine the benefits accruing to both parties in terms of reduced costs and time spent due to use of mobile banking.
2. To establish the increase of new vendors and customers preferring the use mobile-based technologies in transacting.
3. To investigate the performance of the market in service provision and challenges both parties face using mobile-based technology solutions in their daily operations.

Justification of the Study

The research is of value in determining whether mobile-based solutions in SMEs translates into lower costs and time spent in a transaction. The users of the information will include the SMEs, development partners, scholars, and the clients themselves. The current study aims to provide new information based on empirical research. The mobile-based solution providers will use the

information to know the challenges their users face and areas of improvement. The government through relevant ministries can know areas to improve in terms of policy and strategy.

Scope of the Study

The study was conducted in Wakulima market in Nairobi County, Kenya. Random sampling method was used to select the respondents of the study. The study focused on the transactional costs members pay to access the telecommunication and banking services now that are available through multiple channels. The socio-economic benefits aspect focused on performance of the market in service delivery and the challenges parties encounter when using the services. The socio-economic aspect surveyed the benefits they derive. The performance looked at the services provided, satisfaction, and areas of improvement. The challenges aspect focused on the difficulties encountered when seeking services such turn-around time for processing payments and access to 24/7 helpline services.

Limitations of the Study

Access to respondents such as vendors, clients, documents and data was one limitation of the study. Appointments to access vendors is limited since they are responsible for the day to day running of the SMEs. However, the response rate was satisfactory to draw conclusions and recommendations. SMEs have different models of operation; hence, generalization of the findings may be misleading.

CHAPTER TWO

Literature Review

The section highlights empirical information on thematic literature from the area of study. The specific areas covered are typical agricultural-based market operations, socio-economic benefits to vendors and clients adopting mobile-based solutions, and market's performance in the face of challenges that parties encounter transacting through mobile technologies.

Typical Agricultural-Based Market Operations

The main target populations of SMEs are those that cannot afford shopping in supermarkets and high streets. They usually require small amount of capital and it is difficult to obtain information from them about their financial records as they do not keep formal records. The security required by formal banks is far beyond their reach. Hence, they keep their operations small and cannot expand beyond a certain point.

SMEs play an important role of income generation for the majority as well employment drivers. They do not enjoy economies of scale compared to the big grocery chains, hence have to keep to their operational costs low to cut even or even survive their first year of initiation. To earn a profit, SMEs have to charge the full cost of production plus mark-up, which many consumers find exorbitant at times. According to Rhyne and Holt (1994), SMEs should adopt a number of principles to ensure financial viability. One is reducing unit costs by streamlining operations. They should make processes simple and standardized.

Donor agencies should aim to build the capacity of SMEs to promote innovation through development assistance. They can streamline and improve business processes through technology to reduce cost. (Apiah & Adu, 2012). establish a clear link between financial innovation and reduced transaction costs. Financial innovation is adopting something new such as a product. Economists use the term to describe shocks to the economy as well as a response to the shocks. Thusly, financial innovation implies to creating and popularizing new financial instruments, institutions, markets, and technologies. The innovations can be in form of streamlining processes or a product. For example, vendors in the United States have experienced rapid innovation owing to advanced capabilities in telecommunications and data processing, which are at the heart of business development.

A brief history of technology-driven innovation goes beyond even before the 20th century. For example, the telegraph in existence by the mid-1800s soon became a tool for propagating price information and transfer of funds. The invention of the telephone in 1876, soon found its way into business operations the following year. The establishment of the Federal Reserve Bank in 1913 saw the development of electronic fund transfers. The introduction of credit cards in the 1950s was heralded as phenomenal technological innovation (Mishra, 2008).

Mobile banking is the new frontier in business development. It is the provision of services through mobile networks by hand-held devices. There are many forms of mobile banking, which may not meet the definition in legislation contexts in some countries. On top of payment and transfer, Dabholkar, et al. (2013) identifies two other types in the form of additive and transformational mobile-based payment solutions. However, the three main models of mobile banking are bank-led, telco-led, and hybrid. In bank-led, the bank introduces mobile banking as an extension to their services. The Equity Bank's 24/7 mobile banking solution is a good example where customers can access services through their own network. In telco-led, the telecommunication company provides mobile banking services using its own infrastructure while in a hybrid model, the telecommunication company provides infrastructure to a financial institution to offer mobile banking services. A good example is KCB-MPESA, which provides mobile loans and saving plans.

The transaction cost for vendors and consumers implies to the total implicit and explicit costs of undertaking in a transaction. The transaction costs for vendors includes expenses paid to telco and financial companies for utilizing their services. For the customer, the costs include charges for sending payments, travelling costs, and their time. Ndungu, (2015) argues that technological innovation has the potential to reduce costs, reach the unbanked population, and increase efficiency. The transaction cost innovation theory argues that the dominant factor in financial innovation is transactional reducing costs (Li and Zheng, 2010).

SMEs can leverage financial innovation in facilitating payments and having a platform for record keeping. An example is the MPesa platform, which has gone on to be among the most successful mobile payments service in the world. Currently, SMEs use MPesa platform for fund payments, keep records, and access mobile and other microcredit loans.

Socio-Economic Benefits of Wakulima Market

Wakulima market employs about 60,000 people directly and over 100,000 others indirectly. Vendors take charge in direct purchasing of the goods and services they need and even through even employing people to market their produce. Apart from generating employment, the market serves as an important avenue for providing source of opportunities for people within the value chain. Through the multiplier effect, this indicates the opportunities for income spills over to great number of people, which shows how they are vital in reducing and preventing poverty in Kenya (Baumiiller, 2015). SMEs have given opportunity to many to educate their children, purchase land, farm, build houses, invest in their businesses, and solve other household needs.

Most of the SMEs operate as sole proprietor business entities, hence are easy to form compared to others, which exhibit complex structures. They mostly concentrate on simple activities such as agribusiness aimed at economic empowerment. In Kenya, the SMEs that do not yield economic empowerment fail very quickly. To avoid this trap, most concentrate on simple businesses that yield income very quickly.

SMEs also contribute towards gender empowerment given the users of the service own them. As they achieve economies of scale, they give their owners increased earning power and social protection. SMEs avail their members' opportunity, protection, and empowerment to uplift them from poverty (Apiah & Adu, 2012). Their main goal is to provide what their customers need at minimal cost.

The collective action of the members of the market such vegetable vendors established Wakulima help foster innovation and marketing. The members can then access new technologies such as mobile banking using collective resources such as merry-go-round funds. Collective marketing facilities lead to economies of scale reducing costs of marketing their products. The core mandate of collective action in this market is to boost economic interest of members by enabling them to accumulate savings and pay off loans they accessed to start their businesses.

Performance of the Market and Challenges with Mobile Lending

It implies to how well the market is performing in terms of service provision and empowering its users. How well a market operates mostly depends on how efficiently they are in availing the products and services consumers need and the ease of transacting. Removing bottlenecks is

important because reducing inefficiency affects overall performance. Adoption of financial innovation has generally transformed operations at the market. Technological advancement helps vendors have access to decision making tools improving capacity to track performance adequately.

An example of a country that can use financial innovation in its markets is Tanzania, which has not adopted mobile-based technologies compared to Kenya (Clark, 2017). Utilizing technological advancements such as mobile banking can help tackle issues such as adhering to simple accounting system requirements, keeping up-to-date records, and quick access to loans for expansion.

Although there are no standardized ways of evaluating performance of a market. Efficiency can be one parameter. The aim is to have in place a policy that emphasizes accountability and transparency transacted funds. Vendors should have a medium of confirming daily sales and purchases. Mobile-based deposits can help mobilize savings and improve soundness of management of SMEs (Aker & Mbiti, 2010). Technological systems can help in continuously educating and enticing other market members to save regularly. Members who wish to borrow can have the financial records required by lending institutions.

Developing tailor made products especially targeted at SMEs taking into consideration the activities people are engaged in will help fuel growth farther. The products offered should be in demand, which meets their daily requirements such as having access to a quick loan to purchase stock. Government and donors should provide the funds for capacity development, for example, for educating illiterate vendors on how and the importance mobile-based technologies. Revising legal frameworks as well as regulatory framework will help markets such as Wakulima, which are critical to a developing economy such as Kenya continue embracing financial innovation to alleviate endemic poverty and foster economic equity.

CHAPTER THREE

Research Methodology

The areas discussed in this chapter includes units of observation and analysis, research design, study respondents, sampling procedure, sampling techniques, data collection, data analysis procedure and ethical considerations.

Units of Observation and Analysis

The unit of analysis was transaction costs and socio-economic benefits to members of Wakulima market. The unit of observation were market users themselves.

Research Design

The study opted for a descriptive research design because it helps bring out the variables sought to be observed. The design can bring the characteristics of the population while validating the existing conditions regarding efficiency. The descriptive design can describe population, prevailing situations, or phenomenon.

Study Respondents

The study respondents were users of Wakulima market in Nairobi County. Focus group discussion with ten vendors in the market were held to seek their opinion on transaction costs on mobile-based technologies and the improvement of efficiency to their operations. Other respondents included vendors and customers. Other respondents were purposively sampled including employees from mobile-based technology providers and government.

Sampling Procedure

The study population included the market's daily 20,000 daily users. The simplified formula used is as follows:

$$a = A / 1 + (A(e)^2)$$

where a is the desired sample size

A total population

E the level of confidence which is 95 percent $e=0.05$

$$a = 22,442 / 1 + (22,442(0.05)^2)$$

= 393 members

The sample size is rather large for a descriptive study, the researcher opted for only 40 percent of the sample size, which results in 157 respondents.

Sampling Techniques

The researcher used multiple stages of sampling. The simplified formula yielded a sample too large, hence central theorem was used to arrive at a sample size of 157. Visiting the market and engaging the vendors and customers was crucial in providing access. The other respondents were purposively sampled because they do not visit the market often.

Data Collection Methods

Sources of information for the study included primary and secondary data. Primary data sources included those collected by the researcher, while secondary was obtained by reviewing materials and documents. Interviews and focus groups were the preferred collection techniques. The tools used by the study were interview schedules and questionnaire. At the site of collection, interviews were sought with a standard request to participate. Once requisite permissions were granted, questions were read to the 157 participants with those able to read and write allowed to fill the questionnaire to save on time. The questionnaire contained open and closed-ended questions.

The key interviews with the purposely sampled respondents were booked in advance. Once permissions were granted, the interviews went ahead as scheduled. The interview schedules proved crucial with answers filled as given. Three focus groups were held to collect information in a group setting to encourage discussion. Permission was sought from random members who congregated at a popular sitting point where questions were asked and answers filled in an interview schedule.

Data Analysis Procedure

The study generated both qualitative and quantitative data. Qualitative was in the form of identifiers, properties, attributes, and labels while quantitative was statistical in nature. Most of the quantitative data was from questionnaires while qualitative derived from interviews. The analysis was done through SPSS and presented in form of tables, percentages and proportions while qualitative data was analyzed based on thematic areas.

Ethical Considerations

An introduction letter was sought from the university research board and presented to city council of Nairobi. The letter was important in the introduction of the researcher to potential respondents to seek permission to administer the questionnaire or interview. Other ethical considerations were adhered to including informed consent, anonymity of respondents, and insurances that any information received was purely for academic purposes and would be treated with confidentiality.

CHAPTER FOUR

Data Presentation and Analysis

Introduction

Among the main objectives of the study was to establish the effect of use of mobile banking on transaction costs and growth prospects of Wakulima market. This chapter include data analysis, presentation and interpretation on the findings in the study. Data was collected from entrepreneurs and traders at Wakulima market in Nairobi County. Data collected was interpreted as per the research questions.

Questionnaire Response Rate

The study issued 200 questionnaires out of this 140 were duly filled and returned. The results are as shown in Table below

Target Respondents	Actual Respondents	Percentage
157	140	89%
Total	140	89%

The translation rate is thus 89% response rate. A return rate of 50% is acceptable according to Mugenda and Mugenda (2003), therefore, this response rate deemed fit for the study.

Background of the Respondents

The respondents were of diverse gender, age, reason for being in the market, and level of education.

Gender

The respondents were to indicate their gender since this shall enable the study to categorize respondents based on gender and if it has any influence on performance of the SME and their willingness to adopt information technology in their businesses. The table below shows the results.

Gender	Respondents	Percentage
Male	82	59%
Female	58	41%

From the findings tabulated in the Table above the study determines 59% of the respondents were male while 41% of the respondents were female, implied that Wakulima market is dominated by males than females.

Respondent’s Age

The questionnaire requested indication of the age bracket to enable categorization of respondents based on age and if it has any influence on their willingness to use mobile-based technology in their SMEs. The table below shows the results.

Age Bracket	Frequency	Percentage
18-30	32	23%
30-40	54	39%
40-50	32	23%
Over 50	22	15%

From the results, majority of the respondents were in the 30-40 (39%) age bracket, 32 (23%) of the respondents were aged between 18-30, 32 (23%) between the ages of 40-50, while 22 (15%) were in the over 50 age brackets. The clearly indicates that majority of those who own and visit Wakulima Market are youths rather than the aging.

Reason for Being in the Market

The study was sought to know the reason for the respondent being in the market. This was crucial in order to ascertain whether the study was targeted the right group. The results were as in the table below

Respondent	Frequency	Percentage
Customers	45	32%
Employee	23	16%
Entrepreneur	72	51%

Results indicate that majority of the respondent were entrepreneurs, followed by customers and then employees. This indicated that the study targeted the right population for the study.

Level of Education

The respondents’ education level was important to enable the study to categorize whether it had an influence on their willingness to use readily available mobile technology solutions in the market. The results are as shown in the table

Education Level	Frequency	Percentage
Primary	15	11%
Secondary	70	50%
Tertiary	44	31%
University	11	7%

Results indicate that majority of the respondents were literate and applied their skill to learn their businesses and improve processes such as having multiple means for their clients to pay and access quick loans for expansion from available channels.

Duration of the Existence of the SME

The questionnaire asked the respondents to indicate the duration they have been in business to enable categorization according to the duration and the performance of the SME such as availing their customers multiple channels for payment. The results were as in the table below

Year	Frequency	Percentage
Below 1	5	8%
1-5	65	42%
5-10	40	29%
10-15	18	18%
Over 15	12	12%

Findings indicate that most of the SMEs at Wakulima market are between operated between 1-5 years, followed by 5-10 years. Businesses that have been in existence for less than a year were the least followed by those that are over 15-year-old.

Number of Employees

The parameter enabled the study to establish the relative size of the businesses within the market and how it has an influence on performance of the SMEs such as availing mobile based technologies within the business. The results are shown in the table below

Number of Employees	Frequency	Percentage
1-2	6	5%
2-5	14	18%
5-10	30	42%
10-15	12	9%
Over 15	10	14%

The results show that businesses within the market clearly fall within the SME category as most have relatively low number of employees. However, due to sheer number of enterprises and multiplier effect, the market does have the socio-economic benefit of employment creation and income generation for many.

Mobile technologies Adoption and Performance of SMEs

The aim was to investigate the correlation between adoption of mobile-based

technologies and the performance of SMEs in the market. There was a strong correlation between an SME utilizing mobile-based technologies and its performance. The SMEs that availed customers mobile-based payment solutions to their customers reported higher sales than those that did not. The results concurred with the current study's hypothesis that SMEs that embrace mobile-based technologies perform better. The results also indicated a strong correlation between access to mobile lending and performance as well as access to merchant e-commerce finance and performance.

CHAPTER FIVE

Summary of Findings, Conclusions and Recommendations

The chapter presents a summary of the findings, conclusion and recommendations.

Summary of Findings

Most of the respondents in the research were male than female. The implication is that more males own businesses in Wakulima market than females. Majority of the respondents were below the age of 40 years implying most the working population in the market are youths. Majority of the respondents were entrepreneurs mostly because the researcher approached them first. They were closely followed by customers because the study wanted to establish their experience accessing services at the market. The other respondents were employees, employees of mobile service providers and government to make up the shortfall in the number of respondents. Most of the respondents had access to basic education indicating their ability to learn and improve on the operations of their business (Communication Authority, 2013). Most of the businesses had modest number of employees indicating they fall under the SME category.

Conclusion

Based on the findings, the conclusion of the current research is that mobile-based technologies have a positive impact on performance of SMEs with the relationship statistically significant. Business vendors at the market are able to receive payments from their clients seamlessly, access loans through their mobile phones, and even organize themselves collectively. The conclusion also is that the market has a socio-economic impact on many providing employment and a source of income. The number of businesses has increased since the introduction of mobile technologies in the market.

Recommendations

The current study recommends more studies on the impact of mobile-based technologies on the SME economy in other markets in the region. More mobile-based solutions are being introduced with the impact on the SME yet to be established. The study recommends increased adoption of technology among SMEs to increase the impact in the economy reducing poverty and improving economic and social equity.

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