

The diffusion and Impact of Mobile Phones on the Informal Sector in Kenya

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Abstract

Mobile phones have been quickly and widely adopted over the last decade by populations in both developed and developing countries. This paper examines the rapid diffusion of mobile phones in Kenya and how this is being used to improve business in the informal sector. It is based on an on-going research study on “The diffusion of ICTs in informal sector enterprises in Kenya”.

Keywords: ICTs, diffusion, informal sector enterprises, Kenya, mobile telephones

1. Introduction

Mobile phones have been quickly and widely adopted over the last decade by populations in both developed and developing countries. As rightly captured by Kalba (2008:632), “Mobile phones are spreading ubiquitously across the planet and are the latest phase of globalization, ... mobile phones have out-diffused virtually every prior technology, whether TV sets, radios, wrist watches, fixed phones, computers, Internet, etc.” This observation is backed by recent statistics from the Communication Commission of Kenya (CCK) [as of March 2010], which shows that the four mobile phone operators in Kenya, namely Safaricom, Zain, Orange and Yu, have a combined subscriber base of close to 20 million. The rapid spread of mobile phone technology has also had a major impact at local level, unlike other types of technology such as the computer, the Internet and the fixed line telephone. The local penetration rate of 49.7 for mobile phones compares favourably to the world rate of 49.8 per 100 inhabitants (ITU World Development Index, 2009), but compares poorly to the low diffusion of other ICTs, most notably the computer and the Internet.

The rapid diffusion of the mobile phone can be explained by, among other things, the drop in the price of mobile handsets to within reach of those with low incomes and the drop in mobile tariffs as a result of stiff competition between the four mobile phone operators, as well as the low cost of prepaid calling cards (CCK, 2010). Mobile phones also require only basic literacy to use and this makes them accessible to a larger proportion of the population, particularly low-income, small business traders. They are easy to use and adaptable - for those without electricity, phone-charging kiosks have quickly come up in small towns and shopping centers while solar-powered phones have

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also been introduced onto the market.

The relatively high user-friendliness and affordability of mobile phones have made it possible for low income micro and small enterprise (MSE) traders, who are also referred to as the informal or 'Jua Kali' sector in Kenya, to adopt and use them widely. As in most other developing countries, MSEs make up the primary source of income and are the main forms of employment/livelihood for the majority of Kenyans. The rapid adoption of mobile phones in the country has had positive effects on the running of MSEs by saving time and money because they replace travel with telephone calls and facilitate instant feedback, thus speeding up the exchange of information and decision making. They can also be used to reach more customers for the selling of goods and services and for obtaining raw materials. Many MSE traders, such as taxi drivers, mechanics, carpenters, curio sellers, retail traders and other trades people, now rely on the mobile phone to run their businesses.

Mobile phones have also been used to speed up the financial transactions of Kenyans from all walks of life through the highly successful 'M-pesa' financial transaction medium, a mobile banking service which was introduced in Kenya by the mobile phone operator Safaricom in 2007, and which signed up over six million users in its first two years of operation (Mas and Morawczynski, 2009). The main competitor Zain followed suit with 'Zap' in mobile banking and 'Yu Cash' for the YU mobile phone operator. The objective of mobile banking is to improve the efficiency of microfinance by using mobile technology to make transactions faster, cheaper and more secure (Geach, 2007:4).

The 1999's National Micro and Small Enterprise (MSE) Survey in Kenya (1999:18) revealed that almost two thirds of Kenya's MSEs are situated in urban areas. These enterprises are mainly grouped together in highly concentrated clusters, but there are also many isolated ventures scattered widely across urban areas as well as in the market centers in rural areas. The most visible are retail shops in clothing and footwear in the main streets of Nairobi and other urban centers, curio traders, electronic and mobile shops, grocery stores, auto-spare shops, horticultural exporters, carpenters, vehicle repairs, and metal fabricators, to name a few.

Informal sector enterprises in this study were taken to be those with between one to nine employees. This definition was also used by 1999's baseline survey, one of two national baseline surveys carried out on informal sector enterprises (the one before was carried out in 1995), whose findings were that 70 % of MSEs in Kenya are one-person units, while 97 % are in the range of 1-5 employees.

The purpose of the study is establish the status of ICT penetration (or lack thereof) in the MSE sector in Kenya, and also the rate and level of ICT diffusion through mobile phones in Kenya in the face of the rapidly changing global information environment. We have attempted to answer the following research questions: What is the status of ICT penetration-access, use and impact- (or lack thereof) in the MSE sector in Kenya?, What is the rate and level of ICT diffusion in the informal sector?, What is the types of ICTs being used by the people working in the informal sector and the impact if any they have

on the businesses?, What are the challenges that hinder awareness and use of ICTs in the informal sector?, What is the government involvement if any in putting the required infrastructure for use of ICTs in the informal sector Kenya.

2. Methodology

A total of 450 MSEs were selected from two provinces using a combination of multistage sampling technique consisting of purposive, cluster and random sampling. The first province was purposively selected based on our observation that Nairobi Province, which is also the main urban center in Kenya, has a very large concentration of MSEs. MSEs can also be found in rural areas where they are less concentrated, mainly in market centers. Central Province was selected as representative of rural provinces. Due to lack of existing sampling frames in the areas of study, MSEs in the selected areas were counted so as to provide the sampling frames from which units of study were randomly selected.

Three main streets, namely Tom Mboya Street, River Road and Kirinyaga Road in the central business district (CBD) of the city of Nairobi, and three markets on the outskirts of the city, namely Village Market, Gikomba and Kenyatta Markets, were purposively selected because of their concentration and the variety of MSEs. MSEs on these streets and markets were counted and used as the sampling frame; a total of 290 MSEs in Nairobi Province were selected using random sampling. For the Central Province sample, one urban center and one rural center - Thika and Kiambu respectively - and two market centers, Kabati and Makutano, were selected. MSEs in the two towns and market centers were counted when formulating the sampling frame; a total of 160 MSEs were randomly sampled.

Data was collected from a total of 450 MSEs using questionnaires. The MSEs consisted of retail shops (mainly dealing with clothing and footwear), phone shops, auto-spare shops, furniture and hardware shops, and curio and horticultural traders. The clothing and footwear retail shops, phone shops and electronic shops were more concentrated in the CBD of the city, while hardware, furniture, hair salons and construction material shops were found in the two markets, i.e. Gikomba and Kenyatta Markets. Curio traders were found in the up-market Village Market which is mainly frequented by foreigners, while horticultural traders were based at the Jomo Kenyatta International Airport. The two urban and market centers in Central Province had a combination of all the MSEs.

Data was collected using structured and non-structured questionnaires. Due to the informal nature of the business environment in the MSE sector, administered questionnaires were found to be appropriate because it was not easy to follow up on questionnaires when they were left with the traders to fill in on their own. This is because their working spaces are more often than not squeezed and/or shared, and questionnaires tended to go missing or were difficult to trace when left behind. The traders were also not situated in the same place all the time as some operated more than one business and therefore kept moving. Some of the traders were, however, fairly stable, with some having operated from the same location for many years. The level of education of some of the MSE traders also necessitated the translation, interpretation, and explanation of some questions.

3. Results

The results are reflected in sections 3.1. to 3.5

3.1. Gender composition and educational level of respondents

The sampled MSE traders had a gender balance of almost fifty/fifty. The educational level of the traders varied from primary to degree level, with 27% (116) of the respondents having gone up to degree/diploma level and 40% (207) up to secondary school level. Seventeen per cent (75) had undergone various types of post secondary training, while 8% (34) were primary school leavers.

Table 1: Educational level of respondents

		education level			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	primary level	34	7.8	7.9	7.9
	secondary level	207	47.3	47.9	55.8
	post secondary level	75	17.1	17.4	73.1
	diploma/degree/masters	116	26.5	26.9	100.0
	Total	432	98.6	100.0	
Missing	System	6	1.4		
Total		438	100.0		

3.2 .Types of MSEs in the study

The results show that the MSEs can be divided into three categories based on the premises from which they operate. The first group operates from permanent buildings and enjoys infrastructural facilities such as water, electricity, fixed-line telephones, and/or computers with Internet connectivity. These categories of MSEs pays relatively higher rents, are registered, and punctually pay their licenses. They also enjoy relative permanency and their capital outlay seems to be relatively high. Examples of these are horticultural exporters and electronic and auto-spare shops. Most MSEs in this category use ICTs such as the Internet and email for their businesses, and the owners and some of their employees possess ICT computer skills. This category of MSE traders are, however, few in number when compared to the many MSE traders who operate with minimum resources.

The second category operates from temporary sheds or stalls or in the open (this is the origin of the term “Jua Kali”, Kiswahili for “under or in the hot sun” used generally to refer to informal sector enterprises in Kenya). The players here are characterized by low levels of education, and their premises generally lack infrastructural facilities such as tap water and electricity. They also hardly use or own ICTs such as computers and rarely have anything to do with the Internet or email connectivity for use in their businesses; they do not have computer skills and lack awareness of ICT developments. Examples of these are curio traders, grocery stores, food kiosk operators (who also mainly operate from open and temporary sheds) and repair shops. This needs to be viewed against a backdrop of three recently arrived fiber optic cables that promise to bring cheaper

Internet connectivity to Kenyans, but which do not seem to play any significant role in the lives of most MSE traders. Their main concern tends to be getting permanent physical premises where they can sell their goods and services without being harassed by the authorities or moved from place to place so that they can build a good base for their customers and businesses.

The third category of traders does not operate under the hot sun, rather they run and operate micro-sized businesses. Despite being housed in permanent premises and therefore sheltered from the natural elements and not having to pack and carry their wares at the close of business (as is done by the second category), and the fact that most have access to infrastructural facilities such as electricity and water, their businesses and operations are very small, and one cannot help wondering if they actually make any economic sense. These are the micro retail stalls that are very common and highly visible along the main streets of Nairobi on Moi Avenue, Tom Mboya Street, Taveta Road, River Road, Luthuli Avenue, etc. They occupy premises that formerly used to be Asian-run shops but which have now been subdivided into micro units, selling everything from clothing to footwear, traveling bags, boxes, watches, mobile phones and accessories, and electronics. They also offer repair services, and some even share their micro shops. Seventy per cent (307) of the MSEs studied had between one and five employees, while thirty five percent (153) consisted of only one employee.

The former Asian-run shops continue to be sub-divided into micro stalls that operate independently but collectively pay rent to a main tenant. Their clientele are mainly the local people and apart from mobile phones, they do not use any other form of ICTs - they might not have space for a computer even if they could afford it. They also seem to be too many to make much business, and one gets the impression that anybody without a job simply flocks there without realizing that the environment is already oversaturated. These micro operations seem to provide a source of livelihood, however small, to a significant percentage of the population to whom the ownership and use of ICTs is a far-removed idea.

3.3. Diffusion and use of ICTs among the MSEs

With the exception of mobile phones, which seem to have taken the MSE sector by storm, most traders in Kenya do not seem in the least inclined to use ICTs such as computers and the Internet. The majority carry on as if such technological developments have nothing to do with their lives and/or their businesses, and questions about the ownership and use of these types of ICTs seemed irrelevant and out of place.

Twenty seven (119) of the respondents owned and used a computer for Internet and email communication, while 90%(394) owned mobile phones. Only 13%(58) owned or used fixed line phones while 23%(112) used the Internet/email for their businesses, 8%(36) owned a printer, 6% (27) owned a scanner, and another 6% (25) a fax machine. Only 10%(42) of the respondents thought ICTs could bring about more business opportunities, and an equal number thought they simplified work in the business. Only 3 per cent (17) thought ICTs were good for business records. Surprisingly, there was a relatively large number of respondents with computer skills; forty four percent (192) had computer skills

but were not using them because (according to them) the work they were doing did not need a computer, and in any case most of the respondents in the study thought computers were beyond reach because they could not afford them.

3.4. Diffusion and use of mobile phones

Most of the respondents did not think that the mobile phone was an ICT development such as computers and the Internet. This meant interpreting the questions or asking separate questions about mobile phones so as to get clearer answers. The mobile phone is one ICT that seems to be quite popular among the MSE traders, with over 90 % of the respondents reporting that they not only owned a mobile phone, but also used them to conduct their businesses. Majority (80%; 349) also reported that they were registered M-Pesa users.

Most of the respondents (87 %; 380) reported never having ever owned a land line and the mobile phone was their first 'close' contact with a phone. Given that even the relatively reduced prices of handsets and cost of airtime is a big proportion of their earnings, they gave the impression that they would rather forgo other things to make sure they acquired and maintained the use of the mobile phone.

Mobile phones are also seen as a status symbol in addition to being useful and functional gadgets. They are used for social communication to contact friends and relatives - some of the respondents said they could not imagine life without the mobile phone despite the fact that they have only been around (in mass consumption terms) for the last ten years. Fifty two per cent (227) reported having owned their mobile phones for between five and ten years, while 34% (147) had used them for a period of one to five years.

3.5. Impact of mobile phones on MSEs in Kenya

Fifty two percent (226) of the respondents reported that they used the mobile phone for their businesses while 62% (278) reported that they used them to order goods. Sixty nine percent (302) of the respondents said they used them to contact customers, and 44% (192) said they used them to improve their businesses. Sixty two percent (273) said they used the mobile phone for social communication, e.g. contacting friends and relatives.

In response to what difference the mobile phone had made in their lives and their businesses, 44% (194) of the respondents said the use of mobile phones made it easier and faster to communicate and carry out business transactions at any time as well as with people in far off places. Fifteen percent (57) said the mobile phone helped them to get goods/stock delivered more easily. Twenty seven percent (116) said the use of mobile phones made it easier to contact and bring more customers, which meant more revenue.

Only a small percentage (2 %; 6) of the respondents said that they were what they were because of the use of mobile phones, i.e. they had been able to start a business and maintain it due to the availability and use of the mobile phone. They explained that by using the mobile phone, they were able to know which market to go to in the morning after comparing prices in different markets, as well as where to go and sell the goods before they left home by calling to enquire about the going rate. They were also able to

make decisions and to change strategies if the information received on the prices of a particular commodity would not cover their costs or make profits.

Notably, those who reported using the mobile phone to make such business decisions were few; most respondents reported doing the businesses they had already been doing more easily and conveniently with the use of the mobile phone, while 16%(62) of the respondents were still excited by the genuineness, speed, convenience and reliability that has been brought about with the mobile phone, 4%(16) of the respondents said they could not do without it as it had “become everything in business today”, which is to say that most of the activities in their businesses were easier to do because of the mobile phone.

Some respondents said they could go and comfortably buy goods or raw materials like wood and not feel bothered about transport until they were ready to move - they could make a call to the transporter when they were ready rather than having them hanging around waiting and increasing the cost of doing business. Some traders reported that it was easy to track down their employees when they were sent to buy or collect goods, therefore making it possible to advise the customer to hold on or to come back later. It was also much easier to call for the delivery of stock to the business premises whenever it was required.

The mobile phone was reportedly used to tell time by 73% (276) of the respondents, thus effectively replacing the wrist watch. Forty seven per cent (178) also reported using it as a camera, 46% (173) used it for the Internet, 49% (185) reported using it as a radio, while ninety two per cent (345) used it for money transactions and transfer services, mainly through M-Pesa (a service introduced by the Safaricom mobile phone provider in 2007 which became an instant success). M-Pesa and the other money transfer services, Zap from Zain phone provider and YU cash from YU, were reported to be heavily used by the MSE traders because of their convenience, easy access and availability as well as their informality, unlike other money transfer and banking services. They are also easier to identify with because they are operated at the MSE level of business.

Twenty nine percent (108) reported that they used M-Pesa daily, and another 29 %(111) said they used it once or twice a week; 21 % (90) said they used it whenever the need arose. Sixty three percent (237) said they used it to send and receive money from relatives and 79 % (296) reported using it for business transactions. Due to the newly found convenience of the money transfer and banking services, respondents reported that business had become much easier and faster to run, and was more profitable. Thirty five per cent (131) of the respondents said mobile phone-based money transfer services simplified business and social financial transactions by saving time and money, mainly by cutting costs of traveling and increasing the efficiency of the business.

Two per cent (6) of the respondents said the money transfer services were handy when a customer did not have money and could be trusted to send it later. This low figure is significant in showing that MSE traders are still stuck in doing face-to-face transactions rather than encouraging credit services. A small percentage (4 %; 14), said that M-Pesa is good for security because one can carry the phone around instead of cash and that even if

the phone is stolen the money remains safe. Three per cent (10) said it comes in handy in emergencies, such as medical emergencies where money can easily be sent to the person in need. Nineteen per cent (72) of the respondents reported that the money transfer services are available for more hours unlike banks, and that it is also easier to save small amounts at any time because of instant access without having to queue at a bank.

When asked if they had any problems using the mobile phone, 37 % (140) said they had problems buying credit for their phones but nonetheless indicated that it was a necessary cost for doing business. Quite a large number(55 %; 207) complained about network congestion, a common problem with the main mobile service provider, Safaricom, which has the lion’s share of subscribers. This problem was also reportedly common when using the M-Pesa money transfer service which can be quite inconvenient when one wants to send money and the network says it is experiencing problems while a supplier or a relative might be waiting.

Forty six per cent (175) of the respondents also said that the mobile phone has been an easy target for thieves and pickpockets and is the first to go when one is unfortunate enough to go through such an experience. A very small percentage (0.5 %; 2) reported having problems with charging their phones, which is quite significant given the fact that there are many people in Kenya without access to electricity in their homes, but who still manage to get their phones charged. As to whether they received more business or social calls, 65 % (245) of the respondents said they received more business calls. When they were followed up and asked how many of the calls they had made in the last week were work-related and how many were social calls, 15 % (64) reported using the phone for business and social calls equally. The responses from the other respondents are as shown in the table below.

Table2: Frequency of calls

how many of the calls have you made for the last one week are (1)work related(2)for social communication

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	50%-50%	64	14.6	16.8	16.8
	20%-80%	10	2.3	2.6	19.5
	80%-20%	19	4.3	5.0	24.5
	30%-70%	16	3.7	4.2	28.7
	40%-60%	59	13.5	15.5	44.2
	70%-30%	30	6.8	7.9	52.1
	60%-40%	37	8.4	9.7	61.8
	no answer	60	13.7	15.8	77.6
	100% business calls	38	8.7	10.0	87.6
	100% social calls	47	10.7	12.4	100.0
	Total	380	86.8	100.0	
Missing	System	58	13.2		
Total		438	100.0		

4.0 Discussion

This study has found that first, gender composition of MSE traders in Kenya is the same for men and women, secondly, that the size of MSEs are getting smaller as shown by the continued mushrooming of the micro retail businesses that continue to come up in the main streets of Nairobi where formerly premises used by the Asian traders to run bigger businesses. The later have given way to the micro businesses which now carry out smaller retail businesses as a result of import and liberalization. With the exception of few MSEs the majority of the micro outfits continue to be survival outfits which are started with minimal capital and preparations. This shows that operations of MSEs have not changed since the original ILO research was carried out in 1972 (ILO 1972). There are, however, few exceptions as the study found which exhibited considerable growth. Examples of these are garment traders who were reported in the study as having grown from micro businesses into considerable sizes i.e. from having only two employees to more than ten as well becoming importers/suppliers of new dressing and suiting materials to other traders. One horticultural trader also grew from a small MSE of less than five employees to more than thirty five currently. The majority, however, remain small with new entrants coming in all the time thus making an already-saturated situation worse.

Thirdly the lack of growth among most MSEs has not endeared them to the use of the more expensive types of ICTs like the computer and related internet. Fourthly, the study found out that the small size MSEs have greatly adopted the affordable mobile ICT. Fifthly, the mobile technology has easily been adopted to the local economic environment i.e. adopting very fast to the mobile telephone-based money transfer/transaction services which has also been extended to banking by those who had hitherto had little or nothing to do with the formal banking services because they considered their savings too small to be taken to the bank or as they put it to “waste time queuing in the bank”. MSE traders have also come to appreciate and easily adapt to the extended hours of the mobile phone-based money transfer services to the hitherto unavailable credit services to the MSEs.

5. Conclusion and Recommendations

The results of the study show that available and affordable technology can be adapted towards local needs, as in the case of the mobile phone technology which has been widely adopted to simplify communication and make work more efficient, less costly and more profitable in the MSE sector in Kenya. Mobile phone technology has also been innovatively used to offer financial transfer services whose fast adoption and success is proof that it is very handy for those relatively smaller transactions which the existing banking services have not been able to reach. The mobile phone-based money transfer and transaction service has also supplemented and given competition to the formal banking services due to their convenience, availability and informality that is not offered by existing banking system. These savings can be incrementally built up to make the MSEs grow steadily to Small and Medium Enterprises (SMEs). The latest move of connecting the money transfer and transaction services to the customers' bank accounts, the M-Kesho by M-Pesa and the Equity bank can also be used to further and extend banking and credit services to the hitherto unreached MSE businesses.

The fast adoption of the mobile phone technology and the accompanying money transfer/transaction services innovativeness which continues to grow by the day may curve a progressive path for the growth of MSEs by improving the banking and money saving opportunities as well as credit services which are necessary for their growth. These savings can be incrementally built up to make the MSEs grow steadily to Small and Medium Enterprises (SMEs). The latest move of connecting the money transfer and transaction services to the customers, bank accounts, The M-Kesho by M-Pesa and the Equity bank can also be used to further and extend banking and credit

The study recommends that even as attempts to adopt the other ICTs are made like trying to connect as many people to the internet as possible through the optical under-sea cable, efforts should also be made to evaluate what brings more returns to the majority of the population especially the MSE participants who manage to get their living from informal trading activities. In other words the type of technology that is easily being easily appreciated by the majority however simple it is should be identified and encouraged because that is where a path to bring out a broad based and relevant development may be carved with faster ICT adoption.

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