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The Use of the Mobile Phone in a Farmer's Business

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Abstract

The era of information and communication technology (ICT) has been beneficial to individuals in aspect of life to which rural farmers are no exception. This study examined the usage of the mobile phone in the business of farmers within Akuapem-North District in the Eastern region of Ghana. A total of 100 farmers were selected to ascertain the usage and impact of the mobile phone by farmers. It was found that the use of the mobile phone has improved customer relation, enhanced communication with supplierss, extension officers and customers, and it has also increased farmers profit The study proved challenges such as inability to have access to calling cards regularly, fluctuation in network receptions and constant energy to charge their mobile phone for rural agriculturalists. . It is recommended that farmers should be encouraged to use the mobile phone in their business to achieve better results.

Keywords: Mobile Phone, Information and Communication Technology, farmers, agricultural productivity

INTRODUCTION

A boundless deal of transformation in the life of society and nations is taking place as the information and communication technology constantly develops, predominantly the advancement of mobile phones and the internet. Evidence from selected studies carried out by the United Nations Conference on Trade and Development (2007) shows that mobile phones have become the most important approach of telecommunication in developing countries.

Furuholt and Matotay (2011) also maintained that the most widespread information technology across the world today, including developing countries, is the mobile phone.

From the perspective of Warner and James (2009), ICT has brought society into a more decentralized and democratized manner of communication which could hardly be found in earlier days. Madon (2000) and Khalil (2003) have also highlighted that there is a direct link between electronic communication/information access and poverty reduction. This implies that ICT when well exploited can be used to improve the welfare of society.

At present, nearly all people in the world consult various kinds of communication technology which work fast and efficiently in the attempt of obtaining pieces of information(Amin *et al,*2013). According to Earl (1988), every organization that commits itself to invest in ICT has the benefits of gaining competitive edge; improving productivity and performance; facilitating new ways of managing and organizing; and of developing new businesses.

With the advent of mobile phones businesses and organizations have tapped into it due to the potential benefit mobile phones have to offer. To be part of the current wind blowing in the world farmers in both developed and developing countries have also been using mobile phone for their activities to their advantage. For intsance Ilahiane, (2007) has found that farmers who use mobile phones make tentative decisions more easily on their farm management than those who do not.

United Republic of Tanzania (URT), (2010) asserts to the fact that in the agricultural sector, like in many other sectors, information is becoming a major input whereas knowledge and information plays a fundamental role for farmers to respond to opportunities that could progress their agricultural productivity. Mobile phones are, therefore, becoming increasingly important to agro-based entrepreneurs as an infrastructural device for improving efficiency of agriculture markets, promoting investment, and contributing to empowerment. Mittal and Tripathi (2009) reported that mobile phones, have the potential to provide answer to the existing information irregularity in various sectors like agriculture. This is indicative that mobile phones usage can significantly improve productivity in the agriculture sector.Furthermore, Jensen, (2007) also stated that mobile phones can help achieve better prices for services and reduce price dispersion. Information on the price factors such as prices of inputs and output, and non-price factors like information about availability of inputs, quality of seeds, modern techniques, etc. would play the primary role in improving farm productivity (Mittal &Tripathi, 2009).

It has also been documented that mobile phones usage facilitate more competent production, aid in the distribution, marketing of products and services, and also help to gain an understanding of international markets(Rayport&Jaworski, 2004; Hooper *et al.,* 2010). Mittal and Tripathi, (2009)also indicated that mobile phones allow fishermen, particularly marginally more prosperous fishermen, to get timely price information which helps them to decide the best place to land and sell their daily catch.

In his study, Omotayo (2005) observed that agricultural extension depends largely on information exchange between and among farmers and a broad range of other actors. Widespread indication demonstrates to mobile phone use in different parts of the world (Castells *et al*, 2002; Ling, 2004; Qiu&Sey, 2006). However, research on mobile use in rural agriculture areas in developing countries is limited. In addition Kwakwa and Alhassan (2012) have indicated that despite the increasing studies on mobile phone for agricultural activities knowledge about the challenges associated with the use of mobile phones in such agircutlural works is limited. As a result the study was guided by the objectives to examine: (1) How farmers use their mobile phones (2) the contribution or impact of mobile phone to farming (3) the challenges farmers face in the usage of mobile phones

METHODOLOGY

Study Area

The study took place in the the Akuapem North District of Ghna which was established in 1988 by Legislative Instrument (LI) 1430.

Until then, it was part of the erstwhile Akuapem District Council which was established in 1975.Akropong is the District Capital. The district is located in the south-eastern part of the Eastern Region and is about 58km from Accra, the capital city of Ghana. The District covers a land area of about 450 sq. km representing 2.3% of the total area of the Eastern Region.
Farming is the major occupation of the populace. Major crops grown in the District are cassava, maize, yam, plantain, potatoes, fruits and vegetables. Non-traditional products, particularly snails and mushrooms, are also being produced and their production is raising providing avenues for investors to exploit emerging export markets and reap significant foreign currency earnings. The arts and crafts industry is also very vibrant in the district, having artisans who are highly skilled in making ceramic products and wood carvings. Most of the people also engaged in agroindustry which includes oil palm production, rice mill, com mill, floor mill, mushroom cultivation, bee keeping and carbolic soap production(Kwakwa, 2012).

Data Collection

A well-structured questionnaire was used to obtain information from 100 farmers in the district. Only farmers who own and use mobile phones in their farming business were selected to participate in the research. Information sought included the number of years they have been using mobile phone, , the means of communication before the acquisition of mobile phone and the effects of mobile phone on their farmingThe data collected was then analyzed using statistical software SPSS 16.0.

RESULTS AND DISCUSSION

Demography of the respondents

The reported sex of the respondents was made up of males (50%) and females (50%) with 39% owning farms with the sizes of less than an acre, 30% between 1-2 acres whiles 31% had farms above 2acres. Majority (45%) of the respondents had their highest education at the Junior High/Middle School, 29% had up to primary school education, 6 % had up to the tertiary level, 6% had up to SHS/Vocation/ Technical education and 11% had no formal education. On marital status, 65% of the respondents were married, 21% single, 5% divorced, 5% widowed and 4% separated. Majority (45%) of the respondents lived between 1-5km from the city, 37% lived between 5-10km, 13% 10-15km, and 5% lived between 15km and above to the nearest city (Koforidua). This has been summarized in Table 1.

Table 1: summary of the demography of the respondents

Sex	Frequency	Percentage (%)
Male	50	50.0
Female	50	50.0
Size of farm		
< 1acre	39	39.0
1-2 acres	30	30.0
above 2acres	31	31.0
Highest Educational Level		
No education	11	11.0
Primary	29	29.0
JHS/Middle	45	45.0
SHS/Vocational/Technical	6	6.0
Tertiary	9	9.0
Marital Status		
Married	65	65.0
Single	21	21.0
Separate	4	4.0
Divorced	5	5.0
Widowed	5	5.0
Distance from the city		
1-5km	45	45.0
5-10km	37	37.0
10-15km	13	13.0
15 & above	5	5.0

Farmers' usage of mobile phone

It was indicated that 22% used the mobile phone between 1-2yrs, 30% between 2-4yrs, 24% between 4-6yrs, 9% 6-8yrs, 8% 8-10yrs and 7% above10yrs and a cross tabulation shows that male respondents used the mobile phone earlier than the female counter part (X^2=21.776, p=0.001).It is found that prior to the advent of mobile phones, 6% of the respondent used letter writing as a means of communication, 2% used telegram, 72% used verbal communication, 1% used Letter & Telegram, 18% used Letter & Verbal message and 1% used Letter, Telegram and Verbal. Before the mobile phone usage, the means of communication of the males and female farmers were the same(X^2= 4.944, p= 0.423).

On a whole it was found that farmes used their phones for transactions that wiould be helpful to the business like purchasing input, calling extention agents, purchasing inputs and interaction with workers. A critical look at the breaksown shows that majority (46%) of the respondent indicated that mobile phones are very important for purchasing farm input, 37% indicated it is important, 16% indicated it is not important whiles 1% indicated it is not very important. For the mobile phone used to call extension agents, 34% responded very important, 28% responded important , 30% responded not important whiles 8% responded not very important. In the purchase of seeds or planting machines, about 34% responded very important, 35% responded important, 30% responded not important and 1% responded not

very important. On mobile phone communicated to labours, 24% showed very important,43% showed important, 30% showed not important whiles 3 % showed not very important. In using the mobile phone to sale farm products, 5% used to call buyers, 40% used to call buyers and obtained new prices, 12% used to call buyers and request for payment of debts, 7% used to call buyers and obtain buyer's interest for a particular crop to be produced. 8% used to obtained new prices and request for payment of debts, 4% used to obtained new prices and obtained buyer's interest in a particular crop to be produced, 3% used to request for the payment of debts and obtained buyer's interest in a particular crop to be produced whiles 21% used to call buyers, obtain new prices, request for payment of debts and obtain buyer's interest in a particular crop to be produced.

The use of the mobile phones here (Akuapem district) can be similar to the usage of mobile phone by the farmers in Kilolo District, Iringa (Tanzania) as revealed by Nyamba & Mlozi (2012)

Challenges Faced By Farmers in Using the Mobile Phone

To help in the documentation of the challenges that face farmers who use mobile phones for their farming work, the study asked farmers about the challenges they face in this regard. One challenge mentioned by farmers was that they sometimes do not get quick feedback from those they communicate with on phones. About 46% responded that feedback were obtained immediately or within first six hours (0-6hrs) when they call buyers, 21% acquired response at long periods within the day (6-48hrs) whiles 33% acquired unpredictable duration.

On network reliability in the area, 12% responded that they have had reliable network at all time, 36% said most of the time, 44% said not all the time and 8% not reliable. About 4% of the respondents rated prices of calling/credit card as very low, 12% as low, 50% moderate, 25% high whiles 9% very high. On how the availability of credit/ calling card , 20% responded always, 37% often and 43% sometimes. Majority (49%) rated high the price of the mobile phone as a challenge, 10% rated it low whiles 41% rated it moderate. On assessing network reception, 7% responded very good, 29% good, 23% fair, 29% poor, whiles 12% bad. In his Kwakwa and Alhassan (2012) also enumerated no reception at some point in time, poor sound or breaking up of sound and calls ending unexpectedly, as the challenges indicated by the respondents, The responses on challenges associated with the use of the mobile phone did not differ irrespective of age, sex or educational differences of farmers who use mobile phones (Table 2).

Table 2: Cross tabulations of age, sex and educational levels of respondents and challenges faced in the use of mobile phones

AGE	x^2	p value
challenges		
reliabity of network	1.27E-02	0.241
frequency of getting feedback	83.992	0.301
prices of calling cards	1.41E-02	0.801
accessibility of getting calling cards	95.8	0.084
price of mobile phone	81.11	0.383
assessing network reception	1.64E+02	0.312
power to charge the mobile phone	1.15E+02	0.549
SEX		

challenges		
reliabity of network	0.87	0.83
frequency of getting feedback	1.153	0.562
prices of calling cards	1.804	0.772
accessibility of getting calling cards	4.548	0.103
price of mobile phone	2.105	0.349
assessing network reception	7.046	0.133
power to charge the mobile phone	9.397	0.024
EDUCATIONAL LEVEL		
challenges		
reliabity of network	12.891	0.377
frequency of getting feedback	3.382	0.908
prices of calling cards	20.625	0.193
accessibility of getting calling cards	5.593	0.693
price of mobile phone	6.315	0.612
assessing network reception	14.86	0.535
power to charge the mobile phone	15.08	0.237

IMPACT OF USING MOBILE PHONE ON FARMERS BUSINESS

From the farmers mobile phone has been very helpful by enabling them stay in touch with suppliers(69%), stay in touch with customers(74%) 71% used access to new customers(71%) and cutting out middlemen (38%)..

Before the use of the mobile phone, majority 63% responded that there was difficulty in contacting customers to sell their products. To avert this another 37% responded that contact were made to agents to sell to customers. By the use of mobile phones, 38% do not contact agents to sell to customers. Again about 68% respondent were giving relying on family members to sell their products but this number has reduced to 31% after they started using mobile phones. The study reveal that before the use of the mobile phone, 64% said they could not sell much of their produce but after the advent of mobile phone 35% are not able to see an increase in the sales of the products Similarly the use of phone has enabled 65% of farmer realsized an increased in their revenue compared to 46% in the past. Again 4% believed that mobile phone usage has not influenced the price of their product, 30% said it has got small influence, 46% larger influence, 20% could not tell. The finding in this work on the Impact of mobile phones is similar to Salia et al (2011) study among fishermen in Effutu Municipality (Ghana).

CONCLUSION

This study conducted examined the use of mobile phones by farmer for their business in Akuapim-North district in the Eastern Region of Ghana.The outcome of the study is based on hundred participants through the use of questionnaires. It was found that the mobile phone had greatly affected farmers in the district. Although rural farmers have challengers in the use of mobile phones such as inability to have access to calling cards regularly, fluctuation in

network receptions and constant energy to charge their mobile phone, it has impacted positively. From the study farmers have benefited from the use of the mobile phone because it has helped reduced operational cost and increased their revenue. It has also improved customer relation, enhanced communication between other suppliers, extension officers and customers and it has increased their profit. The outcome of the study demonstrates that in order to improve rural agriculture productivity the price and infrastructure is a necessary condition but not sufficient. It is logical from the study that information and communication technology must be integral to any comprehensive policy direction for rural agriculture development.

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