EFFECTS OF KNOWLEDGE AND ATTITUDE ON USES OF MOBILE PHONE AMONG SELECTED CASSAVA FARMERS IN OYO STATE, NIGERIA

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ABSTRACT

This study determines the effect of knowledge and attitude on uses of mobile phone among selected cassava farmers in Oyo with a view to ascertain the farmers' basic knowledge on mobile phone, determine the attitudinal disposition of farmers to the use of mobile phone and ascertain the sources of information of cassava farmers on basic applications on mobile phones. Hypotheses were tested on the level of knowledge and disposition of farmers on the use of mobile phone. The study was carried out in Oyo State using multi-stage sampling procedure and structured questionnaires to select 201 respondents from farmers who registered with the agricultural development programme, three Local governments was selected from one senatorial district, five wards from each local government and five villages from each ward. Data collected were analyzed using descriptive and inferential statistics. There were high knowledge (94.5%) about the basic application of mobile phone and generally all respondents were favourably disposed to the use of mobile phone in the study area. Respondents basic knowledge about mobile phone has great influence on the level of use ($r = 0.230$; $p < 0.005$), and attitude ($r = 0.230$; $p < 0.005$) has a favourable disposition on the use of mobile phone. There is high level of knowledge and favourable attitude towards mobile phones. However, more training programmes for farmers in some other applications are highly required.

Key words: Mobile phone, communication, knowledge, attitude

INTRODUCTION

Communication is a continuous, never-ending means of transferring messages from encoder to the decoder in the desired direction (Ladele, 2015). The pace of change brought about by new technologies has had an important effect on the people worldwide. It is a fact that mobile phones and computers have revolutionised communication and interpersonal relationships hence, influencing intimacy, and closeness that exist between people (Elegbeleye, 2005). Mobile phone ownership and usage included more poor, elderly, and rural individuals, facilitated by the introduction of lower priced handsets and lower denomination air time cards. (Aker and Mbiti, 2010). According to Dozie (2009), Africa has recorded the highest mobile penetration rates in the world with almost 80% of total telephone subscribers using mobile phones, and nine out of every ten subscribers in Sub-Saharan Africa use mobile phones.

The relevance of the use of mobile phones for communication in the agricultural sector should not be under played as agriculture is significant to the economic

growth of any nation. For agriculture to meet up with the expectations stated in the financial report, it requires the efficient functioning of a set of interrelated services in its production and delivery of produce. Molony (2008), recognized the fact that communication between farmers and suppliers tends to concern supply and demand information directly related to the buying and selling of agricultural products and this communication occurs at a distance because it is impractical and unnecessary for either partner to travel to communicate with each other face-face. The relevance of cell phone to cassava farmers is an effective and better means of exchanging information through telecommunication rather than the old traditional search mechanism but also the unnecessary risk of life and opportunity cost by time spent on the road than in productive activities (Aker, 2009).

CTA (2009), reveals how huge amount of time and labour is lost due to long travelling distances and suggests that money and efforts involved in this process can be better used for other family/socio-economic needs. There are certain existing constraints faced in mobile phone use. Southwood (2008), cited problems of low quality services from service operators, rolling out services en masse in a bid to recoup investment in record time without corresponding increase in valued service, high charges and low access to electricity could render inefficient information dissemination. Till date, the advances of the mobile phone to cassava farmers are not effective enough in bringing about the much needed social cohesion that would allow both traders and farmers to act together more efficiently in pursuit of a shared objective which is the disposal of cassava to final consumer. The general objective of the study is to determine the uses of mobile phones among selected cassava farmers in Oyo State. Specific objectives are to: (a) ascertain the knowledge level of the respondents about basic mobile phones. (b) determine the attitudinal disposition of respondents to the use of mobile phones. (c) ascertain the sources of information of cassava farmers on basic applications on mobile phones.

The following hypotheses were tested in null form using Partial Product Moment of Correlation:

Ho1: There is no significant relationship between farmers' knowledge and the use of mobile phone

Ho2: There is no significant relationship between attitude of farmers and the use of mobile phone.

STUDY AREA

Oyo is an inland state in south-western Nigeria, with its capital at Ibadan. It is bounded in the north by Kwara State, in the east by Osun State, in the south by Ogun State and in the west partly by Ogun State and partly by the Republic of Benin. The topography of the State is of gentle rolling low land in the south, rising to a plateau of about 40metres. Oyo State is well drained with rivers flowing from the upland in the north-south direction. It has an equatorial climate with dry and raining seasons and relatively high humidity. The dry season starts from November to March while the rainy season starts from April to October. Average daily temperature ranges between 25 °C (77.0 °F) and 35 °C (95.0 °F), almost throughout the year. The vegetation pattern of Oyo State is that of rain forest in the south and guinea savannah in the north. Thick forest in the south gives

way to grassland interspersed with trees in the north.

The population of the study consisted of all cassava farmers in Oyo State. One local government was selected from each senatorial district namely Ibarapa East local government, Oyo East local government and Ogbomoso North local government in Oyo State. The primary data was collected using quantitative technique. The data were gathered using structured questionnaires and interview schedule. The secondary data include information from published literatures, conference proceedings, journals, articles, bulletins, newspapers, and other relevant texts. Purposive sampling technique was used to select the cassava farmers from the above listed local government areas. Five wards each were selected from each local government area (Ibarapa East local government includes Oke Otun, Itabo, Aborerin, Anko and Oke imale. Oyo East local government includes Apinni, Agboye/molete, Ajagba, Jabata, Apaara and Ogbomoso North local government wards includes Abogunde, Isale Afon, Jagun, Osupa and Isale Alaasa). As a result of the large intended population size, 5 percent sample size was drawn from each village to obtain the overall sample size that was used in this study. The data gathered from this study were subjected to both descriptive and inferential statistical tools.

RESULTS AND DISCUSSION

Respondents by knowledge of basic mobile phone applications

Table 1 shows that all (100%) respondents were knowledgeable about the main functions of the answering button on mobile phones it is essentially used to dial out or answer calls. An impressive percentage of the selection of correct responses was revealed as all items in the table exceeded the average rate of 50%. However, certain items recorded lower knowledge rate amongst the farmers. These include: A reminder is an element that can be found on the mobile phone (63.7%), Browsing with mobile phones is very possible (60.7%), it is possible to transfer files from one mobile phone to another (63.2%), and certain mobile phone allow you to convert all words from English Language to your local dialect (70.1%); this suggests that quite a number of the respondents are yet to familiarize themselves with the higher operational level of the technology attesting to Aguero (2009), that there is still a level of ignorance about its functioning which shows that beyond 'voice applications' other functions cannot be completely explored yet. The high knowledge of basic mobile phone functions among the respondents could be as a result of the large percentage (72.1%) of the respondent's exposure to at least one form of education where it was noted that more education could mean a higher possibility of awareness and understanding of the mobile device. Other factors that could come into play are dedication to, and investment in agricultural activities. These factors as described by Aguero (2009), are considered to increase the probability of making effective use of mobile phone. He posited that mobile phone use may increase the user's understanding; even non literates become knowledgeable from curiosity founded from their day to day use of mobile phones.

Table 1: Percentage distribution of respondents by knowledge of basic mobile phone applications (n=201)

S/N	Mobile Phone Application Knowledge	True (%)	False (%)
1.	The answering button on the mobile phone is used for dialing and answering calls.	100	0.00
2.	There is a provision for searching and receiving messages (SMS) on mobile phones	97.5	2.5
3.	Some mobile phones have inbuilt radio facilities	95.0	5.0
4.	It is possible to store people's names and number on mobile phones.	99.5	0.5
5.	Calendars can be found on mobile phones.	94.5	5.5
6.	There are alarm systems in mobile phones.	91.0	9.0
7.	A reminder is an element of the mobile phone.	63.7	36.3
8.	Mobile phones have time clocks.	95.5	4.5
9.	Browsing with mobile phones is very possible.	60.7	39.3
10.	Calculators are available on mobile phones.	94.5	5.5
11.	Mobile phones have different games that can be played.	92.0	8.0
12.	Some mobile phones have cameras for taking pictures.	88.1	11.4
13.	There are torch light facilities on some mobile phones.	94.5	5.5
14.	A number of mobile phones have music playing functions.	82.1	17.9
15.	It is possible to transfer files from one mobile phone to another.	63.2	36.8
16.	Activities can be captured using a video recorder on mobile phones.	74.1	25.9

Source: Field Survey, 2016.

The highest score for basic knowledge of the cell phone applications was 17, the lowest score was 3, and the mean score of 9.0. Therefore, all the respondents having a score below 9.0 were categorised as people having low knowledge of basic mobile phone functions/applications, while the respondents having high score 9.0 and above were categorised as people having knowledge of basic mobile phone functions/applications.

Result on Table 2 indicates that majority of the respondents (94.5%) were highly knowledgeable about the basic applications of the mobile devices. Farmers have been able to transmit from a culture in which there was no telephone service of any kind to one in which mobile phones are now widely utilized amongst them (Mittal, Gandhi and Tripathi, 2010). The implication is that they all have been given the equal opportunity to learn and acquire fundamental understanding of the technology. This is based on Harris's (2002) ICT framework explicated by Obayelu and Ogunlade (2006), that everyone is able to accumulate sufficient experience with the use of ICT's to enable them fully exploit their potentials and everyone understands which tools are best suited for which tasks.

Table 2: Respondents' distribution by level of knowledge of mobile phone applications

Level of knowledge of basic mobile phone applications	Scores	Frequency	Percentage
Low knowledge of basic applications	< 9.0	11	5.5
High knowledge of basic applications	> 9.0	190	94.5
Total		**201**	**100.0**

Source: Field Survey, 2016

Respondents' distribution by attitudes towards the mobile phones technology

Results in Table 3 indicates that 89.9% of the respondents acknowledged the role of mobile phones in their time Management, while 89.5 percent agreed that exchange of information has become faster and easier with the use of mobile phones. Majority (74.1%) believed that the mobile phone belonged to all not just the elities, and its services should be freely available to all who might wish to make use of them. About 58.2 percent still had a measure of trust for the people they conduct business with through the mobile phones while 28.9% expressed their reservations in concluding business deals via the mobile phone as they recounted a number of fraudulent practices they had either experienced or heard about. More than average (58.7%) debunked the notion that mobile devices constituted a social nuisance and 69.9 percent attested that they did not spend so much to ascertain the availability and delivery dates of supplies but 13.5 percent felt call rates were excessive and therefore did not see any ample difference in the cost of obtaining information. Majority of the respondents (65.7%) desire to purchase better mobile phones of higher value while 22 percent considered buying expensive mobile phones a waste of money and were satisfied with what they had as long as it will continue to perform its basic functions. A higher percentage of the respondents (80.1%) disagreed that mobile phones could not make any meaningful impact on their businesses with 65.7 percent adjudging that bargaining produce prices with the mobile phone is cost effective than travelling long distances for the same purpose. The supposition that a wide information gap still exists within farmers and the market was supported by 47.7 percent of the respondents but acknowledged the role of mobile phones in bridging existing information gaps. Results in table 3 also showed that more respondents (43.8%) still preferred the traditional means of information exchange like personal travels, informal gatherings, trade unions etc. to the new media. This is correlated by Molony (2008), who noted that trust and the need for direct, personal interaction through face-face contact is one of the most pervasive features of African MSE economies. A higher proportion (66.7%) disagreed that mobile phones are difficult to operate while 55.7 percent and 47.8 percent opposed the opinions that it does not aid participation in decision making and restricts freedom of expression. In the end, 76.6% affirmed that mobile phones create better linkages among stakeholders in the agricultural sector.

Table 3: Respondents' distribution by attitudes towards the mobile phones technology (n=201)

S/N	STATEMENTS	SA %	A %	U %	D %	SD %
1.	Time is very valuable to me and the mobile phone plays a vital role in my time management.	50.7	38.8	4.0	2.0	4.5
2.	I can exchange information faster and easily with my mobile phone.	54.2	35.3	2.5	6.0	2.0
3.	I don't trust the phone, it only encourages fraudulent practices.	10.0	18.9	12.9	35.3	22.9
4.	I am willing to spend more to purchase a better phone.	36.3	29.4	11.9	7.5	14.9
5.	All the technologies are a social nuisance so I don't bother to keep up with new technology developments.	7.0	14.9	19.4	39.3	19.4
6.	Regardless of technology awareness, traditional means of information exchange gives a better result.	14.9	28.9	16.9	23.4	15.9
7.	Bargaining produce prices with the mobile phone is cost effective than traveling long distances for the same purpose	40.8	24.9	15.9	10.0	8.5
8.	Mobile phones are too difficult to operate.	10.4	11.9	10.9	37.3	29.4
9.	The mobile phone does not facilitate participation in decision making.	6.0	10.0	28.4	33.8	21.9
10.	Mobile phone create better linkages among stakeholders in the agriculture sector.	51.7	27.9	9.0	4.5	7.0
11.	The mobile phones restricts my freedom of expression; I have to see my buyer's face-face before any transaction can take place.	10.9	16.9	24.4	28.4	19.4
12.	I am relaxed when my produce is in transit because my mobile phone helps me to monitor my produce.	41.3	16.4	21.9	10.4	10.0
13.	I also heard that the elements in mobile phones can cause health disorders, its effect is therefore worse than benefits.	13.9	7.5	18.4	43.3	16.9
14.	It is pleasurable to receive market information through mobile phone.	41.8	24.9	19.4	6.5	7.5
15.	I don't think that mobile phone can make any meaningful impact on my business.	5.5	6.0	8.5	37.3	42.8

Source: Field survey, 2016

Key: SA – Strongly Agree, A – Agree, U – Undecided, D – Disagree, SD– Strongly disagree

Categorization of attitudinal disposition of the respondents

This refers to the overall attitude of the farmers towards the mobile phone technology and it was measured by obtaining the highest score, the lowest score and the mean score. The highest score obtained for attitude towards the mobile phone technology was 92, the lowest was 50 and the mean score was 46.0. Therefore, all the respondents having scores less than 46.0 were categorized as people having unfavourable attitude towards the mobile phone technology. Result of analysis in table 4 shows that 91.0% of the respondents expressed positive attitudes towards the mobile phone technology. There is evidence that shows that mobile phone has helped to enhance productivity, facilitate knowledge sharing, overcome geographic limitations, maintain and support social relationships or networks (Aguero 2009). The vast benefits derived from the mobile phone use may have played a major role in the reformation of the attitudes of the respondents towards the mobile phone. This in part, helps to explain why the result obtained above revealed that majority of the respondents surpassed the expected mean score of 46.

Table 4: Distribution of respondents by categories of attitudes towards the mobile phone

Attitude towards mobile phone technology	Scores	Frequency	Percentage
Unfavourable	< 46	18	9.0
Favourable	≥ 46	183	91.0
Total		**201**	**100.0**

Source: Field Survey, 2016

Sources of market information

Results in table 5 reveals that respondents had access to agricultural information through trade associations/unions (74.2%), cooperative societies (23.8%), middle men (52.8%), informal meetings (78.6%), radio (62.2%), television (38.3%), letters (16.9%), newspapers (19.4%), email & internet (12%), mobile phones (81.1%), personal travels (81.1%).

As average percentage of the respondents (53.7%) acknowledged that they obtained agricultural information regularly from informal gatherings. This result, helps to demonstrate the realization that there is still a high regard for interactions stemmed from personal interrelationships as stressed by Molony (2008). About 51.7% sought for these information with their mobile phones and respondents identified both (informal gatherings & use mobile phones), as medium through which they are able to update themselves on a daily basis, though sometimes unreliable, these means are faster and have remained good sources through which farmers gain access to and cross-check information. Furthermore, 42.8% maintained that their regular source of agricultural information through the following sources: associations (29.4%), cooperatives (11.9%), middle men (28.9%), radio (11.4%), television (10.4%), letters (3.5%), newspaper (0.5%), email and internet (3.5%). Over 60% of the respondents refuted obtaining market information from sources as letters (83.1%), cooperative societies (76.1%), newspaper (80.6%), television (61.7%), email & internet (88.1%). The high access to agricultural information through trade associations (74.2%) and radio (62.2%) is significant as this indicates the rate at which traders depend on their trade unions for supply and update situations within and outside their trade centers. About 52.8% of the respondents recognized the role played by the middlemen in passing across relevant market information particularly as regards demand and supply of agricultural produce. Furthermore, the result shows that majority of the respondents (35.5%) indicated personal travel as their most preferred source of information, 32.8% preferred information disseminated through trade associations/unions while 25.4% opted for informal gatherings. Other sources of information selected as most preferred were: television (2.5%), radio (2.0%) and cooperative societies (2.0%). None of the respondents preferred middlemen, letters, email and internet, newspapers and mobile phone. Majority of the farmers who supply their produce are illiterates or semi-illiterates who can neither read nor write. Internet has been found to be and remains the least effective means of information exchange because it requires higher quality communication, electricity, technology, infrastructure and literacy in computer-supported language (Obayelu & Ogunlade, 2006).

Table 5: Percentage Distribution of respondents based on the sources of information (n=201)

Information Sources	Percentage of access (%)			Preference
	Never	Sometimes	Regularly	Most preferred
Associations	25.9	44.8	29.4	32.8
Cooperatives	76.1	11.9	11.9	2.0
Middle men	47.3	23.9	28.9	-
Informal meetings	21.4	24.9	53.7	25.4
Radio	37.8	47.8	14.4	2.0
Television	61.7	27.9	10.4	2.5
Letters	83.1	13.4	3.5	-
Newspapers	80.6	18.9	0.5	-
Email and Internet	88.1	8.5	3.5	-
Mobile phones	18.9	29.4	51.7	-
Personal travels	18.9	38.3	42.8	35.3

Source: Field Survey, 2016

Test of hypotheses

There is no significant relationship between farmers' knowledge and the use of mobile phones.

Table 6 below show a significant relationship between respondent' knowledge level about basic mobile phone applications and use of cell phones ($r = 0.230$; $p < 0.005$). The null hypothesis which states that there is no relationship between respondent's knowledge level and use of mobile phones is therefore rejected. This result implies that respondents' basic knowledge about mobile phone functions/applications has a great influence on their level of use. The more knowledge the farmers have about mobile phone applications/functions has a great influence on their level of use. This suggests that manufacturers of mobile phones must device usability schemes that make their products acceptable and understandable to users. Feedback from usage is also important and should be inculcated into product design in an accessible way in order to aid product improvement. These should be considered when releasing ICT products, mobile phones inclusive into the consumer market, (Longe et.al 2010).

Table 6: Relationship between respondents' knowledge level and use of mobile phones

Variables	N	r value	P
Knowledge level and use of mobile phones	201	0.230	0.001

Source: Field Survey 2016

* Significant @ $p \leq 0.05$

Test of hypotheses

There is no significant relationship between respondents' attitude to mobile phone and their use of mobile phones in farming activities.

Table 7 reveals that there is a significant relationship between the attitudes of farmers towards the mobile phone and their level of use of the technology ($r = 0.230$; $p < 0.05$). The null hypothesis (there is no significant relationship between attitude and mobile phone use) is therefore rejected.

The implication therefore, is that respondents attitude towards mobile phones with you can favourable effect on use. This outcome indicates that farmers will utilize the mobile phone better if they are stimulated from its increased benefits than constraints as illustrated by Aguero (2009) that the value of mobile phones by certain individuals has become high because they now see it as a tool for strengthening social ties, increasing personal security and enhancing business opportunities.

Table 7: Relationship between respondents' knowledge level and use of mobile phones

Variables	N	r value	P
Attitudinal disposition and use of mobile phones	201	0.230	0.001

Source: Field Survey 2016

CONCLUSION

Information is often exchanged through the use of mobile phone, and farmers preferred to use mobile phone to pass across information. There is an adequate knowledge level of farmers on the use of mobile phone, favourable disposition to the use of mobile phone in the study area and display of high knowledge of basic applications. Therefore, Extension Workers should design a programme that will increase the use of the Mobile phone since it can be used in other sectors than agriculture such as mobile banking bulk messages etc. Prompt regular and continuous, flow of information should be passed through mobile phone to improve farmers' access to new innovation and alert on the danger around the area.

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