Use Of Cell Phones Among Selected Food Crop Marketers In Ibadan Metropolis, Nigeria

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ABSTRACT

The introduction of cell phone services in Nigeria has eased the conduct of business activities including agricultural businesses with the elimination of hitches in the communication system. This study investigated the use of mobile phones among selected food crop marketers in Ibadan metropolis. Multistage sampling technique was used to sample two hundred and one respondents in the study area. Qualitative (In-depth Interview with Key Informants and Focus Group Discussion) and quantitative (surveys) were conducted. Data collected were described with frequency distribution and percentages, and analyzed with chi-square, and PPMC. Majority (94.5%) of the marketers in the study area had high knowledge of basic cell phone applications. Despite this, 52.2% of the marketers had low use level of their cell phones in their marketing activities. Their major sources of market information remain informal gatherings, trade unions, and radio. A significant relationship existed between respondents' knowledge of basic cell phone applications ($r = 0.230$; $p < 0.050$) and their use of cell phones in marketing activities. It is concluded that agricultural marketers have not been directly or intentionally using cell phones as a tool of communication in their activities in an effective manner. Extension agents should be trained to use cell phone applications beyond basics, like video sharing, bulk SMS and picture messaging to reach out to agricultural marketers, train marketers to use them, and inform them of its efficacy in curbing shortchanging activities.

Keywords: Communication Technology, Agricultural Marketing, Cell Phone, Information

INTRODUCTION

Access to information is crucial for ensuring that farmers, traders, and consumers can engage in buying and selling goods when and where needed most, thus increasing market performance (Aker, 2009). Information is a major driver of any economy, a critical element that allows efficient functioning of markets. Telecommunication provides a better platform for information transfer, as the mobile phone have become the single most powerful way to extend economic opportunities in all sectors, agriculture inclusive (CTA, 2009). Despite the liberalization of the telecommunication sector in Nigeria, experts still believe that the level of awareness and usage should have gone beyond what is presently obtainable in the country. One major debilitating issue remains the marketing information gap existing in the agricultural sector.

Communication gap is one major impediment in agricultural marketing activities; market information is inadequate, sellers and buyers of food produce are not well informed about the sources of supply and this reduces efficiency of market (Babatunde and Oyatoye, 2007). A lot of cooperation, coordination, and exchange of information are required to trace agricultural commodities and organize the transportation of these goods from producers to consumers. Overa (2004) stated that alternative to telephone calls in long-distance exchange of information had been personal travels, use of messengers/intermediaries or letters; drawing out the fact that physical travel is stressful, time consuming with a high risk of accidents and is such an expensive communication method.

CTA (2009) stated that huge amount of time and labour hours is lost due to long traveling distances and suggests that the money and efforts involved in this process can be better used for other family/socioeconomic needs. Transportation cost includes the cost of transporting people in order to exchange very simple information such as finding out prices of produce, negotiating, concluding and monitoring contracts (Overa, 2004); traders will not incur that as an opportunity cost, but rather spread the costs across the

obtained produce which ultimately leads to increase in prices of consumer goods. Although radio has been affirmed as a source of information that has a wide coverage around the country, rural areas inclusive, this means still provides a limited range of agricultural market information; while the television is deemed as too sophisticated and rarely gives detailed reports on agricultural news because it is not as attractive as reporting oil & gas, politics, and crimes.

Disruptions in supply chain occur when there is a communication breach between suppliers, intermediaries, processors, and buyers leading to spatial frictions. Traceability of produce, monitoring and co-ordination of marketing activities, variations in prices of consumer goods, time, money, and effort wastes, exploitations and inadequacies in storage, packaging, and processing, have been the consequences of inadequate market information flow. Despite the advances of the cell phone technologies in all sectors, the focus in relation to agricultural marketing is told as 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 agricultural produce to the final consumer; as Molony (2006) observed that dissension and lack of trust in direct cell phone communication still occurs until face-to-face confidence has been built between them. Thus, cell phones may have played a minor role between isolated farmers and marketers, because face-to-face contact is preferred to remoteness of the cell phones. Asheeta *et al.* (2008) faulted the lack of local relevance, easy to understand content in the local language of the users in cell phone applications (texting devices) and lack of well trained human resources to develop applications that will efficiently service every group of its users. These problems cited have indeed questioned the actual relevance of the technology to its users. It is expected that cell phone use should have positive impacts on agricultural market efficiency, but empirical evidence is still somewhat limited. The following research questions therefore become imperative to this study:

i. What is the selected food crop marketers' knowledge of basic cell phone applications?
ii. What is the marketers' use of cell phone applications in marketing activities?
iii. What are the other sources of market information of these marketers?

Hypothesis of study

The hypothesis of the study was tested in null form:

$H_0 1$ There is no significant relationship between respondents' knowledge of basic cell phone applications and their use of cell phones in marketing activities.

METHODOLOGY

The city of Ibadan which is the second largest in Africa was founded in 1829. The name Ibadan was derived from 'eba-odan' meaning 'near the grass land' which provided farm lands for the early settlers. Ibadan is the capital of Oyo State, a South West state in Nigeria that covers a total land mass of 27,249 square kilometers bounded by Ogun State in the South, Kwara State in the North, parts of Ogun State and Benin Republic in the West and Osun State in the East. This city comprises the Yoruba ethnic group who has rich culture and strong belief in kingship as a means of unity. Other ethnic groups are the Ibos, Hausas, Edos, Ebiras, Urhobos, Efiks, Ibibios, Ijaws, Itsekiri and Tivs who engage in farming, trading of food commodities among other activities. The climate of Ibadan is of tropical wet and dry seasons, the topographical formation of the city consists of different land forms like the hills, plains and valleys covering less than 5% of the total area. Some of the hills include Agodi Hill, Mapo Hill, Premier Hill, Mokola-Oremeji Hill, and Oke Aremo Hill. Ibadan occupies a central position of commerce with a large number of markets serving the economic needs of the people. Its markets are accessible to resident traders and others who bring produce from other parts of the country.

The population of this study is the food crop marketers (males & females) within three major markets – Bodija, Orita merin, and Oja oba in Ibadan metropolis. The primary data was sourced through In-depth Interviews with key informants, Focus Group Discussions, and survey. A reliability coefficient of 0.78 was obtained for the instruments. The secondary data sources were published literatures, conference proceedings, journal articles, bulletins and Newspapers. Purposive sampling technique was used to sample three markets from the thirty-two major markets in the metropolis. Bodija, Oja-Oba, and Orita-Merin markets were sampled because these markets are large, and well known for food crops. Sixteen food items associations were identified within the markets, out of which yam, yam flour (*elubo*), maize/millet, beans, and tomato/pepper sellers associations were sampled purposively

because these food items are produced outside Ibadan and have a high patronage and consumption rate in the metropolis. Five percent (5%) of the sampled associations population was drawn to obtain two hundred and one (201) sample size that was used in this study.

Independent variables measured in this study include respondents' knowledge of basic cell phone applications, and respondents' other sources of marketing information; while the dependent variable is respondents' use of cell phones in marketing activities. Respondents' knowledge of basic cell phone applications was measured by presenting a list of statements which respondents responded (Yes) and (No) to. A score of 1 was assigned to a correct response and 0 to an incorrect response. Mean scores were computed to categorize respondents into high and low levels of knowledge. A list of marketing operations was generated and presented to the respondents. The respondents were asked to indicate their use of the cell phones for marketing activities on a four point scale of Never (0), Rarely (1), Sometimes (2), and Often (3). Mean was computed to categorize respondents into high and low levels of use. Other sources of market information were measured by presenting a list of other possible sources of market information gathered from literatures to respondents. A three point scale of Never (0), Sometimes (1), and Regularly (3) was used.

RESULTS AND DISCUSSION

Respondents' knowledge of basic cell phone applications

Table 1 reveals that all the marketers knew the functions of the green button on cell phones which is used to dial out or answer calls. Well above average of them answer all the knowledge items correctly. This indicates their high level of knowledge of basic cell phone applications. However, only 60.7%, 63.2%, 63.7%, and 70.1% knew that cell phone could be used to surf the internet, function as data storage and transfer device, function as a reminder, and communicate with them in their mother tongue respectively. This suggests that some of the respondents do not familiarize themselves with the higher operational level of the technology, regarding it as extra-functions that are unnecessary, attesting to Aguero (2009) that there is a level of ignorance about cell phone functioning, inhibiting its full exploration.

Table 1: Respondents' knowledge of basic cell phone applications (N = 201)

S/No	Cell Phone Application Knowledge	True(%)	False(%)
1.	The green button on the cell phone can be used for dialing and answering calls.	100.0	0.00
2.	There is a provision for sending and receiving messages (SMS) on cell phones.	97.5	2.5
3.	Some cell phones have inbuilt radio facilities.	95.0	5.0
4.	It is possible to store people's names and numbers on cell phones.	99.5	0.5
5.	Calendars can be found on cell phones.	94.5	5.5
6.	Cell phones have time clocks.	95.5	5.0
7.	There are alarm systems in cell phones.	91.0	9.0
8.	A reminder is an element of the cell phone.	63.7	36.3
9.	Browsing with cell phones is very possible.	60.7	39.3
10.	Calculators are available on cell phones.	94.5	5.5
11.	Cell phones have different games that can be played.	92.0	8.0
12.	Some cell phones have cameras for taking pictures.	88.1	11.4
13.	There are torch light facilities on some cell phones.	94.5	5.5
14.	A number of cell phones have music playing functions.	82.1	17.9
15.	It is possible to transfer files from one cell phone to another.	63.2	36.8
16.	Activities can be captured using a video recorder on cell phones.	74.1	25.9
17.	Certain cell phones allow you to convert all words from English language to your local dialect.	70.1	29.9

Knowledge Level of respondents on basic cell phone applications

The highest score for basic knowledge of the cell phone applications was 17, the lowest score was 3, and the mean score was 9.0. All respondents having a score below 9.0 were categorized as having low knowledge of basic cell phone applications, while respondents having a score of 9.0 and above were categorized as having high knowledge of basic cell phone applications. Table 2 shows that 94.5% of the respondents had high knowledge of cell phone basic applications. Marketers 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 among them (Mittal, Gandhi and Tripathi, 2010). They have been given equal opportunity to learn and acquire fundamental understanding of the technology.

Table 2: Respondents' level of knowledge of cell phone applications N=201

Level of knowledge	Scores	Freq.	Percent
Low	<9.0	11	5.5
High	≥9.0	190	94.5
Total		201	100.0

Use of cell phone in marketing activities

Results (table 3) reveals that the largest percentage (85.2%) requested for remittances from their customers with their cell phones, they indicated that market situations sometimes warrants them to sell goods on credit to customers they have established a relationship with because they are able to dispose goods faster by this means and the cell phone come in handy when there is need to pursue their debtors particularly when large sums of money is required to make bulk purchase from suppliers. Majority (84.1%) made use of mobile phones to affirm availability of produce from their suppliers, some marketers claimed to have deployed agents to different supply areas like Maiduguri, Kaduna, Ifiki, *etc*. They also call for information on availability of produce and the possibility of making purchases at those farm sites. Since market prices are liable to sudden changes, 81.6% of the respondents used their mobile devices to call other traders within and/or outside their trade zones to keep themselves abreast of the fall or rise in prices.

Table 3: Respondents' use of cell phones in marketing activities (N = 201)

S/No	Marketing Operations	No	Yes (frequency of use)		
			Rarely	Occasionally	Often
1.	To communicate market prices	18.4	5.0	16.9	59.7
2.	For product collection	22.4	2.5	14.9	60.2
3.	For product delivery	25.4	6.5	19.4	48.4
4.	For locating new storage facilities	56.2	8.0	10.9	24.9
5.	In searching for vehicles to transport goods	30.3	5.0	21.4	43.3
6.	In ensuring timely delivery of goods	33.8	8.0	14.4	43.8
7.	In monitoring loading and off-loading of goods	36.8	5.0	24.9	33.3
8.	In finding out availability of produce from suppliers	15.9	10.0	21.4	52.7
9.	To confirm the uniformity of measurement within and outside market	40.3	13.9	26.9	18.9
10.	To monitor the quantity of goods supplied	34.3	4.5	22.9	38.3
11.	To deal with problems regarding quality of supplies	50.7	10.9	18.9	19.4
12.	To arrange for security to guard goods	66.2	11.9	10.4	11.4
13.	To source for credit facilities	30.8	8.5	23.9	36.8
14.	Requesting for payments from customers	14.9	8.5	28.4	48.3
15.	Arrangements for financial contributions from association members	55.2	5.5	25.9	13.4
16.	Facilitating quick disposal of old stocks	61.7	14.9	11.9	11.4
17.	Looking for compensatory markets for goods	59.2	13.9	10.9	15.9
18.	Disseminating information on alternative markets where cheaper supplies can be gotten	25.4	9.5	30.8	34.3
19.	Disseminating information on alternative demands of consumers	57.2	11.4	17.4	13.9
20.	Receiving general market information	32.3	6.0	26.9	34.8
21.	In monitoring harvesting periods of produce	47.3	5.5	27.4	19.9
22.	Making social calls related with marketing activities	24.9	6.0	14.9	54.2

Level of use of cell phone in marketing activities

Respondents' highest score was 79, lowest score was 6, and the mean score was 39.5. Respondents with scores below 39.5 had low level of use while respondents with score above 39.5 had high level of use as illustrated in Table 4. Fifty-two point two percent (52.2%) of the respondents had low level of use of the cell phone for market activities. It is therefore agreeable that agricultural marketers do not adequately explore the importance of cell phone technology in their dealings.

Table 4: Respondents' level of use of cell phone in marketing activities

Level of cell phone use	Scores	Freq.	Percent
Low	<39.5	105	52.2
High	≥39.5	96	47.8
Total		201	100.0

Other sources of market information

Table 5 reveals that 35.3% of the respondents still choose personal travels above all other sources of market information. Also, 32.8%, 25.4%, 2.5%, 2.0%, and 2.0% prefers market information from associations, informal meetings, television, radio, and cooperatives respectively. This result shows a high regard for interactions stemmed from personal interrelationships as stressed by Molony (2008) that face-to-face interactions is dominant amongst agricultural players even among those with access to ICTs. Qualitative reports records traders' attestation to listening to agricultural market related programs aired on radio in their mother tongue even though it is still widely believed that radio provides a limited range of agricultural market information. The report also shows that agricultural marketers still regard middlemen as significant source of relevant market information. None of the respondents preferred middle men, letters, email and internet, news papers and the cell phone as sources of market information. 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 and Ogunlade, 2006).

Table 5: Respondents' other 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 & Internet	88.1	8.5	3.5	-
Personal travels	18.9	38.3	42.8	35.3

Table 6: Respondents' knowledge of basic cell phone applications and their use of cell phones in their marketing activities (N = 201)

Variable	r-value	p-value
Respondents' knowledge of basic cell phone applications and their use of cell phones in their marketing activities	0.230	0.001*

* Significant at $p \leq 0.05$

Testing of Hypothesis

H_0 There is no significant relationship between respondents' knowledge of basic cell phone applications and their use of cell phones in marketing activities.

Table 6 shows a significant relationship between respondents knowledge of basic cell phone applications ($r = 0.230$; $p < 0.05$) and use of cell phones in marketing activities. The null hypothesis is therefore rejected. This implies that

respondents' knowledge of basic cell phone applications has a significant influence on their level of use of the technology in their marketing activities; the more the knowledge of the marketers of cell phone applications, the higher their level of use of cell phone in their marketing activities. This suggests that manufacturers of cell phones must device usability schemes that make their products acceptable and understandable to users, including feedback from usage as stated by Longe *et al*., (2010).

CONCLUSION AND RECOMMENDATIONS

Despite the high knowledge of respondents of basic cell phone applications, their use of the ICT in their marketing activities in the study area was low. The marketers still prefer the long aged traditional face-to-face mode of interaction in obtaining market information. This indicates that these marketers are yet to harness the full benefits offered by the cell phone. Issues relating to literacy level (which predisposes to risk aversiveness) and operational difficulties of these cell phones readily become significant.

It is recommended that extension services in Nigeria should exploit ways of widening their service base to cover agricultural marketing. Efforts should be made to involve compilation and distribution of produce prices, sensitization of traders as regards supply locations, synchronization of varied market information across borders in extension services. Extension agents should be trained to include the use of mobile applications like video sharing, bulk SMS and picture messaging to reach out to agricultural marketers. Many respondents utilize the radio facilities found in mobile phones (increasing the use of radio), therefore more agricultural programmes focused on production, distribution, prices and general market situations, should be aired on the radio. Also, manufacturers of cell phones must device models more understandable to users based on users' feedback.

REFERENCES

Aguero, A. 2009. *Education, mobile phone use and production decisions: A rural case study in Peru*. Mobile 2.0: Beyond Voice? Pre-Conference workshop at the International Communication Association (ICA) Conference Chicago, Illinois. May, 2009.

Aker, J.C. 2009. *Mobile phones, markets and firms in sub-Saharan Africa. Center for Global Development*. pp 1-3. URL: cddrl.stanford.edu/mobile_phones_and_economic devt._in_africa (Accessed June 25, 2010)

Asheeta, B., W.C. Rowena, S. Janakiram, P. Silarszky, and D. Bhatia. 2008. *The role of mobile phones in sustainable rural poverty reduction*. ICT Policy Division, Global Information & Communication Department. pp9-19.URL: mobileactive.org/files/fileuploads/final-paper-aguero.pdf. (Accessed July 8, 2010)

Babatunde, R., E. Oyatoye. 2007. *Food security and marketing problems in Nigeria: A case of Maize marketing in Kwara state*. pp 7-8. URL: www.siteresources.org (Accessed August 28, 2010)

Technical Centre for Agricultural and Rural Cooperation (CTA). 2009. A chronicle of ICTs in Agriculture: Interesting times in ICT. *ICT Update,* Issue 50. August, 2009: pp3-4.

Longe, O., R. Boateng, F. Longe, and K. Olatubosun. 2010. ICT Adoption among adults in South West Nigeria: An assessment of usage-phobia factors. *Journal of Iinformation Technology Impact* 10(1):65-86

Mittal, S., S. Gandhi, and G. Tripathi. 2010. Socioeconomic impact of mobile phones on Idian Agriculture. A working paper No.246, *Indian Council for Research on International Economic Relations* pp 3-5

Molony, T. 2006. I don't trust the phone, it always lies. Trust and information for communication technology. The Massachusetts Institute of Technology. *Tanzanian micro and small enterprises in information technology and international development* 3(4):67-83.

Molony, T. 2008. Running out of credit: the limitations of mobile telephony in a Tanzanian agricultural marketing system. Centre of African Studies, University of Edinburgh, UK. *Journal of Modern African Studies* 46(4):637-658

Obayelu, A.E., and I. Ogunlade. 2006. Analysis of the uses of ICT for gender empowerment and sustainable poverty alleviation in Nigeria. *International Journal of Education and Development using ICT (IJEDICT)* 2(3):23-34

Overa, R. 2004. *Networks, distance and trust: telecoms and changing trading practices in Ghana*. Michelson Institute Development Studies and Human rights, Norway pp 1-12.