

CONSTRAINTS TO EFFECTIVE USE OF ICT AMONG EXTENSION PROFESSIONALS AND FARMERS IN EXTENSION DELIVERY IN RIVERS STATE, NIGERIA

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Abstract

The study focused on the constraints to effective use of ICT among extension professionals and farmers in extension delivery in Rivers State, Nigeria. Structured questionnaire and interview schedule were used to collect relevant information from the respondents. Multi-stage sampling technique was used to select 10 extension workers and 80 farmers. Data collected were analyzed using descriptive statistics. The study revealed that majority of the respondents were male (83%), married (96%) and can manipulate GSM effectively (60%). The use of ICT could be made effective through use of data based driven websites to make information sharing and access easier (2.50) and creating agricultural websites (2.50). The major constraints to the use of ICT were poverty and lack of resources, low knowledge of computer and low literacy level of the farmers. It was therefore recommended that extension workers should learn how to manipulation all the ICT tools effectively so that they will be able to teach the farmers by creating zonal internet centres in communities

Keywords: Constraints, Effective Use, ICT, Extension Delivery

Introduction

Information Communication Technology (ICT) has revolutionized human thinking, capability, capacity, all life processes and activities. It has found application in all fields of endeavour and enterprises of men (Maximo & Braun, 2006). ICT deals with the use of information and communication technologies in teaching, learning, data processing and storage, research and publication (Allen, 2008). It also involves increasing information storage capacity for enhanced learning, making for greater availability of information and wider reach of audience (Greenidge, 2003). The education function of extension service delivery, however, makes it essential for education agents to develop good teaching and communication skills for effective message delivery (Adebayo, 1995). The ability to communicate effectively determines, to a large degree, the extent of success or failure of an extension worker. Therefore, the technologies adopted in the conduct of extension work are very important.

Over the years, the common practice among extension workers in reaching out to farmers had been through direct house to house visit or site visit, meetings, discussion sessions, workshops and local training sessions. More often than not, meeting the farmer at home or at site could only be unpredictable in that situation. Sometimes, meetings, lectures, group discussion sessions, seminars, workshops and local training sessions are held for farmers by extension workers using ICT tools such as, computer, photographs, and slides (Isife & Ofuoku, 2008). However, the output of some participants after such training sessions and field result as well, had sometimes elicited doubts as to complete realization of set objectives of the various training sessions. Kno, (1988) cited in Emah (2004) observed that an individual at best retain 20 percent of what he or she hears in any learning activity or in any teaching and learning session. Worst still, sometimes a proportion of the audience might have poor vision or temporary auditory impairment due to stress or psychological state of mind. With this scenario, some trainees emerge out of training sessions without any knowledge acquired to apply on the farm. The use of ICT such as the GSM phone will help to reduce or eliminate the deficiency, when the extension worker uses his/her GSM phone to follow-up the farmer on the taught technology or send photographs' of the technology to the farmers phone. It is on these premises that the study will seek to answer the following research questions:

What is the socio economic characteristics of the respondents?

How will the use of ICT be made effective?

What are the constraints in the use of ICT in extension service delivery?

Methodology

The study was carried out in Isiokpo agricultural zone of Rivers State, Nigeria. For effective agricultural implementation, the state was divided into three (3) agricultural zones namely; Isiokpo zone one, Degema zone two and Eleme zone three. Isiokpo agricultural zone has 5 cells and 4 units and there are three extension coordinators, seven extension agents and 150 contact farmers. Multi-stage sampling technique was employed. First, the extension workers were purposively selected because they are few. Secondly, eighty (80) farmers were selected using the simple random sampling technique. A total of ninety (90) respondents were surveyed for the study. Data collected were analyzed using percentage and mean statistics. A four point Likert type scale with options; a serious constraint (4), a constraint (3), a little constraint (2) and not a constraint (1) were used to determine the constraints to the use of ICT in extension delivery. The values were added and later divided by 4 to give 2.50, which serves as the decision point. Any variable equal to or greater than 2.50 was considered a very serious constraint and the variable below 2.50 was considered not a constraint.

Results and Discussion

Socio-economic characteristics of the respondents.

From Table 1, the mean age of the respondents was 47 years. This means they were still active to work as an extension workers and farmers. Majority (84.4%) of the respondents were males and 92.3% were married. This means they were heads of households and so have the responsibilities of taking care of the family. All the extension workers had tertiary certificates, specializing in different field of agriculture while 46.7% of the farmers stopped at secondary school certificate. This implies that the educational status of the respondents indicates that they have basic educational knowledge to understanding the technicalities of ICT tools. There is a higher probabilities that they can handle it and use it effectively for specialized purposes such as for disseminating agricultural information. The mean working /farming experience of the respondents was 15 years. This implies that they (extension workers and farmers) had knowledge to analyze between how it was without ICT and

what the present scenario is with the use of ICT. All (100%) the extension workers can manipulate the GSM effectively; have knowledge of DVD/CD/Video player, radio, television and personal digital assistance while only 50% of the farmers could manipulate the GSM effectively. The respondents knowledge on ICT is only limited to GSM and DVD/CD/Video player, television and radio. Computer literacy involves full knowledge of the computer and internet, including hardware and software. This is contrary to World Bank (2002) description of ICT. The World Bank stated that ICT is an hardware, software, networks and media for collection, storage, processing, transmission and presentation of information.

Table 1: Percentage distribution of the socio-economic characteristics of respondents

Age	Frequency		Total no. of respondents	%	Mean
	Extension workers	Farmers			
26-35	1	4	5	6.0	
36-45	3	25	28	31.0	
46-55	6	42	48	53.0	
56-65	-	9	9	10.0	
Total	10	80	90	100.0	47yrs
Sex					
Male	9	67	76	84.4	
Female	1	13	14	15.6	
Total	10	80	90	100.0	
Marital status					
Married	8	75	83	92.3	
Single	1	3	4	4.4	
Widow/widower	1	2	3	3.3	
Total	10	80	90	100.0	
Educational level					
FSLC	-	30	30	33.3	
SSCE/GCE/WASC	-	42	42	46.7	
OND/NCE/HND	2	8	10	11.1	
B.SC/Bed	6	-	6	6.7	
MSc/MBA	2	-	2	2.2	
Total	10	80	90	100.0	
Working Experience					
1-10	2	12	14	15.5	
11-20	6	45	51	56.7	
21-30	2	18	20	22.2	
31-40	-	5	5	5.6	
Total	10	80	90	100.0	
Computer Literacy					
Can manipulate GSM effectively	10	40	50	50.0	
Can manipulate the computer effectively	5	25	30	30.0	
Can only make phone calls	-	20	20	20.0	
Can browse at the internet effectively	6	1	7	7.0	
Can only send /check mails in the internet	9	5	14	14.0	
Have knowledge of DVD/CD/video player	10	10	20	20.0	
Have knowledge of all the application of computer in agriculture	2	1	3	3.0	
Knowledge of the radio, television and personal	10	28	38	38.0	

How ICT can be made effective in extension delivery

Entries in Table 2 show how ICT can be made effective in extension delivery. This include, the use of data based driven websites to make information sharing and access easier (2.50) increasing the recognition of internet and intranet as a tool for supporting information learning (2.50) giving attention to ICT training for staff responsible for agricultural and rural development (2.50) and creating agricultural websites (2.50) introducing farmers to agricultural website (2.60) and creating zonal internet centers in communities or LGAs (2.55). This implies that the use of data based driven websites to make information sharing and access easier by creating agricultural websites, introducing farmers to agricultural websites and giving attention to ICT training for staff responsible for agricultural and rural development will make the application of ICT in extensive education effective.

Table 2: Distribution of How ICT can be made Effective in extension delivery

Application	Mean score Extension workers	Farmers	Average mean score
Use of data base driven websites to make information sharing and access easier	2.60	2.40	2.60
Use streaming media to make non-text (video & audio) information more widely available to audience who may not be literate.	2.50	2.40	2.45
Use call centers telephone – based services (voice information services and text messaging content)	2.50	2.40	2.45
Use interactive applications over one way communication tool .	2.40	2.30	2,35
Giving attention to ICT training for staff responsible for agricultural and rural development.	2.50	2.50	2.50
Use of private sector cyber café and private sector telephone systems visa prophentary sites for information access.	2.30	2.20	2.25

Creating agricultural website	2.50	2.40	2.45
Introducing farmers to agricultural website	2.60	2.60	2.60
Training farmers on ICT	2.30	2.50	2.40
Creating zonal internet centres in communities	2.60	2,50	2.55
Increasing recognition of the internet as tool for supporting information learning	2.50	2.50	2.50

Source: field survey. 2011

Constraints to the use of ICT in agricultural extension delivery

The major constraint in the use of ICT in agricultural extension delivery as shown in Table 3 was illiteracy (low level of education) among farmers. It recorded the highest with a mean score of 3.25, followed by poverty/lack of financial resources (3.20) while low computer literacy among farmers and extension workers had (3.15). This implies that human capital development, lack of financial resources and computer literacy are very important factors for effective use of ICT in agricultural extension delivery. Education is expected to positively influence a farmer's ability to source and use ICT including information on how to operate it. Educated farmers are more likely to participate in ICT in order to put into practice the knowledge they may have acquired. However, financial constraints could inhibit the use of ICT knowledge acquired. This finding is in support of Lawal-Adebowale (2009) who stated that knowledge and operating procedure of ICT is a pre-requisite to effective and successful extension service delivery.

Table 3: Distribution of constraints to the use of ICT in agricultural extension delivery

Constraints	Mean Score		Average of Mean
	Extension Workers	Farmers	
Inadequate infrastructural facilities	2.30	2.40	2.35
Lack of skills associated with the use of new techniques by rural communities and stakeholders	2.40	2.50	2.45

Low deployment of ICT tools in LGA	2.55	2.50	2.55
Slow incorporation of these ICT's in rural communities	2.50	2.60	2.55
Poverty/lack of resources	3.10	3.30	3.20
Inadequate/ inconsistency government policies and implementation	2.60	2.50	2.55
Illiteracy among farmers/low level of education	3.30	3.20	3.25
Lack of access to computers and other ICT tools	2.65	2.55	2.60
Low internet access	2.50	2.50	2.50
Lack of significant usage opportunities	1.80	1.90	1.85
Lack of electricity	2.90	2.50	2.70
Low computer literacy among farmers/extension workers	3.10	3.20	3.15
Lack of training and skill development	2.00	1.80	1.90

Source: field survey, 2011

Conclusion

Full knowledge of the computer including hardware, software, networks and media is a prerequisite for effective teaching and learning using the ICT. Knowledge on ICT been limited to effective manipulation of GSM phone and knowledge of the radio, television and personal digital assistance is a worrisome situation. Effective application of ICT requires knowledge of soft and hardware in computer. Worse still, are the low level of education among farmers and the lack of financial resources to acquire ICT tools to put into practice what had been learnt, which are major constraints to effective application of ICT in extension delivery, Based on the findings, it is therefore recommended that extension workers should learn how to manipulation all the ICT tools effectively so that they will be able to teach the farmers by creating zonal internet centres in communities

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