ISSN Print: 2664-6064
ISSN Online: 2664-6072
Impact Factor: RJIF 5.2
IJAN 2022; 4(1): 56-60
www.agriculturejournal.net
Received: 14-05-2022
Accepted: 31-06-2022

Grace Emmanuel
Department of Agricultural economics and extension, Faculty of Agriculture Taraba State University, Taraba State, Nigeria

Dalibu Bakari
Department of Agricultural economics and extension, Faculty of Agriculture Taraba State University, Taraba State, Nigeria

Baraya Sunday Gideon
Department of Agricultural economics and extension, Faculty of Agriculture Taraba State University, Taraba State, Nigeria

Corresponding Author:
Grace Emmanuel
Department of Agricultural economics and extension, Faculty of Agriculture Taraba State University, Taraba State, Nigeria

The perception of information communication technologies (ICTs) and perceived organizational support among extension workers in north central Nigeria

Grace Emmanuel, Dalibu Bakari and Baraya Sunday Gideon

DOI: https://doi.org/10.33545/26646064.2022.v4.i1a.110

Abstract
The study assesses the perception of ICTs and perceived organizational support among extension workers in North central Nigeria. Data were collected through the use of a questionnaire to 291 respondents, simple random sampling method was employed. Mean, frequency, standard deviation, correlation coefficient, and Multi-linear regression were used for data analysis. Findings reveal a moderate level of ICTs training, high level of ICTs application and moderate level of Perceived organizational support. Based on result from the Bivariate correlation, the result revealed a positive and significant correlation between ICTs application (r=0.309) and job performance at $P<0.01$. The findings indicated that, among all the variables used in the multi linear regression based on the stepwise method ICTs training, work experiences explained 37%, 58% respectively Quantity work while only about 47% ICTs training and 48% perceived organizational support explained Quality of work. ICTs training and Perceived organizational support was also able to explained 43% and 45% Speed of work respectively.

Keywords: Information communication technologies, training, utilization, perceived organizational support, extension workers, and job performances

Introduction
The world is said to be a global village due to the exploitation in information and communication technologies (ICT). ICT refers to as a diverse set of technological tools and resources used to transmit, store, create, share or exchange information. These technological tools and resources include computers, the internet (websites, blogs and emails), live broadcasting technologies (radio, television, Webcasting), recorded broadcasting technologies (podcasting, audio and video players and storage devices) and telephony (fixed or mobile, satellite, visio/video-conferencing, etc.) UNESCO (2017) [1]. It has become a game changer in boosting productivity and efficiency in different fields of knowledge especially Agriculture. Wolfert *et al.,* (2017) [2] observed that technological advancement in the area of digital platforms such as e-commerce, agro-advisory apps, big data, computational power, and satellite systems like remote sensing, among others, quicken communication and information sharing among farmers in recent years. ICT has the potential to increase the capacity of farmers to meets demands through collective learning, sharing time-sensitive information such as market prices, disease outbreak, improving effectiveness of extension programs and structures, involving farmers in assessing their own needs, promoting brainstorming by multiple stakeholders, creating innovative technologies for development, promoting business and credibility (Mustapha *et al.*, 2022) [3].
For ICT-based extension to be effective, both the general public and extension personnel have to be competent in using technology (Hamernik and Crosby, 2015) [4]. According to Vijayraghavan and Singh (2005) [5] development of requisite competencies amongst the extension workforce within extension organizations is directly linked to training of extension personnel. Furthermore, Madukwe (2006) [10] opined that the increased use of information and communication technologies in extension requires continuous training of personnel of extension service delivery in any country. Training constitutes a basic concept in human resource development.

Training has to do with developing a particular skill to a desired level through instructions and practice. Therefore, in the context of this study ICT Training means the act of increasing the knowledge and skill of an extension agent about ICT.

Problem Statement

The rate at which ICT application is increasing in every sector of the world has triggered the development of variety of ICT applications in the Agriculture sector to aid effective and timely access to information by farmers, extension agents and other players within the sector. According to Anh *et al.,* (2019) [6], ICT Applications have the potential to identify and find solutions to some of the numerous problems faced in the field of Agriculture, which includes prolonged droughts, pest and diseases outbreaks, seasonality and spatial dispersions of farming; high transaction costs and information asymmetry.

Employers-Employee' relationship is a critical factor that determines the conduciveness and harmony of a working environment. The manner employees interpret how an organization values them may be vital for determining their attitudes benefiting the organization (Baheshtifar and Zare 2012) [7]. One gauge of this relationship is expressed in Perceived Organizational Support (POS). POS is the degree to which employees perceives the organization cares about their well-being and values their contribution (Robbins *et al.,* 2018) [8]. When workers sense support and compassion from association, they will then put forth an effort to help attain organization goals. A satisfied employee finds his/her job less stressful, regularly attends work, is committed to the organization, readily engages in prosocial behaviors, does not consider leaving his/her job, and likely to have improved job performance.

One underlying factor that keeps affecting agricultural development in Nigeria is availability and accessibility of competent extension workers. This is because they are the bridge between the farmers and research institutes, Government, policies makers and other key players in the sector. In advanced food sufficient countries, agricultural extension is seen as the application of scientific research and new knowledge to agricultural practices through farmer education. The world and its environment are changing which implies that extension workers must also change in tandem with these developments by gaining requisite knowledge and skills on how to use modern ICTs. The need to train the extension workers on ICT cannot be over-stated. According to Yakubu *et al*., (2013) [9], the benefits of ICT were not fully utilized due to poor training among others. There is also the need to evaluate how the extension workers view the organization support available to them. This study intends to assess level ICT Training and Application and Perceived Organizational Support among extension workers in North Central States in Nigeria.

Methodology

For the purpose of this study, random sampling method was employed. The total population of agricultural extension workers (1,279) that was obtained in the four States of north central Nigeria will stand an equal chance to be drawn as the sample size. A proportion of 22.7% will be drawn from the total population of agricultural extension workers selected from each of the four State in the north-central Nigeria. The selection will be based on the standard recommended by Toluhi, I. O (2001), who reported that, a selection between 10 to 30% of the population could be use in selection of sample size from target population. The following are the objectives of the study;

1. To examine the level of ICTs training, application and perceived organizational support
2. To determine the relationship between level of ICTs application (IVs) and job performances among the extension workers.
3. To identify the extent to which ICTs training, explain the variance in each dimension of job performance.

Table 1: Population and Sample Size of the Respondents

State	Total Population Size	Sampling
Plateau	305	69
Benue	427	97
Nasarawa	289	66
Abuja	259	59
Total	1,280	291

***Sources*:** The population size of Agricultural Development Programme (ADP) Plateau, Benue, Nasarawa and Abuja (2020).

Results and Discussion

ICTs training Profiles

This section presented and was able to discussed the levels of ICTs training profile. The constructs were measured on 5-point Likert scale ranging from 1-5. In the study the mean level of 1 to 2.33 were considered low, 2.34 to 3.66 were regarded as moderate and whereas 3.67 to 5 were considered high. Of Agricultural extension workers in south central Nigeria had been determined using frequency and percentage. The results are presented on the Tables 2 below.

Table 2: ICTs training Profiles

Level	Frequency	Percentage	Mean	St.D
Low 1-2.33	1	.3	2.33	0.477
Moderate 2.34-3.66	194	66.7		
High 3.67-5.00	96	33.0		
Total	291	100		

***Source*:** Field Survey 2022

The descriptive analysis on the ICTs training of agricultural extension workers on Table 4.2 showed that the total average mean score is 2.33 and average standard deviation of 0.477. Out of the total number of 291 respondents, 1 (.3) were in low level, 194 (66.7) were in their moderate level and 96 (33.0) were in their high level. This implies that majority of the respondents were at the moderate level of ICTs training. Therefore, they need more training to enable

them obtained additional skills in order to achieve high level of training to efficiently carry out their duty. The result corresponds to the findings of Nyarko and Kozári, (2021).

ICTs application profile

This section presents and discussed the levels of ICTs application profile. The constructs were measured on 5 point Likert scale ranging from 1-5. In the study the mean level of 1 to 2.33 were considered low, 2.34 to 3.66 were regarded as moderate and whereas 3.67 to 5 were considered high. The respondents had been determined using frequency and percentage. The results are presented on the Tables 3 below.

Table 3: ICTs application profile

Level	Frequency	Percentage	Mean	St.D
Low 1-2.33	32	10.9	3.68	0.88
Moderate 2.34-3.66	79	27.2		
High 3.67-5.00	180	61.9		
Total	291	100		

***Source*:** Field Survey 2022

Based on the mean score of 3.68, and standard deviation of 0.88, as shown on Table 4.3, the descriptive analysis shows that, out of 291 respondents, 61.9% were of the perception that they were in their high level, 27.2% showed moderate level and 10.9% of the respondents reported a low level of ICTs application. This finding implies that, most of the respondents had high level of ICTs application. The findings are in line with the work of Onyemekihian (2021) [11], which reported that majority of agricultural extension workers 72.3% used the ICT in their extension services delivery to farmers.

Perceived organizational support profile

This section captured and discussed the levels of Perceived organizational support profile. The measurement was carried out on 5-point Likert scale ranging from 1-5. In the study the mean level of 1 to 2.33 were considered low, 2.34 to 3.66 were regarded as moderate and whereas 3.67 to 5 were considered high. The respondents had been determined using frequency and percentage. The results are presented on the Tables 4 below.

Table 4: Perceived organizational support (POS) profile

Level	Frequency	Percentage	Mean	St.D
Low 1-2.33	91	31.3	3.00	0.83
Moderate 2.34-3.66	108	37.1		
High 3.67-5.00	92	31.6		
Total	291	100		

***Source*:** Field Survey 2022

The mean score 3.0 standard deviation of 0.83 of the overall number of respondents (291) on Table 4.4 revealed their perception on level of perceived organizational support. The findings indicated that, 31.3% of the respondents were in their low level of perceived organizational support, 37.1% were in their moderate level while 31.6% were in their high level of perceived organizational support. This implies that most of them had moderate level of perceived organizational support at (37.1%). The study is in line with that of Ladebo *et al*., (2005) [12], who reported that, the overall ratings showed that the respondents moderately agreed to the views that their organizations were supportive. It was also supported by Eisenberger *et al.* (2016) [13] who opined that it is therefore clear that employees mostly feel moderately to highly valued by their organization.

Relationship between ICTs application and job performances of the respondents: The result on Table 5 presented and discussed the bivariate correlation between ICTs application and Job performances of agricultural extension workers.

Table 5: The relationship between ICTs application and job performances (N=291)

Pearson correlation co-efficient	P-Value
0.309**	0.000

**Correlation significant at 0.01 level

The result revealed that, there was a positive and significant correlation between ICTs application (r=0.309) and job performance of agricultural extension workers at P<0.01. This implies that, there was a moderate effect in the relationship between the two variables. The result further implies that, as ICTs application increases or decreases, job performances of extension workers tends to move in same directions. The result was significant at 99% confidences level. The r^2 0. 5476 shows about 54.8% variances between variables. The result is in consistence with that of the study of Onyema, Chiemek (2023) who found that there is a significant positive correlation between ICT usage and the level of employee performance.

The ICTs explain the variances in job performance

The findings indicated that, among all the variables used in the multi-linear regression based on the stepwise method, only ICTs training and one of the respondents demographic (experiences) was related to Quantity of work. The result revealed that, the R^2 value of ICTs training was 0.37, thus implying that ICTs training explained 37% on Quantity of work of the respondents. The result also showed that the respondents characteristics in terms of work experiences was related to Quantity of work, with R^2 value of 0.58, this shows that work experiences of respondents explained Quantity of work in terms of job performances with about 58%.

Table 6: Multi-linear regression between independent variables and Quantity of work

Variables	R^2	Std Err.
ICTs training	0.37	0.06532
Experiences	0.58	0.06498

Table 6 indicated that, among all the variables used in the multi-linear regression based on the stepwise method, only ICTs training and one of the respondents demographic (experiences) was related to Quantity of work. The result revealed that, the R^2 value of ICTs training was 0.37, thus implying that ICTs training explained 37% on Quantity of work of the respondents. The result also showed that the respondents characteristics in terms of work experiences was related to Quantity of work, with R^2 value of 0.58, this shows that work experiences of respondents explained Quantity of work in terms of job performances with about 58%.

Table 7: Multi-linear regression between independent variables and Quality of work

Variables	R^2	Std Err.
ICTs training	0.47	0.44298
Perceived Organizational support	0.48	0.43707

The result on Table 7 revealed that, based on the stepwise method used, only ICTs training and perceived organizational support was related to Quality of work. The result revealed the R^2 value of ICTs training to be 0.47, this shows that ICTs training explained 47% on Quality of work of the respondents. The result also showed that perceived organizational support was related to Quality of work, with R^2 value of 0.48 this shows that perceived organizational support explained Quality of work in terms of job performances with 48%.

Table 8: Multi-linear regression between independent variables and Speed of work

Variables	R^2	Std Err.
ICTs training	0.43	0.44333
Perceived Organizational support	0.45	0.4371

The result on Table 8 revealed that, among all the variables used in the multi-linear regression only ICTs training and perceived organizational support was related to speed of work. The result revealed that, the R^2 value of ICTs training was 0.43, thus implying that ICTs training explained 43% on speed of work. It was also indicated that perceived organizational support was related to Quality of work, with R^2 value of 0.45 this shows that perceived organizational support explained Speed of work with about 45%. The results from the findings ascertained the link that existed between ICTs training, perceived organizational support and the speed of work of the agricultural extension workers.

Conclusion and Recommendation

Findings reveal moderate level of ICTs training, high level of ICTs application and moderate level of Perceived organizational support. Based on result from the Bivariate correlation, the result revealed a positive and significant correlation between ICTs application and job performance of the extension workers. It was also revealed that, among all the variables used, ICTs training, work experiences explained 37%, 58% Quantity work respectively. About 47% ICTs training and 48% perceived organizational support explained Quality of work. 43% of ICTs training and 45% of Perceived organizational support was also able to explained the Speed of work. It was recommended that, Government should.

Acknowledgements

The authors acknowledged the Tertiary Education Trust Fund (tetfund) for funding this research. The authors also thank the Directors of Agricultural development program of Adamawa, Bauchi, Gombe and Taraba. The extension agents, agricultural officers, enumerators and editors for their contributions to this article.

Reference

1. UNESCO International Forum on ICT and Education 2030, Qingdao, China, 2017, (2).
2. Wolfert S, Ge L, Verdouw C, Bogaardt MJ. Big Data in Smart Farming – A review. Agricultural Systems. 2017;153(69):80. https://doi.org/10.1016/j.agsy.2017.01.023 Google Scholar.
3. Mustapha S, Man N, Shah AJ, Kamarulzaman NH, Tafida AA. Factors influencing the adoption of ICT'S in extension service delivery among the extension agents in North-East, Nigeria. Sarbad Journal of Agriculture. 2022;38(1):149-159.
4. Hamernik D, Crosby G. Exploring new opportunities for extension. Cooperative extension workshop. 2015. Available online from http://www.csrees. Usda.gov/about/white_papers/pdfs/exploring.pdf
5. Vijayraghavan K, Singh YP. Managing human resources within extension. In improving Agricultural Extension: A Reference manual. Swanson, A, J. (Eds). Extension, Education and Communication Service, Research, Extension and Training Division, Sustainable Development Department, FAO, 2005.
6. Anh NH, Bokelmann W, Thuan NT, Nga DT, Minh NV. Smallholders' preferences for different contract farming models: empirical evidence from sustainable certified coffee production in Vietnam. J Sust. 2019;11(14):1-26, 10.3390/su11143799
7. Beheshtifar M, Zare E. Effect perceived organizational support on employees' attitudes toward work, Science Series Data Report. 2012;4(9):28-34.
8. Robbins SP, Judge TA, Breward K. Essentials of organizational behavior (First Canadian Edition ed.). Pearson Education, 2018.
9. Yakubu DH, Abubakar BZ, Atala TK, Muhammad A. Use of Information and Communication Agricultural Technologies among Extension agents in Kano State, Nigeria. Journal of Extension. 2013;17(1):256-268.
10. Madukwe MC. Delivery of agricultural extension services to farmers in developing countries. Wagenigen. The Netherlands. CTA Publication. 2006.
11. Onyemekihian J, Onyekwuma ES. Relationship between National Interest and Global Interest in Foreign Policy of a State. Social Science Research. 2021, 7(1).
12. Ladebo OJ. Effects of work-related attitudes on the intention to leave the profession: An examination of

school teachers in Nigeria. Educational Management Administration & Leadership. 2005 Jul;33(3):355-69.
13. Eisenberger R, Malone GP, Presson WD. Optimizing perceived organizational support to enhance employee engagement. Society for Human Resource Management and Society for Industrial and Organizational Psychology. 2016;2(2016):3-22