



## PERCEPTION OF ARABLE FARMERS ON USING WEB TOOLS FOR INFORMATION ACCESS IN SOUTH WEST NIGERIA

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### ABSTRACT

As nations look to adopt more efficient production techniques, web tools such as WhatsApp, Facebook, Zoom and others is the contemporary paradigm for raising agricultural output globally. The study therefore described the socioeconomic characteristics of farmers, determined the farmers' perception and usage of the web tools in accessing agricultural information. The study was carried out in south west Nigeria, using a multi-stage sampling technique among two hundred and ninety nine (299) arable farmers. Primary data were collected and analyzed using descriptive analysis. Result of analysis showed that most of the respondents were male, 46.8% had primary education with about 15 years of farming experience. The findings further found out that the farmers had positive perception towards web tools usage. The study therefore recommends that as a result of the positive disposition towards usage of web tools for accessing information, such tools should be designed in a user friendly manner by key players in ICT while also training the farmers in needed areas by extension agents.

**Keywords:** Usage, Web tools, Information, Farmers, Productivity

### INTRODUCTION

Use of technologies in all sectors of professionalism in achieving greater output is gradually gaining ground in which the agricultural sector is not left out. Given the growing complexity of modern agriculture, particularly in arable crop production, farmers need access to a reliable source of information that addresses their unique needs and challenges. This includes data on soil conditions, weather patterns, pest and disease outbreaks, and the latest agricultural technologies. This is in line with (Meera 2002) who asserted that ICT would enable extension workers together, store, retrieve and disseminate a broad range of information needed by small producers such as information on best practices, new technology, better prices of input and outputs, better storage facilities, improved transportation links, collective negotiations with buyers, information on weather. In other to access reliable source of information, web tools such as Whatsapp, Facebook, Zoom and others is the contemporary paradigm for raising agricultural output globally. Farmers must have access to precise information specific to their farm regions and operating conditions in order to support their production efficiency, as all facets of agriculture—including the production of arable crops—are becoming increasingly knowledge-intensive. As a result, traditional service delivery patterns are eroding as indigenous expertise is being replaced by modern methods. (Chinyere, *etal* 2022). Arable crops such as maize, rice, potato and yam constitute the core sources of nutritional energy for rural dwellers in Nigeria. Farmers in southwest Nigeria, cultivate the bulk of these arable crops for local consumption as well as for other regions.

Unfortunately, arable crop production in Nigeria is facing severe challenges in improving production with the reduction of the natural resources required for production.

It is pertinent to observe that the COVID-19 pandemic has further highlighted the gap between agricultural stakeholders who have access to webtools and those who do not. Webtools have positively impacted on agricultural production globally. This is evident in North America and Europe, where web tool

technologies are used to send course outlines, questions and answers to assignments and assessments, audio or video instructional materials to agricultural extension agents (Kumar, 2008).

These effects are most noticeable in the areas of information sharing, adaptation to and mitigation of climate change, etc. Regrettably, Nigerian farmers that grow arable crops appear to use webtools at a very low level. Despite the demonstrated boost in agricultural productivity brought about by webtools, studies on the topic have shown that farmers' reluctance to use these webtools can limit their adoption. (Fuglie, *et al*, 2020; Jellason, *et al*, 2020). Inadequate knowledge, unavailable risk management insurance, inadequate technical expertise and the inappropriateness of these technologies have all been blamed for these (Bolfe *et al.*, 2020). Furthermore, not many studies have been carried out. with relation to southwest farmers' perceptions about the usage of web tools for arable crops.

This study aimed to determine arable farmers' perception regarding the usage of web tools in accessing information. The broad objective of the study is to assess the farmer's perception on the usage of web tools in South west, Nigeria.

### MATERIALS AND METHODS

A multi-stage sampling technique was used to select respondents for the study. In the first stage, three (3) states were randomly selected from South west Nigeria (Oyo, Ekiti and Osun States). The second stage involved purposive selection of all Agricultural Development Projects (ADPs) from each of the selected states. The third stage involved selection of 60% of arable farmers in the study areas. A sample size of 299 farmers were used for the study through ballot paper rolling of selecting farmers from each zone (79 from Ekiti; 84 from Osun and 136 from Oyo). Data were then analyzed using descriptive statistics.

## RESULTS AND DISCUSSION

### Socio-economic Characteristics of Farmers

The result shows that 65.9% and 34.1% of the respondents were males and females, respectively. This is evident in the fact that males are the dominate stakeholders in farming business. This may be so as farming has been reported to be tedious and debilitating by numerous researchers across the globe. For instance, Acharya *et al.* (2020) reported that farming in India was energy demanding and therefore involved high participation of male. In contrary, Oseni *et al.* (2013) posited that women are heavily involved in the production of arable crops in Nigeria. This implies that both male and female participate in farming and due to the changes in the way of life, the rate at which changes occur in farming is so alarming due to the technological innovations that daily appear to mankind in all spheres of life. The findings further highlights that the average age of the respondents in the study area was approximately 49 years while only 2.7% and 14.0% of the respondents were less than 30 years and 60 years and above, respectively. This means that farmers in the study area were still active and they would therefore have the strength required to carry out farming activities. In the same vein, at

aged 50, one may not have the required agility to encourage productivity in farming based on the assertions of Mgbenka *et al.* (2015) who reported an average age of 50 years for farmers in Nigeria and recommended that young farmers should be encouraged in order to drive innovations in farming with the aim of promoting agricultural transformation. The findings also showed that the respondents had one form of education with the highest being primary education 46.8%. This implies that farmers may easily learn and utilize web tools in their farming operations as Oladeebo and Masuku (2013) reported that education was among the critical factors in the determination of efficiency of farmers in crop production with significant impact on the managerial ability to manage farming enterprises. Similarly, the significance of education to the adoption and utilization of farming techniques had been affirmed by Gombe, (2016) who reported that education is required for farmers to take decisions to adopt and utilize farm-based technologies and lack of education has been a serious setback to making agricultural extension workers' efforts yield results in many parts of Nigeria.

**Table 1: Distribution of the Respondents based on Socio-economic Characteristics**

| Variables                         | Deviation | Freq. | Percentage | Mean      | Std. Dev. |
|-----------------------------------|-----------|-------|------------|-----------|-----------|
| Sex                               |           |       |            |           |           |
| Male                              |           | 197   | 65.9       |           |           |
| Female                            |           | 102   | 34.1       |           |           |
| Age (years)                       |           |       |            |           |           |
| <30.00                            |           | 8     | 2.7        |           |           |
| 30.00 - 44.00                     |           | 110   | 36.8       |           |           |
| 45.00 - 59.00                     |           | 139   | 46.5       | 49.36     | 10.07     |
| 60.00+                            |           | 42    | 14         |           |           |
| Years of formal schooling         |           |       |            |           |           |
| <= 6.00                           |           | 86    | 28.8       |           |           |
| 7.00 - 12.00                      |           | 88    | 29.4       | 10.85     | 5.89      |
| 13.00+                            |           | 125   | 41.8       |           |           |
| Highest Educational qualification |           |       |            |           |           |
| No formal education               |           | 62    | 20.7       |           |           |
| Primary                           |           | 140   | 46.8       |           |           |
| Secondary                         |           | 81    | 27.1       |           |           |
| Post secondary                    |           | 16    | 5.4        |           |           |
| Marital status                    |           |       |            |           |           |
| Single                            |           | 13    | 4.3        |           |           |
| Married                           |           | 243   | 81.3       |           |           |
| Divorced                          |           | 40    | 13.4       |           |           |
| Separated                         |           | 3     | 1          |           |           |
| Widowed                           |           |       |            |           |           |
| Your average income per annum     |           |       |            |           |           |
| <= 360000.00                      |           | 129   | 43.1       |           |           |
| 360001.00 - 660000.00             |           | 82    | 27.4       |           |           |
| 660001.00 - 960000.00             |           | 59    | 19.7       | 760881.81 | 146552    |
| 960001.00+                        |           | 29    | 9.7        |           |           |
| Experience (Years)                |           |       |            |           |           |
| <= 10.00                          |           | 130   | 43.5       |           |           |
| 11.00 - 20.00                     |           | 91    | 30.4       | 15.1      | 7.4       |
| 21.00+                            |           | 78    | 26.1       |           |           |

Source: Field Survey, 2024

### Usage of Web Tools by Farmers

Table 2 indicates that a little above average (54.5%) of the respondents never heard of facebook while only 27.8% had experienced it. Furthermore, only 36.5% of the respondents never heard of blog while just 27.4% had experienced it. In

the same vein, 37.5% of the respondents never heard of Whatsapp while 38.8% had experienced it. Skype was only experienced by 8.0% of the respondents and 33.1% had experienced internet while 24.7% had experienced LinkedIn as web tools that could be used to disseminate information to

farmers by the extension workers. These are the most popular web tools among Nigerians for social and business communication.

The Covid 19 pandemic has also created opportunities for the use of these web tools for social and business communication and it has shown to be effective. The farmers mostly use WhatsApp (Mean = 2.94) for receiving agricultural related information from the agricultural extension workers in the study area out of the numerous identified web tools. The poor usage of these identified web tools among farmers may not be unconnected to the poor technical capabilities on the parts of the farmers.

Usually, the use of web tools may require some training and the training may be continuous based on needs. This therefore, requires that farmers or users of these web tools must undergo trainings for effective utilization. However, effective training requires resources and these may not be available based on the current structure of agricultural extension organizational financing structure in Nigeria since the withdrawal of the World Bank funding for Agricultural Development Programme where extension training and visit system was among the popular extension strategies in Nigeria.

**Table 2: Distribution of Respondents based on Usage of Web Tools**

| Usage       | Mean  | Std. Dev |
|-------------|-------|----------|
| Facebook    | 1.55  | 0.80     |
| Google plus | 1.70  | 0.86     |
| WhatsApp    | 2.94* | 0.99     |
| Skype       | 1.84  | 0.90     |
| Twitter     | 1.72  | 0.98     |
| YouTube     | 1.90  | 1.43     |
| Zoom        | 1.84  | 0.90     |
| Twitter     | 1.64  | 1.06     |
| Instagram   | 1.57  | 1.16     |
| Soundation  | 1.52  | 1.66     |
| Telegram    | 1.01  | 1.78     |

Source: Field Survey, 2024.

Mean > 2.0 = High Usage

**Perception of the usage of web tools in disseminating agricultural information among arable farmers**

Results in Table 3 shows the arable farmers’ perception of the various web-based tools the grand mean used in categorized to positive > 2.5 and < 2.5 negative perception and it was observed that the respondents had positive perception towards all the perception statements drafted for this study. Among the perception statements were the Using Web tools reduce interpersonal communication between the extension agents and farmers (Mean=2.97) ranked 1<sup>st</sup> Web tools involve training on the usage (Mean=2.94) Ranked 2<sup>nd</sup> Among the farmers, analysis reveals that respondents had Positive disposition toward web tools except in getting materials for learning purpose through internet (Mean = 2.37) ranked 15<sup>th</sup>,

web tools use influences rate of adoption (Mean = 2.33) ranked 16<sup>th</sup>, farm work can be greatly enhanced by web tools (Mean = 2.16) ranked 17<sup>th</sup>, web tools remove a lot of cost, barriers and saves time (Mean = 2.12) ranked 18<sup>th</sup> and web tool is a cost effective and practical tools for facilitating farms service delivery (Mean = 1.61) ranked 19<sup>th</sup>. This shows that farmers may be interested in the use of web tools if introduced to them since they had positive disposition towards the use of web tools.

Figure 1 further explains that 81.6% of farmers were favorable about online tools, while 18.4% were negative. This implies that the respondents were favourably disposed to the use of web tools for accessing information.

**Table 3: Perception of respondents on the usage of web tools for information dissemination**

| Perception in the usage of web tools   | Farmers |          |      |
|--|---------|----------|------|
|  | Mean    | Std. Dev | Rank |
| Using Web tools to disseminate information to farmers help to cover large number of farmers                      | 2.72*   | 1.08     | 9th  |
| Using web tools will increase my productivity in carrying out my extension work                                  | 2.61*   | 1.15     | 17th |
| Usage of web tools will increase my chances of getting exposed to information on new innovations or technologies | 2.69*   | 1.06     | 12th |
| Use of web tool will increase interaction between extension agent and farmers                                    | 2.64*   | 1.11     | 15th |
| It will be easy for me to become skillful at using web tools   | 2.67*   | 1.01     | 14th |
| The cost of using web tools is high  | 2.72*   | 0.99     | 9th  |
| It uses electricity which at time may not be available   | 2.82*   | 1.06     | 7th  |
| Using Web tools reduce interpersonal communication between the extension agents and farmers                      | 2.97*   | 1.08     | 1st  |
| Web tools involve training on the usage  | 2.94*   | 1.15     | 2nd  |
| Web tools usage involved network which may be difficult to find.   | 2.91*   | 1.03     | 4th  |
| Learning to operate web tools will be easy for me  | 2.85*   | 1.13     | 6th  |
| Web tools make work more interesting   | 2.71*   | 1.14     | 11th |
| web tools can be used to circulate innovations easily  | 2.86*   | 1.14     | 5th  |

|   |       |      |      |
|---|-------|------|------|
| The use of web tool is a source of motivation to both the extension agents and the farmers thereby promoting learning | 2.94* | 1.19 | 2nd  |
| Getting relevant materials for learning purpose cannot be achieved via Internet                                       | 2.69* | 0.99 | 12th |
| Web tools use influences rate of adoption   | 2.79* | 1.1  | 8th  |
| Web tools removes a lot of cost, barriers and saves time  | 2.63* | 1.07 | 16th |
| Extension work can be greatly enhanced by web tools   | 2.37  | 1.05 | 18th |
| Web tools is a cost effective and practical tool for facilitating extension service delivery                          | 2.33  | 1.22 | 19th |
| The benefits of web tools use outweigh the financial burden involved  | 2.12  | 1.12 | 20th |

Source: Field Survey, 2021.

Mean > 2.5 = Positive

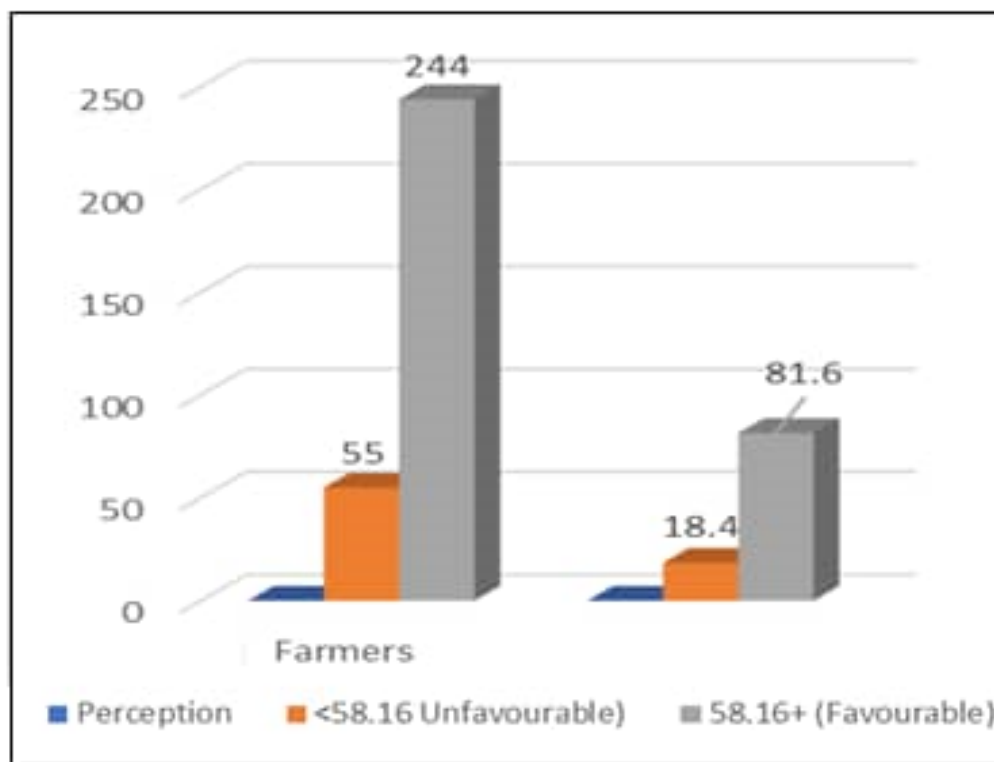


Figure 1: Perceptual rating  
Source: Field Survey, 2024.

**CONCLUSION**

The production of arable crops is becoming more vital aid of usage of web tools, which is a sign of better livelihood. Despite being aware of the benefits of web tools, farmers are concerned that technology would push local knowledge to the margins. A number of factors are responsible for how arable farmers view the web tools of agricultural methods; if disregarded, these factors could impede Nigeria's agricultural system's successful usage of web tools. To enhance farmers' perceptions, the government should raise awareness about the use of web tools instruments in the production of arable crops. Key players in the design of web tools process, particularly web tools network service providers, should enable design of web friendly tools for easy understanding and usage.

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