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KNOWLEDGE AND ADOPTION OF WEB 2.0 FOR MODERN AGRICULTURAL PRACTICES AMONG FARMERS IN DEKINA LGA, KOGI STATE

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Abstract

This study examines the level of knowledge and adoption of Web 2.0 for accessing modern agricultural practices among farmers living in Dekina Local Government Area, Kogi State. It was anchored on the assumptions of the diffusion of innovations theory and the technology acceptance model. The study employed the survey research method, using a sample of three hundred and eighty-four (384) arrived at using Cochran formula. Structured questionnaire was the instrument of data collection as copies were administered to selected farmers in Dekina LGA. Data generated were analysed using tables and simple percentages, mean averages and standard deviation, while the hypotheses were tested using the inferential methods of Chi-square and T-test, with aid of SPSS version 25. Findings from the study showed that farmers in Dekina LGA have a significant awareness of what Web 2.0 is because many of the farmers are relatively young and more exposed to technology; though the farmers are familiar with Web 2.0, the adoption level for accessing agricultural information is low. Findings further revealed, however, that farmers who have used Web 2.0 for agriculture in the past have observed improvements in their agricultural productivity. Poor internet, poor power supply, low technical know-how and high cost of data were also found to be challenges militating against the adoption and use of Web 2.0 for agriculture in Dekina LGA. The study, therefore, recommends among others, that government should take advantage of the high awareness of Web 2.0 among farmers in Dekina LGA and organize programmes to teach them how to use to access modern agricultural information, focusing these programmes on encouraging farmers to use the technology more frequently as the adoption level was seen to be low.

Keywords: Web 2.0, communication, online information, agricultural information, produce

Introduction

The spate of technological advancements, especially in the area of information and communication, has completely changed the way knowledge is created and accessed. The traditional media, radio, television, newspaper and magazine have continuously faced declining popularity since the advent of the internet, known alternatively as 'the new media.' The internet, like its predecessors, has evolved over the years, culminating in its present form – the Web 2.0.

Web 2.0 is a term used to refer to the second generation of the web or internet. According to Murphy (2010), the original internet applications represented a typically passive, uni-directional flow of information to users; the way in which contents were chosen, presented and deployed was driven by the developers. In contrast, Web 2.0 moves away from the static web pages of the early internet (sometimes referred to as Web 1.0) to a more dynamic information sharing platform that encourages participation and contribution from the users. O'Reilly (2007, p.17) defined Web 2.0 as "a web platform and web applications that run on the platform that provides users control over their own content and facilitate collaboration between individuals and groups." Thus, users of Web 2.0 are not limited to simply accessing information on web pages and other Web 2.0 platforms but are also allowed to comment on that information, interact with other users or even create their own content.

One area where the potentials of the Web 2.0 and its tools can be maximally harnessed and utilized, however, is agriculture. Agriculture is an important sector contributing in no small way to the economy of many nations. In Nigeria, it has remained a pillar without which the country's Gross Domestic Product (GDP) would not be the same. Agriculture is the sector making the highest contribution to the nation's GDP after crude oil. According to Varella (2021), between the months of January and March 2021, it has contributed to 22.35% of the total GDP. In addition to this, agricultural sector has employed millions of Nigerians. A 2020 study showed that 34.66% of all employment in the country was in the area of agriculture. It is no wonder then, that farming is a major occupation (Trading Economics, 2021).

Whether it is in the area of crop production or livestock farming, agriculture needs to undergo constant

improvement in order to keep production at maximum rate. For this to happen, it is important to get up-to-date information related to efficient allocation of available resources, market and use of new or innovative farming practices. Demiryurek, Erdem, Ceyhan, Atasever, & Uysal (2008, p. 6) and Opara (2008, p. 289) note that "information is needed to help farmers to make decisions on input allocation; find appropriate markets for products; and determine the best post-harvest storage of products." The application of Web 2.0 in agriculture is especially important when it comes to sharing knowledge on modern agricultural practices with farmers. These modern practices may include new kinds of fertilizer, high-yield crop or livestock species, new agricultural equipment or some other innovation.

For farmers to enjoy the ease of access, interactive features and the opportunity of collaboration available in using Web 2.0 to gain knowledge of modern agricultural practices, however, they must first be aware of such innovation and make a decision to adopt it. According to Simtowe, Muange, Munyua, and Diagne (2012, p.3), "awareness (knowledge of the innovation) is an important precondition for adoption to occur."

In view of emerging innovations in agriculture and the potential of Web 2.0 in providing access to information about them, it is important to find out if farmers, who reside mostly in rural areas like those in Dekina Local Government Area of Kogi State, are aware of the technology, whether or not many of them are actually adopting it, and whether it has affected their productivity. This is appropriate as **about eighty percent of the residents have farming as a major occupation (Adejo, Adejo, Ahmed & Bello, 2016).**

Objectives of the Study

In general terms, this research aims at assessing the knowledge and adoption of Web 2.0 for modern agricultural practices among farmers in Dekina LGA. However, the specific objectives of the study are to:

1. ascertain the knowledge of Web 2.0 for agricultural practices in Dekina LGA.
2. examine the level of adoption of Web 2.0 for agricultural practices among farmers in Dekina LGA.
3. find out the extent to which Web 2.0 has contributed to agricultural productivity in Dekina LGA.
4. examine challenges faced by farmers in Dekina LGA in their use of Web 2.0 for modern agricultural practices.

Theoretical Framework

Diffusion of Innovation theory was propounded in 1962 to explain how a new idea, technology or anything novel spreads among a specific population or social system. The theory, which was propounded by Everett M. Rogers, seeks to unravel the factors that determine whether or not people adopt an innovation, the stages of that adoption as well as how the different types of adopters can affect the speed at which an innovation is adopted.

In explaining the process by which novelty spreads, the Diffusion of Innovation theory assumes that there are five (5) factors that affect adoption. According to the theory, *relative advantage or how the innovation is better than existing ones can determine its adoption pattern.* This means that when a user perceives relative advantage or usefulness of a new technology over an old one, they tend to adopt it (Moore & Benbasat, 1991; Rogers 2003). Also, *complexity, compatibility with the beliefs of the adopters, trialability and observability determine how an innovation diffuses among a population.*

The theory also assumes that adoption of an innovation occurs in stages. The first stage, the knowledge or awareness stage is when the people learn about the innovation. During this phase, the individual attempts to determine "what the innovation is and how and why it works" (Rogers, 2003, p. 21). This is followed by the persuasion or interest stage where the individual has a negative or positive attitude toward the innovation, but "the formation of a favourable or unfavourable attitude towards an innovation does not always lead directly or indirectly to an adoption or rejection" (Rogers, 2003, p. 176). The decision or evaluation stage is where the individual chooses to adopt or reject the innovation while at the implementation stage, the individual puts the innovation into practice. The confirmation or adoption stage is the last stage where the adopter decides to continue the full use of innovation. individual looks for support for his or her decision.

Furthermore, the theory assumes that there are different types of adopters which may affect the pattern of adoption. According to Rogers (2003), the first category of adopters, the *Innovators, are those who are venturesome and* willing to experience new ideas. They are usually the first to try an innovation. The second type of adopters, *the early adopters* are more likely to hold leadership roles in the social system and other members come to them to get advice or information about the innovation while the third group, *the early majority,* though rarely leaders, usually adopt an innovation before the average person. *The late majority* type of adopters *includes* members of the social system who wait until most of their peers adopt the innovation. Similarly, *the laggard group* have the traditional view and they are more skeptical about innovations and

change agents than the late majority. They often consist of people with limited formal education and low economic status.

Methodology

This study adopted the survey research method, which according to Toluhi (2001, p.13), refers to a research method "in which a population or items are studied by collecting and analyzing data from only few people." The population for this study comprises all farmers in Dekina Local Government Area. Dekina is one of the 21 Local Government areas in Kogi State, Nigeria, with a land area of 2461 square kilometres, making it the largest Local Government Area in the country. It is located within the Guinea Savannah belt and thus supports the growth of some major food crops such as yam, cassava, cocoyam, maize, melon, beans, etc. Hence, the major occupation of the people is farming. The precise number of people that constitute the study population is unknown to the researcher due to the absence of a database that contains the record of all farmers within the local government area.

The Cochran formula for determining sample size for infinite population was used and a sample of 384 was arrived at. The researcher adopted the multi-stage sampling method for the sampling procedure. In stage one, the study area was stratified into three (3) according to the districts in Dekina LGA, namely, Dekina, Biraidu and Okura districts. At stage two, the researcher used simple random sampling to select two communities from each of the districts. Thus, the following communities were selected: In Dekina district, Dekina and Iyale communities were selected; in Biraidu district, Biraidu and Abocho communities were selected; and in Okura district, Anyigba and Agbeji communities were selected. The sample was then divided equally across the six (6) communities, hence; 384 ÷ 6 = 64. Therefore, the research instrument was distributed to 64 farmers from each of the 6 communities. Structured questionnaire was used to collect data from the farmers with the aid of four (4) research assistants. The collected data was analyzed using tables and frequencies, mean averages and standard deviation, while Chi-square and T-test was used to analyze the hypothesis. All analysis was done using SPSS version 25. This study used a 5-point Likert scale, where different values were assigned to the options, namely; strongly agree (5), agree (4), neutral (3), disagree (2), strongly disagree (1). Based on this, if the mean average produced from the analysis of a particular statement is higher than the set criterion of 3 ($\pm > 3$), the statement is to be accepted. However, if it is less than 3 ($\pm < 3$), then the statement is to be rejected. Since the statements in the questionnaire are positive, the scale ranged from Strongly Agree (SA) to Strongly Disagree (SD) (Best & Khan, 2010).

Data Analysis and Discussion

The first part of the analysis was the demographic characteristics of the respondents. These include gender, age brackets, and educational attainment among others. In terms of gender, majority of the respondents are male. This is because culturally, farming is an occupation dominated by men in the area. The age distribution shows that a total of 130 respondents within the age bracket of 25-34 formed the highest percentage of respondents. Though the researcher did not have any particular age bracket in mind when conducting the survey, the implication of this age distribution is that many of the farmers in Dekina LGA are relatively young. In other words, farming is still a popular occupation among the younger population. The distribution of respondents according to community shows an equal distribution of respondents across each of the communities, namely; Abocho, Biraidu, Dekina, Iyale, Anyigba and Agbeji.

Table 1: Farmers' level of knowledge of Web 2.0 for agricultural practices in Dekina LGA

ITEMS	FREQUENCY					N	X (Mean)	SD	DECISION
	SA	A	N	D	SD				
I use a phone with internet access	177	96	-	92	19	384	3.83	1.357	ACCEPTED
I know Web 2.0 tools such as Facebook, Twitter, websites, blogs, video-sharing applications and others.	146	115	39	69	15	384	3.80	1.232	ACCEPTED
Web 2.0 tools can be used to access information about agricultural practices.	88	157	58	77	4	384	3.65	1.074	ACCEPTED
I have come across information concerning agricultural practices on Web 2.0.	81	146	61	77	19	384	3.50	1.172	ACCEPTED
It is possible to learn better farming methods through Web 2.0.	107	146	65	54	12	384	3.73	1.106	ACCEPTED
Cumulative Mean							**3.70**		

The table above presents a Likert scale analysis of farmers' level of knowledge of Web 2.0 for agricultural practices in Dekina LGA. The respondents accepted all the statements at a cumulative mean of 3.70, an indication that many of them have access to web 2.0, know about its applicability for agricultural purposes among others.

Table 2: Level of adoption of Web 2.0 for agricultural practices among farmers in Dekina LGA

ITEMS	FREQUENCY					N	X (Mean)	SD	DECISION
	SA	A	N	D	SD				
I have used Web 2.0 to access information about farming in the past	115	100	23	131	15	384	3.44	1.329	ACCEPTED
I use Web 2.0 every time I need information concerning farming	16	26	54	213	75	384	2.21	0.971	REJECTED
I only use Web 2.0 to access agricultural information when I cannot get it elsewhere	88	96	69	108	23	384	3.31	1.264	ACCEPTED
I know other farmers who use Web 2.0 to access agricultural information	21	48	84	146	85	384	2.41	1.125	REJECTED
I interact with other farmers and agricultural experts using Web 2.0	33	44	15	219	73	384	2.34	1.163	REJECTED
Cumulative Mean							**2.74**		

The table above analyses the level of adoption of Web 2.0 for agricultural practices among farmers in Dekina LGA. The overall results indicate that most of the respondents rejected the statements arriving at a cumulative mean of 2.74, with varied standard deviations. This implies that though the respondents have used Web 2.0 to access agricultural information in the past, most of them do not know others who use it and have not interacted with other farmers or agricultural experts using the technology.

Table 3: Contributions of Web 2.0 to agricultural productivity in Dekina LGA

ITEMS	FREQUENCY					N	X (Mean)	SD	DECISION
	SA	A	N	D	SD				
Web 2.0 tools have helped me learn about high-yield crops.	84	127	35	123	15	384	3.37	1.245	ACCEPTED
Web 2.0 tools helped me learn agricultural methods that improve productivity.	100	111	42	96	35	384	3.38	1.344	ACCEPTED
Web 2.0 tools have helped me understand how to manage farm resources better.	58	111	81	107	27	384	3.17	1.195	ACCEPTED
My farm yield would be lower without the information I get through Web 2.0	63	79	30	162	50	384	2.85	1.337	REJECTED
My farm income has increased since I started using Web 2.0 to access agricultural information.	30	96	48	159	51	384	2.73	1.199	REJECTED
Cumulative Mean							**3.1**		

The contributions of Web 2.0 to agricultural productivity in Dekina LGA, according to the table above include helping respondents to learn about high-yield crops, helping them learn agricultural methods that improve productivity and helping them understand how to manage farm resources better. The three propositions were accepted by the respondents, implying that they had benefited from Web 2.0 by being exposed to better crops, having improved productivity and better managed farms. This means that while the respondents agreed that Web 2.0 had improved productivity, they failed to admit that the technology had a direct positive influence on income.

Table 4: Challenges facing farmers in Dekina LGA in their use of Web 2.0 for modern agricultural practices

ITEMS	FREQUENCY					N	X (Mean)	SD	DECISION
	SA	A	N	D	SD				
Poor internet connection makes it difficult for me to use Web 2.0	157	81	84	42	20	384	3.82	1.226	ACCEPTED
I find it hard to charge my device because of poor power supply	138	81	81	76	8	384	3.69	1.207	ACCEPTED
I do not have sufficient technical know-how to benefit maximally from Web 2.0	131	92	77	61	23	384	3.64	1.262	ACCEPTED
There are not enough sites devoted to agriculture for farmers on the Web 2.0 platform	27	66	88	129	74	384	2.59	1.182	REJECTED
Cost of data is too high	188	61	96	35	4	384	4.03	1.096	ACCEPTED
Cumulative Mean							**3.6**		

Table 4 shows analysis for the challenges facing farmers in Dekina LGA in their use of Web 2.0 for modern agricultural practices. The first and second propositions that poor internet connection makes it difficult for respondents to use Web 2.0 and that they find it hard to charge their devices because of poor power supply were accepted. This implies that poor internet and poor power supply were challenges that made it difficult for respondents to use Web 2.0. The implication of this is that the respondents could benefit more from the technology if they possess the necessary know-how to use it well and that the cost of data may have to be

lowered for them to benefit from Web 2.0.

Test of Hypotheses

1. ***H_0:*** *There is no significant relationship between use of Web 2.0 and improved agricultural productivity in Dekina LGA*

To test the hypothesis above, Chi-square was used to ascertain whether or not there is a significant relationship between the variables at 5% level of significance (alpha level). The decision to accept or reject the hypothesis is based on the statistical rule that if the p-value is less than the alpha level, the null hypothesis is rejected but if the p-value is greater than the alpha level, the null hypothesis should be accepted (Moore, Notz & Flinger, 2013).

The Chi-square analysis of the variables *'use of Web 2.0'* and *'improved agricultural productivity'* were done on SPSS and produced the result below:

Table 5: Chi-Square Test

	Value	Df	Asymp. Sig. (2-sided)/ P - value	Level of Significance/ Alpha Level
Pearson Chi-Square	9.824E2[a]	16	0.000	0.05
Likelihood Ratio	841.827	16	0.000	
Linear-by-Linear Association	354.231	1	0.000	
N of Valid Cases	384			

From the Chi-Square test result above, the P-value (0.000) is less than the alpha value (0.05). This means that there is a significant statistical relationship and that the null hypothesis is invalid. Therefore, the hypothesis; '*There is no significant relationship between use of Web 2.0 and improved agricultural productivity in Dekina LGA'* is rejected. This implies that there is a connection between the application of Web 2.0 in agriculture and increased productivity in the field.

1. ***H_0:*** *There is no significant difference between knowledge of Web 2.0 and the willingness to adopt the system for agricultural improvement in Dekina LGA.*

The hypothesis above was tested using the Independent Samples T-Test to compare the variables 'Knowledge of Web 2.0' and 'willingness to adopt the system'. This was based on the rule that if the level of significance is less than 0.005, there is a significant difference and the null hypothesis is rejected. However, if the level of significance is greater than or equal to 0.005, then the null hypothesis is accepted and the alternate hypothesis rejected.

The Independent Samples T-test was done using SPSS and produced the result below:

Table 6: Independent Samples T-test

Use of Web 2.0 for accessing information about farming		Levene's Test for Equality of Variances		T-test for equality of Means			
		F	Sig.	T	Df	Sig. (2 - tailled)	Mean Difference
	Equal variances assumed	61.838	.000	-8.335	144	.000	-1.649
	Equal variances not assumed			-24.707	130.000	.000	-1.649

Based on the result from the test, the level of significance (0.000) is less than 0.005. This means that the null

hypothesis is invalid and should not be accepted. Therefore, the hypothesis, *there is no significant difference between knowledge of Web 2.0 and the willingness to adopt the system for agricultural improvement in Dekina LGA* is rejected.

Discussion of Findings

Based on the data presented and interpreted above, it is important to discuss the findings in relation to the research questions raised in the first chapter of this study. This is to answer the questions which direct this research and fulfil its purpose.

Research Question 1: What is farmers' level of knowledge of Web 2.0 for modern agricultural practices in Dekina LGA?

Table 1 measures farmers' level of knowledge of Web 2.0 for agricultural practices. As shown in the table, there is significant awareness of Web 2.0 tools among farmers in Dekina Local Government area. The results show that most of the respondents use a phone with internet access and know Web 2.0 tools. The respondents also believe that Web 2.0 can be used to access valuable information about agriculture and that they have come in contact with such information on the Web 2.0 platform. Furthermore, most of the respondents agree that better methods of farming can be learned through Web 2.0. Overall, the table indicates a significant level of knowledge of Web 2.0 for agricultural practices among farmers in the area, based on the cumulative mean score of 3.70.

This high level of awareness of Web 2.0 for modern agricultural practices is, perhaps, due to the high percentage of young farmers who responded to the survey. In contrast, the older farmers between the ages of 45 upwards represented just 34% of the total respondents. This in line with the stance of Amaeshi, Anyanwu, and Oparaku (2006) who observed that internet use is predominant among the young people and use reduces with age. It is therefore not surprising that a high percentage of young farmers showed significant awareness of Web 2.0.

Generally, there is significant knowledge and awareness of Web 2.0 tools among farmers in Dekina LGA, especially among the younger farmers. They recognize that the technology can be used to access information about agriculture and serve as a medium through which the can learn better ways of farming. As noted by the diffusion of innovation theory, the first stage determines whether they will form an interest for the innovation, try it out and fully adopt it. The implication of this is that whether farmers in Dekina LGA adopt Web 2.0 or not may be hinged on their knowledge of the technology and its tools.

Research Question 2: What is the level of adoption of Web 2.0 for agricultural practices among farmers in Dekina LGA?

Table 2 measures the level at which farmers in Dekina LGA has adopted Web 2.0 for agricultural practices. The results show that farmers in the area have in one way or another used Web 2.0 to get agricultural information in the past. This fact suggests that the significant level of knowledge of Web 2.0 by farmers in the area could be responsible for farmers having used the technology to access agricultural information in the past.

It is to be noted, however, that while farmers in Dekina LGA may have used the Web 2.0 technology in the past, they did not use it whenever they needed to access information. Rather, they considered it a last resort and only used it when they had no other choice. Also, they did not know other farmers who use the technology and do not use it to interact among themselves or with agricultural experts. At a cumulative mean score of 2.74, the general level of full adoption of Web 2.0 among farmers in Dekina LGA was low. The low adoption level is further proven by the result of the second null hypothesis; *'there is no significant difference between knowledge of Web 2.0 and willingness to adopt'.* The rejection of the hypothesis means that knowledge of the technology among farmers does not guarantee adoption of it. This agrees with the finding that though farmers in Dekina LGA have a general knowledge of Web 2.0, the adoption level is low.

Diffusion of innovations theory notes that the category of adopters which people fall into can affect their pattern of adoption. The theory mentions late adopters and laggards as a group of adopters who are often skeptical and hesitant to adopt an innovation unless they are sure it works. This feature is prominent among farmers in Dekina LGA who mostly reside in rural areas. According to the findings of **Adejo et al. (2016), there is a low literacy level among farmers in Dekina LGA. This characteristic affects their capacity to make quick positive evaluation of the Web 2.0 technology and its potentials in agriculture, resulting in low adoption.**

Research Question 3: To what extent has Web 2.0 contributed to agricultural productivity in Dekina LGA?

Table 3 measures the contributions of Web 2.0 to agricultural productivity in Dekina LGA. The analysis shows that Web 2.0 has helped farmers in the area to learn about high yield crops as well as methods of farming that improved productivity. They also agreed that it has helped them manage their farm resources better. Thus, the technology has contributed positively to agricultural productivity in the study area. This is corroborated by the result of the first null hypothesis; *'there is no significant relationship between use of Web 2.0 and improved agricultural productivity in Dekina LGA'.* The hypothesis, which was rejected, implies that the use of Web 2.0 for agricultural practices by farmers in the study area has brought about positive changes in terms of productivity. Furthermore, the findings of **Chikaire, Anyoha, Anaeto and Orusha (2017) agree with this point, as they** observe that ICT's, which Web 2.0 is a part of, have significant positive effects on farmers' agricultural practices.

While the farmers recognize that web 2.0 has made positive contributions to their farming, they however, did not agree that their farm yield could be significantly lower without the technology and that their income had increased due to the use if the technology. This seeming contradiction is explained by the diffusion of innovation theory's reference to the laggard class of adopters as traditional and sceptical (Rogers, 2003). While they agree that Web 2.0 has helped them improve productivity, they find it difficult to admit that it has a direct impact on their farm income since they have been farming long before Web 2.0 existed. Generally, there is a mild agreement by the farmers that Web 2.0 has contributed to improved agricultural productivity. The role of Web 2.0 is important because as the findings of Oguche (2016) show, farmers basically lack the requisite knowledge to apply modern farm practices. Thus, Web 2.0 can help farmers get agricultural information such as fertilizer application, planting of high-yield species, access to markets, etc, that will have a positive effect on farm output.

Research Question 4: What are the challenges facing farmers in Dekina LGA in their use of Web 2.0 for modern agricultural practices?

Table 4 measures the challenges facing farmers in their use of Web 2.0 for modern agricultural practices. Farmers in the area agreed that poor internet connection as well poor power supply are major impediment to their use of the Web 2.0 technology. Most of the farmers live in rural areas where electricity and internet service are not stable. This makes it difficult for the farmers who happen to be interested in accessing information through Web 2.0 to do so.

Most of the farmers also believe that they do not have sufficient technical know-how to benefit from the technology. Web 2.0 tools such as agricultural websites, YouTube, agricultural blogs, Facebook, etc. require the user to be tech-savvy to an extent in order to navigate and use them beneficially. Therefore, ensuring that farmers understand how to use the technology will increase their likelihood of fully adopting it to access agricultural information. Furthermore, the farmers did not believe that a lack of websites that provide information on agricultural practices was a problem. The farmers, however pointed out that high cost of data needed to connect to the internet is another factor that challenges farmers use of Web 2.0.

Overall, these challenges were largely accepted by the farmers as impeding adoption Web 2.0 for agricultural practices. The findings of **Chikaire et al (2017) corroborate these observed challenges. They found out that** several factors such as erratic power supply, lack of ICT skills, unavailability of ICT centers and high cost of ICT facilities constrained the use of ICT devices in agriculture. Mtega, Dulle, Malekani and Chailla (2014) further found out that the only way of surmounting these challenges is through interventions by the government and training of farmers to use the Web 2.0 technology. According to their findings, there was a very high level of positive perceptions particularly after the training workshops were carried out.

Conclusion and Recommendations

Based on the findings of this study, it can be concluded that the potential of Web 2.0 in agriculture remain largely untapped in Dekina Local Government Area. Though the farmers in the area know about the technology and have most have used it in the past, the low level of complete adoption shows that there is more to be done. Furthermore, famers in Dekina LGA need to interact more with one another and share valuable information on agricultural practices they have learned as well as ask others about their experiences. This can be achieved only if the farmers fully adopt the Web 2.0 technology. Also, the study findings lead to the

conclusion that farmers in Dekina LGA do not yet understand that Web 2.0 can have huge positive influence on their income. Considering the importance of agriculture to both the individual and the country's economy, the challenges have to be addressed for agriculture to thrive.

Based on the findings of this study as well as the conclusion arrived at, the following recommendations were provided:

1. Government should take advantage of farmers' high awareness level of Web 2.0 in Dekina LGA and organize programmes to educate them on effective use of the technology for agriculture; this sensitization should be focused on the younger farmers since it was discovered that most farmers who know about the technology are young.
2. The Local Government Authority in Dekina should establish a farmers' forum on the Web 2.0 platform where farmers in the area can interact, share experiences as well as make inquiries from agricultural experts, since it was discovered that farmers in the area seldom interacted with others using the platform.
3. Since farmers in Dekina LGA agreed that Web 2.0 improved their productivity, they should be encouraged to be less skeptical about the technology and realize its potential on their income, as conviction that the innovation will benefit them can lead to full adoption.

Government should provide an enabling environment for Web 2.0 use in Dekina LGA by improving power supply and mandating network providers to improve internet access in the area

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