

# Use of Social Media in the Marketing of Agricultural Products and Farmers Turnover in South-West Nigeria

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## ABSTRACT

The study sought to determine the extent to which the usage of social media in the marketing of agricultural products in South-West Nigeria can enhance farmers turnover. It employed the survey research design to collect data with the help of a structured questionnaire to elicit information from respondents selected from six (6) south-western states. Research data were analysed using structural equation modelling. The results showed that the use of social media (WhatsApp and Facebook) in marketing of agricultural products significantly enhances farmers turnover. The managerial implication is that use of Whatsapp and Facebook in the marketing of agricultural products for the enhancement of farmers' turnover was found to have significant influence on the enhancement in farmers' turnover from agricultural products. Policy makers in government should provide the enabling environment for the telecommunication companies to enhance their reach by installing their facilities across the length and breadth of the country so that the network coverage will be strong at all times so that the benefits of social media usage will not be constrained.

**KEYWORDS:** *Agricultural marketing; Farmers turnover; social media marketing; use of WhatsApp; and use of Facebook*

## INTRODUCTION

The need to promote agriculture lies in its importance to nation-building all over the world. Agricultural sector performance particularly, through improved productivity, is one of the major ways of reducing poverty in developing countries. Food is critical to man's existence. It is one of the most basic needs of man as captured in Maslow's hierarchy of needs. Before man can embark on any other activity, he must first solve the problem of hunger. It is for this reason that no country can afford to neglect agriculture and allied activities. Thirstle et al (2013), for example, argue that improved agricultural performance is associated with reduced incidences of poverty. This evidently implies that increased agricultural performance provides adequate food for the populace to tackle the menace of hunger as well as provides adequate opportunities for employment. Similarly, research by Food and Agricultural Statistics (2004) shows that poverty reduction has occurred most rapidly in areas where significant productivity gains

in agriculture have occurred (e.g., East Asia) while poverty has increased in both proportion and number in sub-Saharan Africa where there is staggering growth in agricultural productivity and performance. Agricultural sector in many countries has been described as the engine of economic development (Food and Agricultural Statistics, 2004).

Unfortunately, in Nigeria the reverse is the case. The agricultural sector has not been performing as expected, judging from the continuous decline in its contribution to the nation's GDP and foreign exchange earnings occasioned by the reduction in government's efforts towards agriculture at some point in time. Prior to the discovery of crude oil, the sector provided the much-needed foreign exchange, income, food, fiber, fuel, employment and raw materials for our growing industries. However, following the emergence of petroleum as the main provider of the Nation's foreign exchange earnings in the early 1970s the attention of government to

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agricultural production was reduced in order to have adequate focus on crude oil production. This resulted in progressive decline in the percentage contribution of agriculture in the nation's economic development. In fact, development economists have attributed the present economic predicament in Nigerian to poor performance of the agricultural sector and over reliance on one product, which is crude oil, as the major source of foreign exchange earner.

Therefore, agricultural sector has been so relegated in Nigeria that it is largely unattractive to the current generation of youths. Worse still is the fact that the traditional marketing techniques have not been able to assist farmers in attracting the desired demand to generate the type of sales turnover that will stimulate increased agricultural outputs. To this end, embracing a different type of agricultural marketing will help to ensure that the earnings potential of agriculture are duly exploited. The significance of agricultural products marketing derives from the creation of the necessary awareness to customers on the availability of the agricultural products, the locations and the quantities available. Such awareness can facilitate sales of agricultural products, which are often perishable, and thus enhance farmers' turnover in the short and long run. Various attempts have been made by past and present government to improve agriculture but the sector has continued to record poor performance. Scholars have also made various contributions on how to improve agricultural sector performance but previous studies seem to concentrate more on improvements in agricultural production than agricultural marketing. Studies have equally shown that one of the major constraints to agricultural sector performance is poor attention given to agricultural marketing policies by government. Agricultural production and marketing are two sides of a coin; one cannot do without the other.

Given the popularity of the use of social media channels, such as Facebook and WhatsApp across the different age grades in Nigeria, it is logical to expect that the use of social media (Facebook and WhatsApp) in the marketing of agricultural products will make a significant impact on the demand for agricultural products and on sales and thus have a significant positive impact on the performance expectancy of farmers. To this end, this study seeks to investigate the extent to which the use of Facebook and WhatsApp in agricultural marketing can enhance sales turnover in South West Nigeria.

The objective of this study is to investigate the impact of the adoption of social media (Facebook and WhatsApp) in agricultural marketing by farmers in South-west Nigeria. The specific objectives are to

determine the extent to which the use of WhatsApp in the marketing of agricultural products by farmers will enhance the returns from agricultural products in South Western Nigeria.

## Literature review

### Concept of Social media

Social media has been examined from a perspective that focuses on the interpersonal networking dimensions (e.g. Facebook). Firstly, they conceptualize social network sites as "web-based services that allow individuals to: Construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, and lastly, view and traverse their list of connections and those made by others within the system (Balkrishna & Deshukk, 2017). In any case, the nature and nomenclature of these connections may vary from site to site. Amit, Arvind and Kuldeep (2015) see social media as the means of interactions among people in which they create, share, consume and exchange information and ideas in virtual communities and networks. Kaplan and Haenlein (2009) define social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0 and that allow the "creation and exchange of user-generated content." While many outsiders would never think to associate farmers, dairy farmers, and animal keepers with Facebook and Twitter, they actually represent a large group of active users on both of the social networking sites. According to some farmers and tech savvy scientists, social media is an indispensable communication tool for farmers to connect with each other and educate others about their industry (Amit, Arvind & Kuldeep, 2015).

A definition that focuses on the interpersonal networking dimensions (e.g. Facebook) "social network sites are web-based services that allow individuals to: Construct a public or semi-public profile within a bounded system; articulate a list of other users with whom they share a connection, as well as view and traverse their list of connections and those made by others within the system. The nature and nomenclature of these connections may vary from site to site." Social media enable people to create, publish, share, collaborate, discuss and network through a wide range of new, mainly digital, formats and platforms. Different types of Social media: Blogs, Microblogs (Twitter), Conversational threads, Social Photos, Social Networking (Facebook, LinkedIn), Video Sharing (YouTube). Metrics on Social A main benefit of social media in agricultural marketing is ability to gain wealth of knowledge and ideas, opportunity to establish key partnership,

opportunity to reach wider consumers, experts in agricultural field. Media: Internet, Mobile Phones, Networks. Facebook: People have their own profile brand, pages, groups LinkedIn: Connects with professionals, share information related or becomes a resource. Twitter: Follows agricultural marketing experts, tweets regularly, share information, join Twitter Charts. YouTube: Upload / download videos related WhatsApp: Groups related to agricultural marketing.

### **Social Media and Consumers' Purchasing Behaviour**

In view of the growing number of recorded users of social networks (SNS), many companies in recent years, have integrated SNS into their marketing plans. To this end, they exploit an opportunity to contact end-users in a timely and direct way, at a relatively lower cost and higher level of efficiency than can be achieved with more traditional communication and marketing tools (Kaplan & Haenlein, 2010). In more specific terms, in facilitating and enhancing interpersonal relationships through the exchange of information on products and services, firms gain an ability to forecast consumer purchasing behaviour, increase brand awareness, increase sales, and build consumer loyalty (Castronovo & Huang, 2012). In fact, "through social networks, firms can obtain valuable information about people, including their preferences, social influence, and types of social interactions" (Schniederjans et al., 2013). As the most established online social network, Facebook, registered more than 1.6 billion active users in the first quarter of 2016 (Facebook, 2016; Dahnil, Marzuki, Langgat & Fabeil, 2014), which represents an average annual increase in users of 194.3% since 2008. This confirms Facebook as the biggest social networking platform in the world, followed by Qzone (predominant in China) and Instagram (Cosenza, 2015). The Facebook platform enables the exchange of information quickly, flexibly, and easily (Dahnil, Marzuki, Langgat & Fabeil, 2014).

### **Evolution of Social Media Usage in Agriculture**

From 2005 to 2009, participation in social networking has more than quadrupled (Jones & Fox, 2009). There is empirical evidence that at least 67% of all Internet users in the United States use at least one social media site; 83% of people between the ages of 18 and 29 use social media sites and women are more likely to use social media than men, and Internet users are more likely to use social media if they reside in an urban area as opposed to rural (Pew Research Center, 2012). The same argument is approximately applicable to many other countries across the continent. There is also an increasing number of

farmers and ranchers ages 18-29 surveyed who use computers, and a significant percentage of this number use some form of social media. The evolving landscape of agriculture has brought about a shift in consumer demands and disconnect between agricultural producers and consumers that continues to grow (Perkins, 2010). Consumers now put more emphasis on wanting food that is convenient, ethically raised, and healthy; they want to know where their food is coming from, how it was raised, and how it got to their plate (U.S. Department of Agriculture, 2013). To meet these demands, food producers and consumers have had to forge new relationships, and social media platforms have provided a way to do so. For agriculture to continue to be successful in the global agricultural market, it is necessary for agriculturalists to understand who and where their consumers are and how to please them (Allen, 1993). It is also important for agriculturalists in contemporary global economies to be familiar with the methods through which consumers gain information and make decisions regarding agriculture (Elliot & Frick, 1995). Agriculturists, as producers, communicators, or employees are successfully participating in two-way communication with consumers through the social media. Exploring how these communication efforts began and are sustained will provide more insight to inform additional communication efforts through social media.

### **Agricultural Marketing**

In general definitions of marketing agricultural products, there are two distinct approaches. In the first view, marketing of agricultural products is considered as an operational act that is done on the product in the distance between the centers of production and consumption. These mainly include transporting, packing, grading and conversion. The second view contains the definitions that regards product marketing in a much broader view of the above, so they believe that marketing of agricultural products begins from the stage that farmers plan for their production, because attention to market and consumer demand is required in choosing the amount, type and the way of production (Alimordanian & Dehyouri, 2006). Marketing of agricultural products is a series of production and consumption that includes activities such as design, production, harvesting, grading the product, packaging, transportation, storage, processing, distribution, sale and transfer of the production to the market and vice versa (Mohammadi, 2011).

Agricultural marketing simply consists of the application of the concept of marketing to agriculture with particular reference to agricultural products.



“Agricultural produce marketing is the process of creating demands and motivation of sellers to distribute agricultural items unto ultimate consumers at a profit” (Onyeabor, 2009). Agricultural marketing has been defined as “the anticipation, identification and satisfaction of the needs of consumers in agricultural markets”, beginning the determination of what products consumers would need in the pre-production stage, production to specification in the production stage and in the post-production stage, ensuring that what is produced are packaged, processed, stored, transported, standardized, graded, priced, promoted and made available to the consumers through various marketing channel members such as farmers, agents, wholesalers and retailers (Ejionueme & Nebo, 2014)

### **Adoption of social media for Agricultural Marketing in South West Nigeria**

In view of the shortcomings of the print and electronic media in marketing agricultural products, the need for a more efficient strategy has been long overdue. The rapid growth of the use of mobile phone around the world in the last few decades provided a viable marketing alternative for agricultural products in Nigeria and other emerging economies. Mobile phones have contributed significantly to the empowerment of people in developing countries in spreading information networking coverage in the remote areas. Consequently many rural areas are getting great benefit out of its usage in various spheres of endeavor. This has culminated in the improvement of the living standard of poor farmers in developed nations.

### **Challenges of Social Media use in Agricultural Marketing**

The use of social media in the marketing of agricultural products has some constraints. Some of the major constraints include but are not limited to:

1. Adoption of social media as a tool of agricultural marketing.
2. There is a limited access to social media because of affordability of data, network connectivity, among others.
3. There is a need of training and education about use of social media in agric. Marketing because not all farmers are conversant with the use social media in the marketing of agricultural products.
4. There is the problem of mistrust because people are less trusted on e-buying, e-selling of agricultural commodity on social media.
5. All the activities are restricted by time because social media usage, if not controlled, is very time consuming; as well as technology; and

6. Cost of technology use in agricultural marketing is more.

Social media overcomes geographical boundaries and creates communities who share common interests. The users also seek out information from traditional media social media platforms. Rhoades and Hall (2007) noted that there was a large presence of blogs covering topics on agriculture. Overuse of social networks can lead to procrastination and a tendency to waste time and become addicted to constantly being updated on what is happening around the world. Because the advantages of using the tool have no direct, immediate and easily recognized financial returns, there is an opportunity cost of time that must be acknowledged. Whilst this study does not focus on the techniques to reduce procrastination on such tools, it is pertinent to acquaint readers with certain pitfalls associated with social media usage and impacts of such pitfalls on their relationships in real life. There is also a risk of becoming too reliant on social networks and thus cultivating a tendency to dissociate oneself from contact in the physical world. As with any online tool, use of it in moderation is obviously the ideal outcome as face-to face communication ultimately is a great source of networking and communication. In no way should social media be a replacement for social networks and connections in the physical world; however social media can be a useful tool in the facilitation of those social interactions.

### **Empirical Review**

This section presents extant studies on the use of social media in the marketing of agricultural products with particular references to the titles, the methodologies adopted, including the data analysis techniques and the findings of the studies. The extant studies are categorized in to different subheadings consistent with the constructs employed in measuring the dependent and independent variables in this study with a view to properly situating the studies within the contexts and thus enabling the development of hypotheses.

Akintunde and Oladele (2019) investigated “the use of information communication technologies among agricultural extension officers in Lesotho.” They employed the quantitative methodology and the population of the study consisted of extension workers in public and private organizations. Structured questionnaire served as the research instrument with which information was elicited from 86 public and 19 private extension officers. Research data were analysed using multiple regressions and t-test. Results indicate that there is a strong relationship between access to information, residing within place

of work, age of respondents, awareness, type of extension and use of information technology. They also found a significance differences in the use of information technology between public and private extension officers. Constraints to the use of information technology include high cost, lack of the necessary infrastructure of information technology and training of technical personnel.

Alavion, Allahyari, Al-Rimawi and Surujlal (2016) investigated “the adoption of agricultural e-marketing using the theory of planned behavior as a base model” to determine how attitudes, subjective norms, and perceived behavioral control predict the intention of agricultural services professionals to adopt e-marketing of agricultural commodities. The study employed the quantitative methodology. The research design was a cross sectional survey. A convenient sample of 146 professionals consisting of 61 public and 85 private sector participants was employed. The results showed that the theory of planned behaviour model explained ninety four percent (94%) and seventy one percent (71%) of the variation in behavioral intent for public professionals and private professionals respectively. Both public and private professionals selected information services model as appropriate in agricultural electronic marketing for local farmers so that agricultural services firms can offer only information services of farmers’ products without a direct role in buying and selling.

### Research Methods

The study employed the quantitative research method. Specifically, the conclusive research design consistent with Inegbedion (2018), Inegbedion, Obadiaru, Obasaju, Asaleye and Lawal (2019) and Inegbedion, Obadiatu and Bello (2016) while the survey method was used in data collection.

### Hypothesis

H<sub>01</sub> There is no significant relationship between the use of Facebook in the marketing of agricultural products and farmers’ earnings from agricultural products in South Western Nigeria

H<sub>02</sub> There is no significant relationship between the use of WhatsApp in the marketing of agricultural products and farmers’ earnings from agricultural products in South Western Nigeria

### Participants

The population of the study consisted of four thousand, Ten thousand, one hundred and sixty-eight (10168) farmers registered in cooperative societies. Of this number, 2248 are from Lagos, 2840 are from

Ondo State, 1520 are from Ogun state, 1680 are from Oyo, 1640 are from Ekiti and 1200 are from Osun. Taro Yamane formula was used to estimate a sample size of 385 and proportional allocation was used to assign 85, 58, 64, 70, 62, and 46 to Lagos, Ogun, Oyo, Ondo, Ekiti and Osun States respectively. 385 respondents sampled, 248, representing 64.4% of them voluntarily participated in the study. The participants’ selection was from farmers’ cooperative societies in the six states using random sampling. The choice of these states was informed mainly by convenience. Specifically, samples were taken from the current members of the cooperative societies. The sample consisted of crop, poultry, fish and piggery farmers who belong to cooperative societies in the states with evidence of usage of social media(Facebook, and WhatsApp), among others. The sampling frame was requested from the management of the cooperative societies.

### Materials

Based on the sampling frame, a sample of respondents was selected. Thereafter, the sampled respondents were requested to participate in the study through the social media. A survey was constructed and used to examine use of social media in agricultural marketing and its implication for efficiency through the administration of a questionnaire, which served as the research instrument. The questionnaire contained bio-data questions and 5-point Likert scale questions dealing with social media usage in agricultural marketing and its implication for efficiency in south west Nigeria. Information was elicited from the respondents via structured questionnaires through the social media channels (Facebook, twitter and WhatsApp).

### Reliability and Validity of Instrument

A pilot test was conducted on 20 of the sampled respondents. Based on the results obtained from the pilot test, validity and reliability of the instrument were determined. For validity, experts in the Federal Polytechnic, Ado received the instrument for scrutiny. This served to fulfill the condition for face validity. Subsequently, content validity index (CVI) conducted on the resultant principal components using both scale and item content validity measures. The results obtained were 0.71 and 0.77 for scale and item CVI thus showing that the instrument was valid since a value of 0.7 is indicative of a valid instrument (see Table 1).

**Table 1 Content Validity Index**

Variable	I-CVI	S-CVI
Use of Facebook and Farmers' Turnover	0.69	
Use of WhatsApp and Farmer's Turnover	0.87	
Entire Instrument		0.75

Source: Author's computations 2021

Facebook in marketing agricultural products and increase in farmers' turnover, use of WhatsApp in marketing of agricultural products and increase in farmers' turnover, use of Twitter in the marketing of agricultural products and increase in farmers' turnover, use of social media in the marketing of agricultural products and reduction in the cost of marketing agricultural products, use of social media in the marketing of agricultural products and increase in the turnover of farmers as well as the entire instrument respectively. Also use of Facebook in marketing agricultural products and increase in farmers' turnover, use of WhatsApp in marketing of agricultural products and increase in farmers' turnover, use of Twitter in the marketing of agricultural products and increase in farmers' turnover, use of social media in the marketing of agricultural products and reduction in the cost of marketing agricultural products, use of social media in the marketing of agricultural products and increase in the turnover of farmers as well as the entire instrument respectively. The computed values are either approximately 0.7 or more than 0.7, thus indicating that the items in the instruments are valid based on the benchmark of 0.70. (see Table 1).

**Table 2 Reliability Statistics**

Variable	Cronbach Alpha
Use of Facebook and Farmers' Turnover	0.67
Use of WhatsApp and Farmer's Turnover	0.69
Entire Instrument	0.764

Source: Author's computations 2021

**Model Specification**

The model is:  $DAP = \lambda_0 + \lambda_1 ufft + \lambda_2 uwft + \lambda_3 utft + e \dots (4.3)$

$DAP = 2.453 + 0.293 ufft + 0.359 uwft + 0.019 utft + e \dots (4.4)$

Where:

.ufft = use of Facebook in the marketing of agricultural products for enhanced farmers' turnover

.uwft = use of WhatsApp in the marketing of agricultural products for enhanced farmers' turnover

.utft = use of twitter in the marketing of agricultural products for enhanced farmers' turnover

DAP = demand for agricultural products

**Method of data analysis**

Research data were analyzed using one structural equation model. The structural equation model served to test for the predictive power of the constructs. Besides, the signs of the coefficients of the constructs in the structural equation model served to infer the nature of the relationships between usage of social media in agricultural marketing and farmers turnover.

The computed Z and the associated asymptotic significant probabilities were found to be 7.37 ( $p < 0.001$ ), 9.42 ( $p < 0.001$ ), and -0.45 (0.655) for the use of Facebook in the marketing of agricultural products for enhanced turnover, use of WhatsApp in the marketing of agricultural products for enhanced turnover and the use of Twitter in the marketing of agricultural products respectively for enhanced turnover. The implication is that the use of Facebook and WhatsApp in the marketing of agricultural products for enhanced turnover both have a significant influence on the turnover of farmers at the one-per cent level since the asymptotic significant probability associated with the tests were both less than 0.001, the assumed level of significance. However, the use of Twitter in the marketing of agricultural products was found not to have a significant influence on the turnover of farmers since the asymptotic significant probability associated with this test was neither less than one per cent (0.01) nor less than five per cent (0.05). Consequently, we reject the first two hypotheses but we do not reject the third hypothesis (see Table 3).

Furthermore, two of the independent variables (Use of Facebook and WhatsApp in the marketing of agricultural products) were positively related to enhancement in the turnover of farmers from the marketing of agricultural products. This shows that use of Facebook and WhatsApp in the marketing of agricultural products for enhanced

turnover have significant influence of the enhancement of the turnover of farmers from the use of social media in the marketing of agricultural products. However, the use of Twitter in the marketing of agricultural products was found not to have a significant influence on the turnover of farmers from the sale of agricultural products.

The likelihood ratio test of the model versus saturated had a computed Chi-square of 0.00. This value was very insignificant. The implication is that the model is not different from the saturated model. This suggest that the model is good.

**Table 3 Structural equation model of use of Social media in the Marketing Agricultural Products and Farmers' Turnover**

Structural equation model Number of obs = 468

Estimation method = ml

Log likelihood = -1909.634

| OIM

Standardized | Coef. Std. Err. z P>|z| [95% Conf. Interval]

Structural |

usmft<- |

fft | .2910924 .0394722 7.37 0.000 .2137282 .3684565

wft | .3590294 .038095 9.42 0.000 .2843645 .4336942

tft | -.0186403 .0416779 -0.45 0.655 -.1003275 .0630468

\_cons | 2.453157 .3733003 6.57 0.000 1.721502 3.184812

Variance |

e.usmft | .811704 .0319312 .7514718 .8767638

Covariance |

fft |

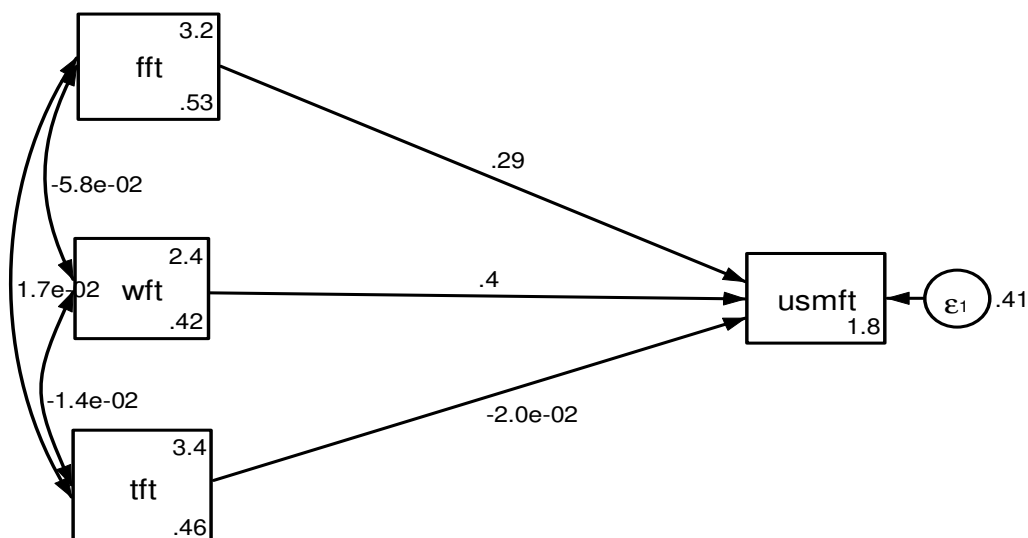
wft | -.1232433 .045181 -2.73 0.006 -.2117966 -.0346901

tft | .0340204 .0461442 0.74 0.461 -.0564207 .1244615

wft |

tft | -.0329795 .046149 -0.71 0.475 -.1234299 .057471

LR test of model vs. saturated:  $\chi^2(0) = 0.00$ , Prob >  $\chi^2 = .$



**Figure 1 use of social media in the marketing of agricultural products and the turnover of farmers from the sale of agricultural products**



**Tests for Goodness of Fit**

Three goodness of fit measures were employed in this study; they are: The equation level goodness of fit, Wald's test for equations and stability analysis.

**Table 4 Equation-level goodness of fit (b)**

Variance
depvars   fitted predicted residual   R-squared mc mc2
-----+-----+-----
observed
usmft   .5099749 .2960263 .4139487   0.7765600.8812260.776560
-----+-----+-----
overall    0.776560

mc = correlation between depvar and its prediction

mc2 =  $mc^2$  is the Bentler-Raykov squared multiple correlation coefficient

The equation level goodness of fit test shows that the fitted and predicted variances were 0.5099 and 0.3960263 respectively resulting in a residual of 0.2139487. The correlation between the dependent variables employed and the prediction (mc) was found to be 0.881226 while the Bentler-Raykov squared multiple correlation coefficient was 0.776560. This value is the same as the overall goodness of fit of the structural equation model. Thus, seventy-seven point sixty-six per cent (77.66%) of the variation in the dependent variable (increase in the turnover of farmers from the sale of agricultural products) is explained by the independent variables (Use of Facebook and WhatsApp). This shows a good fit (see Table 4)

**Wald's Test for Equations**

Table 5 presents the results of the Wald's test for equations. The results indicate a computed Chi-square of 108.56 with an associated asymptotic significant probability of  $p < 0.001$ . The value of the significant probability indicates that the test is significant. The null hypothesis of the Wald's test for equations assumes that the coefficients are equal to zero and thus, signifying that they are not significantly different from zero while the alternative hypothesis indicates that the coefficients are significantly different from zero. The significance of the Chi-square test in this case indicates that the null hypothesis be rejected. The implication is that the coefficients of the independent variables (use of Facebook, WhatsApp and Twitter in the marketing of agricultural products) are significantly different from zero. In other words, the model is a good fit to the data (see Table 5).

**Table 5 Wald tests for equations (b)**

Wald tests for equations

chi2 df p
-----+-----
observed
usmft   108.56 3 0.0000

The stability analysis of simultaneous equations indicates that with eigenvalue and modulus values of zero the stability index is 0 which means that all the eigenvalues lie inside the unit circle. Thus, the model satisfies the stability condition.

**Table 6 Stability analysis of simultaneous equation systems Eigenvalue stability condition**

Eigenvalue stability condition

+-----+-----+
Eigenvalue   Modulus
-----+-----
0   0

+-----+-----+

stability index = 0

All the eigenvalues lie inside the unit circle.

SEM satisfies stability condition.



## Discussion of findings

From the result of the analysis, the finding was as follows:

Result of the study indicate that the influence of the use of Facebook in marketing agricultural products on the enhancement of farmers' turnover was significant. Inegbedion, Inegbedion, Asaleye, Obadiaru and Asamu (2020) found that the use of social media (WhatsApp and Instagram) in the marketing of agricultural products enhances efficiency and turnover of farmers through a significant reduction in the cost of marketing agricultural products as well as increased demand for agricultural products. Katengeza, Okello and Jambo (2011) found that the use of mobile phones is positively influenced by farmers' literacy, distance to local market, land size, current value of assets, crop income, and region variations but negatively influenced by farmers' access to electricity., Zhang, Kardes and Cronley (2002) observed that effective advertising depends on the criteria used by advertisers Haque, Al-Mahmud, Tarofder and Ismail (2006) noted that internet advertising is an important e-communication strategy used by firms. Herbert (2002) noted that advertising agencies ought to channel advertising to the target customers in order to achieve the intended objective

Thus, it was revealed that the influence of the use of WhatsApp in marketing agricultural products on the enhancement of farmers' turnover was significant. The use of Whatsapp in the marketing of agricultural products for the enhancement of farmers' turnover was found not to have significant influence on the enhancement in farmers' turnover from agricultural products. Thus, it was revealed that twitter in marketing agricultural products does not exert any significant influence on the enhancement of farmers' turnover. The results obtained are consistent with Haque, Al-Mahmud, Tarofder and Ismail (2006), Katengeza, Okello and Jambo (2011), Kalyango and Adu-Kumi (2013), Jagongo and Kinyua (2013), White, Meyers, Doerfert and IrLbeck (2014) as well as Inegbedion, Inegbedion, Asaleye, Obadiaru and Asamu (2020) to the extent that they relate to the extent to which the use of social medial in the marketing of agricultural products influence farmers turnover. However, while this study focused

## Conclusion and Recommendations

The use of social media (Facebook and WhatsApp) in the marketing of agricultural products has significant impact on the subsequent enhancement in the turnover of farmers from their agricultural products. The use of Facebook in marketing agricultural products for enhanced turnover significantly enhances farmers' turnover from the sale of agricultural

products. The use of Facebook in marketing agricultural products for enhanced turnover significantly enhances farmers' turnover from the sale of agricultural products. The use of WhatsApp in marketing agricultural products for enhanced turnover significantly enhances farmers' turnover from the sale of agricultural products.

This study has established within the limits of the available data of the research that the use of social media (Facebook and WhatsApp) in the marketing of agricultural products significantly enhance efficiency in the marketing of agricultural products as well as stimulate the demand for agricultural products, thereby enhancing the turnover of famers from their agricultural products in South Western part on Nigeria. No doubt, there is the need to leverage the benefits of cost efficiency from the marketing of agricultural products as well as the enhancement in the turnover associated with such agricultural products.

Policy makers in government should provide the enabling environment for the telecommunication companies to enhance their reach by installing their facilities across the length and breadth of the country so that the network coverage will be strong at all times so that the benefits of social media usage will not be constrained. Government can also assist some of the farmers to acquire the gadgets at very affordable prices so that they can be encouraged to adopt social media in the marketing of their agricultural products. The end results will be enhancement in the efficiency of the cost of marketing agricultural products as well as the stimulation of the demand for agricultural products and the attendant enhancement in farmers' turnover and improvement in the wellbeing of farmers

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