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## PREDICTING FARMERS' ACCEPTANCE OF SOCIAL MEDIA FOR AGRICULTURAL ACTIVITIES: A CORRELATION ANALYSIS OF UTAUT CONSTRUCTS

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### ABSTRACT

*This study investigated the adoption of social media among Nigerian rice farmers with the aim to assess the acceptance of technology within the agricultural sector. Employing the Unified Theory of Acceptance and Use of Technology (UTAUT), the research explored key factors of the model; performance expectancy and effort expectancy, social influence, facilitating conditions and behavioural intention. A sample of 5,000 registered rice farmers in SabonGari LGA, Kaduna State, was surveyed using a stratified random sampling technique. Correlation analysis using IBM SPSS V-20 was applied to examine relationships among variables. The study's findings revealed a robust positive relationship between performance expectancy and effort expectancy, indicating that farmers who perceived social media as beneficial also found it easy to use. A marginally significant relationship was identified between performance expectancy and farmers' behavioral intentions to use social media. Moreover, the study found a weakly negative and statistically insignificant relationship between social influence and behavioral intention, challenging assumptions about the direct impact of peers on adoption decisions. The study concluded that a robust and positive relationship exists between perceived performance benefits and the ease of use of social media among rice farmers. And that there is a weak and statistically insignificant relationship between social influence from peers and the intention to adopt social media, and favorable conditions, such as access to technology and knowledge, have some influence on farmers' intentions to adopt social media.*

**Keywords:** Social Media, UTAUT Model, Agricultural Technology, Rice Farmers, Survey

### INTRODUCTION

Agriculture, a cornerstone of Nigeria's economy, plays a pivotal role in providing sustenance and employment. In the modern age, social media platforms like Facebook and Twitter have emerged as essential tools for farmers to share information, market products, and access agricultural inputs. However, this digital transition has not been uniform, leaving a significant segment of farmers in developing countries, including Nigeria, grappling with limited access to accurate and timely agricultural information. The rise of mobile phones, however, presents a promising avenue to overcome this information gap (Baumüller *et al.*, 2017; Khezri *et al.*, 2019; Wainaina *et al.*, 2020).

Despite the potential benefits of social media in agriculture, its adoption among smallholder farmers, particularly in Nigeria, is still low. This gap is of concern given the crucial role agriculture plays in Nigeria's rural livelihoods and food security (Baumüller *et al.*, 2017; Khezri *et al.*, 2019; Wainaina *et al.*, 2020). This study addressed this gap by applying the Unified Theory of Acceptance and Use of Technology (UTAUT) to understand the factors influencing social media acceptance and use among rice farmers in SabonGari LGA of Kaduna State, Nigeria.

## STATEMENT OF THE PROBLEM

Agriculture remains a critical sector for Nigeria's economy, contributing significantly to employment, food security, and GDP (World Bank, 2022). However, smallholder farmers, who constitute the majority of agricultural producers, face persistent challenges in accessing timely and accurate agricultural information, which limits productivity and market access (Baumüller *et al.*, 2017). The rise of digital technologies, particularly social media platforms such as Facebook, WhatsApp, and YouTube, presents an opportunity to bridge this information gap by facilitating knowledge sharing, market linkages, and access to extension services (Khezri *et al.*, 2019; Wainaina *et al.*, 2020).

Despite these potential benefits, the adoption of social media among smallholder farmers in Nigeria remains low (Eweoya *et al.*, 2021). Previous studies have explored technology adoption in agriculture using models such as the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh *et al.*, 2003), yet few have specifically examined social media acceptance among Nigerian rice farmers. Existing research has primarily focused on general ICT adoption (Nkandu & Phiri, 2022) or mobile-based agricultural services (Michels *et al.*, 2019), leaving a gap in understanding how social media, a low-cost, widely accessible tool, fits into farmers' technological adoption behaviours.

Furthermore, while studies in other regions suggest that performance expectancy, effort expectancy, social influence, and facilitating conditions influence technology adoption (Xie *et al.*, 2022; Alblooshi & Abdul Hamid, 2021), the extent to which these factors apply to Nigerian rice farmers remains unclear. For instance, does perceived usefulness (performance expectancy) outweigh ease of use (effort expectancy) in driving adoption? How significant is peer influence (social influence) compared to access to smartphones and internet connectivity (facilitating conditions)? These questions remain unanswered in the Nigerian context, particularly for rice farmers in Kaduna State, where agricultural productivity is crucial for food security.

This study seeks to address these gaps by investigating the factors influencing rice farmers' acceptance and use of social media for agricultural activities in Sabon Gari LGA, Kaduna State, using the UTAUT framework. By doing so, it contributes empirical evidence to the discourse on digital agriculture in Nigeria and provides actionable insights for policymakers, extension services, and development agencies seeking to enhance technology-driven agricultural practices.

## OBJECTIVES OF THE STUDY

**The study intends to achieve the following objectives:**

- i. To investigate the relationship between rice farmers' beliefs in the benefits of social media (Performance Expectancy - PE) and their perception of ease of using it (Effort Expectancy - EE) for agricultural activities.

- ii. To examine the relationship between rice farmers' beliefs in the benefits of social media (Performance Expectancy - PE) and their intentions (Behavioural Intention - BI) to use it for agricultural activities.
- iii. To assess the relationship between rice farmers' perception of the ease of use (Effort Expectancy - EE) of social media and their intentions (Behavioural Intention - BI) to use it for agricultural activities.
- iv. To explore the relationship between the influence of rice farmers' social circles (Social Influence - SI) and their intentions (Behavioural Intention - BI) to use social media for agricultural activities.
- v. To evaluate the relationship between rice farmers having access to facilitating conditions (Facilitating Conditions - FC) and their intentions (Behavioural Intention - BI) to adopt social media for agricultural activities.

### **HYPOTHESES OF THE STUDY**

Building upon previous studies, this study proposed the following hypotheses:

- i. Hypothesis 1 (H1): Rice farmers' beliefs in the helpfulness or benefits of social media (Performance Expectancy - PE) has a significant relationship with their perception of ease of using it (Effort Expectancy - EE) for agricultural activities.
- ii. Hypothesis (H2): Rice farmers' beliefs in the helpfulness or benefits of social media (Performance Expectancy - PE) has a significant relationship with their intentions (Behavioural Intention - BI) to use it for agricultural activities.
- iii. Hypothesis 3 (H3): Rice farmers' perception of the ease of use (Effort Expectancy - EE) of social media has a significant relationship with their intentions (Behavioural Intention - BI) to use it for agricultural activities.
- iv. Hypothesis 4 (H4): The influence of rice farmers' social circles (Social Influence - SI), including family members, friends, other farmers, and extension agents, has a significant relationship with their intentions (Behavioural Intention - BI) to use social media for agricultural activities.
- v. Hypothesis 5 (H5): Rice farmers having access to facilitating conditions (Facilitating Conditions - FC), such as technology access, skills, and knowledge, has a significant relationship with their intentions (Behavioural Intention - BI) to adopt and use social media for their agricultural activities.

### **LITERATURE REVIEW**

#### **Social Media and Its Characteristics in Agricultural Practices**

Social media have emerged as a transformative force in modern communication, reshaping how information is shared and consumed across various sectors, including agriculture. Defined as web-based platforms that facilitate user-generated content, interaction, and community building (Kaplan & Haenlein, 2010), social media tools such as Facebook, WhatsApp, YouTube, and Twitter have become instrumental in agricultural extension services, market access, and peer learning (Baumüller et al., 2017; Khezri et al., 2019). These platforms offer unique advantages that address long-standing challenges in agricultural information dissemination, particularly in developing regions where traditional extension services are often limited.

## KEY CHARACTERISTICS OF SOCIAL MEDIA RELEVANT TO AGRICULTURE

**Interactivity & User Engagement:** Social media distinguishes itself from traditional media through its dynamic, two-way communication capabilities. Farmers are no longer passive recipients of information but active participants who can ask questions, share personal experiences, and receive real-time feedback from peers and experts (Wainaina *et al.*, 2020). This interactivity fosters a collaborative learning environment, as evidenced by the widespread use of WhatsApp groups where farmers discuss crop management strategies, pest control, and market trends (Chikoye *et al.*, 2018). The participatory nature of these platforms enhances knowledge retention and practical application, bridging the gap between research institutions and smallholder farmers.

**Accessibility & Low-Cost Dissemination:** One of the most significant advantages of social media in agriculture is its ability to overcome geographical and financial barriers associated with conventional extension services. With the proliferation of mobile technology, platforms like Facebook Lite and optimized WhatsApp versions have made agricultural information accessible even in low-bandwidth rural areas (Eweoya *et al.*, 2021). Farmers can now access real-time weather forecasts, market prices, and agronomic advice without incurring the costs of travel or printed materials. This democratization of information has been particularly impactful in regions where government-led extension services are under-resourced or inconsistent (Michels *et al.*, 2019).

**Multimedia Content Sharing:** The multimedia capabilities of social media platforms have revolutionized agricultural training and problem-solving. Farmers can share images and videos of crop diseases, pest infestations, or innovative farming techniques, enabling visual diagnosis and peer-supported solutions (Khezri *et al.*, 2019). YouTube, for instance, has become a valuable repository of tutorial videos on modern farming methods, irrigation techniques, and post-harvest handling, particularly appealing to younger, tech-savvy farmers (Xie *et al.*, 2022). This visual and practical approach to knowledge transfer complements traditional text-based information, making complex concepts more understandable for farmers with varying literacy levels.

**Network Effects & Social Influence:** The adoption of agricultural technologies through social media often follows network dynamics, where peer recommendations and community endorsements play a crucial role (Alblooshi & Abdul Hamid, 2021). Farmers are more likely to trust and adopt practices promoted by their social circles, including fellow farmers, cooperative leaders, or respected local influencers. However, this social influence is not universal; some studies, such as Nkandu and Phiri (2022), have found it to be weaker in certain contexts due to cultural scepticism or infrastructural limitations. Additionally, the role of "opinion leaders" within farming communities—often early adopters of technology—has been identified as critical in accelerating the diffusion of innovations through social networks.

**Real-Time Market Linkages:** Social media has transformed agricultural market access by enabling direct connections between producers and buyers. Platforms like Facebook Marketplace and dedicated WhatsApp groups allow farmers to bypass traditional middlemen, negotiate better prices, and organize collective sales (Wainaina *et al.*, 2020). This disintermediation has been particularly valuable for smallholder farmers who previously relied on local traders with significant pricing power. Moreover, real-time

updates on market demand and pricing trends help farmers make informed decisions about when and where to sell their produce, reducing post-harvest losses and improving income stability (Baumüller *et al.*, 2017). Emerging platforms are now incorporating features like digital payments and logistics coordination, further enhancing their utility as comprehensive market linkage tools.

**Scalability & Customization:** Unlike traditional extension systems that often deliver standardized information, social media allows for scalable yet personalized content delivery. Farmers can join niche groups focused on specific crops or farming methods, ensuring relevance to their particular needs (Khezri *et al.*, 2019). Algorithm-driven content recommendations on platforms like YouTube further enhance this customization by suggesting locally appropriate agricultural content based on user behaviour. This scalability makes social media a cost-effective solution for reaching large numbers of farmers with tailored information, though challenges remain in ensuring content accuracy and quality control.

### **Challenges of Social Media Use in Agriculture**

While the potential of social media in agriculture is widely recognized, opinions vary on its efficacy and reach. Optimistic scholars highlight its role in democratizing agricultural knowledge and empowering smallholders (Khezri *et al.*, 2019; Xie *et al.*, 2022), particularly through its ability to amplify marginalized voices and create virtual communities of practice. However, skeptics point to significant challenges, including the spread of misinformation, digital literacy gaps among older farmers, and persistent inequalities in internet access and smartphone ownership (Eweoya *et al.*, 2021; Michels *et al.*, 2019). The gender digital divide remains a particular concern, as women farmers often face additional cultural and economic barriers to accessing and utilizing these platforms effectively.

Emerging research also highlights the need to consider platform fatigue and information overload, where farmers may disengage due to the overwhelming volume of unverified or conflicting advice circulating on social media. Additionally, the commercialization of agricultural social media spaces-through targeted ads or influencer marketing-introduces new complexities regarding trust and objectivity in agricultural advisories.

### **UTAUT Conceptualized Model: Theoretical Foundations and Adaptations**

The study adopted the Unified Theory of Acceptance and Use of Technology (UTAUT) to explore factors influencing smallholder rice farmers' acceptance and use of social media for agricultural activities. The conceptual model comprises key UTAUT constructs: Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC), influencing Behavioral Intention (BI). This model was chosen to provide a comprehensive framework that encompasses all relevant constructs and factors that can determine farmers' intentions to adopt, accept, and use social media for their agricultural activities.

### **PROPONENTS AND ORIGINS OF UTAUT**

The Unified Theory of Acceptance and Use of Technology (UTAUT) was developed by Venkatesh, Morris, Davis, and Davis (2003) through a synthesis of eight earlier technology acceptance models. By integrating constructs from prominent frameworks like the

Technology Acceptance Model (TAM) and Theory of Planned Behaviour (TPB), the authors created a unified model with superior predictive power for technology adoption in organizational settings. This meta-analytic approach established UTAUT as one of the most comprehensive and widely applied theories in information systems research.

### KEY ASSUMPTIONS OF UTAUT

- i. **Deterministic Predictability:** UTAUT assumes that behavioural intention (BI) and technology use can be predicted by four primary constructs-performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC)-with high accuracy (Venkatesh et al., 2003).
- ii. **Contextual Neutrality:** The model posits that its constructs are universally applicable across technologies and user groups, though moderators (age, gender) may adjust their relative importance.
- iii. **Rational Decision-Making:** Users are assumed to weigh perceived benefits (PE) against perceived costs (PC) when adopting technology.

### LIMITATIONS AND CRITICISMS OF UTAUT

Scholars have identified several limitations in applying UTAUT beyond its original organizational context. The model's workplace origins may not fully capture adoption dynamics in voluntary settings like agricultural technology use, where different motivational factors may dominate. Critics also highlight UTAUT's limited consideration of cultural and socioeconomic barriers that disproportionately affect rural populations, such as digital literacy gaps or infrastructure limitations. Additionally, the static nature of the model fails to account for how user perceptions evolve with increasing experience, particularly relevant when studying emerging technologies like agricultural social media applications.

### RELEVANCE TO THE STUDY AND MODEL ADAPTATIONS

This study adapts UTAUT to the specific context of social media adoption among Nigerian rice farmers through several strategic modifications. The exclusion of traditional moderators like age and gender reflects the homogeneous nature of the study population and preliminary findings suggesting socioeconomic factors outweigh demographic influences in this context. The retained core constructs align with the pragmatic decision-making processes of smallholder farmers, where perceived benefits, ease of use, social norms, and enabling conditions directly impact adoption intentions. These adaptations make UTAUT particularly suitable for investigating how performance expectations, effort requirements, peer influence, and resource availability shape farmers' willingness to use social media for agricultural purposes.

### JUSTIFICATION FOR THE USE OF UTAUT

Despite its limitations, UTAUT remains highly appropriate for this investigation due to several key strengths. The model's parsimonious yet comprehensive framework enables clear quantification of adoption drivers, essential for developing targeted interventions. Its strong predictive validity has been demonstrated across numerous technology adoption studies, including several agricultural applications in developing countries. Furthermore, the model's structured approach allows for meaningful comparisons with prior research

while providing actionable insights for policymakers seeking to enhance technology adoption among smallholder farmers.

As illustrated in Figure 1, the main constructs from the UTAUT-performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC)-were proposed as key determinants of farmers' intention (BI) to adopt, accept, and use social media in their agricultural practices. Unlike the original UTAUT model by Venkatesh *et al.* (2003), the current research model does not investigate the potential moderating roles of age, gender, experience, and voluntariness. This decision was influenced by several factors. Firstly, the study's context, which focused on farmers in the selected area, made it unclear whether farmers in that specific region were already using social media for agricultural activities or not. Secondly, the adoption of social media for agricultural activities represented a relatively new introduction to agricultural extension services. Given the innovative nature of this technology in the context of agricultural practices, the study acknowledged the need for sufficient time for farmers to develop habitual behaviours and patterns of use toward such the platforms.

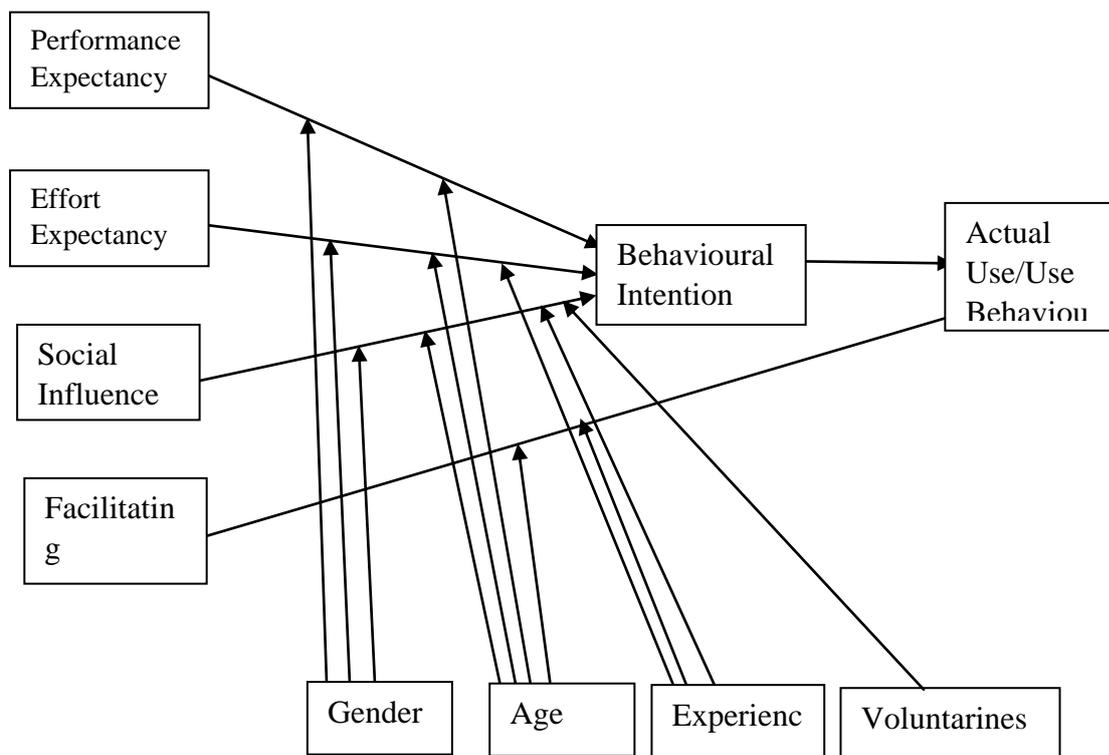


Figure 1: Unified Theory of Acceptance and Use of Technology, (Venkatesh *et al.*, 2003, p. 447)

Performance Expectancy (PE) as a Determinant of Social Media Acceptance and Use  
Performance Expectancy (PE) is a critical construct in the Unified Theory of Acceptance and Use of Technology (UTAUT) model. It refers to the individual's belief that using technology will lead to improved job performance or gains. Specifically, in the context of farmers' acceptance and use of social media, PE can be understood as the extent to which rice farmers in SabonGari believe that utilizing social media will contribute to enhancing their rice farming practices, increasing their crop yield, and ultimately boosting their income (Venkatesh *et al.*, 2003).

This concept aligns with prior research that suggested that farmers are more likely to adopt and accept new technologies when they perceive these technologies to be advantageous and useful in their daily operations (Davis *et al.*, 1989; Venkatesh *et al.*, 2003; Xie *et al.*, 2022). Studies such as those conducted by Moya and Engotoit (2017), Chikoye *et al.*, (2018), and Molina-Maturano *et al.* (2021) have demonstrated the influence of positive perceptions about technology's benefits and efficiency (performance expectations) on farmers' intentions to use and eventually adopt new technologies.

### **EFFORT EXPECTANCY (EE) AS A DETERMINANT OF SOCIAL MEDIA ACCEPTANCE AND USE**

Effort Expectancy (EE) is a fundamental construct in the Unified Theory of Acceptance and Use of Technology (UTAUT) framework. Effort Expectancy (EE) is defined as "the extent of ease associated with the use of a system." (Venkatesh *et al.*, 2003, p. 450). In the context of rice farmers' acceptance and use of social media, Effort Expectancy (EE) would represent the extent to which these farmers believe that using social media would be straightforward and require minimal effort. Researchers have consistently found that users are more likely to adopt and use technologies that they perceive as easy to learn and operate (Rahi *et al.*, 2018; Shiferaw & Mehari, 2019; Chao, 2019; Michels *et al.*, 2019; Isaac *et al.*, 2019; Widuri *et al.*, 2020; Alblooshi & Abdul Hamid, 2021; Eweoya *et al.*, 2021; Nkandu & Phiri, 2022; Xie *et al.*, 2022; Liu *et al.*, 2022).

### **SOCIAL INFLUENCE (SI) AS A DETERMINANT OF SOCIAL MEDIA ACCEPTANCE AND USE**

In UTAUT, Social Influence (SI) is defined as "the extent to which an individual perceives that important others believe he or she should apply the new system" (Venkatesh *et al.*, 2003, p. 450). This construct captures the influence of a user's social network, peers, and colleagues on their decision to use a particular technology.

Social Influence (SI) within the context of rice farmers' acceptance and use of social media for agricultural activities, refers to the degree to which other rice farmers in the same community are already using social media for their agricultural activities, and the extent to which a farmer's peers are perceived to value and encourage the adoption of social media in their farming practices.

Numerous studies have highlighted the significant impact of social influence on farmers' intentions to adopt new technologies. This influence can come from fellow farmers, community leaders, agricultural extension agents, or any individuals considered important within the farmers' social circles (Kang *et al.*, 2020; Alblooshi & Abdul Hamid, 2021; Eweoya *et al.*, 2021; Nkandu & Phiri, 2022; Xie *et al.*, 2022; Liu *et al.*, 2022).

### **FACILITATING CONDITIONS (FC) AS A DETERMINANT OF SOCIAL MEDIA ACCEPTANCE AND USE**

Facilitating Conditions (FC), within the framework of UTAUT, refers to "the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system" (Venkatesh *et al.*, 2003, p. 453). In essence, FC reflects the extent to which users perceive the availability of resources, support, and technical infrastructure that are essential for adopting and effectively using a new technology.

When applied to the context of rice farmers' acceptance and use of social media, Facilitating Conditions (FC) would encompass factors such as access to the necessary technology, the acquisition of relevant skills and knowledge, and the availability of support

services. Several studies have found that access to resources, training, and technical infrastructure directly influences the feasibility of adopting and using technology for agricultural activities (Widuri *et al.*, 2020; Kang *et al.*, 2020; Nkandu & Phiri, 2022; Xie *et al.*, 2022).

## **FRAMEWORK OF ANALYSIS FOR TESTING THE CONCEPTUALISED UTAUT MODEL**

The evaluation of UTAUT's applicability follows key criteria: Explanatory Power, Parsimony, Practical Utility, Boundary Conditions, Novelty, Reliability, Generalizability, Validity, Falsifiability, Consistency, Modification, and Prediction. These criteria, informed by established scholarly perspectives, provide a structured approach to assess UTAUT's theoretical robustness in the specific context of rice farmers' adoption of social media for agricultural activities.

## **METHODOLOGY**

The research design employed in the study was survey research. A survey was conducted to collect data from a sample of rice farmers using standardized questionnaire. The population of the study consisted of 5,000 registered rice farmers who are members of RIFAN in Sabon Gari Local Government, Kaduna State. The study used a multistage sampling technique, involving stratified and simple random sampling methods, to select a sample size of 357 respondents from the 11 wards of the local government. The primary instrument for data collection was the questionnaire.

The validity of the questionnaire was ascertained through content validity, involving experts' assessments of the questionnaire items. Reliability was assessed using Cronbach's alpha coefficient. The Cronbach's Alpha values for all constructs exceeded the threshold of 0.70, ranging from 0.777 to 0.863 (see Table 1). These values, indicating high internal consistency, affirmed the reliability of the instrument in consistently measuring the intended concepts (Whitley, 2002; Robinson, 2009).

In terms of data analysis, the study employed correlation analysis alongside descriptive statistics. The descriptive statistics and the correlation analysis were conducted using IBM SPSS Statistics V-20. The results of the analysis were used to test five hypotheses related to the relationships between the constructs of the UTAUT model and subsequently used to achieve the research objectives of the study.

## **RESULTS**

The results of the reliability test using Cronbach's alpha coefficient are presented in Table 1. The scores for all five constructs exceeded the commonly accepted threshold of above .07, indicating their satisfactory reliability. Specifically, the constructs of performance expectancy, effort expectancy, social influence, facilitating conditions, and behavioural intention were measured by 10 statements each and yielded Cronbach's alpha values of .801, .863, .790, .777, and .847, respectively.

The reliability and validity test results allowed the collected data to undergo various analyses to address the research questions and objectives effectively.

**Table 1: Result of Reliability Test for the Items of the Study**

SN	Construct	N	No. of Item	No. of Item Deleted	Cronbach's Alpha
1.	Performance Expectancy	329	10	-	.801
2.	Effort Expectancy	329	10	-	.863
3.	Social Influence	329	10	-	.790
4.	Facilitating Conditions	329	10	-	.777
5.	Behavioural Intention	329	10	-	.847

**Correlation Analysis of the Proposed UTAUT Model**

A Pearson Product Moment correlation was employed to test the relationships between the five constructs under study namely:

The sample consisted of 357 rice farmers who are members of RIFAN from SabonGari Local Government, Kaduna State. However, only 267 rice farmers were used for the analysis after removing 40 responses with missing values and the 22 respondents that were not using social media. The correlation analysis of the proposed UTAUT model involved testing relationships between five constructs among 357 rice farmers from RIFAN in SabonGari Local Government, Kaduna State. The correlation matrix in Table 2 presents the relationships between Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC), and Behavioural Intention (BI).

The results indicated a strong positive and significant relationship between Performance Expectancy (PE) and Effort Expectancy (EE) ( $r = 0.528, p = 0.000$ ). Farmers who perceived social media as beneficial also find it easy to use. A negative and marginally significant relationship is observed between Performance Expectancy (PE) and Social Influence (SI) ( $r = -0.117, p = 0.056$ ), suggesting that farmers were less influenced by their social circles tend to perceive social media's benefits more independently.

Performance Expectancy (PE) shows a moderately positive and significant relationship with Facilitating Conditions (FC) ( $r = 0.428, p = 0.000$ ), indicating that farmers anticipating benefits from social media also have favourable conditions for its use. A weak positive but significant relationship is found between Performance Expectancy (PE) and Behavioural Intention (BI) ( $r = 0.263, p = 0.000$ ), implying that positive expectations about social media's benefits motivate farmers to intend its use.

Effort Expectancy (EE) exhibits a positive but weak relationship with Social Influence (SI) ( $r = 0.128, p = 0.036$ ), suggesting that farmers finding social media easy to use are somewhat influenced by their social circles. Effort Expectancy (EE) is moderately positive and significantly related to Facilitating Conditions (FC) ( $r = 0.441, p = 0.000$ ), indicating that farmers finding social media easy also have favourable conditions for its use.

A negative and non-significant relationship was observed between Effort Expectancy (EE) and Behavioural Intention (BI) ( $r = -0.023, p = 0.708$ ), suggesting that the ease of use did not strongly impact farmers' intentions to use social media for agricultural activities.

Social Influence (SI) shows a negative but non-significant relationship with Facilitating Condition (FC) ( $r = -0.022, p = 0.722$ ), indicating that the influence of farmers' social

networks on using social media and favourable conditions for its use are not strongly related.

There is a negative and non-significant relationship between Social Influence (SI) and Behavioural Intention (BI) ( $r = -0.025$ ,  $p = 0.948$ ), suggesting that the influence of farmers' social networks on using social media does not strongly affect their intention to use it.

Lastly, a moderately positive and significant relationship is observed between Facilitating Condition (FC) and Behavioural Intention (BI) ( $r = 0.243$ ,  $p = 0.000$ ), indicating that favourable conditions significantly influence farmers' intentions to use social media.

**Table 2: Results of Correlation Analysis**

	PE	EE	SI	FC	BI
PE	1				
EE	$r = .528$	1			
	$p = .000$				
SI	$r = -.117$	$r = .128$	1		
	$p = .056$	$p = .036$			
FC	$r = .428$	$r = .441$	$r = -.022$	1	
	$p = .000$	$p = .000$	$p = .722$		
BI	$r = .263$	$r = -.023$	$r = -.025$	$r = .243$	1
	$p = 0.000$	$p = .708$	$p = .948$	$p = .000$	

‡. Correlation is significant at the 0.01 level (2-tailed).

‡. Correlation is significant at the 0.05 level (2-tailed).

**DISCUSSION OF FINDINGS**

The study employed a correlation analysis to test the hypotheses on the rice farmers' acceptance and use of social media for agricultural activities within the framework of the Unified Theory of Acceptance and Use of Technology (UTAUT). The discussion of the findings is presented below:

**Hypothesis 1: Rice farmers' beliefs in the helpfulness or benefits of social media (Performance Expectancy - PE) has a significant relationship with their perception of ease of using it (Effort Expectancy - EE) for agricultural activities:**

The correlation analysis yielded a strong positive coefficient ( $r = 0.528$ ) that was highly statistically significant ( $p = 0.000$ ). This robust finding indicates that rice farmers who perceive greater benefits from using social media for agricultural activities are significantly more likely to find these platforms easy to use. The strength of this relationship provides solid support for the hypothesis, aligning with the theoretical expectations of UTAUT (Venkatesh et al., 2003) and empirical findings from Lee, Kim, & Wang (2017); Chikoye et al. (2018), Chao (2019), and Michels et al (2019). However, it contradicts Maillet et al., (2014) negative relationship between PE and EE. The highly significant p-value ( $p < 0.001$ ) confirms this relationship is extremely unlikely to have occurred by chance, leading to the clear acceptance of H1.

**Hypothesis 2: Rice farmers' beliefs in the helpfulness or benefits of social media (Performance Expectancy - PE) has a significant relationship with their intentions (Behavioural Intention - BI) to use it for agricultural activities:**

The analysis revealed a moderately positive correlation ( $r = 0.263$ ) that was statistically significant ( $p = 0.000$ ). While the significance level confirms a genuine relationship exists, the relatively small effect size suggests that perceived benefits alone may not be sufficient to strongly drive adoption intentions. This finding partially supports the hypothesis, indicating that while PE does influence BI as predicted by UTAUT, other factors likely play important roles in shaping farmers' intentions. This suggests that rice farmers who believe in the benefits of social media for agricultural activities also express intentions to adopt it, though the relationship is not as strong as observed in some studies (Alblooshi and Abdul Hamid (2021), Molina-Maturano et al. (2021), Eweoya et al. (2021), Nkandu and Phiri (2022), and Liu, et al. (2022)). However, this finding of the study contradicts the results of Megadewandanu, Suyoto, and Pranowo (2016) and Xie et al. (2022), which indicated a negative and significant relationship between performance expectancy and behavioural intention.

**Hypothesis 3: Rice farmers' perception of the ease of use (Effort Expectancy - EE) of social media has a significant relationship with their intentions (Behavioural Intention - BI) to use it for agricultural activities:**

Contrary to expectations, the analysis showed a negligible negative relationship ( $r = -0.023$ ) that was statistically insignificant ( $p = 0.708$ ). The high p-value ( $p > 0.05$ ) indicates no meaningful relationship exists between perceived ease of use and adoption intentions in this context. This leads to the rejection of H3, challenging a core proposition of UTAUT. The finding suggests that for these rice farmers, the ease of using social media platforms does not significantly affect their willingness to adopt them for agricultural purposes, possibly because other considerations outweigh usability factors. This implies that farmers' perception of the ease of use does not significantly impact their intentions to adopt social media for agricultural activities, contradicting findings in other studies (Ayaz & Yanartas, 2020; Kang et al., 2020). However, this finding is consistent with the results of several studies, including Widuri, Kholil, and Nurbani (2020), Alblooshi and Abdul Hamid (2021), Eweoya et al. (2021), Nkandu and Phiri (2022), Xie et al. (2022), and Liu et al. (2022).

**Hypothesis 4: The influence of rice farmers' social circles (Social Influence - SI), including family members, friends, other farmers, and extension agents, has a significant relationship with their intentions (Behavioural Intention - BI) to use social media for agricultural activities:**

The results showed a very weak negative correlation ( $r = -0.025$ ) that was statistically insignificant ( $p = 0.948$ ). The extremely high p-value confirms that any apparent relationship is likely due to random variation rather than a true effect. This leads to the rejection of H4, indicating that peer pressure and social norms have minimal impact on farmers' intentions to use social media for agriculture in this context. This suggests that the perceived influence of peers regarding social media use does not significantly impact farmers' intentions to adopt it, which is consistent with several studies (Widuri, Kholil and Nurbani (2020), Kang, Chang, Lee and Jeong (2020), Alblooshi and Abdul Hamid (2021), Eweoya et al. (2021), Nkandu and Phiri (2022), Xie et al. (2022), and Liu et al. (2022)), and also suggested social influence may operate differently in agricultural technology adoption compared to organizational settings.

On the other hand, the results of the study contradict the findings of certain studies that did indicate a significant relationship between social influence and the intentions to adopt and use new technologies such as that of Chikoye *et al.* (2018), Molina-Maturano *et al.* (2021), and Xie *et al.* (2022).

**Hypothesis 5: Rice farmers having access to facilitating conditions (Facilitating Conditions - FC), such as technology access, skills, and knowledge, has a significant relationship with their intentions (Behavioural Intention - BI) to adopt and use social media for their agricultural activities:**

The analysis revealed a weak positive correlation ( $r = 0.243$ ) that was statistically significant ( $p = 0.000$ ). While the significance confirms a genuine relationship exists, the small effect size suggests that access to technology and supporting conditions alone may not be sufficient to strongly drive adoption intentions. This leads to partial support for H5, indicating that while facilitating conditions do matter as predicted by UTAUT, their influence may be secondary to other factors like perceived benefits. This means that rice farmers who perceive favourable conditions for using social media, such as access to technology, skill, and knowledge are more likely to have the intention to adopt and use it for agricultural activities.

However, these findings suggest that while favourable conditions such as access to technology, skill and knowledge for using social media may have a positive relationship with farmers' intentions to use it for agricultural activities, the relationship is not as strong as with other constructs like Performance Expectancy (PE). This finding aligns with certain previous studies, including Rahi *et al.*(2018); Shiferaw and Mehari (2019); Widuri *et al.*(2020); Kang *et al.*(2020); Nkandu and Phiri (2022); and Xie *et al.* (2022). On the other hand, the result of the study contradicts the findings of other studies which discovered that facilitating conditions has a strong and positive relationship with behavioural intentions to adopt technologies, including that of Molina-Maturano *et al.* (2021), Alblooshi and Abdul Hamid (2021), Eweoya *et al.* (2021), Liu *et al.* (2022), and Xie *et al.* (2022).

The hypothesis testing reveals several important insights about social media adoption among rice farmers. Performance Expectancy emerges as the most influential factor, strongly affecting both ease of use perceptions and adoption intentions. The non-significance of Effort Expectancy challenges conventional technology acceptance wisdom, suggesting farmers may be willing to overcome usability barriers if they perceive sufficient benefits. The irrelevance of Social Influence indicates adoption decisions are made independently of peer pressure in this context. While Facilitating Conditions show some influence, their relatively weak effect suggests infrastructure improvements alone may not drive widespread adoption without addressing perceived usefulness. These findings have important implications for both theory and practice, highlighting the need to adapt technology acceptance models to agricultural contexts and design interventions that emphasize clear benefits over ease of use or social persuasion.

**EVALUATION OF THE CONCEPTUALISED UTAUT MODEL BASED ON THE STUDY'S FINDINGS**

The conceptualized model demonstrated adequate explanatory power in capturing determinants of social media adoption, most strongly through the performance expectancy and effort expectancy factors. It also maintained parsimony by focusing only on key variables. Regarding practical utility, findings from this study provided guidance for interventions to emphasize performance gains and address usage barriers. The focus on

Nigerian rice farmers expanded UTAUT's boundaries into a distinct demographic and agricultural context. As one of the few studies assessing social media adoption through UTAUT among farmers, it offered novel theoretical contributions. The use of correlation analysis and Structural Equation Modeling (SEM) enhanced the reliability and validity of the findings by quantifying relationships between constructs and testing the model's overall fit, while systematic hypothesis testing enabled falsifiability by providing clear criteria to accept or reject each proposition based on statistical evidence. Areas identified for further studies include strengthening predictive validity and expanding generalizability by testing variations and additional relationships.

## CONCLUSION

The study concluded that among rice farmers, a strong link exists between recognising the benefits of social media and perceiving it as user-friendly, providing a promising avenue for interventions. However, the ease of use alone does not significantly impact farmers' intentions to adopt social media for agriculture. Social influence from peers has a weak and insignificant effect on adoption decisions, suggesting a limited role of social circles. On the other hand, favourable conditions, such as technology access, do influence farmers' intentions, highlighting the need for interventions addressing barriers and enhancing supportive conditions. The findings underscore the complexity of factors influencing farmers' intentions to adopt social media, emphasising the importance of a comprehensive approach that considers both practical benefits and potential barriers.

## RECOMMENDATIONS

Based on the findings, the study made the following recommendations:

- i. Interventions should focus on demonstrating the benefits (Performance Expectancy) of social media, as this strongly correlates with adoption intentions.
- ii. Training programmes should address ease of use (Effort Expectancy), even though its direct impact on intention was weak, as it may indirectly influence adoption.
- iii. Leverage facilitating conditions (improving access to technology and skills), as these have shown a positive relationship with adoption intentions.
- iv. Re-evaluate the role of social influence, given its weak impact, and consider alternative strategies for peer-based outreach.

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