

Innovations

ICT Infrastructural Deficit in African Rural Communities: Exploring the Complementary Roles of Indigenous Communication Systems in Accessing and Utilizing Business Funding Information among Rural Agribusiness Entrepreneurs

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Abstract

Many studies have called for research into the potential of African indigenous communication systems to serve as a complementary information dissemination model to the Western model following the deficit of information and communication technology infrastructure in rural areas. As a result, the current research explored how indigenous communication systems influence access to business funding information, and the influence of indigenous communication systems on business funding information utilization. In addition, the study investigated the preferred savings model, payment channel, and mode of obtaining credit facilities among agribusiness entrepreneurs in Nigerian rural areas. The probability sampling method was used in selecting 511 samples from the registered 50,000 smallholder agribusiness entrepreneurs in Edo State for the Central Bank of Nigeria's Anchored Borrower's Programme. Descriptive statistics was used to analyze the preferred savings model, payment channel, and mode of obtaining credit facilities among agribusiness entrepreneurs while regression analysis was deployed in testing the hypotheses. The findings indicate that physical cash transactions, informal savings, and informal credit facilities dominant financial services among rural farmers. The outcomes from the test of hypotheses show that indigenous communication systems have a significant influence on access to business funding information among agribusiness entrepreneurs in Nigerian rural areas ($\beta = 0.312$, $t\text{-value} = 7.161 > 1.96$, $p\text{-value} = 0.000 < 0.05$, and $R^2 = 0.498$). It was also found that indigenous communication systems significantly influence the utilization of agribusiness funding information in Nigerian rural areas ($\beta = 0.295$, $t\text{-value} = 6.617 > 1.96$, $p\text{-value} = 0.000 < 0.05$, and $R^2 = 0.422$). Policy-wise, the study suggests ways financial authorities can leverage on indigenous communication systems to increase financial information literacy for increased access and utilization of business funding information among agribusiness entrepreneurs in Nigerian rural areas.

Keywords: Indigenous communication systems, business funding information, agribusiness entrepreneurs, African rural areas.

1. Introduction

There are increasing efforts to deemphasize the strict reliance on the media and communications model of the West and ground journalistic practices in African local cultures to make information dissemination more responsive to local peculiarities (Gibrilu, 2023; Egwemi and Odo, 2013). This is crucial following the low educational level, poor electricity supply and information, and the deficit of communication technology (ICT) infrastructure in rural areas that militate against information dissemination in African rural communities (Imhanrenialena et al., 2021a; Ezeoha et al., 2019). It is pointed out that information and communication technology (ICT) only facilitates information dissemination in towns and cities while rural areas that are cardinal to agricultural production in Africa are largely left out (Ndung'u, 2018; Imhanrenialena et al., 2021b). These challenges of poor educational level and information and communications technology (ICT) infrastructure deficit hinder the use of the Western information dissemination model in rural environments and this heightens renewed research attention in developing the African indigenous communication model as a complementary information dissemination model. For example, it is documented that "The absence of information and communication technologies (ICT) that drive the dissemination of financial literacy information in rural communities triggered a renewed research interest in the complementarity of African indigenous communication systems and ICT", (Imhanrenialena et al., 2021a, p. 123).

Indigenous communication system remains a viable information source for people in rural areas (Wang and Dissanyoke, 1997). In societies where a lack of formal education and ICT infrastructure deficit are prevalent, the traditional communication system for information dissemination becomes important (Imhanrenialena et al 2021a). However, Research into the importance of traditional communication systems as an alternative medium of information dissemination in Africa has suffered prolonged neglect following the advent of the Western communication model (Des, 1987; Imhanrenialena et al 2021a). Scholars have pointed out that the failure of African governments to deploy the traditional communication system accounts for poor information dissemination in African rural areas. For example, it is documented that "Much of the failures that herald government mass-orientation program are traceable to the fact that policymakers at the national level fail to utilize the powerful and credible traditional channels of communication" (Dennis, 1975 as cited in Aziken and Emeni, 2010: 27).

Access to business funding information is strongly tied to financial literacy (Obi-Anike et al., 2023; Imhanrenialena et al., 2021b). Financial literacy entails the acquisition of financial knowledge and skills for beneficial financial decision-making (Belousova et al., 2019). On the other hand, information literacy is viewed as the ability of individuals and organizations to correctly identify information needs, effectively access the needed information, and accurately evaluate and use the information (Wu, 2019). Therefore, financial information literacy improves financial inclusion and the sound investment inclination required to fight poverty (Olubanjo and Olayinka, 2019; Alwee and Salleh, 2015; Kadoya and Khan, 2020; Liaqat et al., 2020). The complexity and dynamic nature of formal financial products (Conrad et al., 2020) necessitate the need to understand how indigenous communication systems relate to business funding information availability to agribusiness entrepreneurs in African rural communities (Imhanrenialena et al., 2021a; Obi-Anike et al., 2023). Previous research anchored on the information needs of developing countries particularly African rural areas majorly focused on farmers' agricultural information needs (Phiri et al., 2019; Mwantimwa, 2019) while some other studies focused on Mobile phone access and mobile banking for economic development (Asongu and Odhiambo, 2019; Asongu and Odhiambo, 2020; Ezeoha et al., 2019).

In response to the calls for studies on the potential of African indigenous communication systems to serve as a complementary information dissemination systems to the Western model, this study investigated how indigenous communication systems relate to access to business funding information among agribusiness entrepreneurs in Africa. This study is an improvement on the work of Imhanrenialena et al. (2021a), that argue that indigenous communication systems positively enhance financial literacy among rural farmers. Also, this study further explored the preferred savings model, mode of making payment, and mode of obtaining credit facilities among rural entrepreneurs. These outcomes will help financial authorities in policy formulation in Nigeria following the argument in the literature that the prevailing absence of knowledge about savings model and mode of obtaining credit facilities

in developing African countries inhibits effective and efficient formulation and implementation of financial literacy policy and strategy (Obi-Anike et al., 2023; Imhanrenialena et. al., 2021b; Matewos et. al., 2016).

1.2 Study Objectives:

- (i) To explore how indigenous communication systems influence access to business funding information among agribusiness entrepreneurs in Nigerian rural areas.
- (ii) To investigate how indigenous communication systems influence agribusiness entrepreneurs in utilizing business funding information in Nigerian rural areas.
- (iii) To assess the preferred savings model, payment channel, and mode of obtaining credit facilities among agribusiness entrepreneurs in Nigerian rural areas.

2. Literature Review

2.1 African Indigenous Communication System

African local communication system is peculiar to African societies and it preceded the Western mass media model (Akinyeye, 1986). It is a communication model that utilizes town criers, village meetings, community tea houses, and local marketplace meetings conversations as channels of information dissemination using indigenous local languages (Des, 1987; Imhanrenialena et al 2021). Indigenous communication system remains a viable information source for people in rural areas (Wang and Dissanyoke, 1997). African indigenous communication system is distinctively designed to satisfy the unique needs of the rural dwellers such as advertising, information dissemination, enlightenment/educative news, public relations, and entertainment in the local language the people understand (Doob, 1966; Wilcox, 1975; Des, 1987).

The first documented local communication channel for advertising and information dissemination in rural communities in Nigeria is the gong signals which town criers utilize in summoning the attention of the rural populace before announcing information to them (Ogbodoh, 1990) and is still very potent in rural communities (Aziken and Emeni, 2010; Nwachukwu, 2008). It is argued that in societies where a lack of formal education and ICT infrastructure deficit are prevalent, the traditional communication system for information dissemination becomes important (Imhanrenialena et al 2021). Imhanrenialena et al. (2021) empirically demonstrated that using indigenous languages in financial service advertising significantly increases financial service information dissemination among rural communities. Similarly, the study also reported that engaging town criers in financial service information dissemination significantly financial service literacy among Nigerian rural farmers.

2.2. Accessing and Utilizing of Financial Information

Individuals' and organizations' financial viability is a function of the financial information available to them (Obi-Anike et al., 2023; Imhanrenialena et al., 2021a; Imhanrenialena et al., 2021b). Persons who have viable financial information regarding financial products, available credit facilities, and how to utilize them possess a stronger financial information literacy rate (Potnis and Gala, 2019). Research has shown that persons who possess viable financial information stand the chance of increasing and sustaining their business performance. For example, people who have adequate financial information find it easy to make informed investment decisions and realize greater performance (Twumasi et al., 2022). Also, possessing viable financial information helps people to find credible credit facility sources and utilize them for business financing (Seraj et al., 2022). It is documented that possessing adequate financial knowledge helps people in accessing and utilizing good financial services for business performance (Koomson et al., 2020).

Similarly, having sufficient financial information increases savings skills among individuals (Conrad et al., 2020; Olubanjo and Olayinka, 2019) which in turn leads to positive credit evaluations and more access to credit in the future (Obi-Anike et al., 2023). Sound financial literacy information leads to better-saving skills/high savings (Conrad et al.,

2020; Olubanjo and Olayinka, 2019), and enables savers to access high-interest rates on savings as such savers can discover better interest-yielding financial products (Deuflhard et al., 2015), drives intelligent risk management (Atkinson and Messy, 2012; Agarwalla et al., 2013), have a better retirement plan (Lusardi and Mitchell, 2011; Bucher-Koenen et al., 2016), and make better money market and capital market investment decisions (Klapper et al., 2012; Bucher-Koenen et al., 2016).

Peer groups, family, and media remain the key financial socialization agents in societies (Abeerdy and Aharlegi, 2015). It is documented that financial management interactions in a family reduce as the age of the family members increases while peer group communications about financial issues rise with the age of the individuals in society (Churchill and Mosclis, 1979). Young adults and children learn from their parent's financial management behavior and in some cases, by getting actively involved in parents' financial dealings (Beutler and Dickson, 2008; Pinto, Parent & Mansfield, 2005). Parents, being their children's first teachers, influence their young ones through informal teaching, modeling, and reinforcement (Moschis, 1987). With this financial socialization pattern, the young ones in society informally learn about financial management skills even before enrolling in any formal school. Based on this discussion in the literature, we argue that the African local communication system that utilizes town criers, village meetings, community tea houses, and local market marketing conversations as channels of information dissemination using indigenous local languages will significantly influence agribusiness entrepreneurs in accessing and utilizing agribusiness funding information in Nigerian rural areas.

In societies where a lack of formal education and ICT infrastructure deficit are prevalent, the traditional communication system for information dissemination becomes important (Imhanrenialena et al 2021a). However, Research into the importance of traditional communication systems as an alternative medium of information dissemination in Africa has suffered prolonged neglect following the advent of the Western communication model (Des, 1987; Imhanrenialena et al 2021a). Scholars have pointed out that the failure of African governments to deploy the traditional communication system accounts for poor information dissemination in African rural areas. For example, it is documented that "Much of the failures that herald government mass-orientation program are traceable to the fact that policymakers at the national level fail to utilize the powerful and credible traditional channels of communication" (Dennis, 1975 as cited in Aziken and Emeni, 2010: 27).

The review of empirical studies on rural development reveals that previous research anchored on the information needs of developing countries particularly African rural areas majorly focused on farmers' agricultural information needs (Phiri et al., 2019; Mwantimwa, 2019) while some other studies focused on Mobile phone access and mobile banking for economic development (Asongu and Odhiambo, 2019; Asongu and Odhiamgo, 2020; Ezeoha et al., 2019). None explored the roles of indigenous communication systems in accessing and utilizing business funding information among agribusiness entrepreneurs in African rural areas. It is argued that in societies where lack of formal education and ICT infrastructure deficit are prevalent, the traditional communication system for information dissemination becomes important. For example, Imhanrenialena et al. (2021a) empirically demonstrated that using indigenous languages in financial service advertising significantly increases financial service information dissemination among rural communities. Similarly, the study also found that deploying town-criers in disseminating financial product information significantly financial service literacy among Nigerian rural farmers. In the light of this discussion, this study proposes that:

Hypothesis One

H0: Indigenous communication systems have no significant influence on access to agribusiness funding information among agribusiness entrepreneurs in Nigerian rural areas.

H1: Indigenous communication systems have a significant influence on access to agribusiness funding information among agribusiness entrepreneurs in Nigerian rural areas.

Hypothesis Two

H0: Indigenous communication systems do not significantly influence the utilization of agribusiness funding information among agribusiness entrepreneurs in Nigeria.

H1: Indigenous communication systems significantly influence the utilization of agribusiness funding information among agribusiness entrepreneurs in Nigeria.

3. Materials and Methods

3.1 Population and Procedure

Using a descriptive survey approach the study explored how indigenous communication systems relate to accessing and utilizing business funding information among agribusiness people in African rural environments. The population of this study consists of the 50,000 smallholder agricultural entrepreneurs in Edo State who were documented in the Central Bank of Nigeria's Anchored Borrower's Programme in Edo State, Nigeria (Obi-Anike et al., 2023). To ensure that only the agricultural entrepreneurs who are our unit of analysis in the study were captured, we relied on the OECD (2011) rurality definition approach which defines and classifies an environment as rural if its population is fewer than 3, 000 people with a density less than 150 people per square kilometer (1.5 people per hectare).

The Taro Yarmene's (1969) formula was used to calculate the sample for the study as presented below:

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size, N denotes the population, 1 is the constant and the small letter e denotes the error margin (taken as 0.05). Therefore, applying the sample size determination technique on the ESADP registered 50,000 farmers for the loan we got a sample size of 397. We increased the sample to 520 for stronger representativeness and generalizability (Imhanrenialena et al., 2022). However, during sorting and coding of the copies of the questionnaire, we found 9 copies to be invalid as such respondents gave self-contradicting answers. The instrument's reliability was established using the Cronbach Alpha approach and the analysis yielded 0.912. The validity of the instrument was certified by applying the face validity method. Research assistants were recruited to interpret and explain the question items in the questionnaire to some of the rural farmers who had difficulty understanding them. The proposed hypotheses were tested with regression analysis using the Statistical Package for Social Science software. A P-value of 0.05 was set as the significant level in the analysis.

3.2 Measures

Indigenous communication systems were measured using the conceptualization of indigenous communication systems based on the work of Imhanrenialena et al. (2021a). An example of the item in the scale includes "I usually receive information about agribusiness funding through our traditional communication channels such as town criers, and village meetings." This scale was designed on a five-point Likert scale which ranges from "Disagree" coded as 1" to "Strongly agree" coded 5. Access to agribusiness funding information was assessed with an adapted scale from the work of Obi-Anike et al. (2023). Some of the items in the scale are: "How satisfied are you with your access to agribusiness funding information?" The items were assessed on a 5-point Likert scale: "Completely dissatisfied = 1", "Partially dissatisfied = 2", "Refused to answer = 3", "Averagely satisfied = 4", and "Completely satisfied = 5". Similarly, business funding information utilization was assessed with question items adapted from Obi-Anike's et al. (2023) work. An example of the items in the scale is "I obtained loans for my agribusiness based on credible information I received from my traditional news announcement platform". To assess the respondents' methods of saving their money, their preferred payment model, and mode of accessing credit facilities, the channels of savings, payment, and credit facilities were listed, and the respondents were asked to tick the ones that they mostly use. Research assistants who helped the researchers administer the questionnaire were recruited based on their ability to understand the items in the questionnaire and the local languages of the respondents.

4. Result Presentations

4.1 Demographic Analysis

Results of the preferred savings model, mode of making payment, and mode of obtaining credit facilities among agribusiness entrepreneurs are presented as follows:

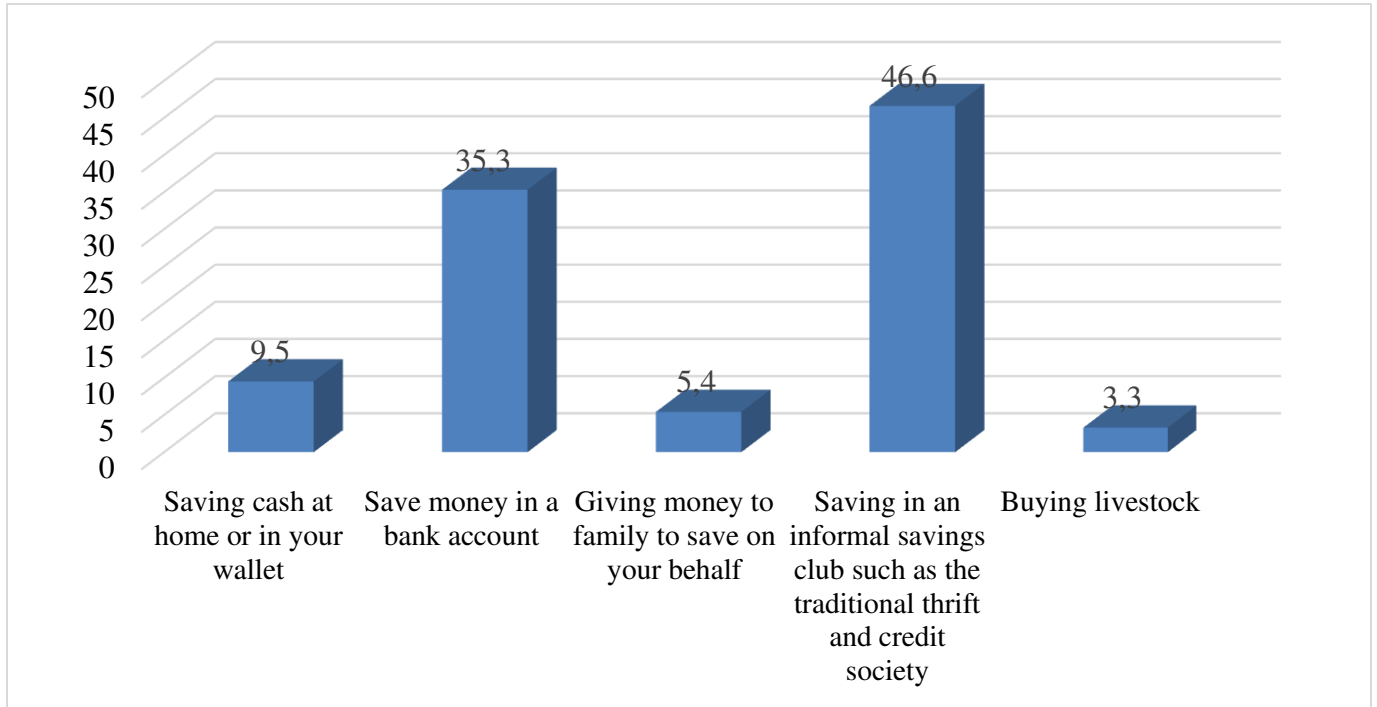


Figure 1:The preferred savings model among agribusiness entrepreneurs

Regarding the utilization of financial information by agribusiness entrepreneurs, only 35.3% of the agribusiness entrepreneurs save their money in formal banks while 46.6% still save their money in informal local thrift and credit society as indicated in Figure 1. In the same vein, 9.5% of the agribusiness entrepreneurs save their money in their homes while 5.4% keep their money with their relatives.

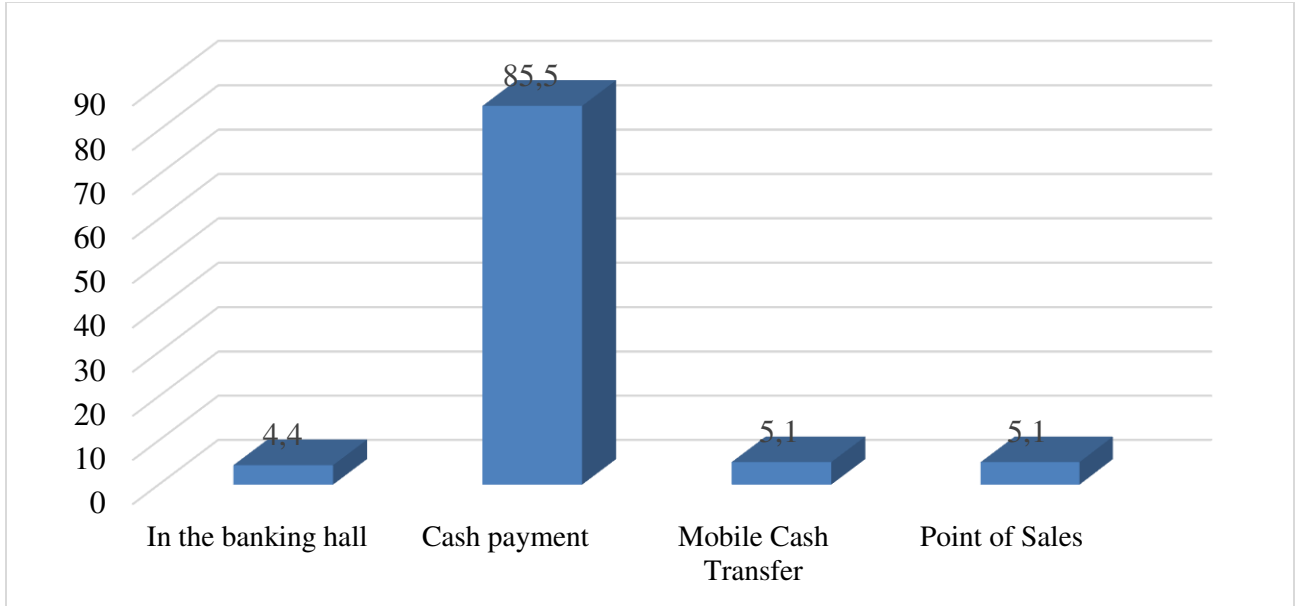


Figure 2: Mode of making payment

This outcome indicates that 85.5% of agribusiness entrepreneurs conduct their financial transactions in physical cash. Only 4.4% make payments in banking halls while 5.1% and 5.1% utilize mobile cash transfer and point of sales (POS) respectively as shown in Figure 2. This outcome corroborates the earlier report by NCC (2020) which shows that mobile banking/online transactions are poor in Nigeria. The majority of Nigerians who use mobile phones and internet platforms are from towns and cities while the rural dwellers are excluded (Ndungu 2018).

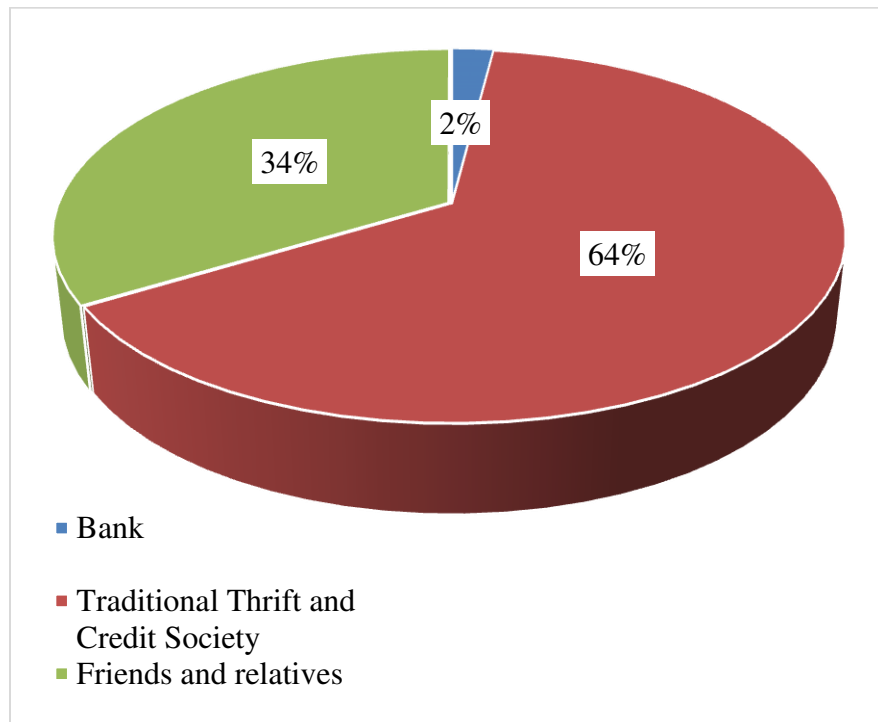


Figure 3: Mode of obtaining credit facilities

In terms of sourcing credit facilities, 64% of agribusiness entrepreneurs in rural areas obtain credit facilities in their local thrift and credit society while 34% obtain such facilities in formal banks as displayed in Figure 3. This goes to show that agribusiness entrepreneurs' utilization of formal financial services remains low in rural areas.

4.2 Test of Hypotheses

To provide inferential evidence on how indigenous communication systems influence access to business funding information among agribusiness entrepreneurs in Nigerian rural areas the study performed regression analysis as presented below:

Hypothesis One

H0: Indigenous communication systems have no significant influence on access to agribusiness funding information among agribusiness entrepreneurs in Nigerian rural areas.

H1: Indigenous communication systems have a significant influence on access to agribusiness funding information among agribusiness entrepreneurs in Nigerian rural areas.

Table 1.1: Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	Sig. F Change	df1	df2	
1	.498(a)	.248	.239	.483	.248	27.689	6	505	.000	1.601

a Predictors: (Constant), Indigenous communication systems

b Dependent Variable: Access to business funding information

Model summary outcomes help to understand the variance in the dependent variable (Access to business funding information) that the independent variable (Indigenous communication systems) can account for. As depicted in Table 1.1, the R square value of 0.498 suggests that indigenous communication systems account for a 50% variance in access to business funding information among agribusiness entrepreneurs in Nigerian rural areas.

Table 1.2: Analysis of Variance ANOVA (b)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	38.733	6	6.455	27.689	.000(a)
	Residual	117.736	505	.233		
	Total	156.469	511			

a Predictors: (Constant), Indigenous communication systems

b Dependent Variable: Access to business funding information

Source: Field Survey 2023; SPSS 16.0 Output

Table 1.2 results show that indigenous communication systems have a significant influence on access to business funding information among agribusiness entrepreneurs in Nigerian rural areas ($\beta = 0.312$, $t\text{-value} = 7.161 > 1.96$, $p\text{-value} = 0.000 < 0.05$, and $R^2 = 0.498$).

Table 1.3: Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
	(Constant)	3.690	.274		13.490	.000
1	Indigenous communication systems	.072	.010	.312	7.161	.000

a Dependent Variable: Access to business funding information

Source: Field Survey 2023; SPSS 16.0 Output

The results depicted in Coefficient Table 1.3 help to understand how a unit change in indigenous communication systems will result in a change in access to business funding information. In this case, a unit change in indigenous communication systems will result in a 72% change in access to business funding information among agribusiness entrepreneurs in Nigerian rural areas.

Hypothesis Two

H0: Indigenous communication systems do not significantly influence the utilization of agribusiness funding information among agribusiness entrepreneurs in Nigeria.

H1: Indigenous communication systems do not significantly influence the utilization of agribusiness funding information among agribusiness entrepreneurs in Nigeria.

Table 2.1: Model Summary (b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	Sig. F Change	df1	df2	
1	.422(a)	.178	.169	.925	.178	18.281	6	505	.000	.975

a. Predictors: (Constant), Indigenous communication systems

b. Dependent Variable: Agribusiness funding information utilization

The R square value of 0.422 in Table 2.1 indicates that a 42% variance in agribusiness funding information utilization can be explained by indigenous communication systems.

Table 2.2: ANOVA(b)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	93.873	6	15.646	18.281	.000(a)
	Residual	432.203	505	.856		
	Total	526.076	511			

a Predictors: (Constant), Indigenous communication systems

b Dependent Variable: Agribusiness funding information utilization

Based on the ANOVA results in Table 2.2, the null hypothesis is rejected while the alternative hypothesis is accepted which says indigenous communication systems do not significantly influence the utilization of agribusiness funding information in Nigerian rural areas ($\beta = 0.295$, $t\text{-value} = 6.617 > 1.96$, $p\text{-value} = 0.000 < 0.05$, and $R^2 = 0.422$).

Table 2.3: Coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	1.343	.578		2.324	.000
	Indigenous communication systems	.332	.050	.295	6.617	.000

a. Agribusiness funding information utilization

The outcomes in Table 2.3 suggest that a unit change in indigenous communication systems will result in a 33% change in Agribusiness funding information utilization among agribusiness entrepreneurs in Nigerian rural areas.

5.1 Discussion of Findings

The current study found in the demographic analysis of the respondents’ profile that physical cash transactions, informal savings, and informal credit facilities dominant financial services among the agribusiness entrepreneurs in rural. The outcomes from the test of hypotheses show that indigenous communication systems have a significant influence on access to business funding information among agribusiness entrepreneurs in Nigerian rural areas. This result confirms a similar previous study that suggested that using indigenous languages in financial service advertising significantly increases financial service information dissemination among rural communities (Imhanrenialena et al., 2021a). Also, it was discovered in hypothesis two analysis that indigenous communication systems significantly influence the utilization of agribusiness funding information among agribusiness entrepreneurs in Nigerian rural areas. This outcome is in line with studies that found that having sufficient financial information increases greater savings skills among individuals (Conrad et al., 2020; Olubanjo and Olayinka, 2019) which in turn leads to positive credit ratings and more access to credit facilities in future (Obi-Anike et al., 2023).

5.2 Theoretical and Policy Implications of Findings

Theoretically, this current study contributes to the existing rural information development literature by shifting the focus of research from the usual Western information dissemination channels to the neglected financial information needs in rural areas. In the new digital information age in Africa, the dominant research focus is basically on the link between mobile phone/internet penetration and food production in Africa (Liagat et al., 2020; Mwantimwa, 2019; Kenfack, Fongang and Degrande, 2019; Folitse, et al, 2019). Also, our study responded to the numerous calls for research into rural agricultural development by providing empirical insights into how indigenous communication systems significantly result in access and utilization of business funding information among agribusiness entrepreneurs in Nigerian rural areas. It is also worthy of note that the current study filled another important theoretical gap by proving that physical cash transactions, informal savings, and informal credit facilities are dominant financial services among agribusiness entrepreneurs in rural. Policy-wise, financial authorities and agricultural development agencies in Nigeria must ensure that the indigenous communication system is developed and positioned to complement the Western communication model, particularly in the light of ICT infrastructural deficit in rural areas. The Nigerian government must also ensure that access to credit facilities, modern payment, and savings platforms are strengthened to widen financial inclusion in rural areas.

5.3 Conclusion

The outcomes of this study advance the understanding of the socio-economic development of rural agriculture in Nigeria by demonstrating that the indigenous communication system significantly promotes access and utilization of agribusiness funding information in Nigerian rural areas. This is an important contribution to communication studies literature and rural development literature based on researchers' calls for such research. Based on the outcomes of the study, it is concluded that the indigenous communication system significantly leads to access and utilization of agribusiness funding information among agribusiness entrepreneurs in Nigerian rural areas. Therefore, an indigenous communication system should be developed and deployed to complement the Western communication model in agribusiness funding information dissemination in Nigerian rural communities particularly in the light of ICT infrastructural deficit in rural settings.

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