


Article

The Role of Financial Information Literacy in Strategic Decision-Making Effectiveness and Sustainable Performance among Agribusiness Entrepreneurs in Nigeria

Happiness Ozioma Obi-Anike ¹, Ogohi Cross Daniel ², Ifeoma Joanes Onodugo ¹,
Ikechukwu Joseph Attamah ¹ and Benedict Ogbemudia Imhanrenialena ^{1,*}

¹ Department of Management, Faculty of Business Administration, University of Nigeria, Nsukka 410001, Nigeria; ozioma.obi-anike@unn.edu.ng (H.O.O.-A.); ifeoma.onodugo@unn.edu.ng (I.J.O.); ikechukwu.attama@unn.edu.ng (I.J.A.)

² Department of Business Administration, Faculty of Management Sciences, Nile University of Nigeria, Abuja 900001, Nigeria; danielcross@nileuniversity.edu.ng

* Correspondence: benedict.imhanrenialena@unn.edu.ng

Abstract: The current financial environment is characterized by frequent innovations and complex financial products and services and this poses particular challenges for agribusiness entrepreneurs in rural areas. This study examined the sources of financial information available to agribusiness entrepreneurs in rural areas and how financial information literacy impacts performance sustainability and strategic decision-making effectiveness among agribusiness entrepreneurs amid complex and frequent innovations in financial environments in Nigeria. Utilizing a probability sampling approach, 397 respondents were drawn from the pool of agribusiness entrepreneurs registered with the Edo State Agricultural Development Programme for the Central Bank of Nigeria Anchored Borrower's Programme (ABP) for farming businesses. The hypotheses were tested using linear regression analysis. The results from the demographic analysis suggest that agribusiness entrepreneurs have the highest access to radio adverts/programs on financial matters while television adverts/programs exert the highest persuasive influence on these agribusiness entrepreneurs. The outcomes from this analysis indicate that financial information literacy significantly impacts agribusiness performance sustainability among entrepreneurs. In addition, the proposed link between financial information literacy and strategic decision-making effectiveness among agribusiness entrepreneurs was confirmed. It is concluded that financial information literacy is needed for strategic decision-making effectiveness and performance sustainability among agribusiness entrepreneurs, particularly in rural areas, amid frequent innovative financial products and services.

Keywords: financial information literacy; financial innovations; strategic decision-making effectiveness; performance sustainability; agribusiness entrepreneurs



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1. Introduction

Frequent innovations in information and communication technology, as well as the complex nature of formal financial products and services, pose challenges for agribusiness entrepreneurs in rural areas and this necessitates an understanding of how financial information literacy impacts agribusiness performance sustainability in Nigerian rural communities [1,2]. Understanding the link between financial information literacy and business performance in every segment of society is crucial [3–5] given socio-economic and demographic differences across societies [6].

Although financial information literacy is an integral part of information literacy [7], research that focuses on financial information literacy is scarce. Financial information literacy is viewed as an individual's attitude towards seeking, understanding, and applying financial products and services-related information that may help the individual to experience

financial well-being [6]. Individuals who possess adequate financial information, such as the types of financial products and services and the conditionality for their accessibility, are regarded as having a greater financial information literacy rate [8]. The channels through which individuals can acquire financial information include newspapers, television, radio, the internet, and government publications. Therefore, financial information literacy is a prerequisite for financial literacy among individuals [6].

Extant literature shows that researchers have focused only on financial literacy and have neglected financial information literacy in developing countries [6,9–11], particularly in Africa [1,2]. Financial literacy entails possessing and applying financial management skills for efficient and effective financial resource management for individuals' well-being [6]. While financial literacy is concerned with the possession of adequate financial management skills, financial information literacy entails seeking and possessing adequate knowledge of the existence of financial products and services through diverse information channels [1,2,6].

Extant literature indicates a general dearth of knowledge on how financial information literacy relates to performance sustainability, particularly as it impacts agribusiness sustainability amid financial product innovation in Nigeria. For example, it is believed that the paucity of research on financial information literacy is accounted for by its newness in the literature, as succinctly put by this scholar: "The term 'financial information literacy' is relatively new in the literature" [6] (p. 1). Accordingly, studies have highlighted financial information literacy as a research gap that deserves urgent research attention [1,6,12], due to the increasingly complicated current financial environment [3–5]. Studying how financial information literacy relates to strategic decision-making effectiveness and performance sustainability among agribusiness entrepreneurs in the Nigerian context is crucial because the majority of the Nigerian population is involved in agribusiness entrepreneurship [13,14]. This unexplored research area inhibits the efforts of financial authorities and policymakers to formulate and implement sound financial and developmental policies in many developing African countries [15].

The research questions this study seeks to answer are as follows: What are the sources of financial information available to agribusiness entrepreneurs in rural areas amid frequent innovative financial products and services in Nigeria? How does financial information literacy relate to performance sustainability among agribusiness entrepreneurs in rural areas amid frequent innovative financial products and services in Nigeria? How does financial information literacy relate to strategic decision-making effectiveness among agribusiness entrepreneurs in rural areas amid frequent innovative financial products and services in Nigeria? To provide answers to this study's research questions, the objectives of this current study are to explore the sources of financial information available to agribusiness entrepreneurs and provide insights into how financial information literacy impacts strategic decision-making effectiveness and performance sustainability among agribusiness entrepreneurs in the midst of these current innovative financial products and services in Nigeria.

This research used a descriptive survey design. Utilizing a probability sampling approach, a structured questionnaire was used in collecting cross-sectional quantitative data from agribusiness entrepreneurs while a regression analysis was used to test the formulated hypotheses. The outcomes indicate that financial information literacy significantly impacts agribusiness performance sustainability and strategic decision-making effectiveness among agribusiness entrepreneurs.

The outcomes have theoretical, practical, and policy implications. First, theoretically, this study contributes to agribusiness literature by providing insights into how financial information literacy relates to strategic decision-making effectiveness and performance sustainability amid frequent innovations in financial products and services. This particular addition to the literature answers the calls of recent studies that highlighted financial information literacy as a research gap that deserves urgent research attention in light of the increasingly complicated current financial environment [6,12]. Second, in practical terms, the

outcomes of this study may encourage organizations to put in place financial information literacy training programs to enable strategic decision-makers to acquire adequate financial information for strategic decision-making effectiveness and performance sustainability.

Third, in terms of policy, the outcomes of this study may motivate the Nigerian government to develop and implement a policy framework that will facilitate increased access to diverse financial information channels among agribusiness entrepreneurs in Nigeria. The government can achieve this by making digital infrastructure available in rural areas to enable financial information providers to reach agribusiness entrepreneurs in rural areas through digital information platforms. Fourth, to enhance food security through increased agribusiness performance in Nigeria, government-owned agriculture-related financial institutions such as the Nigeria Agricultural Development Bank should invest in financial information dissemination among agribusiness entrepreneurs, particularly in rural areas.

The remainder of this article is structured as follows. The next section is the literature review and hypotheses development, where the theoretical framework, the conceptual variables, a review of previous empirical studies, and the study's hypotheses are presented. This is followed by the methodology section, consisting of discussions of the study's population, the method of sample selection, and the measures used. After this section, the results are presented. The final segment includes a discussion of findings, implications, limitations, and conclusions.

2. Literature Review and Hypotheses Development

2.1. Financial Socialization Theory

Financial socialization theory is vital for understanding young adults' financial behavior [16]. Financial socialization theory suggests that relationships among individuals influence the financial information the individuals receive which in turn results in financial literacy among them. This explains why financial information literacy is regarded as a prerequisite for financial literacy among individuals [6]. It is argued that child-parent financial interactions influence the child's financial literacy level [11]. This is because, in a family, parents are the most influential source of knowledge regarding how personal finances are best managed [17]. The high financial status of parents was also found to influence their children's attainment of greater financial literacy levels [18]. It was reported that students who follow friends' financial advice achieve higher financial literacy rates than other students.

Family financial socialization encountered by children plays a crucial role in laying a solid foundation for their future financial outcomes [19,20]. For example, a study found that young adults learn more about financial matters from their parents and family members than they learn from financial education in high school and personal work experience combined [21]. Young adults and children learn financial management skills from their parents either by observing their parents' financial management behavior or by actively participating in some of their parents' financial transactions, or both [22]. The basic agents of financial socialization in society are peer groups, family, and media [23].

Financial socialization that takes place through formal sources, such as schools, and informal sources, such as family and peer groups, is a source of financial information literacy [21,24,25]. It is also documented in the literature that although parents and family members are vital in financial socialization, financial literacy programs and media are an inevitable part of the financial socialization processes [20]. We argue in this current study that financial socialization which occurs through families, peer groups, and the media results in financial information literacy among agribusiness entrepreneurs in rural areas in Edo State, Nigeria. We further argue that financial information literacy is significantly related to performance sustainability amid financial innovations in Nigeria.

2.2. Financial Information Literacy and Performance Sustainability

The financial viability of individuals, families, organizations, and national economies is a reflection of their financial literacy levels [26]. Financial information literacy is an integral part of information literacy [7]. Financial information literacy is referred to as an individual's attitude towards seeking, understanding, and applying financial products and services-related information that may help the individual to experience financial well-being [6]. Individuals who possess adequate financial information, such as the types of financial products and services and the conditionality for their accessibility, are regarded as having a greater financial information literacy rate [8]. The channels through which individuals can acquire financial information include newspapers, television, radio, the internet, and government publications. Therefore, financial information literacy is a prerequisite for financial literacy among individuals [6].

The cardinal objective of agribusiness entrepreneurs is to achieve greater performance [27,28]. Studies have argued that individuals who possess adequate financial information literacy are able to increase and sustain their firms' performance. Individuals with adequate financial awareness are capable of identifying the right investment decisions and achieving a higher performance [29]. In addition, adequate financial information literacy enables individuals to discover the available credit facilities and access them to finance their business [27]. For example, it is argued that possessing the right financial knowledge enables individuals to access viable financial products and services and boost performance [30]. Similarly, adequate access to financial information literacy increases high savings skills [31,32] which can result in good credit ratings and access to credit to improve firms' performance. Financial information literacy enables individuals to discover better interest-yielding financial products and earn high interest rates on their savings [33]. Financial literacy information also enhances better risk management [34,35]. Individuals with high financial information literacy are able to have a superior retirement plan [36,37]. Studies also found that financial information literacy equips people to make profitable investment decisions in both the money market and the capital market [37,38]. Lack of adequate knowledge of financial matters can make individuals susceptible to accepting inferior interest rates which result in loan repayment defaults, negative credit ratings, and impediments to accessing credit facilities in the future, all of which pose a threat to performance [39,40].

2.3. Digital Infrastructure and Rural Dwellers' Access to Information

Digital literacy entails the ability to accurately identify, assess, and use ICT platforms [41]. The analog information model has given way to digital platforms such as smart televisions, radio, and smartphones [42]. People are able to connect to television and radio programs through smartphones anywhere with the availability of internet connectivity. Rural dwellers are more likely to dedicate more time to viewing online TV and radio programs than urban residents due to the unavailability of entertainment centers such as football stadiums, museums, cinemas, and theatres in rural areas [43]. With banking services being conducted online, geographical barriers are being eliminated in financial transactions [44], particularly in rural areas [45]. The increasing use of internet-based gadgets such as smartphones, mobile tablets, gaming devices, and smart televisions highlights the need for available and reliable internet connectivity [46].

Making digital infrastructure available in rural areas will enable digital information service providers to integrate rural dwellers into the new digital age [47]. Rural dwellers need competency in digital operations to be able to access information from the platform for improved rural economic activities [41,48]. A large digital infrastructure disparity exists between urban areas and rural areas in Nigeria [41,49]. Similarly, the skills and educational capabilities that drive access and usage of digital information are deficient in rural areas [48]. Another problem hindering rural dwellers' access to digital information services is the associated costs of these platforms [41,42,48]. Research indicates that adequate availability

and accessibility of digital information services to rural dwellers are essential to a robust rural economy [41,49,50].

2.4. Strategic Decision-Making

Strategic decision-making capability is one of the critical factors that influence entrepreneurial profitability and overall performance [51] because the ability to take profitable risks, such as effective product invention and market innovation decisions, is linked to strategic decision-making [51,52]. To enhance decision-making capability, firms are expected to increase their awareness of developments in business environments [53]. It is documented in the literature that effective strategic decision-making capabilities include the ability to analyze, select, optimize, adapt, and update decisions [54]. Understanding the ever-changing trends in business environments enhances the effective strategic decision-making capabilities of firms [55]. This study concludes that to strengthen strategic decision-making capabilities, entrepreneurs must clearly understand and appreciate the influencing effects of these factors [56]. Knowledge management is also needed for effective strategic business decision-making processes among managers because valuable information is required in the decision-making process [52,57]. Demographic characteristics are said to be related to human capital, though with limited theoretical explanations [51], and this necessitates an understanding of how entrepreneurs' financial information literacy impacts effective strategic decision-making.

2.5. Empirical Review

To anchor the study's hypotheses on theoretically informed arguments in the extant literature, we reviewed the current information development literature. Kanungo [58] proposed and tested hypotheses as to how social processes provide a viable platform for ensuring the sustainability of information communications technology (ICT) in rural areas. The study confirmed that social processes enhance the viability of ICT initiatives in rural environments. Nikou, De Reuver, and Kanafi [59] investigated the roles of information and digital literacy on employees' perception of technology usage and the ease of using digital technology in the workplace among 121 respondents. The study found that information literacy and digital literacy both directly impact the perceived ease of use of this technology among workers. Ahmad, Widén, and Huvila [60] investigated how CEOs' information literacy relates to innovation in small- and medium-sized enterprises in Finland using the data collected from 184 company CEOs. The study reported that the level of the CEOs' information literacy significantly impacted innovations in SMEs. Seraj, Alzain, and Alshebami [29] examined the impact of financial literacy on investment decisions in Saudi Arabia with data collected from 180 participants and reported that financial literacy has a significant positive influence on investment decisions.

Phiri, Chipeta, and Chawinga [61] examined smallholder rural farmers' information needs and sources in Malawi and found crop husbandry as the chief information need of the rural farmers while the predominant information source relied upon by the rural farmers was personal experiences. In the case of Tanzania, the use of mobile phones among pastoral farmers was investigated [62]. The study found that the effective use of mobile phones significantly increased access to pastoral farming information among farmers. In Myanmar, the use of mobile phones for information dissemination among fishers was studied and the outcomes suggest that the effective use of mobile phones increases the dissemination of price and market demand information to the fishers [63].

In Cameroon, the information flow in Rural Resources Centres (RRCs) and the rating of such information sources by Cameroonian farmers were explored, and it was found that farmers rate their fellow farmers as the primary agricultural information source while RRCs come second [64]. In Ghana, the determining variables of mobile-phone utilization by smallholder poultry farmers were assessed. Similarly, the use of agro-weather information sources for climate-smart agriculture among farmers in Kenya and Ethiopia was studied. The study found the farming experience and the impact of agro-weather information as the

basic factors that influence the use of information channels such as SMS, radio, extension agency, and interactive voice response [65].

Liagat, Mohammed, and Ali [6] evaluated the socio-economic and demographic variations in financial information literacy among undergraduates in Pakistan. The study found a link between studying in a private university, living in dormitories, and earning high scores in academic subjects and high financial literacy. In addition, the parental background of the undergraduates was found to play a role in financial literacy as the students who took financial advice from their parents and who possessed a bank account were found to have more knowledge about finance. This study, however, is however different from this current one in terms of demographic context. Gaudecker [66] investigated the influence of financial literacy on investment decisions, particularly portfolio diversification, and reported that individuals that adhered to the advice of financial experts are better at making investment decisions. Paltasingh and Goyari [67] explored the link between farmers' education and their productivity in the face of innovative modern technologies and found the farmers' education levels had a significant positive impact on farm productivity, particularly as education helps farmers to use modern technology in farming.

Twumasi et al. [68] empirically investigated the impact of financial literacy on household income among rural dwellers in Ghana using a sample of 572 respondents. The outcomes suggest that financial literacy has a direct significant positive effect on rural dwellers' access to financial products and services. Bank Indonesia [69] shows that a lack of financial and banking education results in individuals' inability to have adequate access to formal credit facilities. Investigating the link between financial literacy and farmers' ability to access microcredit in Indonesia, Widhiyanto et al. [70] found that financial literacy significantly predicts microcredit accessibility. Hasan et al. [71] assessed the association between financial knowledge and access to finance among rural dwellers in Bangladesh. It was found that possessing knowledge of financial matters significantly predicts access to finance.

Anchoring their study on a two-system decision-making theoretical framework and applying structural equation modeling for data analysis, Feng, Han, Zheng, and Kamaran [56] empirically demonstrated that strategic decision-making capabilities are influenced by memory and thinking capacity, among other factors. The study concludes that to strengthen strategic decision-making capabilities, entrepreneurs must clearly understand and appreciate the influencing effects of these factors. An empirical study [72] involving 220 small-scale business owners in Saudi Arabia found that financial literacy has significant positive effects on entrepreneurial competency and resilience while entrepreneurial competency in turn results in sustainable performance.

Melovic, Dabic, Vukcevic, Cirovic, and Backovic [57] examined how useful and relevant marketing metrics and knowledge management are in the strategic business decision-making processes among managers in 171 companies using structural equation modeling. The study found a significant link between marketing metrics and the strategic decision-making process, as marketing metrics are useful indicators that provide crucial information required in the decision-making process.

The Research Hypotheses: Based on the discussions in the extant literature and the underpinning theoretical foundation presented above, we proposed and tested the following hypotheses:

Hypotheses 1. *Financial information literacy significantly relates to performance sustainability among agribusiness entrepreneurs in Nigeria.*

Hypotheses 2. *Financial information literacy significantly relates to strategic decision-making effectiveness among agribusiness entrepreneurs in Nigeria.*

Based on the theoretically informed research variables and the proposed hypotheses in the forgoing discussion, the study's model is presented in Figure 1.

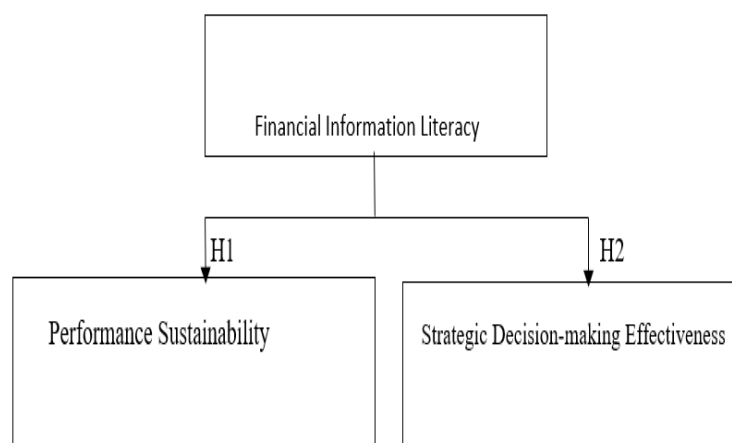


Figure 1. The Study's model and hypotheses.

3. Research Methodology

3.1. Sample and Procedure

A descriptive survey design was adopted in this study. Although the unit of analysis of this study is the agribusiness entrepreneurs in Edo State, Nigeria, only those who met the inclusion criteria of this study were recruited. The inclusion criteria included having concrete evidence of personally managing agribusiness for a minimum unbroken period of 10 years, adequate staff strength/capital base of the agribusiness, and being duly registered by the Edo State Agricultural Development Programme for the Central Bank of Nigeria Anchored Borrower's Programme (ABP) for farming businesses. Accordingly, Taro Yarmene's (1969) method for sample size determination was applied in selecting 397 agribusiness entrepreneurs from the 50,000 agribusiness entrepreneurs registered with the Edo State Agricultural Development Programme [73] for the Central Bank of Nigeria (CBN) Anchored Borrower's Programme (ABP) for farming businesses. The questionnaire was manually administered to the participants. Regression analysis was used to test the proposed hypotheses. The incidence of unreturned questionnaires was limited by encouraging the respondents to answer and dropping the questionnaire in the interview locations.

3.2. Measures

Sources of Financial Information: The channel through which financial information is disseminated was used to determine the sources of financial information that are available to agribusiness entrepreneurs. The information channels, which include radio, television, internet, newspapers, and social media apps, were adapted from the works of Liaqat et al. [6] and Imhanrenialena et al. [1]. Therefore, to assess the sources of financial information available to the respondents, the respondents were asked to choose, among the information channels listed in the questionnaire, the one through which they mostly receive information about financial matters. Further, the respondents were asked to indicate the information channel that has the highest persuasive influence on them when making financial decisions in their business.

Financial Information Literacy: The measures for financial information literacy were adapted from the work of Liaqat et al. [6]. This variable was measured in both numeracy and non-numeracy dimensions. The numeracy dimension includes two question items aimed at assessing the level of financial information the respondents possess regarding interest rates and inflation while the non-numeracy form comprised three question items that measured respondents' ability to seek financial information from the right sources. The items were measured on a 5-point Likert scale ranging from "Strongly disagree" (denoted 1) to "Strongly agree" (code 5). Examples of the numeracy dimension are as follows: "If you save money in the bank for two years and the bank agrees to add 15% per year to your savings under compound interest arrangement, the bank will add more money to your account in the second year than it did in the first year", and "It is not profitable to

save money in the bank if the level of inflation is 3% and the interest your bank pays on your savings account is 2%". The non-numeracy items in the questionnaire include the following: "The best advice on financial matters is gotten from financial experts", "The information about the contents of one's ATM password should be kept secret", "In Nigeria, information about interest rates and inflation is best gotten from financial authorities such as the Central Bank of Nigeria".

Agribusiness Performance: Agribusiness performance was assessed in subjective form with a scale adapted from Fowowe's [74] work. The three items are as follows: "How satisfied are you with the sales volume?", "How satisfied are you with the profit you make from your agribusiness?", and "How satisfied are you with your business growth?" The items were measured on a 5-point Likert scale ranging from "Extremely unsatisfied = 1", "Unsatisfied = 2", "Refused to answer = 3", "Satisfied = 4", and "Extremely satisfied = 5". The use of subjective metrics in measuring entrepreneurial success is suitable in contexts where the use of objective measures is subject to erroneous outcomes [75,76]. For example, objective measures of profit, revenue, and returns on investment (ROI) as indicators of performance may be hampered by inaccurate record keeping, which could result in erroneous findings [74].

Strategic Decision-making Effectiveness: The scale used in measuring strategic decision-making effectiveness was adapted from the work of Dean and Sharfman [77]. The items in the scale include "I obtained loans to add a new line to my agribusiness", "I adopted a new compensation system in my agribusiness" and "I have engaged in a paid advertisement of my agricultural products in the media". Each of the items was measured on a 5-point Likert scale ranging from "Complete failure = 1", "Partial failure = 2", "Refused to answer = 3", "Average success = 4", and "Complete success = 5". This made it possible to appropriately measure the effectiveness of the diversification strategy, human resource strategy, and marketing strategy decisions contained in the question items above among agribusiness entrepreneurs. Generally, boredom and quitting behaviors among the respondents were limited by minimizing the use of too many question items in the instrument [78].

4. Data Analysis and Results

4.1. Demographic Statistics

The outcomes from the demographic analysis show the personal profiles of the agribusiness entrepreneurs in Nigeria. As presented in Table 1, the majority of the respondents were male (276 or 69.5%) compared to female (121 or 30.5%). The dominant age among the entrepreneurs was between 31 and 40 years old (112 or 28.2%), followed by 40–50 years old (102 or 25.7%). In terms of education, the majority of the agribusiness entrepreneurs had less than a first degree (148 or 37.3%), followed by those with a first degree (101 or 25.4%).

Table 1. Respondents' Demographic Profile.

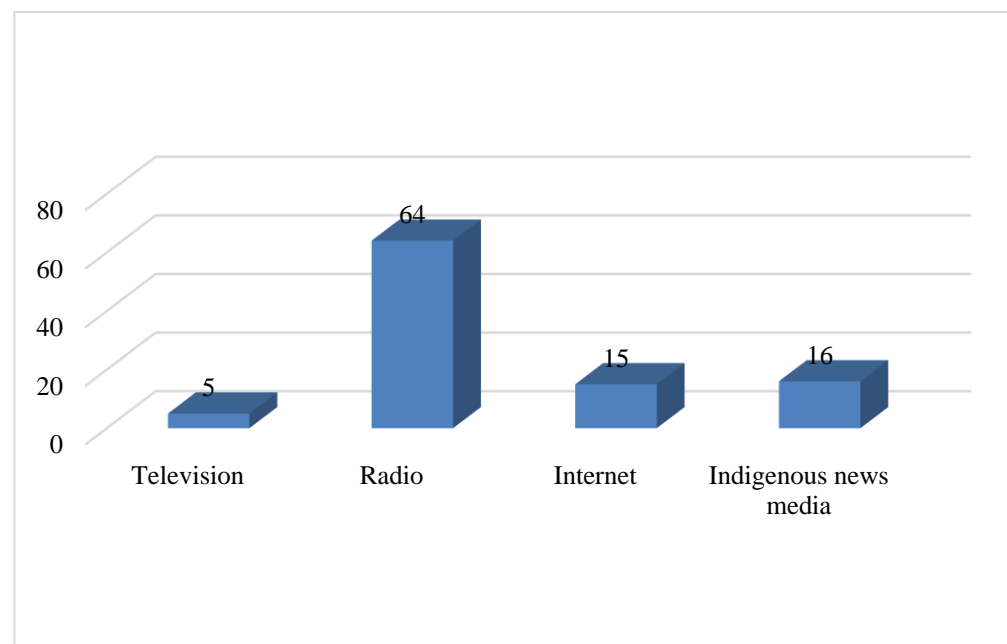
	Age	
	Frequency	Percent
18–20	34	8.6
21–30	92	23.2
31–40	112	28.2
40–50	102	25.7
51 and above	57	14.4
Total	397	100.0
	Gender	
	Frequency	Percent
Male	276	69.5
Female	121	30.5
Total	397	100.0

Table 1. *Cont.*

Qualifications		
	Frequency	Percent
O' level and below	97	24.4
NCE/ND	148	37.3
First degree/HND	101	25.4
Post-graduate	51	12.8
Total	397	100.0

4.2. Sources of Financial Information to Agribusiness Entrepreneurs

The agribusiness entrepreneurs had the highest access to radio adverts/programs on financial matters (64%) as displayed in Figure 2. Television programs, the internet, and indigenous news media accounted for low coverage of financial information dissemination in the following order: 5%, 15%, and 16%. Internet infrastructural deficiency may account for poor internet access among agribusiness entrepreneurs [79–81]. This is contrary to what is obtainable in rural areas in developed countries where rural dwellers view online TV and radio programs more than urban residents due to the unavailability of entertainment centers such as football stadiums, museums, cinemas, and theatres [43].

**Figure 2.** Access to financial information through media coverage.

4.3. Persuasive Influence of Financial Information Sources on Agribusiness Entrepreneurs

Contrary to our expectations, the agribusiness entrepreneurs indicated that television adverts/programs exerted the highest persuasive influence (75.2%) on them in making financial decisions, as depicted in Figure 3. The radio programs/adverts that accounted for 64% of coverage of financial matters in the farmers' rural localities accounted for only 16.5% of the most persuasive influence on the farmers in taking financial decisions. The indication by the agribusiness entrepreneurs that they are more persuaded to accept financial products/services from TV adverts/programs than from the radio could be a result of the audio/visual characteristics of TV broadcasting. TV adverts on financial matters visually display magnificent banking facilities, a healthy workforce, and joyous customers that portray a healthy bank, which in turn boosts the farmers' confidence in modern financial services.

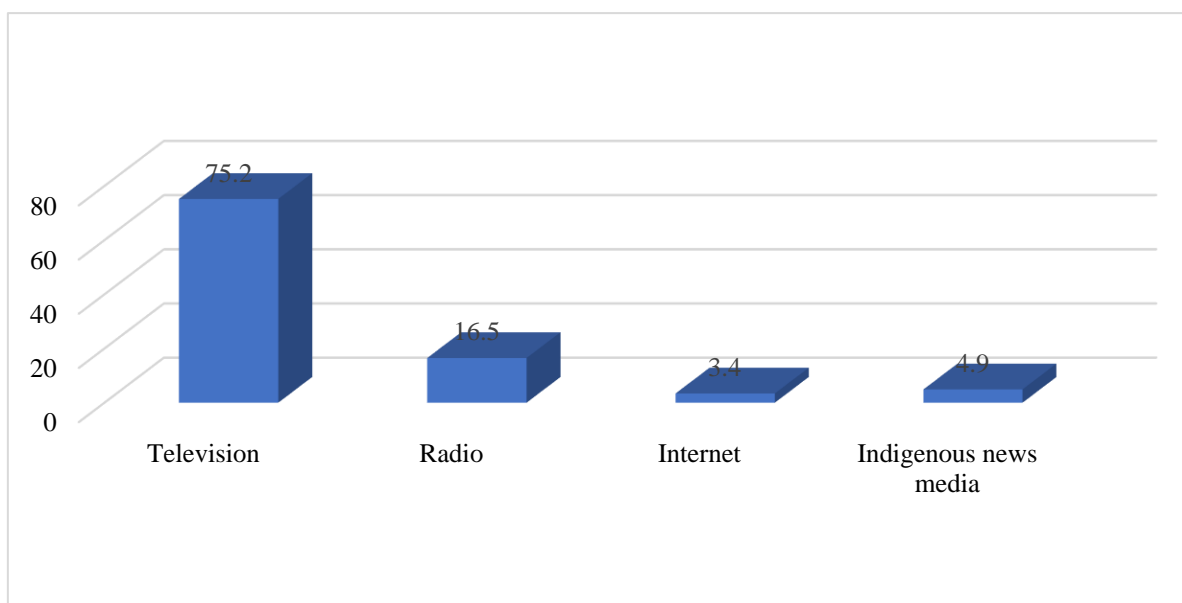


Figure 3. Persuasive Influence of Financial information Sources on Agribusiness Entrepreneurs.

4.4. Measurement Model

Validity and Reliability: The average variance extracted estimate (AVE) technique was applied in evaluating the convergent validity of the constructs (See Table 2). The obtained AVE values of 0.877, 0.740, 0.769, and 0.695 for financial information literacy (numeracy), financial information literacy (non-numeracy), agribusiness performance sustainability, and strategic decision-making effectiveness, respectively, exceeded the 0.5 benchmark, indicating that the convergent validity of the instrument is confirmed. Furthermore, Cronbach's alpha and composite reliability techniques were both applied in assessing the reliability of the instrument. Financial information literacy (numeracy), financial information literacy (non-numeracy), agribusiness performance sustainability, and strategic decision-making effectiveness yielded composite reliability coefficients of 0.934, 0.895, 0.909, and 0.873, respectively. Similarly, Cronbach's alpha values for the same variables were 0.859, 0.824, 0.850, and 0.782, in the same order. These obtained values in the analysis of the construct are each higher than 0.70, which is the recommended benchmark for composite reliability and Cronbach's alpha, showing that the instrument is reliable [82].

Common method bias (CMB): To check the measurement against common method bias, to which the data is susceptible since the cross-sectional data were collected from the same respondents [83], the variance inflation factor (VIF) approach was used. Although a VIF score of 1 implies that a measurement model is free from collinearity, many studies favor a VIF value that is less than 10 as the benchmark [84,85]. As Table 2 indicates, the VIF values of 1.741, 1.231, 1.457, 2.111, 2.234, 1.700, 1.645, 2.412, 1.555, 1.651, and 1.711 for each of the constructs are far less than the conservative threshold of <10.

4.5. Test of Hypotheses

The research model depicting the hypothesized link between the study's variables was tested using linear regression analysis. Decisions on the link between the variable were made based on the Coefficients values, t-values, R-square values, F-values, and p-values.

The linear regression analysis outcomes from Hypothesis 1, as depicted in Table 3, suggest that financial information literacy significantly predicts performance sustainability among agribusiness entrepreneurs ($R^2 = 0.322$; F-ratio = 35.755; $t = 18.675$; p -value = 0.000 < 0.05). For example, an R-squared of 0.322 is an indication that financial information literacy can explain a 32.2% variance in performance sustainability among agribusiness entrepreneurs. The coefficient, which is the parameter estimate in the linear model, is 0.814. This suggests

that holding all other variables constant, for every unit increase in the level of financial information literacy, a 0.814 unit increase in performance sustainability is predicted.

Table 2. Construct validity and Reliability.

	Loading	VIF	<i>p</i> Value	AVE	Composite Reliability	Cronbach's Alpha
Constructs	≥0.7	<3.0	<0.05	≥0.5	≥0.8	>0.7
Financial Information literacy (numeracy)				0.877	0.934	0.859
FIL (numeracy) 1	0.933	1.741	0.000			
FIL (numeracy) 2	0.939	1.231	0.000			
Financial Information Literacy (non-numeracy)				0.740	0.895	0.824
FIL (non-numeracy) 1	0.878	1.457	0.000			
FIL (non-numeracy) 2	0.828	2.111	0.000			
FIL (non-numeracy) 3	0.876	2.234	0.000			
Agribusiness Performance				0.769	0.909	0.850
AP 1	0.902	1.700	0.000			
AP2	0.829	1.645	0.000			
AP3	0.897	2.412	0.000			
Strategic Decision-making Effectiveness				0.695	0.873	0.782
SDE 1	0.810	1.555	0.000			
SDE 2	0.837	1.651	0.000			
SDE 3	0.854	1.711	0.000			

Table 3. Hypothesis 1.

Coefficients									
Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	R ²	AR ²	F	ANOVA (Sig.)
	B	Std. Error	Beta						
(Constant)	0.791	0.267		2.958	0.003	0.322	0.321	35.755	0.000
FBC	0.814	0.044	0.568	18.675	0.000				

Dependent Variable: performance sustainability among agribusiness entrepreneurs. Predictor: Financial information literacy.

In the Hypotheses 2 analysis (see Table 4), the linear regression model indicates that financial information literacy significantly predicts strategic decision-making effectiveness among agribusiness entrepreneurs ($R^2 = 0.684$; F-ratio = 15.481; $t = 18.675$; p -value = 0.000 < 0.05). The linear regression model value of R-squared 0.684 indicates that financial information literacy can explain a 68.4% variance in strategic decision-making effectiveness among agribusiness entrepreneurs. The F-ratio value of 15.481 (p -value = 0.000 < 0.05) specifically implies that financial information literacy significantly predicts strategic decision-making effectiveness among agribusiness entrepreneurs. The model suggests that if all other predictors are kept constant, a unit increase in the level of financial information

literacy will result in a 0.767 increase in strategic decision-making effectiveness among agribusiness entrepreneurs.

Table 4. Hypothesis 2.

Model	Coefficients								
	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	R ²	AR ²	F	ANOVA (Sig.)
	B	Std. Error	Beta						
(Constant)	1.306	0.121		10.801	0.000	0.684	0.684	15.481	0.000
FBC	0.767	0.019	0.827	39.843	0.000				

Dependent Variable: Strategic decision-making effectiveness among agribusiness entrepreneurs. Predictor: Financial information literacy.

5. Discussion

The current study investigates the sources of financial information literacy available to agribusiness entrepreneurs in rural areas in Edo State, as well as the most persuasive sources of financial information literacy for the entrepreneurs amid frequent innovative financial products and services in Nigeria. The outcomes indicate that agribusiness entrepreneurs in rural areas in Edo State have the highest access to radio adverts/programs on financial matters (64%). Contrary to expectations, the internet accounted for only 15% and this is unhealthy for agribusiness sustainability considering the fact that the world has gone digital. The lack of internet infrastructure in Nigerian rural areas may account for the low availability of financial information via the internet [79–81].

Regarding the persuasive influence of financial information sources, television adverts/programs were found to exert the highest persuasive influence on financial decision-making among agribusiness entrepreneurs. This could be a result of the audio/visual characteristics of TV broadcasting. TV adverts on financial matters visually display magnificent banking facilities, a healthy workforce, and joyous customers that portray a healthy bank, which in turn boosts the farmers' confidence in modern financial services [1,2].

The two hypotheses on how financial information literacy relates to agribusiness performance sustainability and strategic decision-making effectiveness among agribusiness entrepreneurs in Nigeria were tested. The results from the testing of Hypothesis 1 suggest that financial information literacy significantly relates to agribusiness performance sustainability. This outcome is consistent with similar results from other countries. For example, the roles of information and digital literacy on employees' perception of technology usage and the ease of using digital technology in the workplace were investigated among 121 respondents in a study and the outcome indicated that information literacy and digital literacy both directly impact the perceived ease of use of digital technology among workers [59]. It is argued that "Financial information literacy helps to manage earnings, especially among those students who study non-commerce subjects" [6] (p. 1). This suggests that agribusiness entrepreneurs who possess adequate financial information literacy will be able to take advantage of financial technology to improve and sustain their business performance. Similarly, a study also reported that the level of CEOs' information literacy significantly impacts innovation in SMEs in Finland [60]. This outcome suggests that Nigerian agribusiness entrepreneurs deploy the financial information they acquire to improve their business financial performance.

The results from the analysis of Hypothesis 2 indicate that financial information literacy significantly relates to strategic decision-making effectiveness among agribusiness entrepreneurs amid innovative financial products and services in Edo State, Nigeria. This outcome is in agreement with similar studies that suggest that financial literacy impacts profitable investment decisions. For instance, a study in Saudi Arabia examined the impact of financial literacy on investment decisions with data collected from 180 participants

and reported that financial literacy has a significant positive influence on investment decisions [29]. Furthermore, the influence of financial literacy on investment decisions, particularly portfolio diversification, was investigated and it was found that individuals that adhered to the advice of financial experts are better at making investment decisions [66]. This may account for the fact that agribusiness entrepreneurs are able to use financial information literacy to enhance strategic decision-making effectiveness in their agribusiness.

5.1. Theoretical Contributions to Knowledge

This study makes important theoretical contributions to the literature by identifying the sources of financial information that are available to agribusiness entrepreneurs in Edo State, Nigeria. The study also uncovers the most persuasive source of financial information among agribusiness entrepreneurs. Another important addition to the literature is the empirical insights this study provides into how financial information literacy relates to strategic decision-making effectiveness and performance sustainability amid frequent innovations in financial products and services. This particular addition to the literature answers the calls of recent studies that highlight financial information literacy as a research gap that deserves urgent research attention following the increasingly complicated current financial environment [1,2,6].

5.2. Practical and Social Implications

Regarding the practical implications of the findings, the outcomes will enable financial authorities to develop the identified financial information sources to increase agribusiness entrepreneurs' access to formal financial products and services for sustainable performance. In addition, the outcomes of this study may motivate organizations to put in place financial information literacy training programs to enable agribusiness CEOs to acquire information about financial products and services for strategic decision-making effectiveness and performance sustainability.

On the social implications dimension, the outcomes of this study can motivate the Nigerian government to develop policies and programs that will facilitate increased access to diverse financial information channels among agribusiness entrepreneurs in Nigeria. With banking services being conducted online, geographical barriers are being eliminated in financial transactions, particularly in rural areas. The increasing use of internet-based gadgets such as smartphones, mobile tablets, and smart televisions highlights the need for the Nigerian government to provide reliable internet connectivity. The government can achieve this by making digital infrastructure available in rural areas to enable financial information providers to reach agribusiness entrepreneurs in rural areas through digital information platforms.

5.3. Limitations of the Study and Suggestions for Future Research

This study investigated how financial information literacy relates to strategic decision-making effectiveness and performance sustainability among agribusiness entrepreneurs. Therefore, to generalize the outcomes to other sectors, it is advised that future studies should replicate this research in other contexts. In addition, this study relied on a self-report approach for the data collection on strategic decision-making effectiveness and subjective performance. This data collection approach is susceptible to response biases such as exaggeration and understating of strategic decision-making effectiveness and agribusiness performance among the respondents. Therefore, to overcome this challenge, it is suggested that future researchers use a longitudinal design that entails the use of secondary data.

5.4. Conclusions

The current study investigated the sources of financial information literacy available to agribusiness entrepreneurs in rural areas in Edo State, and identified the most persuasive source of financial information literacy for the entrepreneurs amid frequent

innovative financial products and services in Nigeria. The study also tested the impacts of financial information literacy on performance sustainability and strategic decision-making effectiveness among agribusiness entrepreneurs in Nigerian rural areas. Radio adverts/programs on financial matters were most accessible to the entrepreneurs while television adverts/programs exerted the highest persuasive influence on financial decision-making among the agribusiness entrepreneurs. It is, therefore, suggested that the Nigerian financial authorities utilize radio and television information channels in disseminating financial information to rural agribusiness entrepreneurs. The outcomes from the testing of the hypotheses suggest that financial information literacy significantly predicts sustainable agribusiness decision-making and performance sustainability. Based on the results, it is concluded that agribusiness entrepreneurs should prioritize financial information literacy training programs to enable them to acquire information about financial products and services for sustainable business decision-making and sustainable performance.

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