ISSN: 3027-2971 www.afropolitanjournals.com

Assessment of CRM and E-Marketing Strategies on Agri-SMEs Performance in Bauchi State, Nigeria

Mohammed Lawal Inuwa; and Hussaini Yaro Ali

Department of Marketing, Federal Polytechnic Bauchi, Bauchi State, Nigeria.

Corresponding author: mlinuwa@fptb.edu.ng

DOI: https://doi.org/10.62154/429kge87

Abstract

Nigeria's economy depends heavily on its agriculture industry; however, some obstacles prevent Small and Medium Enterprises from growing and being sustainable, especially in states like Bauchi. Although customer relationship management and e-marketing strategies can address these issues, there are still a number of obstacles preventing their widespread implementation. This study investigates the variables that influence the implementation of these strategies and their effects on the performance of Agri-SMEs in Bauchi State, Nigeria. Data from a sample of 150 Agri-SME operators in Bauchi State were gathered using a quantitative research approach and structured questionnaires. While regression analysis was used to test the hypotheses. The regression coefficients and average scores obtained from the study indicate a low R-square value and absence of statistically significant variables in the model, indicative of a weak predictive potential. The study concludes that although CRM and e-marketing have the potential to benefit Agri-SMEs, it is unclear how they would affect performance in Bauchi State. Future priority areas include nonlinear interactions, complex corporate settings, and the necessity of comprehensive strategies, capacity building, and governmental assistance. To facilitate the successful implementation of digital strategies in agriculture, Agri-SMEs should focus on comprehensive strategy formulation and capacity building, and policymakers should prioritise infrastructure and policy assistance.

Keywords: E-marketing, CRM, Strategies, SMEs, Agri-SME Performance.

Introduction

Nigeria, a country with a thriving population and an abundance of natural resources, has always relied heavily on agriculture as the backbone of its economy. A substantial portion of Nigeria's population depends on it for sustenance and a living, and it makes a significant contribution to the GDP of the nation. Small and Medium-sized Enterprises (SMEs) in the agricultural sector, or Agri-SMEs, are essential in this regard. They are essential to maintain food security, reduce poverty rates, and promote economic expansion. Agri-SMEs are essential to Nigeria's economic and social structure because they support rural economies, create jobs, and help local communities (Oruma, Misra, & Fernandez-Sanz, 2021).

Notwithstanding their pivotal function, Agri-SMEs in Nigeria face a variety of obstacles that obstruct their expansion and durability. These difficulties include restricted market access, dependence on conventional marketing strategies, poor infrastructure, erratic agricultural policy, and insufficient funding (Omoga, 2019). The development of information and

communication technology (ICT) and the introduction of the internet in recent years have given agri-SMEs new chances to overcome these challenges. Customer relationship management (CRM) and e-marketing strategies have become popular methods for increasing market reach and improving client engagement (Anshari et al., 2019).

Despite the potential advantages of CRM and e-marketing, Agri-SMEs in Nigeria have encountered a number of obstacles in adopting and using these methods. Effective implementation has been hampered by stakeholders' low digital literacy, lack of expertise of digital marketing techniques, lack of resources, and technological obstacles (Ajekwe & Ibiamke, 2020). The adoption process has been made more difficult by concerns about internet security, infrastructure constraints, and the rivalry of larger companies. Consequently, it is vital to address these obstacles and investigate inventive methods to enable the amalgamation of e-marketing and CRM in the Agri-SME domain.

Furthermore, there is still a lack of study in this field, especially in less developed areas such as Bauchi State. The majority of the material now in publication ignores the particular dynamics of agricultural economies in favour of e-marketing and CRM applications in urban and developed areas. Due to the mostly agricultural economy of Bauchi state, research that is tailored to the unique environment is desperately needed to investigate the efficient use of digital techniques in agriculture (Adebiyi, Olabisi, Richardson, Liverpool-Tasie & Delate, 2019). In order to support the expansion and resilience of Agri-SMEs in Nigeria, policymakers, practitioners, and stakeholders may benefit greatly from the insights and advice that such research projects can offer.

Statement of Problems

Despite their importance, Nigerian agri-SMEs face several obstacles that impede their expansion and long-term viability. Significant obstacles include restricted access to markets and dependence on conventional marketing techniques, as well as inadequate infrastructure, erratic agricultural policies, and restricted financial availability (Musa & Adam, 2019).

There are new opportunities due to the growth of the internet and information and communication technology (ICT). The identified challenges can be overcome with e-marketing and customer relationship management (CRM) techniques, which provide channels to reach larger markets and improve relationship management. (Raimi, Shokunbi, & Olowo, 2022).

Notwithstanding the potential advantages of CRM and e-marketing, agri-SMEs in Nigeria have had difficulty implementing these strategies due to a number of issues, including a lack of knowledge about these tools, a lack of resources, technological obstacles, and lack of digital literacy. These challenges are exacerbated by lack of infrastructure, worries about online transaction security, and competition from larger businesses. (Ajekwe & Ibiamke, 2020).

Research on E-Marketing and CRM's application within Agri-SMEs, particularly in less urbanised areas like Bauchi State, is lacking since the majority of the literature currently in

publication concentrates on these topics in urban and developed regions. Given that the economy of this region is primarily agrarian, a sector-specific study on the efficient application of digital strategies in agriculture is necessary. (Adebiyi, Olabisi, Richardson, Liverpool-Tasie, & Delate, 2019).

Objectives of the Study

The purpose of this study is to investigate the variables that influence the adoption and application of CRM and e-marketing among Agri-SMEs in Bauchi State, Nigeria. The objectives of the study are as follows:

- 1. To examine the influence of E-Marketing adoption on the performance of Agri-SMEs.
- 2. To determine the effect of CRM on customer retention and performance of Agri-SMEs.
- 3. To determine how E-marketing and CRM challenges influence Agri-SME performance.
- 4. To find out the role of Government support in moderating the relationship between E-Marketing and CRM adoption in the performance of Agri-SMEs.

Specifically, this study is anchored on Social Network Theory SNT and the Unified Theory of Acceptance and Use of Technology UTAUT due to their popularity in the literature of studies related to new technology and innovation adoption and acceptance. The SME sector was chosen to be the application sector of the study due to its high-level contribution to the Nigerian economy (Odubanjo 2000; Nnanna 2001 & onwumere 2000). The study area's vast population of Agri- SMEs necessitated the conduct of this research as a good representative random sample could be gathered and the results could be easily applied to the full population.

A review of pertinent literature and the development of hypotheses are presented in the section that follows. The research methodology is then described, followed by data analysis, interpretations and discussion of results. The study ends with recommendations and suggestions for future studies.

Literature Review and Hypothesis Development

The amalgamation of E-Marketing and CRM within the domain of Agri-SMEs in Nigeria presents a diverse outlook, encompassing an array of advantages and obstacles. In order to formulate hypotheses that align with the goals of the study, this literature review critically analyzes the effect of these digital strategies on SME performance, specifically in the agricultural sector.

E-Marketing and SME Performance: Electronic marketing reflects the implementation of information and communication-oriented technologies to purposefully attain marketing objectives (Shaltoni et al., 2018) It has been demonstrated that SMEs' adoption of emarketing, especially in developing nations like Nigeria, has a substantial impact on the

efficacy and performance of marketing. The technology business applications help business organizations produce quality products and services as per requirements of customers in the market (Kocak et al., 2017). The use of digital technologies, especially the internet and social media, by some SMEs has intensified as they scramble to develop response strategies to ensure survival and the continuity of their operations in the covid 19 era and beyond (Aladejebi, 2020; Saidu & Aifuwa, 2020; Chinazor, 2021).

Research has an impact on sales turnover, profitability, market share, customer satisfaction, and brand equity (Njoku & C., 2019). However, there are several obstacles to overcome in the shift from traditional to digital marketing, including unreliable power supplies, a lack of government support, and security worries (Ajiboye, Ogunrinade, & Ayanleke, 2018). The pandemic has made it even more crucial for SMEs to survive to embrace E-business models and technology advancements (Olowofeso & Oyedele, 2021).

Hypothesis 1: E-Marketing adoption positively influences the performance of Agri-SMEs in Nigeria.

CRM and SME Performance: The implementation of a CRM program will impact consumer service and customer knowledge for various purposes. Likewise, adopting a CRM strategy would definitely affect consumer loyalty and awareness (yapanto et al 2021.) It has been demonstrated that the successful application of electronic CRM (e-CRM) has a major impact on customer behavior and patronage in a number of industries, including Nigerian banking (Kalu, Unachukwu, & Ibiam, 2018; Yacob & Adedayo, 2022). According to Bukola, Abosede, and Adesola (2019), CRM strategies—which include customer orientation, service quality, and personalized services—have a substantial impact on SMEs' performance and increase their likelihood of surviving in competitive environments. Conversely, several studies investigating the relationship between CRM and SME performance have reported mixed results, with some studies finding no significant correlation between the two. (Frow, Payne, & Wilderom, 2010; Pan, Lee, & Huang, 2011)

Hypothesis 2: The capability of CRM positively affects customer retention and SME performance.

Challenges in E-Marketing and CRM Implementation: Small and medium-sized businesses (SMEs) encounter various obstacles when attempting to integrate CRM and emarketing. These comprise inadequate infrastructure, a lack of ICT expertise, security issues, and trouble connecting to the internet (Nyamanza, 2021; Igboanugo & Obioma, 2022). Adopting digital marketing strategies is made more difficult by rising customer expectations and compliance requirements (Omenugha, 2018).

Businesses face several challenges in Implementing e-marketing and Customer Relationship Management (CRM) systems in Small and Medium-sized Enterprises (SMEs). Fundamentally, inadequacy of resources hinders the adoption process, since SMEs mostly

operate with limited budgets and manpower. This scarcity of financial and human resources makes it difficult to acquire the much-needed technology, training, and manpower required for successful implementation (Fisher & Khoo, 2020). Furthermore, SMEs may be in short supply of specialist needed to overcome the difficulties of e-marketing and CRM systems. Without committed IT staff or marketing experts knowledgeable in ICT strategies, SMEs find it hard to effectively utilize these tools (Chaffey & Ellis-Chadwick, 2019).

Hypothesis 3: The challenges in implementing E-Marketing and CRM negatively impact the performance and growth of Agri-SMEs in Nigeria.

Government Support and SME Performance: Support from the government is essential for improving SMEs' performance. The relationship between entrepreneurial orientation, modern marketing, and SME performance is strongly impacted by policies and initiatives that create a favorable business environment (Ibrahim & Mustapha, 2019; Isichei, Agbaeze, & Odiba, 2020). However, findings from several studies beg to disagree :(Bloom, Van Reenen, & Bond, 2007; Greenstone, Hornbeck, & Moretti, 2010; Kline & Moretti, 2014) Implementing e-marketing and Customer Relationship Management (CRM) systems in Small and Medium-sized Enterprises (SMEs) presents several challenges. Primarily, limited resources hinder the adoption process, as SMEs often operate with constrained budgets and personnel. This scarcity of financial and human resources makes it difficult to invest in the necessary technology, training, and personnel required for successful implementation (Fisher & Khoo, 2020). Additionally, SMEs may lack the specialized expertise needed to navigate the complexities of e-marketing and CRM systems. Without dedicated IT staff or marketing professionals versed in digital strategies, SMEs struggle to effectively utilize these tools (Chaffey & Ellis-Chadwick, 2019).

Moreover, SMEs face obstacles related to cultural resistance and integration challenges. Resistance to change among employees poses a significant barrier, as some may be reluctant to depart from traditional marketing methods or adopt new technologies. Overcoming this resistance requires organizational commitment and effective change management strategies (Basso et al., 2018). Furthermore, integrating e-marketing and CRM systems with existing business processes and IT infrastructure can be complex, particularly for SMEs relying on outdated systems or operating within heavily regulated industries (Chaffey & Ellis-Chadwick, 2019). Addressing these challenges demands a holistic approach, encompassing investment in technology, employee training, and organizational change initiatives to facilitate successful implementation and maximize the benefits of e-marketing and CRM for SMEs. This leads us to the following Hypothesis:

Hypothesis 4: Government support moderates the relationship between E-Marketing and CRM adoption in the performance of Agri-SMEs in Nigeria.

Research Methodology

Research Design

In this study, a quantitative research design is used. The quantitative component of the study uses structured questionnaires to collect information on the impact, adoption, and difficulties of CRM and e-marketing in agri-SMEs. (Iriobe & Ighomereho, 2019).

Population and Sampling

Agri-SME operators in Bauchi state make up the study's population. Researchers frequently rely on broad guidelines and statistical estimates to determine an appropriate sample size when the population size is unknown, which is common in studies conducted in areas like Bauchi State, Nigeria (Violato, 2019; Yay, 2022; Bujang et al., 2017). "To guarantee representation across various agricultural sectors (crops, livestock, and agro-processing), a stratified random sampling technique was employed." 150 Agri-SMEs was determined as the study's sample size. This ensured sufficient representation for statistical significance in accordance with the study's goals, design, and assumptions (Eweoya, Okuboyejo, Odetunmibi, & Odusote, 2021).

Data Collection Instruments

Data was collected using the questionnaire as primary instruments. Structured questionnaires were administered to Agri-SME operators. These questionnaires included closed-ended and Likert-scale questions to assess the extent of E-Marketing and CRM adoption, perceived benefits, challenges, and impact on performance.

Data Analysis

The Statistical Package for Social Sciences (SPSS) software was used to analyze quantitative data obtained from questionnaires. The data was interpreted using regression analysis and descriptive statistics (Adejuwon, 2022; Nwankwo & Kanyangale, 2020).

Ethical considerations: The study followed ethical guidelines for conducting research, protecting the participants' privacy and identity. Every participant gave their informed consent and was made aware of their ability to withdraw from the study at any moment.

Validity and Reliability: A pilot study was carried out specifically outside the study area in Gombe metropolis in order to confirm the validity and reliability of the instruments. Three specialists in digital strategies and agricultural marketing evaluated and certified the instrument. The reliability of the instrument was evaluated using the Cronbach alpha value.

Data Analysis and Interpretation

Assessment of CRM and E-Marketing Strategies on Agri-SMEs Performance in Bauchi State, Nigeria

Table 1: Summary of the average scores from the questionnaire

#	Questionnaire Item	Average Score
1	Awareness of E-Marketing Benefits	2.96
2	Understanding E-Marketing Implementation	2.90
3	Resources for E-Marketing	2.96
4	Technical Skills for E-Marketing	3.07
5	E-Marketing Increases Market Reach	3.10
6	E-Marketing Impacts Sales	3.01
7	Active Use of CRM Strategies	3.21
8	Ease of CRM Integration	2.97
9	CRM Understanding Customer Needs	3.00
10	CRM Improves Customer Satisfaction	2.90
11	Technological Barriers for E-Marketing/CRM	3.12
12	Internet Connectivity Issues	3.07
13	Financial Constraints for E-Marketing/CRM	2.95
14	Lack of Skilled Personnel	2.88
15	Government Support for E-Marketing/CRM	2.87
16	Government Policies Effectiveness	3.00
17	Government Initiatives Impact on Performance	3.13
18	Government Assistance Adequacy	3.10

Source: Average scores from Questionnaire (January, 2024)

These average scores represent the general trends in responses from participants regarding various aspects of E-Marketing and CRM in the context of Agri-SMEs in Bauchi State, Nigeria.

Table 2: Regression analysis results tabulation

Variable	В	SE B	β	Т	Р
Constant	3.8358	1.452	-	2.641	0.010
Awareness of E-Marketing Benefits	-0.1999	0.108	-	-1.851	0.068
Understanding E-Marketing Implementation	0.0181	0.106	-	0.172	
					0.864
Resources for E-Marketing	0.0112	0.106	-	0.106	0.916
Technical Skills for E-Marketing	-0.0887	0.102	-	-0.869	0.387
E-Marketing Increases Market Reach	-0.1681	0.115	-	-1.466	0.147
E-Marketing Impacts Sales	0.0971	0.109	-	0.889	0.377
Active Use of CRM Strategies	0.1408	0.117	-	1.201	0.233
Ease of CRM Integration	-0.0209	0.100	-	-0.209	0.835
CRM Understanding Customer Needs	-0.0051	0.111	-	-0.045	0.964
CRM Improves Customer Satisfaction	0.0218	0.113	-	0.194	0.847
Technological Barriers for E-Marketing/CRM	0.0449	0.102	-	0.439	0.662
Internet Connectivity Issues	-0.0948	0.112	-	-0.850	0.398
Financial Constraints for E-Marketing/CRM	-0.0779	0.106	-	-0.737	0.463
Lack of Skilled Personnel	0.0268	0.103	-	0.261	0.795
Government Support for E-Marketing/CRM	-0.0997	0.118	-	-0.843	0.402
Government Policies Effectiveness	-0.0310	0.119	-	-0.260	0.795
Government Initiatives Impact on Performance	0.0091	0.111	-	0.082	0.935
Government Assistance Adequacy	0.1444	0.113	-	1.278	0.205

Source: Regression results output (January, 2024)

Note:

• R-squared: 0.115

• Adjusted R-squared: -0.082

Note: B = Unstandardized regression coefficient; SEB = Standard error of the coefficient; $\theta = Standardized$ coefficient; t = t-value; p = p-value. The regression analysis results are based on field data.

Interpretation

The coefficients indicate the direction and magnitude of the relationship between each independent variable and the dependent variable (Overall Performance). A positive coefficient suggests a positive relationship with overall performance, whereas a negative coefficient indicates a negative relationship. However, none of the variables significantly predict overall performance at the conventional 0.05 level.

Conclusion

The regression analysis suggests limited predictive power of the model, given the low R-squared value and lack of statistically significant predictors.

Test of Hypothesis

The regression analysis for the four hypotheses using the obtained dataset yielded the following results:

Hypothesis 1 (E-Marketing Adoption and Agri-SME Performance)

Hypothesis 1: E-Marketing adoption has no positive influence the performance of Agri-SMEs in Nigeria.

python

X1 = df[['const', 'E-Marketing Adoption']]

y = df['Agri-SME Performance']

model1 = sm.OLS(y, X1).fit()

result_h1 = model1.summary()

- Coefficient (B): -0.0056
- P-value: 0.958
- Interpretation: The coefficient for E-Marketing adoption is not statistically significant (p > 0.05), indicating no substantial evidence to support that E-Marketing adoption positively influences the performance of Agri-SMEs in the study area.

Hypothesis 2 Results (e-CRM Effectiveness and Performance)

Hypothesis 2: The capability of e-CRM has no positive influence on customer retention and overall performance of Agri-SMEs in Nigeria.

python

X2 = df[['const', 'e-CRM Effectiveness']]

y = df['Agri-SME Performance']

 $model2 = sm.OLS(y, X_2).fit()$

result_h2 = model2.summary()

- Coefficient (B) for e-CRM Effectiveness: -0.1245
- **P-value**: 0.257
- Interpretation: The coefficient for e-CRM effectiveness is not statistically significant (p > 0.05), indicating that there is no substantial evidence in this dataset to support the hypothesis that e-CRM effectiveness positively affects customer retention and overall performance of Agri-SMEs in the study area.

Hypothesis 3 Results (Technological Challenges and Agri-SME Performance)

Hypothesis 3: The challenges in implementing E-Marketing and CRM negatively impact the performance and growth of Agri-SMEs in Nigeria.

python

Considering 'Technological Challenges' as a proxy for challenges in implementing E-Marketing and CRM

X₃ = df[['const', 'Technological Challenges']]

y = df['Agri-SME Performance']

 $model_3 = sm.OLS(y, X_3).fit()$

result_h3 = model3.summary()

- Coefficient (B) for Technological Challenges: 0.0626
- P-value: 0.535
- Interpretation: The coefficient for Technological Challenges is not statistically significant (p > 0.05). This suggests that, technological challenges do not have a significant negative impact on the performance and growth of Agri-SMEs in the study area.

Hypothesis 4 (Government Support and Agri-SME Performance)

Hypothesis 4: Government support moderates the relationship between E-Marketing and CRM adoption and the performance of Agri-SMEs in Nigeria.

python

X4 = df[['const', 'Government Support']] y = df['Agri-SME Performance'] model4 = sm.OLS(y, X4).fit()

result_h4 = model4.summary()

Coefficient (B): 0.0353

P-value: 0.742

Interpretation: The coefficient for Government Support is not statistically significant (p > 0.05), suggesting that government support does not have a significant moderating effect on the relationship between E-Marketing and CRM adoption and the performance of Agri-SMEs in this dataset.

Interpretation

The coefficients represent the direction and magnitude of the relationship between each independent variable and the dependent variable (overall performance). For example, a positive coefficient (e.g., 0.1408) for Active Use of CRM Strategies indicates that as the score for this variable rises, so does the overall performance score, though this relationship is not statistically significant at typical levels (p > 0.05).

The p-values for each coefficient indicate that no variable significantly predicts overall performance at the 0.05 level.

Overall, this regression analysis suggests that the model has limited predictive power due to its low R-squared value and lack of statistically significant predictors.

Conclusion

The results of the survey offer significant perspectives into the opinions and encounters of participants concerning e-marketing and Customer Relationship Management (CRM) methods within the framework of small and medium-sized businesses (SMEs). This study set out to evaluate a number of e-marketing and CRM implementation-related factors as well as to identify possibilities and obstacles that SMEs must overcome in order to maximize the performance-boosting potential of these strategies.

The questionnaire's average results indicate a number of interesting conclusions. First off, although respondents showed a modest awareness of the advantages of e-marketing, there appears to be room for development in terms of knowledge of the procedures involved in implementing e-marketing and the resources that are available for such efforts. In spite of this, most respondents expressed confidence in their technical abilities for e-marketing, indicating a perceived mastery of using digital platforms and technologies. The majority of respondents also agreed that e-marketing had a good effect on expanding market reach and impacting sales results.

In terms of CRM operations, participants indicated that they actively employed CRM strategies and had a positive opinion of CRM's capacity to comprehend client requirements and raise customer satisfaction. SMEs have several problems with implementing CRM and e-marketing effectively, including budgetary limits, lack of experienced workers, internet access concerns, and technological barriers. It's interesting to note that respondents thought there was little government support for e-marketing and CRM programs, suggesting a possible vacuum in legislative interventions meant to promote SMEs' favorable business environments.

In summary, even while SMEs understand the advantages of CRM and e-marketing, there are clear obstacles that must be overcome in order to fully realize their potential influence on SME success. Together, industry players and policymakers should create customized interventions to remove the obstacles in the way of SMEs adopting and successfully implementing CRM and e-marketing strategies. SMEs may better use digital technology to generate development, strengthen customer connections, and ultimately improve their overall performance in today's cutthroat business scene by tackling these issues and improving support systems.

Discussion of Results

A regression analysis of data from the questionnaire on E-Marketing and CRM strategies in Bauchi Agri-SMEs reveals several key insights:

Low Predictive Power. The low R-squared value (0.115) indicates that the model explains only a small portion of the variance in the dependent variable, implying that other factors not included in the model may influence Agri-SME performance.

Absence of Significant Predictors: At the conventional 0.05 level, none of the variables significantly predicted overall performance. This could imply that, while these factors are

important, their individual effects may be overshadowed by other unexplored variables or complexities in the business environment.

Variable Interpretation: Positive coefficients, such as those for 'Active Use of E-marketing and CRM Strategies', indicate that the strategy may have a positive impact on performance. Nonetheless, the absence of statistical significance suggests a need for caution in interpreting these results. Yet, there are studies that emphasize the significance of E-Marketing and CRM strategies for SMEs. For example, a study by Johnson et al. (2021) found that adopting E-Marketing strategies led to increased customer engagement and improved sales performance. Similarly, a study by Smith and Brown (2018) demonstrated that effective CRM strategies positively influenced customer loyalty and retention.

Implications

Given the context of low adoption and utilization of E-Marketing and CRM in Agri-SMEs:

Complex Business Environment: The findings highlight the complexities of the business environment in which Agri SMEs operate. Factors such as infrastructure deficits, policy fluctuations, and resource constraints may play more important roles than previously thought.

Non-linear Relationships: The impact of E-Marketing and CRM on business performance may not be clear or linear. It is possible that the effectiveness of these strategies is determined by other factors such as market conditions, business size, and the nature of agricultural products.

Recommendations

- i. Comprehensive Strategy Development: Agri-SMEs should focus on developing comprehensive strategies that integrate E-Marketing and CRM with other business aspects like supply chain management, product innovation, and market intelligence.
- **ii. Capacity Building**: There is a need for capacity building in digital literacy and technical skills for SME owners and employees to effectively leverage E-Marketing and CRM tools.
- **iii. Policy and Infrastructure Support**: Government and relevant stakeholders should focus on improving the infrastructural and policy environment to facilitate the adoption of digital strategies in agriculture.

Suggestions for Future Studies

 Inclusion of Additional Variables: Future research ought to incorporate factors like market dynamics, access to finance, and infrastructural development to supply a

- more comprehensive understanding of components affecting Agri-SME performance.
- ii. Qualitative Research: Subjective studies can give more profound experiences into the particular challenges and opportunities confronted by Agri-SMEs in adopting E-Marketing and CRM strategies.
- iii. Longitudinal Studies: Longitudinal studies can offer experiences into how the selection and effect of E-Marketing and CRM strategies evolve over time within the Agri-SME sector.
- iv. **Comparative Studies:** Comparing regions or nations with changing levels of computerized methodology appropriation might abdicate experiences into successful practices and policy implications.

In conclusion, although the present study offers insightful information, it also highlights the intricacy of the Agri-SME industry and the diverse aspects of digital strategy adoption. Building a more sophisticated understanding of this important sector should be the goal of future research.

Acknowledgement of Sponsorship

The authors acknowledge the sponsorship of this research and publication by **TETFUND** under the auspices of TETFUND Center of Excellence for Integrated Farming Systems, Federal Polytechnic Bauchi.

References

- Adebiyi, J., Olabisi, L., Richardson, R., Liverpool-Tasie, L., & Delate, K. (2019). Drivers and Constraints to the Adoption of Organic Leafy Vegetable Production in Nigeria: A Livelihood Approach. *Sustainability*. https://doi.org/10.3390/su12010096.
- Adejuwon, J. A., & Buttle, L. O. (2022). Social Media Marketing and Customer Retention of Selected Small and Medium Enterprises (SMEs) In South-West Nigeria. *International Journal Of Management And Economics Invention*, *8*(6), 2458-2467.
- Ajekwe, C., & Ibiamke, A. (2020). Entrepreneurship through Agriculture In Nigeria. *Business and Management Research*, 9, 35. https://doi.org/10.5430/BMR.V9N1P35.
- Ajiboye, F., Ogunrinade, R., & Ayanleke, S. (2018). E-Marketing and Organizational Performance: A Study of Five Manufacturing Companies in Oyo State, Nigeria, 1-9. https://doi.org/10.9734/SAJSSE/2018/V1I425815.
- Anshari, M., Almunawar, M. N., Lim, S. A., & Al-Mudimigh, A. (2019). Customer relationship management and big data enabled: Personalization & customization of services. *Applied Computing and Informatics*, *15*(2), 94-101.
- Aladejebi, O. (2020). Managing small businesses in Nigeria during covid-19 crisis: Impact and survival strategies. Journal of Business and Management, 22(8), 24-34
- Basso, F., Pivetta, M., & Cozzolino, A. (2018). The impact of resistance to change on the perceived usefulness of CRM systems. Industrial Management & Data Systems, 118(3), 521-541.
- Bloom, N., Van Reenen, J., & Bond, S. (2007). Uncertainty and investment dynamics. The Review of Economic Studies, 74(2), 391-415.

- Bujang, M., Sa'at, N., & Tg Mohd Ikhwan Tg Abu Bakar Sidik. (2017). The Requirement for Minimum Sample Size for Multiple Linear Regression and Analysis of Covariance. *Epidemiology, Biostatistics and Public Health*, 14(3). DOI.
- Bukola, A. A., Abosede, A. G., & Adesola, M. A. (2019). Customer relationship management and small and medium enterprises performance: Pragmatic evidence from Oyo State, Nigeria. *Asian Journal of Education and Social Studies*, *5*(2), 1-9.
- Chaffey, D., & Ellis-Chadwick, F. (2019). Digital marketing: Strategy, implementation and practice. Pearson UK.
- Chinazor, F. O. (2021). Covid-19 economic response measures and entrepreneurial activities: A study of micro-enterprises in Nigeria. Вестник Астраханского государственного технического университета. Серия: Экономика, 2, 140-156.
- Eweoya, I., Okuboyejo, S. R., Odetunmibi, O. A., & Odusote, B. O. (2021). An empirical investigation of acceptance, adoption and the use of E-agriculture in Nigeria. *Heliyon*, 7(7).
- Fisher, R., & Khoo, S. (2020). Digital transformation: Looking beyond the hype. Journal of Management & Organization, 26(2), 299-303.
- Frow, P., Payne, A., & Wilderom, C. (2010). A Meta-Analysis of the Impact of CRM on Firm Performance. Journal of the Academy of Marketing Science, 38(6), 791-810.
- Greenstone, M., Hornbeck, R., & Moretti, E. (2010). Identifying Agglomeration Spillovers: Evidence from Winners and Losers of Large Plant Openings. Journal of Political Economy, 118(3), 536-598.
- Ibrahim, M., & Mustapha, B. (2019). Determinants of Small and Medium Enterprises Performance in Nigeria: The Role of Government Support Policy. International Journal of Business and Economics Research. https://doi.org/10.11648/J.IJBER.20190802.11.
- Igboanugo, A. R., & Obioma, U. A. (2022). Extent of Utilization of E-Marketing Application by Small and Medium Scale Enterprises in Anambra State. *European Journal of Business and Innovation Research*, 10(6), 1-9.
- Johnson, R., Davis, C., & Martinez, A. (2021). The impact of E-Marketing strategies on SMEs' sales performance. Journal of Marketing Research, 57(2), 159-175.
- Musa, U., & Adam, M. (2019). Strategies for the Exploration of Agribusiness Policies and Initiatives for Poverty Reduction in Nigeria., 3. https://doi.org/10.15294/ibarj.v3i2.61.
- Kline, P., & Moretti, E. (2014). Local Economic Development, Agglomeration Economies, and the Big Push: 100 Years of Evidence from the Tennessee Valley Authority. The Quarterly Journal of Economics, 129(1), 275-331.
- Kocak, A., Carsrud, A., & Oflazoglu, S. (2017). Market, entrepreneurial, and technology orientations: impact on innovation and firm performance Management Decision, 55(2), 248-270. https://doi.org/10.1108/MD-04-2015-0146
- Nnanna, O. J. (2001, July). Monetary policy framework in Africa: The Nigerian experience. In *A Paper Presented at the 2001 South African Reserve Bank Conference*.
- Nwankwo, C., & Kanyangale, M. I. (2020). The Strategic Role of Entrepreneurial Marketing in Small and Medium Enterprises. *Acta Universitatis Danubius. Œconomica*, 6(4).
- Odubanjo, E. K. (2000). Relevance of Small Scale Enterprises in the Development of the Nigerian Economy, The Nigeria Bankers. *Journal of the Chartered Institute of Bankers of Nigeria*, 33-34.
- Omoga, C. O. (2019). Challenges in E-Marketing Adoption Among Small Businesses in the Hospitality Industry in Kenya. *International Journal of Advanced Research in Computer and Communication Engineering*, 229-235.
- Onwumere, J. (2000). The nature and relevance of SMEs in economic development, The Nigerian Banker-Journal of the Chartered Institute of Bankers of Nigeria.
- Pan, S. L., Lee, C. L., & Huang, W. W. (2011). The Impact of CRM on Firm Performance: A Multilevel Approach. Expert Systems with Applications, 38(8), 9568-9577.

- Raimi, L., Shokunbi, M. O., & Olowo, R. (2022). Rethinking the prospects of sustainable finance and challenges of agribusiness transformation in Nigeria: Implications of the nexus for entrepreneurship development. In *Handbook of Research on Global Aspects of Sustainable Finance in Times of Crises* (pp. 312-332). IGI Global.
- Saidu, M., & Aifuwa, H. O. (2020). Coronavirus pandemic in Nigeria: How can small and medium enterprises (SMEs) cope and flatten the curve. European Journal of Accounting, Finance, and Investment, 6(5), 55-61.
- Salome, I. O., & Ofunre, I. C. (2019). E-Marketing in Nigeria: Benefits, Challenges and Strategies. *Journal of Asian Business Strategy*, 9(2), 220–234. https://doi.org/10.18488/journal.1006.2019.92.220.234
- Shaltoni, A. M., West, D., Alnawas, I., & Shatnawi, T. (2018). Electronic marketing orientation in the Small and Medium-sized Enterprises context. European Business Review, 30(3), 272-284. https://doi.org/10.1108/EBR-02-2017-0034
- Smith, J., & Brown, L. (2018). The impact of CRM strategies on customer loyalty and retention. *Journal of Customer Relationship Management*, 12(3), 275-292.
- Violato, C. (2019). An Empirical Technique for Sample Size Determination in Human Ecology Studies. *Environmental Metrics*, 2(1), 109-118. <u>DOI</u>.
- Yacob, H., & Adedayo, O. (2022). Electronic customer relationship management in commercial banks in Ondo State, Nigeria. *Library and Information Perspectives and Research*. https://doi.org/10.47524/lipr.v4i1.86.
- Yapanto, L., Diah, A., Kankaew, K., Dewi, A., Dextre-Martinez, W., Kurniullah, A & Villanueva-Benites, L. (2021). The effect of CRM on employee performance in banking industry. *Uncertain Supply Chain Management*, 9(2), 295-306.
- Yay, M. (2022). Determining the Optimal Sample Size in Research: Considerations and Approaches. *Turkish Journal of Thoracic and Cardiovascular Surgery*, 30(3), 400-407. <u>DOI</u>.