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HARNESSING SOCIAL-FI FOR BOUNDLESS MARKET ACCESS: EMPOWERING SMALLHOLDER PALM OIL FARMERS IN THE AFIJIO LOCAL GOVERNMENT AREA, OYO STATE, NIGERIA.

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Abstract
In order to solve the significant market access and financial inclusion issues that smallholder palm oil producers in the Afijio Local Government Area, Oyo State, Nigeria confront, this study investigates the transformative potential of SocialFian, a developing integration of social networking and decentralized finance (DeFi). This study evaluates farmers' perceived hurdles, desire to implement block chain-powered platforms, and digital preparedness using a mixed-methods approach that combines surveys and qualitative input. Even if there are problems with literacy and infrastructure, the results demonstrate that people are willing to use digital tools. Real-time pricing, direct buyer ties, and low-interest financing have all been identified as important factors that speed things along. This study provides a conceptual framework to demonstrate that SocialFi can help people become financially independent. This framework emphasizes the need for cooperative onboarding, easy-to-use platform design, and digital literacy programs. Giving farmers in underserved areas practical ways to make the market more accessible and sustainable ads to the discussion about the digital revolution in agriculture.

Introduction

SocialFi is a revolutionary combination of blockchain-based decentralized finance (DeFi) with social networking that is radically changing how people interact online (Imani Rad & Banaeian Far, 2023; Yu & Padfield, 2024). SocialFi uses blockchain technology to provide users complete control over their data, content and, revenue-generating possibilities, in contrast to conventional centralized platforms. A more user-centric and

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financially inclusive digital ecosystem is promoted by this paradigm shift. SocialFi, which is based on decentralization, uses blockchain technology to do away with centralized control, improving transparency and resistance to censorship while guaranteeing user data ownership and digital autonomy. Tokenisation, which allows users to earn digital assets through participation, engagement and, content creation, is a fundamental component of SocialFi. A self-sustaining economy can be made possible by these assets, which include cryptocurrencies and non-fungible tokens (NFTs), which allow for trade, staking, and reinvestment (Far, et al, 2023).

By providing other monetization strategies that lessen reliance on centralized platforms and conventional advertising, the concept fosters financial independence and encourages a developing creative economy. Furthermore, community governance is facilitated by decentralized autonomous organizations (DAOs), which guarantee inclusive decision-making in platform development and policy (Imani Rad, & Banaeian Far, 2023).

SocialFi places a high priority on privacy and security, with blockchain's cryptographic capabilities protecting user data and lowering the risk of breach (Oybek et al., 2023). Platform utility is further increased by interoperability with other blockchain applications, which permits smooth cross-platform interactions (Mlika, Karoui, & Ben Romdhane, 2024).

SocialFi offers a revolutionary paradigm for digital interaction by promoting openness, security, and fair financial opportunity (Far et al., 2023). Because it provides decentralized solutions that democratize online participation and economic empowerment, its potential is particularly noteworthy for areas that have historically been marginalized by traditional financial institutions. One such sector is the palm oil business, in which several stakeholders from individual smallholder farmers to huge plantations and agricultural cooperatives operate with differing levels of access to markets, capital, and technology.

In the past, the palm oil sector has been essential to the economic growth of numerous areas, including Nigeria (Syahza & Asmit, 2019). Economies of scale, sophisticated technology investments, and integrated supply chains are the advantages of large plantations, which are frequently run by well-funded corporate entities (Pacheco et al., 2017). Given these advantages, they can attract significant investments and secure advantageous market circumstances, establishing themselves as powerful players in the sector. In contrast, agricultural cooperatives adopt a collective strategy in which groups of farmers exchange information, pool resources, and bargain for better market prices (Staatz, 1987; Ortmann, & King, 2007). Cooperatives still have difficulty getting the same amount of investment and market opportunities as individual farmers, despite the fact that they have increased their members' negotiating power and lessened some of the differences between them and big corporations.

Smallholder palm oil producers are at the other extreme of this spectrum. These farmers, who work on a much smaller scale and own fewer landholdings, deal with ongoing issues such as limited funding, insufficient investment and, limited access to contemporary farming methods (Jayne et al., 2005; Jayne et al., 2010). Competition in the market is still biased in favor of bigger companies with more resources. Their problems are worsened by traditional financial systems, which have strict lending requirements that smallholder farmers frequently cannot achieve, such as collateral and a track record of credit. These farmers are regularly shut out of profitable market opportunities, which feeds cycles of underinvestment and financial vulnerability.

SocialFi's incorporation into the larger digital banking scene has surfaced as a viable solution to these long-standing issues in recent years. SocialFi makes it possible for even the tiniest market participants to interact directly with investors and buyers by utilizing the social connection of internet platforms (social media) and fusing it with safe, decentralized financial transactions. In areas like Oyo State's Afijio Local Government Area (LGA), where traditional banking systems and market intermediaries have long impeded equitable economic participation, this model is especially important for smallholder palm oil growers (Akangbe et al., 2011; Akande et al., 2013). By avoiding traditional collateral-dependent financing and limited market access, SocialFi

platforms give these farmers direct avenues to obtain investments and establish connections with a larger market.

SocialFi's potential to democratize financial services is just as exciting as its technological breakthrough. SocialFi places emphasis on peer-to-peer connections and community-driven growth than traditional finance, which frequently gives preference to individuals with pre-existing cash and creditworthiness. This is a huge chance for economic growth and empowerment for smallholder farmers, who have traditionally been disadvantaged by limited market access and financial limitations. SocialFi's incorporation into the agricultural industry has already proven effective in other settings, where it has made microlending more accessible, allowed safe peer-to-peer transactions, and encouraged group investment in neighborhood-based initiatives (Alobid et al., 2022; Far et al., 2023). These achievements highlight SocialFi's capacity to bring about revolutionary changes in the palm oil sector.

The purpose of this study was to assess how SocialFi platforms could change smallholder palm oil farmers' access to markets in Afijio LGA. The study will examine SocialFi's practical usefulness in boosting smallholder farmers' resilience and economic output by critically examining how it can manage issues with limited production capacity, inadequate investment, and restricted market access. In order to show how each group interacts with the current financial and market systems, this study also examines the operational distinctions between smallholder farmers, agricultural cooperatives, and large-scale palm oil farms.

In order to equalize the playing field, this study will suggest practical methods for incorporating SocialFi solutions into the regional palm oil sector. SocialFi can promote sustainable growth and economic empowerment by creating inclusive financial networks that link smallholder farmers to large markets and investment opportunities. Finally, by providing insights that may lead to more robust and equitable market structures in Nigeria's palm oil industry, this study adds to the larger conversation on digital financial innovation in agriculture.

Literature Review

SocialFi: Fusion of Social Networking and Decentralized Finance

SocialFi creates a user-driven, blockchain-powered ecosystem by combining social networking and decentralized finance (DeFi) (Mlika, Karoui, & Ben Romdhane, 2024). It positions itself as a disruptive force in digital media by giving people financial control and data ownership, unlike Facebook and Twitter.

SocialFi guarantees security, transparency, and resistance to censorship by removing middlemen (Zhan, Xiong, & Xing, 2023). Users can tokenize their influence, monetize content, and earn rewards through **social tokens**, which represent reputation, influence, or exclusive access within communities (Den Yeoh, Chung, & Wang, 2023; Zuo, Guo, & Ling, 2024).

Decentralized Autonomous Organizations (DAOs) enhance governance, enabling users to shape platform policies collectively (Santana, & Albareda, 2022). In the **Metaverse**, SocialFi extends monetization to virtual identities and assets, further expanding its impact. Challenges include scalability, user experience, and regulatory uncertainty (Freeman, 2022; Krishnakumar, & Lau, 2023). However, with blockchain advancements, SocialFi could revolutionize social media by shifting control to users and fostering financial inclusion and transparency.

Sustainable Palm Oil Production in Sub-Saharan Africa: Challenges and Opportunities

Oil palm cultivation in Sub-Saharan Africa has the potential to support sustainable development goals (SDGs) by alleviating poverty (SDG1) and reducing hunger through increased farmer income (Ayompe, et al, 2024). However, environmental and social concerns necessitate a shift toward more sustainable practices (Chiriacò, et al, 2022).

A previous study examined the costs and benefits of sustainable palm oil production for smallholder farmers using literature reviews, interviews, and workshops in Cameroon (Ordway, et al, 2017; Ayompe, et al, 2024). Key challenges include weak land tenure rights, poor-quality seeds, low yields, limited skills, and a lack of financing. While certification offers benefits like improved yields, better seedlings, and market access, its high cost makes it financially burdensome for farmers without external support (Brandi, et al, 2013; Ayompe, et al, 2024).

In addition to certification, limited market access, financial exclusion, poor infrastructure, and a lack of agricultural knowledge further hinder productivity (Brandi, et al, 2013; Hamann, 2017). Addressing these barriers is crucial for integrating smallholders into sustainable palm oil markets, particularly as the EU, UK, and US adopt deforestation-linked trade regulations (Lay, et al, 2021; Ayompe, et al, 2024).

The Role of Technology in Agricultural Transformation

Technological advancements like mobile banking, digital marketplaces, and blockchain, are transforming agriculture by improving financial inclusion and market access. SocialFi integrates these innovations for greater efficiency (Ordóñez de Pablos, Zhang, & Almunawar, 2021; Far, Rad, & Asaar, 2023).

Agricultural technology boosts productivity, but Nigerian farmers face challenges in accessing it. Technology transfer requires collaboration to address diverse needs. Innovations in crop, livestock, and water management rely on linking research, extension services, and input supply (Adekunle, et al, 2013; Sennuga, 2019; Olomu, et al, 2020; Oladoyinbo, 2023).

Technology improves pest control and, resource efficiency and, reduces post-harvest losses. Digital platforms aid information access, while mechanization boosts food production. Climate-smart agriculture helps mitigate climate change (Parra-López, et al, 2024). Key players include international research centers (IITA, ILRI) and national institutes (NARIs) that work in conjunction with universities. Extension services and private facilitators support farmers in adopting technologies for sustainable growth (Collinson, 1996; Ajoni, et al, 2017).

Conceptual Framework

Conceptual Framework Diagram

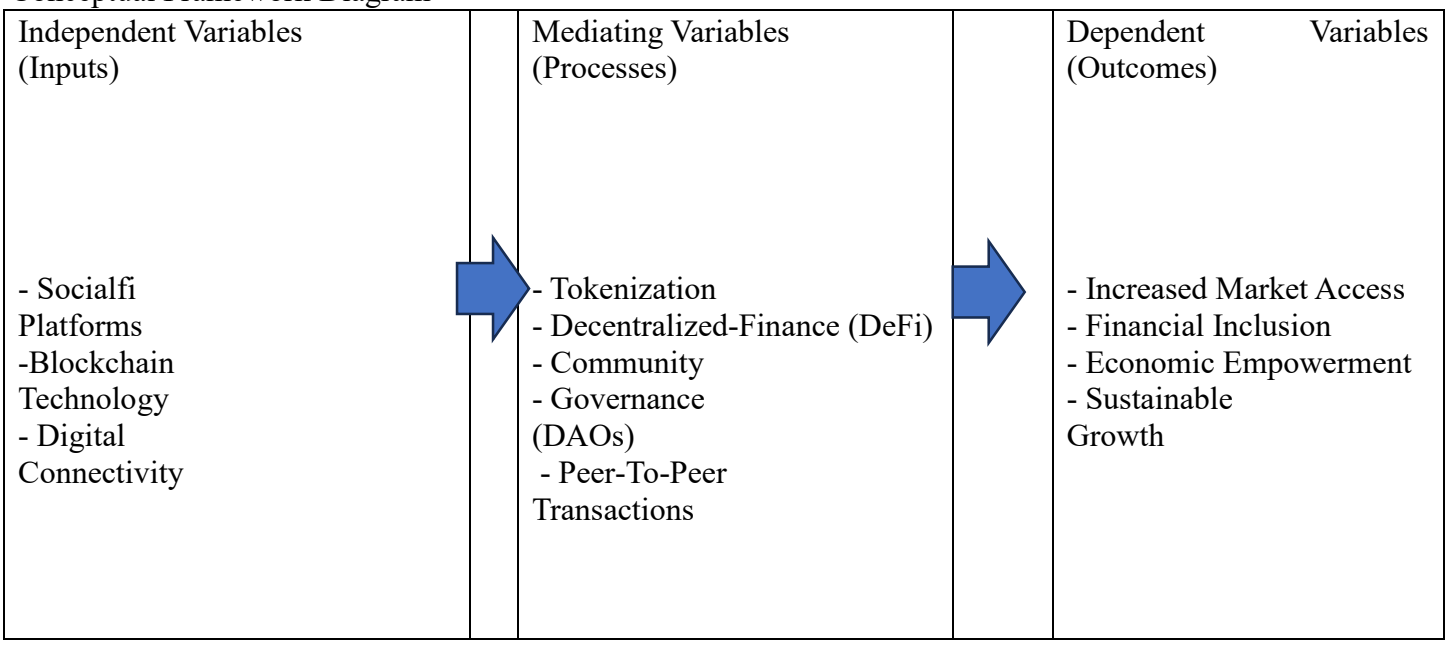


Figure 1: Conceptual Framework Diagram

Discussion of Variables and Interrelationships

The conceptual framework for using SocialFi to empower smallholder palm oil farmers in the Afijio Local Government Area, Oyo State, centers on key variables categorized as Independent Variables (Inputs), Mediating Variables (Processes), and Dependent Variables (Outcomes).

Independent Variables (Inputs) include SocialFi platforms, blockchain technology, and digital connectivity. Farmers can interact and conduct financial transactions in a decentralized setting through SocialFi networks. While digital connectivity enables farmers to access and use these platforms through cellphones and the internet, blockchain guarantees security and transparency.

Mediating Variables (Processes) include tokenization, Decentralized Finance (DeFi), community governance (DAOs), and peer-to-peer transactions. Peer-to-peer transactions ensure fair pricing and reduce costs, DeFi provides financial services without middlemen, DAOs facilitate community-driven decision-making, and tokenisation enables farmers to turn assets into marketable tokens.

Dependent Variables (Outcomes) are increased market access, financial inclusion, economic empowerment, and sustainable growth. SocialFi makes it easier to interact directly with buyers, gives farmers access to financial services, and promotes long-term, community-driven growth.

The connections demonstrate how tokenisation propels financial inclusion, DeFi strengthens economic empowerment, DAOs foster sustainable growth, and blockchain technology promotes SocialFi platforms and, peer-to-peer transactions guarantee equitable market access.

Methodology

Study Area

This study was conducted in Afijio LGA, Oyo State, Nigeria, a location known for producing and processing large amounts of palm fruit. Afijio is bordered to the north by the Oyo East LGA, to the south by the Akinyele LGA, to the west by the Iseyin LGA, and to the east by the Ejigbo and Iwo LGAs. With rainforest flora and a tropical climate that includes two periods of high rainfall (June and September) and a comparatively dry season (December and January), the region is primarily home to the Yoruba ethnic group. Both food and cash crops can be grown in this environment, with palm oil production serving as a major economic activity.

Sampling Size and Procedure

A multistage sampling procedure was adopted for this study to ensure a representative selection of participants. In the first stage, Afijio LGA was purposively selected due to its prominence in palm oil production. The second stage involved identifying eight villages within the LGA known for palm oil processing activities, Jobele, Iware, Akinmoorin, Kelebe, Abaesu, Ilora, Fiditi, and Aba Lemomu. In the final stage, palm oil processors were randomly selected from each village, giving a total sample size of 20 farmers.

Data Collection Method

Primary data will be gathered through a structured questionnaire administered during face-to-face interviews. The questionnaire will be designed to capture key aspects of the respondents' experiences, including their demographic and socioeconomic characteristics, current market access and sales channels, access to and usage of financial services, awareness and perceptions of SocialFi platforms, and the challenges they face in adopting digital solutions.

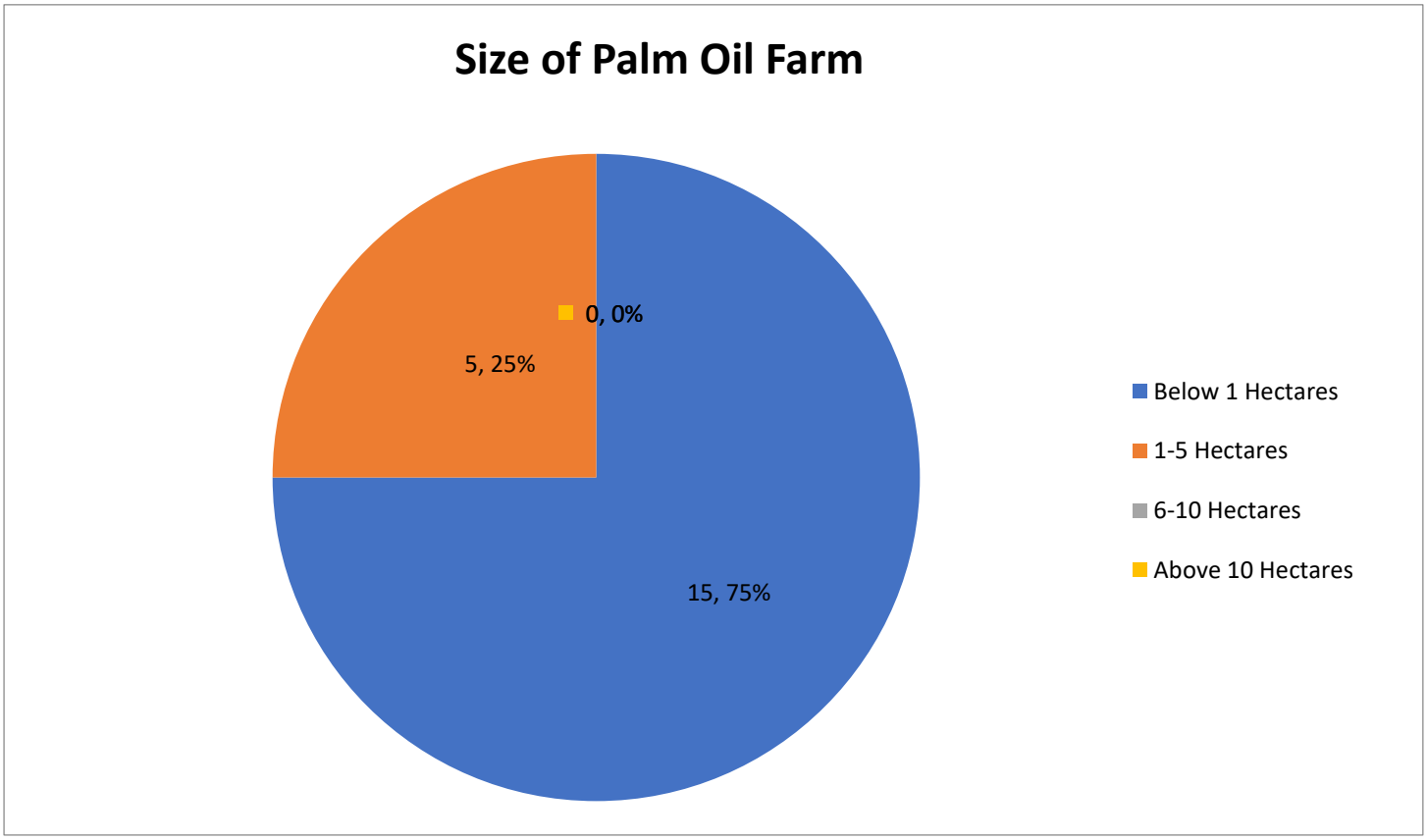
Data Analysis

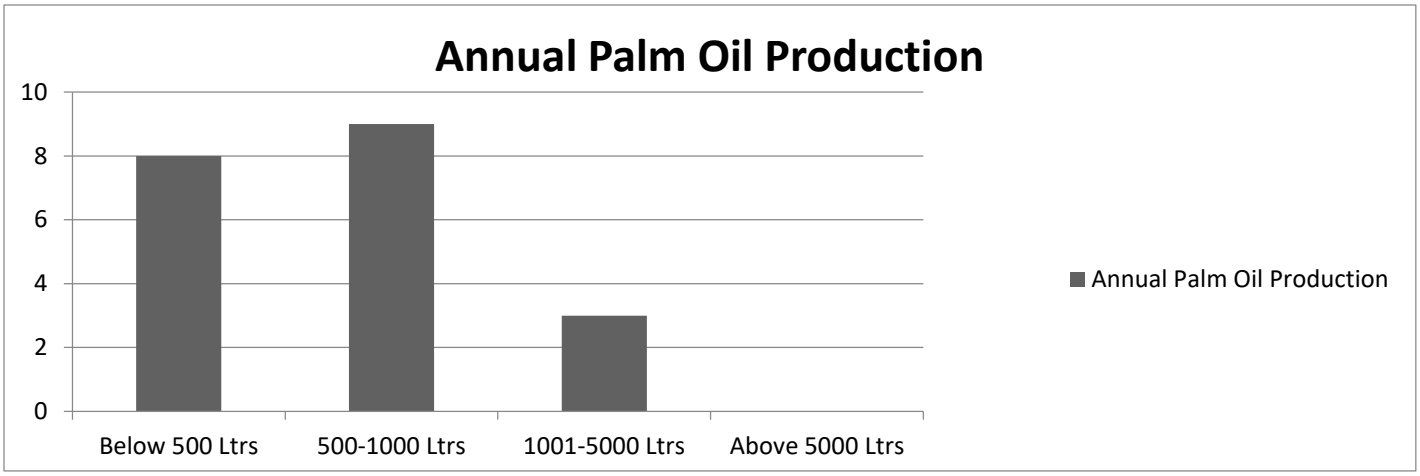
Section A: Demographic Information

Demographic Variables		Frequency	Percentage
Age	18-30 Years	2	10%
	31-45 Years	9	45%
	46-60 Years	5	25%
	Above 60 Years of age	4	15%
Gender	Male	11	55%
	Female	9	45%
	I Prefer not to say the following	0	0%
Level of Education	No formal Education	3	15%
	Primary School	3	15%
	Secondary School	6	30%
	Tertiary Education	8	40%
Years of experience in palm oil farming	Less than 5 years	3	15%
	5-10 years	4	20%
	11-20 years	6	30%
	More than 20 years	7	35%
Household size	1-4 people	8	40%
	5-8 people	5	25%
	More than 8 years	7	35%
	Total	20	100

Section B: Farming Practices

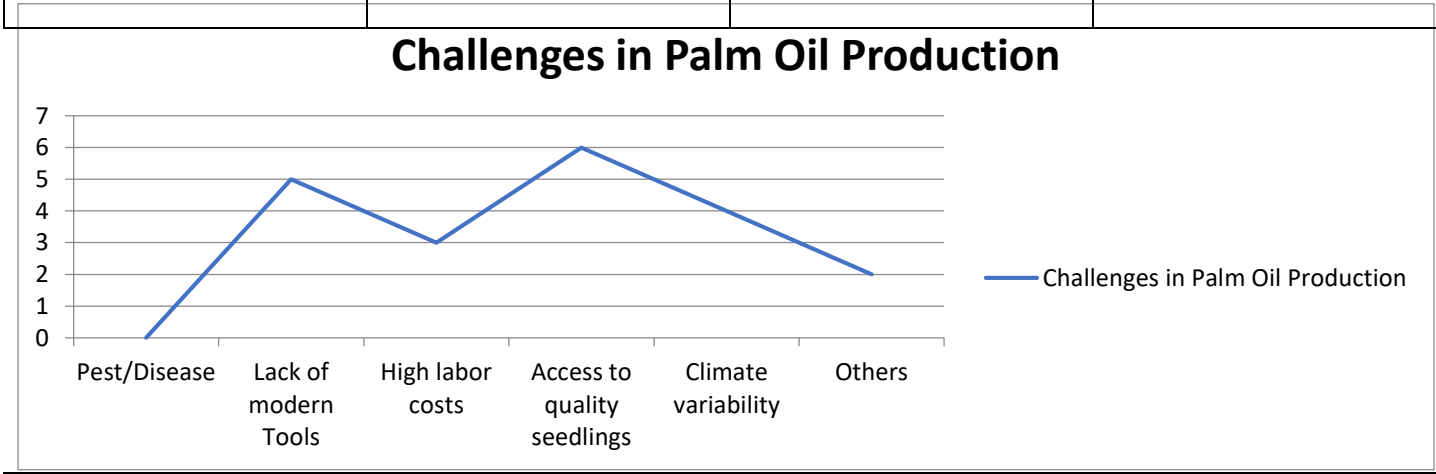
Farming Practices		Frequency	Percentage
Palm Oil Farm size	Less than 1 Hectares	15	75%
	1-5 Hectares	5	25%
	6-10 Hectares	0	0
	More than 10 Hectares8	0	0
Approximate annual Palm Oil Production (PA)	Less than 500	8	40%
	500-1,000	9	45%
	1,001-5,000	3	15%
	More than 5,000	0	0%
Main Challenges in Palm Oil Production	Pest/Disease control	0	0%
	Lack of modern equipment	5	25%
	High labor costs	3	15%
	Access to quality seedlings	6	30%
	Climate variability	4	20%
	Others	2	10%
	Total	20	100





Section C: Market Access

Market Access		Frequency	Percentage
How Palm Oil do sold?	To Local consumers, Through middlemen Cooperative/Unions Government agencies Others	13 7 5 2 0	65% 35% 25% 10% 0
The term "transport" means you use to reach your buyers	Personal Vehicle Public Transport Hired Trucks On foot	12 6 12 1	60% 30% 60% 5%
Do you face challenges in obtaining fair price for Palm Oil?	Yes No If Yes describes	11 9 0	55% 45%



How can you access market price information?	Middlemen Fellow Farmer Radio/TV Mobile phone apps No access	8 8 0 2 2	40% 40% 0% 10& 10%
	Total	20	100

Section D: Financial Inclusion

Financial Inclusion		Frequency	Percentage
Have you secured a loan or credit for farming?	Yes No	16 4	80% 20%
If Yes, which source	Bank Cooperative Society Microfinance Bank Informal lenders		11.8% 52.9% 11.8% 23.5%
Do you use mobile money services (e.g. Opay, Palmpay)	Yes No	3 17	15% 85%
	Total	20	100

Section E: Technology and Social Networks

Technology and Social Networks		Frequency	Percentage
Do you own a mobile phone?	Yes (Mobile Phone) Yes (Basic Phone) No	14 6 0	70% 30% 0%
Do you use socialFi, social media, or messaging apps to sell your farm products? (e.g., WhatsApp, Facebook)?	Yes No	9 11	45% 55%
Are you aware of digital farming tools?	Less than a year 1-5 years 6-10 years More than 10 years	12 8	60% 40%
	Total	20	100

Section F: Perceptions of Social-Fi

Demographic Variables		Frequency	Percentage
How interested are you in joining a farmer network to gain access to better markets?	Very Interested Somewhat Interested Neutral Not Interested	17 2 1 0	85% 10% 1% 0%
What features would you value in a Social-Fi platform? (Select all that apply)	Real-time price updates. Direct buyer connections Peer training/advice Access to loan and insurance Weather forecasts	7 4 2 4 3	35% 20% 10% 20% 15%
What barriers might prevent users from using Social-Fi?	Lack of internet access High data costs Low digital literacy Distrust of online platforms Others	5 3 8 8 2	25% 15% 40% 40% 10%
Would you attend training on digital tools for market access?	Yes No	19 1	95% 5%
	Total	20	100

Section G: Open-Ended Feedback

23. How do you think Social-Fi could improve your farming business?

- Navigating the weather forecast
- Weather broadcast
- Connecting buyers
- Weather forecast
- It can improve my farming ability if there is social training and eliminating of most agent or middlemen
- By gaining patronage on SocialFi
- Loan accessibility
- Price and rake care of produce
- Price negotiations
- Pricing
- Pricing and loan access
- Network
- Digital accessibility in farms

24. What kind of support do you need to adopt such tools?

- Monetary benefit
- Connection to buyers
- Stable market
- Financial support, especially the reduction in loan interest,
- I don't need any support
- Loan
- Networking
- Money
- Weather forecasts and loaning
- Internet
- Pricing

Findings

In terms of demographics, the bulk of responders (45%) were between the ages of 31 and 45, with those between the ages of 46 and 60 coming in second (25%). Only 10% of them are between the ages of 18 and 30 years, which suggests that young people are not very involved in palm oil growing. With 55% of the population being male and 45% being female, the gender distribution is comparatively balanced. Regarding education, almost 40% of respondents completed university education, while another 30% finished secondary school. This suggests that farmers have a high degree of literacy, which is advantageous for possible internet interaction. With 65% of those who have worked in the field for more than ten years, most farmers have a wealth of experience. Furthermore, a significant proportion of the respondents 75% have a family size of four or more, reflecting the socioeconomic environment and possible reliance on family work.

The fact that 75% of the respondents work on farms less than one hectare confirms that they are smallholder farmers based on their farming practices. The amount of palm oil produced each year is small, with 40% producing less than 500 liters and 45% producing 500–1,000 litres. Not a single respondent stated that they produced more than 5,000 liters per year. High labor costs (20%), a lack of contemporary equipment (25%), and

access to high-quality seedlings (30%) are the most common obstacles to palm oil production. These problems indicate resource and infrastructure constraints that reduce production.

Regarding market accessibility, most farmers (65%) sold palm oil directly to local customers, with 35% depending on intermediaries. Few people interact with government organizations or cooperatives. Transportation options vary; 60% of people use their own cars or rental trucks, 30% rely on public transportation, and a small percentage walk. It is interesting to note that none of the respondents went into detail about their experiences, even though 55% of them said they had trouble securing fair rates for palm oil. Only 10% of respondents said they use mobile phone apps, while 40% said they mostly obtain market pricing information from middlemen and other farmers. This implies that digital participation is still limited and that traditional and informal information channels continue to dominate.

A noteworthy 80% of respondents have obtained loans or credit for farming, indicating financial inclusion. Cooperative societies (52.9%), unofficial lenders (23.5%), and banks or microfinance organizations (11.8%) are the primary providers of lending. Despite this, just 15% of farmers use mobile money services such as Opay or Palmpay, which has a startlingly low utiliszation rate. This illustrates a digital financial divide that could obstruct smooth online interactions and transactions.

According to the poll, all respondents own a mobile phone, but only 70% of them have smartphones, with the remaining 30% using entry-level models. More than half of farmers are not yet using digital platforms for commerce, as evidenced by the 45% of farmers who use social media or messaging applications to market farm products. However, 60% of respondents said they had learned about digital farming or finance technologies in the previous 12 months, indicating a growing trend of smallholders' understanding of digital tools.

When asked how they felt about Social-Fi, 85% of respondents said they would be very interested in joining a farmer network in order to have access to better markets. Real-time price updates (35 percent), weather forecasts (15 percent), peer training (10 percent), direct buyer connections (20 percent), and access to loans or insurance (20 percent) are all desired features for such a platform. However, there are major obstacles to their adoption. These include lack of internet access (25%), high data costs (15%), low digital literacy, and mistrust of online platforms (40% each). Remarkably, 95% of respondents expressed a strong desire to learn and grow by agreeing to participate in training on leveraging digital tools to improve market access.

The quantitative results are further supported by the open-ended comments. By supplying weather forecasts, connecting them directly to buyers, cutting out intermediaries, improving pricing and financing availability, and providing social training, farmers think Social-Fi might greatly boost their business. Respondents cited cheap loan interest rates, improved internet access, buyer contacts, and financial aid as important enablers when asked what type of support is required to implement such products.

The study highlights a great chance to provide Social-Fi platforms to Afiji's smallholder farmers. In addition to a basic degree of digital literacy and mobile phone ownership, there is evident curiosity. But issues like low productivity, restricted access to digital finance, and infrastructure deficiencies need to be addressed. Building capacity through cooperative partnerships, training in digital literacy, creating user-friendly applications in regional languages, and enhancing internet affordability and accessibility should be the main goals of strategic interventions. With these support systems in place, Social-Fi deployment might revolutionize smallholder farmers' access to markets, pricing negotiations, and connections with buyers and financial institutions, ultimately increasing their productivity and standard of living.

Discussion

Theoretical Implications

The study’s conclusions make a significant theoretical contribution to the discussion of market access and digital inclusion in agricultural economies, especially for smallholder farmers in sub-Saharan Africa. The idea

of "Social-Fi" the fusion of financial services with social networking is central to this investigation because of its potential to change conventional value chains and information asymmetries in rural agricultural settings. The study theoretically confirms that socio-demographic elements like education, digital literacy, and trust in online platforms are crucial in affecting adoption and, that having access to technology alone is not enough to ensure digital involvement. These results lend credence to hypotheses already in place in the domains of innovation diffusion and the digital divide, particularly the notion that new technologies have a higher chance of being embraced when they are seen as practical, user-friendly and, accessible within pre-existing social institutions.

Furthermore, the study supports and expands on the Theory of Planned Behavior, which holds that attitudes, perceived control, and subjective norms influence behavioral intention, including the desire to join a Social-Fi network. Despite knowledge-based and infrastructure constraints, respondents' strong enthusiasm in joining farmer networks and taking part in training indicates positive behavioral intent. This shows that initial adoption hurdles can be overcome through positive attitudes toward technology and great community involvement. Furthermore, the results show that farmers appreciate direct buyer contacts, real-time pricing updates, and financial services on Social-Fi networks. This suggests that any technology intended for agricultural development must be in line with users' current socioeconomic demands. These observations add to more general conversations about participatory development frameworks and technology adoption models in emerging economies.

Practical Implications

For policymakers, non-governmental organizations, technology developers, and other stakeholders seeking to promote agricultural growth through digital transformation, this report provides crucial practical insights. One of the most useful conclusions is that smallholder farmers are clearly prepared to use digital tools, as shown by their strong interest in Social-Fi and preparedness to participate in training sessions. However, obstacles such as low digital literacy, restricted internet access, mistrust of online platforms, and expensive data prices hinder such preparedness. It is imperative that capacity-building programmes concentrate on locally relevant digital education in languages and formats that farmers with different literacy levels may use in order to close this gap.

The necessity of user-centric platform design is another important conclusion. Any suggested Social-Fi platform should incorporate these essential aspects in an easy-to-understand way, as farmers have indicated desire for features like real-time pricing, direct buyer access, and credit facilities. For people with minimal internet access and simple phones, developers should consider offline functionality or USSD-based interfaces. In order to act as reliable middlemen for onboarding and training, stakeholders should also take advantage of the cooperative structures that are already in place, which already provide financial access for more than half of the respondents.

The results lend credence to the need for further funding for reasonably priced internet services and digital infrastructure in rural areas from a policy standpoint. Partnerships with financial institutions and telecom providers can expand the scope and efficacy of digital agriculture projects. Despite the high rate of phone ownership, the comparatively low usage of mobile money points to the need for financial literacy initiatives and wider marketing of fintech services that cater to the requirements of rural farming. In the end, when used properly, Social-Fi networks can lessen reliance on intermediaries, increase economic security, and provide farmers with the knowledge and resources they need to compete in larger markets.

Recommendations

This study suggests various specific recommendations to help smallholder palm oil producers in Afijio LGA adopt and use Social-Fi platforms. First, rural farmers require comprehensive digital literacy instruction. These

programmes should demonstrate how to use mobile apps for marketing, price tracking, and financial transactions in local languages. Since most respondents agreed to attend such training, stakeholders should use this opportunity to enhance farming community digital confidence and competence.

Second, Social-Fi platform developers should prioritize smartphone and basic phone user-friendly designs. USSD and voice-based interfaces would allow farmers without cellphones or internet access. Such systems should also offer farmers' preferred features including real-time market prices, direct buyer contacts, loans or insurance, and local weather forecasts.

Third, cooperation with local cooperatives and trustworthy community institutions can help the adoption of digital systems and build trust. Cooperatives provide technical support, training, and platform advocacy. Due to limited mobile money usage, despite widespread phone ownership, financial institutions and fintech providers should collaborate to boost availability and accessibility.

Last, government and development agencies should fund rural internet infrastructure and subsidized data bundles to reduce costs. Initial financial support, low-interest digital loans and, platform usage benefits could boost early uptake and engagement.

Conclusion

In the Afijio Local Government Area of Oyo State, this study examined how Social-Fi platforms can change smallholder palm oil farmers' access to markets. Despite major obstacles such as low digital literacy, restricted access to reasonably priced internet, and skepticism toward online platforms, the research shows that the community is generally ready and prepared to embrace digital tools. The advantages that digital platforms offer in terms of pricing transparency, direct market access, and financial inclusion are widely acknowledged, even if the majority of farmers still rely on conventional market structures like middlemen and unofficial price networks.

The study theoretically supports the importance of behavioral and sociocultural elements in the adoption of technology. Practically speaking, it pinpoints precise tactics for capacity building, platform design, and stakeholder engagement that can improve the effective incorporation of Social-Fi into rural agricultural systems. Social-Fi can empower smallholder farmers, increase their negotiating power, and promote a more inclusive and effective agricultural market provided the obstacles noted are methodically removed. To fully realize the potential of digital innovation in agriculture, cooperation between the public and private sectors, development organizations, and farmers themselves is therefore necessary.

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Appendix

QUESTIONNAIRE

On

Title: Harnessing Social-Fi for Boundless Market Access: Empowering Smallholder Palm Oil Farmers in Afijio Local Government Area, Oyo State

Dear Respondent,

This questionnaire is designed to gather information on Harnessing Social-Fi for Boundless Market Access for Smallholder Palm Oil Farmers in Afijio Local Government Area, Oyo State Your responses will remain confidential and will be used solely for research purposes.

Target Group: Smallholder Palm Oil Farmers in Afijio LGA, Oyo State, Nigeria

Section A: Demographic Information

1. Age:
   [ ] 18–30 years
   [ ] 31–45 years
   [ ] 46–60 years

[ ] Above 60 years

2. Gender:

[ ] Male

[ ] Female

[ ] Prefer not to say

3. Highest level of education:

[ ] No formal education

[ ] Primary school

[ ] Secondary school

[ ] Tertiary education

4. Years of experience in palm oil farming:

[ ] Less than 5 years

[ ] 5–10 years

[ ] 11–20 years

[ ] More than 20 years

5. Household size:

[ ] 1–4 people

[ ] 5–8 people

[ ] More than 8 people

Section B: Farming Practices

6. Size of your palm oil farm (hectares):

[ ] Less than 1

[ ] 1–5

[ ] 6–10

[ ] More than 10

7. Approximate annual palm oil production (liters):

[ ] Less than 500

[ ] 500–1,000

[ ] 1,001–5,000

[ ] More than 5,000

8. What are your main challenges in palm oil production? (Select all that apply)*

[ ] Pest/disease control

[ ] Lack of modern equipment

[ ] High labor costs

[ ] Access to quality seedlings

[ ] Climate variability

[ ] Other: _____

Section C: Market Access

9. How do you currently sell your palm oil?

[ ] Directly to local consumers

[ ] Through middlemen

[ ] Cooperatives/unions

[ ] Government agencies
[ ] Other: _____

10. What transportation method do you use to reach buyers?
[ ] Personal vehicle
[ ] Public transport
[ ] Hired trucks
[ ] On foot

11. Do you face challenges in getting fair prices for your palm oil?
[ ] Yes
[ ] No
If yes, describe: _____

12. How do you access market price information?
[ ] Middlemen
[ ] Fellow farmers
[ ] Radio/TV
[ ] Mobile phone apps
[ ] No access

Section D: Financial Inclusion

13. Have you ever accessed a loan/credit for farming?
[ ] Yes
[ ] No

14. If yes, from which source?
[ ] Bank
[ ] Cooperative society
[ ] Microfinance institution
[ ] Informal lenders

15. Do you use mobile money services (e.g., Opay, Palmpay)?
[ ] Yes
[ ] No

Section E: Technology and Social Networks

16. Do you own a mobile phone?
[ ] Yes (Smartphone)
[ ] Yes (Basic phone)
[ ] No

17. Do you use socialFi app or social media or messaging apps to sell your farm products? (e.g., WhatsApp, Facebook)?
[ ] Yes
[ ] No

18. Are you aware of digital tools for farming or finance?
[ ] Yes
[ ] No

Section F: Perceptions of Social-Fi

Social-Fi refers to using social networks and digital tools to connect farmers directly to markets and financial services.

19. How interested are you in joining a farmer network to access better markets?
    [ ] Very interested
    [ ] Somewhat interested
    [ ] Neutral
    [ ] Not interested
20. What features would you value in a Social-Fi platform? (Select all that apply)
    [ ] Real-time price updates
    [ ] Direct buyer connections
    [ ] Peer training/advice
    [ ] Access to loans/insurance
    [ ] Weather forecasts
21. What barriers might prevent you from using Social-Fi?
    [ ] Lack of internet access
    [ ] High data costs
    [ ] Low digital literacy
    [ ] Distrust of online platforms
    [ ] Other: _____
22. Would you attend training on using digital tools for market access?
    [ ] Yes
    [ ] No

Section G: Open-Ended Feedback

23. How do you think Social-Fi could improve your farming business?
24. What support do you need to adopt such tools?

Thank you for your participation!