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Effectiveness of Communication Methods among Actors in the Cassava Market Chain in Ugwunagbo Local Government Area, Abia State, Nigeria

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Chinyelu Irene Nwokolo and Nnenna Ngozi Mgbeahuru

Department of Agricultural Extension and Development Studies, University of Port Harcourt, Port Harcourt, Nigeria
Correspondence and presenting author: chinyelu.nwokolo@uniport.edu.ng; +2347035022012
nnennamgbeahuru@gmail.com; +2349069951660

Abstract
The study assessed the effectiveness of communication methods among actors in cassava market chain in Ugwunagbo Local Government Area of Abia State, Nigeria. A multistage sampling procedure was used to select 100 actors in cassava market chain. Data was elicited using structured questionnaire and analysed using percentages, means and binary logistic regression. Results indicate that actors in cassava market chain were highly dominated by producers (72%) with very few processors (22%), distributors (5%), and wholesalers (1%). The following communication methods were perceived as effective: face to face (($\bar{x}$ = 3.92) and voice (($\bar{x}$ = 3.60) for producers; face to face (($\bar{x}$ = 4.00), voice call (($\bar{x}$ =3.45) and text messages (($\bar{x}$ =2.00) for processors; voice call (($\bar{x}$ =4.00), face to face (($\bar{x}$ =3.20), and text messages (($\bar{x}$ =2.80) for distributors; face to face (($\bar{x}$ = 4.00), and Social media (($\bar{x}$ =4.00) for wholesalers. The study concluded that the effective communication methods among actors in cassava market chain in the study area were individual communication. The study recommended capacity building in the use of information and communication Technologies (ICTs), mass media, and formation of cooperatives to foster more inclusive communication systems.

Keywords: Cassava market chain, communication methods, effectiveness.

Introduction

As the world's largest producer of cassava *(Manihot esculenta*) Nigeria cultivates the crop across all agro-ecological zones, particularly in the South-East, where Abia State is a notable hub for both subsistence and commercial production (Food and Agriculture Organization of the United Nations, 2022). Cassava is a vital crop in Nigeria's agricultural economy, contributing significantly to household food security, employment, and industrial raw materials. The cassava market chain involves several actors: farmers, processors, wholesalers, retailers, and consumers, each playing critical roles in production, value addition, and distribution. However, the

efficiency of this chain depends not only on physical infrastructure and financial capital but also on the effectiveness of communication methods used by these actors. Communication influences how actors access market information, coordinate transactions, manage supply and demand, and respond to consumer needs.

In Nigeria, especially in rural areas of Abia State, cassava market chain actors utilize a mix of communication methods. Despite the availability of these communication channels, many cassava actors in Ugwunagbo and similar rural areas still face challenges in accessing timely and accurate information. Issues such as poor network connectivity, low digital literacy, language barriers, limited participation by cooperatives, and gender-based exclusion hinder effective communication along the value chain (Eze et al., 2021; Nwachukwu et al., 2022). As a result, farmers may not receive updates on consumer preferences, processors may be unaware of price changes, and retailers may struggle with inconsistent supply. The cassava market chain faces significant challenges in communication among actors, which undermine coordination, reduce efficiency, and ultimately reduce profitability (Eze et al., 2021).

Adegbola and Aromolaran, (2020) reported that limited interaction with end-users restricts product quality improvement and market responsiveness. While a range of communication methods, such as mobile phones, face-to-face interactions, radio programs, SMS alerts, and social media platforms, is available, their use remains inconsistent and uneven. Many actors in the agricultural market chain lack the digital literacy, infrastructure, or access to technology needed to benefit from these tools. Some rely solely on informal word-of-mouth or infrequent community meetings, which are not sufficient for real-time market decisions (Chukwu, Okorie and Anozie, 2022). Others who own mobile phones may struggle with poor network coverage, high data costs, or irregular electricity supply, all of which limit the functionality of these methods (Ogundele and Akinlabi, 2020).

Hence, there is a need to ascertain the actors in the cassava market chain and to ascertain the best communication methods to ensure smooth communication amongst the actors in order to ensure a stable supply of cassava from the cassava producers down to the final consumer.

Therefore, the study;

i. identified the actors in the cassava market chain;

ii. identified the communication methods used by the actors in the cassava market chain;
iii. ascertained the effectiveness of the use of communication methods among actors in the cassava market chain.

Methodology

The study was carried out in Ugwunagbo Local Government Area (LGA) of Abia State, Nigeria which is a major agricultural hub, located in the south-eastern region of Nigeria and has a population of approximately 4.1 million people. Abia State lies within Latitudes 5^{o} $31^{'}$ 29.68^{o} N of the Equator, and Longitudes 7^{o} $29^{'}$ 40.60^{o} E of the Greenwich Meridian. It is bounded by Rivers State to the South, Ebonyi State, Anambra and Enugu State to the North, Imo State to the West and Akwa Ibom State and Cross-River State to the East. Its capital is Umuahia, while Aba serves as the commercial hub. The main cash crops grown in the area include palm and cocoa, while the food crops include cassava, maize, vegetables, plantain, etc., livestock such as birds, goats, etc. Livestock such as birds, goats, and sheep are also reared. The study population comprised all actors involved in the cassava market chain in Ugwunagbo LGA, Abia State. This consists of cassava farmers, processors, wholesalers, retailers, and final consumers. These groups were selected because they are directly involved in the production, value addition, distribution, marketing, and consumption of cassava and cassava-based products.

A total of 100 respondents were selected for this study. A two staged sampling procedure was adopted for the study. The first stage was the purposive selection of three communities in Ugwunagbo LGA, which are prominent for cassava farming (Oza Umuebukwu, Ozatta, and Umugo communities). The second stage was the Purposive selection of 30 respondents from Oza Umuebukwu, 30 respondents from Ozatta and 40 respondents from Umugo community based on the intensity of cassava farming in the community. Hence, a total of 100 respondents was used for the study. Data was collected using structured questionnaire and analyzed using percentages and mean scores.

Primary data were collected from the cassava actors using a combination of validated questionnaire and interview schedule and analysed using percentages and mean scores. Actors in the market chain were identified by listing various categories

for the actors to indicate where they belong. These categories included producer, processor, distributor, wholesaler, retailer and consumer. The responses of the actors were analysed using percentages. The communication methods used by these actors were identified by listing various communication methods such as face to face, voice call, text messages, cassava association/cooperative, social media, television and radio for the actors to indicate either 'Yes or 'No' on the communication methods that seems effective in communicating with them. The responses of the actors were analysed using face-to-face, voice call, text messages, association/cooperative, social media, television, and radio for the actors to indicate either 'Yes or 'No' on the communication methods that segmentations. The effectiveness of use of communication methods among actors in the cassava market chain was determined by listing the various communication methods, which included face-to-face, voice call, text messages, association/cooperative, social media, television, and radio. The responses were taken on a 4-point Likert-type scale of very effective = 4, moderately effective = 3, slightly effective = 2, and not effective = 1. The weighted mean was computed for each effectiveness statement. Any effectiveness statement with a mean score ≥ 2.5 was considered an effective communication method to the actors otherwise, not effective. IBM SPSS version 20 was the statistical software used to analyse the data.

Results and Discussion

Types of Actors in the Cassava Market Chain

Data in Table 1 shows that the cassava market chain is dominated by cassava producers (72%), followed by cassava processors (22%), with little involvement of cassava distributors (5%), and cassava wholesalers (1%) and no cassava retailers or consumers. This uneven participation indicates a weak link between upstream and downstream actors, which could negatively affect market feedback and product tailoring. 72% of producers indicate that many actors in the cassava market chain are involved in the cultivation of cassava. 22% indicates that there is some level of value addition to the produced cassava. But after the processing, the value dropped, indicating that once the cassava is processed, it doesn't move through different hands before it gets to the final consumer. Hence, the cassava market chain in

Ugwunabo Local Government Area is producer-heavy and processor-driven, but thin on downstream actors.

This result is consistent with the findings of Orebiyi et al., (2025) that cassava farmers or producers also perform the functions of distribution in addition to their main role of producing cassava tubers, thereby distorting the chains of specialisation in the cassava value chain.

Table 1: Actors in the cassava market chain

Actor type	Yes (%)
Producers	72.0%
Processors	22.0%
Distributors	5.0%
Wholesalers	1.0%
Retailers	0.0%
Consumers	0.0%

Source: Field Survey, 2025.

Communication Methods used by Actors in the Cassava Market Chain

Table 2 shows the major communication methods used by actors in cassava market chain. Cassava producers mainly use face-to-face communication (66.7%) with a little combination of voice calls (33.3). Cassava processors mainly use face-to-face communication (59.1%) with a little combination of voice call (31.8) and text message (9.1%). Cassava wholesaler used only the face-to-face communication method (100%).

However, distributors communicate with other actors using voice calls (80%), with a few distributors opting for face-to-face communication (20.0). None of the actors communicate with other cassava actors using association/cooperatives, social media, television, and radio.

This indicates that producers, processors, and marketers often prefer direct interaction because it allows for immediate clarification, price bargaining, and building of long-term business relationships. This shows that mobile phones have become an important tool for bridging distance between actors, especially between producers in rural areas and wholesalers or distributors in urban markets. Voice calls

provide a faster alternative to physical meetings while still maintaining the personal element of verbal communication, which is preferred over text-based methods in this context.

This result is in consonance with the finding of Ibrahim et al. (2025) that face-to-face remains the most trusted and accessible channel among rural farmers and traders, especially in areas with limited digital penetration.

Table 2: Communication channel used by actors in the cassava market chain

Cassava Actors	Face to Face (%)	Voice calls (%)	Text Messages (%)	Association/ Cooperatives (%)	Social Media (%)	Television (%)	Radio (%)
Producer (n =72)	66.7	33.3	0	0	0	0	0
Processor (n =22)	59.1	31.8	9.1	0	0	0	0
Distributor (n =5)	20.0	80.0	0	0	0	0	0
Wholesaler (n =1)	100.0	0	0	0	0	0	0

Source: Field Survey, 2025. Mean cut off 2.5

Effectiveness of Communication Methods used by Actors in the Cassava Market Chain

The Effectiveness of Communication Methods used by actors in the cassava market chain is explained below:

Effectiveness of Communication Methods used by Cassava Producers

Table 3 shows the perceived effectiveness of communication methods used by cassava producers, with face-to-face ($\bar{x}$ = 3.92) and voice ($\bar{x}$ = 3.60) being perceived as the most effective methods of communication for contacting cassava producers in the study area.

Other communication methods: text messages ($\bar{x}$ = 2.32), association or cooperative ($\bar{x}$ = 1.04), social media ($\bar{x}$ = 1.33), television ($\bar{x}$ = 1.01) and radio ($\bar{x}$ = 1.01) were perceived as ineffective communication methods by the cassava producers in the study area.

This findings indicates that cassava producers value direct, two-way interaction where they can ask questions, get immediate feedback, and build trust with other actors in cassava market chain. The low rating for text messages and social media likely reflects low literacy levels, limited internet or data access, and smartphone ownership among rural producers. Radio and television may have been seen as one-way channels with no room for feedback or clarification on specific cassava production issues. The ineffectiveness of association or cooperative could mean that meetings were irregular, poorly attended, or not focused on practical production problems. This aligns with Olanrewaju, Farinde and Adesoji (2025) who reported that cassava producers largely depend interpersonal communication methods.

Table 3: Effectiveness of communication methods used by cassava producers

Communication Methods	Mean	Standard Deviation
Face to face	3.92	0.402
Voice call	3.60	0.494
Text messages	2.32	0.747
Association/Cooperative	1.04	0.354
Social media	1.33	0.504
Television	1.01	0.118
Radio	1.01	0.118

Source: Field Survey, 2025. Mean cut off 2.5

Effectiveness of Communication Methods used by Cassava Processors

Table 4 shows that face-to-face ($\bar{x}$ = 4.00) and voice call ($\bar{x}$ = 3.45) were perceived as the most effective methods of communication for contacting cassava processors in the study area.

Other communication methods: text messages ($\bar{x}$ = 2.00), radio ($\bar{x}$ = 1.05), association/cooperative ($\bar{x}$ = 1.00), Social media ($\bar{x}$ = 1.00), and Television ($\bar{x}$ = 1.00) were perceived as ineffective communication methods by the cassava processors.

This findings indicates that face-to-face and voice calls allow for immediate feedback, clarification, and trust-building, which are important when discussing processing challenges, pricing, or input supply. The low effectiveness rating for text messages, social media, and television may reflect issues of literacy, limited internet access, cost of data, or the impersonal nature of those channels for processors who prefer direct interaction.

This corroborates Olanrewaju and Farinde (2021) who reported that cassava processors use face to face personal contact such as farm or home or processing site visits to access information from cassava producers.

Table 4: Effectiveness of communication methods used by cassava processors

Communication Methods	Mean	Standard Deviation
Face to face	4.00	0.000
Voice call	3.45	0.596
Text messages	2.00	0.309
Association/Cooperative	1.00	0.000
Social media	1.00	0.000
Television	1.00	0.000
Radio	1.05	0.213

Source: Field Survey, 2025

Effectiveness of Communication Methods used by Cassava Distributors

Table 5 shows the perceived effectiveness of communication methods used by cassava distributors with voice call ($\bar{x}$ = 4.00), face to face ($\bar{x}$ =3.20), and text messages ($\bar{x}$ = 2.80) been perceived as the most effective method of communication for contacting cassava distributors in the study area.

Other communication methods: social media ($\bar{x}$ =1.60), television ($\bar{x}$ =1.20) and radio ($\bar{x}$ =1.20), and association/cooperative ($\bar{x}$ =1.00) were perceived as ineffective communication methods by the cassava distributors in the study area.

This findings indicates that voice calls give instant feedback for negotiating prices, confirming orders, and tracking truck movements. Face-to-face remains important for building trust and sealing deals, especially for large volumes of garri or flour. Text messages are valued because they are quick, cheap, and leave a written record of orders, quantities, and payment details. Hence, useful when distributors are on the road.

In contrast, social media, television, radio, and association or cooperative meetings were rated as ineffective. For distributors, social media may be limited by poor network, data costs, and low digital literacy. Television and radio are one-way channels with no room to ask questions or confirm specifics about a truckload of cassava. Cooperative meetings may be seen as ineffective if they are irregular,

poorly organized, or don't address real-time market or transport issues that distributors face daily. This finding could indicate that cassava distributors prefer communication channels that are fast, personal, and recordable.

These findings corroborates Nwaobiala and Uche-Nwachi (2022) who reported that traders and distributors of arable crops primarily utilize mobile phones for marketing information due to the its ability to provide medium for immediate feedback. Also, these findings are in line with the Nigerian Communications Commission (NCC) (2020), which reported that mobile phone penetration in rural areas has significantly increased, but access to agricultural content and the ability to utilize ICT tools effectively remain major challenges.

Table 5: Effectiveness of communication methods used by distributors

Communication Methods	Mean	Standard Deviation
Face to face	3.20	0.447
Voice call	4.00	0.000
Text messages	2.80	0.837
Association/Cooperative	1.00	0.000
Social media	1.60	0.548
Television	1.20	0.447
Radio	1.20	0.447

Source: Field Survey, 2025. Mean cut off 2.5

Effectiveness of Communication Methods used by Cassava Wholesalers

Table 6 shows the perceived effectiveness of communication methods used by cassava wholesalers with face to face ($\overline{x}$ = 4.00), and Social media ($\overline{x}$ = 4.00), been perceived as the most effective method of communication for contacting cassava wholesalers in the study area.

Other communication methods: voice call ($\bar{x}$ =2.00), Television ($\overline{x}$ = 2.00), text message ($\bar{x}$ =2.00), radio ($\bar{x}$ =1.00), and association/cooperative ($\bar{x}$ =1.00) were perceived as ineffective communication methods by the cassava wholesalers in the study area.

These findings indicates that wholesalers differ from producers and distributors in scale and network. Face-to-face remains top because wholesalers handle bulk transactions, large volumes, and high-value deals. Meeting in person builds trust,

allows inspection of product quality, and helps negotiate credit terms (that is, things that can't be done fully over phone).

The high rating for social media sets wholesalers apart from other actors. This likely means more wholesalers own smartphones, have better internet access, and operate in urban/semi-urban areas with good network. Platforms like WhatsApp and Facebook groups are useful for them to share truckload prices, product photos, and connect with buyers or suppliers across states without traveling. It is faster than voice calls when broadcasting to many contacts at once.

Meanwhile, voice calls, television, text messages, radio, and cooperative meetings were rated ineffective. Voice calls may be seen as too slow for bulk info sharing compared to WhatsApp groups. Text messages are limited in character and can't carry images of goods. Television and radio are too general and one-way for the specific, time-sensitive deals wholesalers make. Cooperative meetings may score low if they don me irregular or dominated by smaller actors with different needs.

This result suggests a digital divide along the cassava value chain. As actors move from producer -distributor - wholesaler, adoption of digital tools like social media increases. This corroborates Olaniyi, Akintunde, and Adewale (2022) who reported that cassava farmers had favourable disposition towards the use of digital communication tools.

Table 6: Effectiveness of communication methods used by cassava wholesalers

Communication Methods	Mean	Standard Deviation
Face to face	4.00	0
Voice call	2.00	0
Text messages	2.00	0
Association/Cooperative	1.00	0
Social media	4.00	0
Television	2.00	0
Radio	1.00	0

Source: Field Survey, 2025. Mean cut off 2.5

Conclusions and Recommendations

While communication exists in the cassava market chain in Ugwunagbo, it is limited to face to face communication majorly among cassava producers and processors.

Hence, the cassava market chain in the study area is dominated by producers and processors, and face-to-face communication was identified as the most effective method, which is likely due to the personal, direct nature of such interaction. More advanced or wide-reaching methods like social media, cooperatives, radio, and television were perceived as ineffective.

Stakeholders in the cassava market chain, such as the Ministries of Agriculture, transporters, government, agricultural extension workers, policy makers, and agricultural cooperatives, should liaise to empower cassava farmers and market actors with good communication skills, introduce and support cooperatives as a means of communication and information sharing. Also, agricultural stakeholders should use mass media to disseminate public information and improve mobile network coverage for cassava farming.

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