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INFLUENCE OF BUYER PRACTICES ON THE CHOICE OF MARKETING CHANNELS FOR UNPROCESSED RICE IN KENYA

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ABSTRACT

The marketing of unprocessed rice in Kenya has undergone significant transformation driven by changing consumer preferences, globalization, and technological advancements within agricultural value chains. Buyer practices including bulk purchasing behavior, price sensitivity, trust, and perceptions of quality play a crucial role in determining which marketing channels farmers choose. Guided by the Transaction Cost Economics (TCE) theory, which emphasizes minimizing transaction costs and reducing risks in market exchanges, this study explored how specific buyer practices affect farmers' marketing decisions. It particularly examined the influence of price offered, price comparison, payment duration, credit terms, and sorting or grading requirements on the marketing choices of rice farmers. A quantitative research design combining descriptive, exploratory, and correlational methods was employed. Data were collected from 389 rice farmers across major producing counties in Kenya using structured questionnaires. Binary logistic regression analysis revealed that the model had a log likelihood of -165.789, a chi-square of 56.34, and a p-value of 0.000, with a Pseudo R^2 of 0.1452, indicating strong explanatory power. The findings showed that higher prices (coef. = -1.21, p = 0.002; OR = 0.30) and the ability to compare prices (coef. = -0.99, p = 0.019; OR = 0.37) significantly reduced farmers' dependence on brokers. Conversely, longer payment durations (coef. = 0.746, p = 0.041; OR = 2.11), access to credit (coef. = 1.038, p = 0.009; OR = 2.82), and sorting or grading services (coef. = 0.912, p = 0.016; OR = 2.49) increased the likelihood of direct marketing to buyers. The study concludes that buyer practices are pivotal in shaping market participation and efficiency within Kenya's rice value chain. It recommends strengthening cooperative marketing systems, improving access to credit and market information, and fostering transparent and reliable buyer-farmer relationships to enhance farmer incomes, market stability, and the competitiveness of the domestic rice sector.

Keywords: *Price Offered, Price Comparison, Payment Duration, Credit Terms, Sorting and Grading*

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BACKGROUND

Globally, rice is a staple food for more than half of the world's population, with the global rice market valued at approximately US$287 billion in 2023 and projected to continue growing due to rising consumption in Asia and Africa (Statista, 2024). The marketing of unprocessed rice has evolved significantly due to consumer preferences, globalization, and technological changes in agricultural value chains. Buyer practices such as bulk purchasing, price sensitivity, trust, and quality perception play a vital role in determining the choice of marketing channels (FAO, 2023). For instance, in countries like India, Thailand, and Vietnam, direct linkages between farmers and processors are increasingly preferred over traditional middlemen systems to enhance efficiency, traceability, and profitability (World Bank, 2023).

In the United States, rice production accounts for about 2% of the global total, yet the marketing system is highly organized and guided by structured buyer-seller relationships (USDA, 2023). Producers in major rice-growing states such as Arkansas, Louisiana, and California often rely on cooperatives and long-term contracts with millers and retailers to ensure stable market access. American buyers value sustainability, certification, and traceability, prompting farmers to align marketing decisions with consumer-driven quality standards (NASS, 2024). Consequently, marketing channels in the U.S. rice sector are largely formal, data-driven, and guided by transparent buyer practices that minimize risk and stabilize pricing.

Regionally, across Sub-Saharan Africa, rice demand has outpaced production, with imports covering more than 40% of total consumption (Africa Rice Center, 2023). In East Africa, particularly in Tanzania and Uganda, marketing inefficiencies persist due to informal trading networks, limited access to market information, and buyer behaviors that favor imported rice perceived as higher quality (FAO, 2022). Buyer practices such as trust in intermediaries, payment flexibility, and product appearance greatly influence marketing channel choices among farmers and traders (Niyonizigiye et al., 2021). The lack of structured and transparent market systems restricts farmers' participation in profitable markets and contributes to post-harvest losses (Mordor Intelligence, 2024).

In Kenya, rice consumption is increasing by about 12% annually, while local production meets only 30% of national demand, resulting in a reliance on imports from countries such as Pakistan and India (KNBS, 2023). The marketing of unprocessed rice is concentrated in irrigation schemes such as Mwea, Ahero, and Bunyala, dominated by smallholder farmers (MoALFC, 2023). Buyer practices including preferences for polished rice, loyalty to familiar traders, and reliance on credit strongly influence the selection of marketing channels (Mwangi & Githinji, 2022). Many producers depend on middlemen for quick cash transactions due to limited access to storage, finance, and market information. Understanding how these buyer-driven behaviors shape marketing channel choices is crucial for improving market efficiency, enhancing farmer incomes, and strengthening Kenya's domestic rice value chain (ResearchGate, 2022).

Statement of the Problem

Rice has become an increasingly important staple food in Kenya, with national consumption rising at an annual rate of about 12%, yet local production meets only 20–25% of total demand (Milling Middle East & Africa, 2024; Kenya National Bureau of Statistics [KNBS], 2024). According to the National Rice Development Strategy II (2019–2030), the government has initiated several interventions including irrigation expansion and improved seed varieties to boost domestic rice production and reduce heavy reliance on imports. However, despite these efforts, marketing inefficiencies and weak distribution systems continue to limit the competitiveness of unprocessed rice in the domestic market. Farmers in key production regions such as Mwea, Ahero, and Bunyala often depend on informal marketing networks dominated by brokers and middlemen, leading to low price

transparency, high exploitation, and inconsistent returns (Capital Business, 2019). These persistent challenges suggest that market access and profitability are heavily influenced by buyer practices, which shape farmers' decisions on marketing channels and ultimately affect the sustainability of rice production in Kenya.

Buyer practices specifically credit terms, sorting and grading requirements, and prices offered play a decisive role in determining how and where farmers sell their unprocessed rice. Many farmers prefer buyers who offer immediate cash payments due to financial constraints, while others are attracted to buyers providing flexible credit arrangements. Similarly, buyers who demand strict sorting and grading standards tend to influence farmers' marketing channel choices based on their capacity to meet such requirements. Furthermore, price disparities across different channels push farmers toward quick, low-paying markets rather than structured, higher-value outlets. Consequently, these buyer practices collectively shape the efficiency, fairness, and sustainability of rice marketing in Kenya (Mwangi & Githinji, 2022).

Although several studies have explored rice production, value chain efficiency, and marketing structures in Kenya, limited research has examined how specific buyer practices such as credit terms, sorting/grading standards, and price offered influence farmers' choice of marketing channels for unprocessed rice. This gap in understanding has made it difficult for policymakers and stakeholders to develop effective interventions that align farmer behavior with evolving market demands. Without empirical insights into these buyer-driven dynamics, farmers continue to face low profitability and inconsistent market participation. Therefore, this study seeks to analyze how buyer practices affect the selection of marketing channels among unprocessed rice producers in Kenya, with the goal of improving market efficiency and enhancing farmer livelihoods.

Objectives of the study

The general objective was to determine influence of buyer practices on the choice of marketing channels for unprocessed rice in Kenya

Research Hypotheses

Based on the above objectives, the following hypotheses was tested to address the research problem:

- HO_1: Buyer practices (price offered, credit terms and grading/sorting terms) have no statistically significant effect on the choice of marketing channels for unprocessed rice in Kenya.

LITERATURE REVIEW

Theoretical Literature Review

This study was guided by the Transaction Cost Economics (TCE) Theory, which was introduced by Ronald Coase in 1937 and later expanded by Oliver Williamson in 1979. The theory states that individuals and firms seek to minimize the costs involved in conducting transactions such as searching for information, negotiating, monitoring, and enforcing agreements when deciding how to organize economic exchanges. In relation to this study, TCE explains how buyer practices influence the choice of marketing channels for unprocessed rice in Kenya. Buyer behaviors such as bulk purchasing, trust, and price sensitivity affect the level of transaction costs, which in turn shape the decisions of farmers and traders to use direct markets, middlemen, or cooperatives. Therefore, the theory was used to guide the study by providing a framework for understanding how cost efficiency and risk reduction influence the selection of marketing channels in the rice market.

Empirical Literature

Government policies play a critical role in shaping the agricultural sector and influencing farmers' decisions regarding intermediaries. Supportive policies that promote cooperative formation, improve rural logistics, and expand digital access enable farmers to bypass brokers and access more

profitable markets. Sanusi et al. (2020) highlighted that public investments in infrastructure, farmer organizations, and digital platforms were pivotal in creating more equitable rice marketing systems. Coordinated policy interventions allowed farmers to reach new markets, negotiate better prices, and reduce reliance on intermediaries. By improving storage, transportation, and access to real-time price information via mobile technologies, these policies lowered marketing risks and enhanced smallholder participation in formal value chains.

A study by Naik and Mohan (2024) in India investigated determinants of paddy farmers' marketing channel choices using a nationally representative survey and logistic regression analysis. The findings revealed that access to market infrastructure, education level, digital literacy, and trust in institutional buyers significantly increased the likelihood of using formal marketing channels. Conversely, farmers with limited access to these resources often relied on local traders who provided immediate payments, despite lower returns. While the study offered valuable insights, its cross-sectional design limited causal inference. Naik and Mohan recommended enhancing institutional trust, expanding digital access, and improving market infrastructure to strengthen farmers' engagement in structured rice markets and promote long-term sustainability. Balasingam et al. (2024) conducted an empirical study examining the preparedness of the Thai rice supply chain for policy interventions aimed at promoting domestic sustainable markets. The researchers employed a mixed-methods approach, combining desk research with fieldwork that involved university students through Fairtrade International, to assess consumer awareness, sustainability drivers, and overall market readiness. The study found a moderate level of consumer knowledge about sustainable rice and a growing interest in environmentally and socially responsible products. However, widespread adoption was constrained by limited institutional support, inadequate policy frameworks, and gaps in enforcement. The authors emphasized the role of voluntary sustainability standards, such as Fairtrade, in shaping market behavior and aligning private initiatives with national sustainability objectives. They recommended harmonizing public policies with established sustainability standards to strengthen domestic sustainable market ecosystems, particularly in the Global South, where integration of sustainability practices is still developing.

In Eastern India, Dey and Singh (2025) examined market participation, market impact, and marketing efficiency among smallholder paddy farmers. The study surveyed 320 respondents and employed structural equation modeling to analyze data. Findings indicated that farmers engaged in organized markets, such as cooperatives and regulated mandis, achieved higher marketing efficiency, better price realization, and reduced transaction costs. In contrast, farmers in remote areas relying on informal traders experienced lower returns and limited market influence. While the study provided valuable insights, its cross-sectional design constrained longitudinal analysis of market behavior. Dey and Singh recommended strengthening policy support for cooperative marketing structures and improving rural infrastructure to enhance smallholder farmers' access to efficient and profitable marketing channels.

Ma et al. (2021) examined the role of agricultural market policies, focusing on government-supported market information systems in reducing farmers' reliance on brokers. The study highlighted the significance of cooperatives, strengthened through policy interventions, in providing farmers with greater bargaining power and access to reliable market information. By leveraging data on prices and buyers, farmers were better equipped to make informed marketing decisions and bypass intermediaries. Additionally, government investments in infrastructure including roads, storage facilities, and transport networks enhanced farmers' access to markets, particularly in rural

areas, thereby improving market participation, reducing transaction costs, and increasing the profitability of smallholder agricultural production.Garcon (2024) presents an empirical study on participatory governance in the African rice sector, focusing on multistakeholder collaboration within the Coalition for African Rice Development (CARD) across twelve countries. Using the Framework Analysis approach, the study investigates the role of smallholder involvement and institutionalized participatory decision-making in shaping agricultural policy outcomes. The findings reveal that while local stakeholders are engaged during the initial phases of the National Rice Development Strategy (NRDS), their overall influence on policy outcomes remains limited. Participation is constrained by reliance on central government or donor support. Garcon concludes that despite efforts to institutionalize participatory governance, political will at the national level remains critical to ensuring meaningful stakeholder engagement and sustainable agricultural development across the continent

Policy reforms aimed at enhancing rural infrastructure, regulating buyer practices, and strengthening market institutions have significantly reduced smallholder farmers' dependence on intermediaries. In Tanzania, investments in rural roads and the promotion of cooperative marketing models improved farmers' access to markets, resulting in greater engagement in formal rice value chains. Similarly, in Kenya, initiatives to curb monopolistic practices and empower producer organizations fostered more transparent and efficient marketing systems. These measures minimized market fragmentation and information asymmetry, enabling farmers to establish direct relationships with buyers and secure fairer pricing. Such interventions demonstrate the critical role of coherent policy frameworks in enhancing market efficiency and smallholder profitability (Omamo, 2020).

Resnick (2024) explored agricultural policies in Sub-Saharan Africa and found that measures promoting transparent pricing, price floors, and the elimination of monopolistic practices by middlemen created an enabling environment for Kenyan farmers to confidently bypass brokers. The study emphasized the government's role in financing rural development, particularly in the rice sector, where investments in roads, storage, and market infrastructure facilitated direct marketing. Similarly, Olabanji & Chitakira (2025). examined initiatives such as the Agricultural Sector Development Strategy (ASDS) and found that these policies improved smallholder farmers' access to markets, reduced transaction costs, and enhanced profitability. Collectively, these studies highlight the central role of government interventions in strengthening market linkages, empowering farmers to participate directly in value chains, and minimizing dependency on intermediaries.

Conceptual Framework

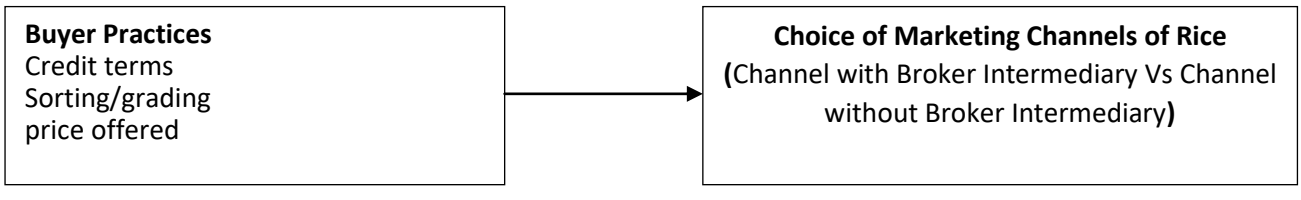


Figure 1: Conceptual Framework

METHODOLOGY

The study was guided by a positivist research paradigm, emphasizing objectivity, systematic inquiry, and empirical validation consistent with its quantitative approach. A blend of descriptive, exploratory, survey, and correlational designs was applied to analyze demographic characteristics, identify patterns, and examine relationships among

key variables. The target population comprised 14,200 rice farmers from six major rice-producing counties in Kenya, and a sample of 389 was derived using Yamane's (1967) formula at a 95% confidence level and 5% margin of error. Proportionate stratified random sampling ensured balanced county representation, followed by simple random sampling within each stratum. Data were collected from primary sources through structured questionnaires and secondary sources including scholarly and government publications. Analysis employed descriptive statistics to summarize respondent profiles and binary logistic regression to test hypotheses regarding farmers' marketing channel choices. Model adequacy was assessed using log-likelihood values, with predictor significance evaluated at the 5% level, and odds ratios used to interpret the likelihood of selecting specific marketing channels based on changes in explanatory variables.

RESULTS

Buyer Practices Influence the Choice of Marketing Channels for Unprocessed Rice

The results below present a descriptive analysis of buyer practices and their potential influence on the choice of marketing channels for unprocessed rice in Kenya. The analysis focuses on key variables such as prices offered by frequent buyers, credit terms, and the seriousness of sorting and grading requirements. These buyer-related factors are critical in shaping farmers' marketing decisions, as they affect profitability, payment timelines, and quality expectations. Understanding how these practices influence farmers' choices helps explain the dynamics of market participation across different marketing channels.

Table 1: Prices Offered Per Kg by Frequent Buyer

Response	Frequency	Percent
KES 60	105	27.8
KES 70	120	31.7
KES 80	80	21.2
KES 90	73	19.3
Total	**378**	**100**

The study sought to find out the prices offered by frequent buyers per kilogram of unprocessed rice, as this is a critical factor influencing farmers' choice of marketing channels. The findings presented in Table 4.15 show that a majority of respondents, 120 (31.7%), reported receiving KES 70 per kilogram. This price range appears to represent the most commonly accepted market rate among buyers and may reflect average pricing in semi-formal or cooperative marketing arrangements. Farmers receiving this price are likely influenced by perceived fairness, consistency, or buyer reliability. Additionally, 105 (27.8%) respondents indicated receiving KES 60 per kilogram. This group represents a significant portion of farmers who are likely engaged in informal or local markets, where prices tend to be lower due to fewer quality requirements or immediate cash payments. These farmers may prioritize convenience and speed of sale over profitability, which could limit their engagement with more competitive marketing channels offering higher returns. A total of 80 (21.2%) respondents reported receiving KES 80 per kilogram. This higher price suggests involvement in more structured marketing channels where buyers may offer incentives for quality, consistency, or bulk supply. Farmers in this group are likely to have better negotiation power, access to market information, or are part of organized farmer groups that help them secure better deals. Lastly, 73 (19.3%) respondents indicated receiving KES 90 per kilogram, the highest price range reported. This group, though smaller, may reflect farmers with premium-quality produce, access to niche markets, or long-term contracts with established buyers. Their marketing decisions are likely driven by

profitability and buyer relationship stability, making them more inclined to engage in formal marketing channels.

Table 2: Price Comparison with Other Buyers

Response	Frequency	Percent
Very bad	30	7.9
Slightly bad	38	10.1
Bad	45	11.9
Neutral	76	20.1
Good	83	22
Better	57	15.1
Best	49	13
Total	**378**	**100**

Participants were asked to rate the prices offered by their frequent buyers per kilogram of unprocessed rice in comparison to other buyers. The findings presented in Table 4.15 indicate a diverse perception of pricing fairness and competitiveness among rice farmers. A total of 83 (22%) respondents rated the prices offered by their frequent buyers as *good*, while 57 (15.1%) rated them as *better*, and 49 (13%) considered them the *best* compared to other buyers. These respondents likely perceive their frequent buyers as offering competitive or premium prices. Such positive pricing experiences can motivate farmers to remain loyal to particular buyers or participate in structured marketing channels that ensure stable pricing and consistent demand. On the other hand, 76 (20.1%) respondents gave a *neutral* rating, suggesting that they found no significant difference between their frequent buyers' prices and those of others in the market. This group may base their marketing channel choice on other factors such as convenience, distance, or credit terms rather than price alone. Conversely, 45 (11.9%) rated the prices as *bad*, 38 (10.1%) as *slightly bad*, and 30 (7.9%) as *very bad*. These farmers may feel dissatisfied with the prices they receive, which may push them to explore alternative marketing channels offering better returns. Farmers in this group are likely to be price-sensitive and may frequently switch buyers or rely on market information to find more favorable pricing.

Table 3: Time Taken Before Receiving Full Payment for Rice Delivered

Response	Frequency	Percent
Immediately	132	34.9
After one week	151	39.9
One month	95	25.1
Total	**378**	**100**

Furthermore, the study sought to find out how long it takes rice farmers to receive full payment for the unprocessed rice delivered to their preferred buyers. This variable is critical in assessing how credit terms influence farmers' choice of marketing channels. The findings in Table 4.16 reveal that 132 (34.9%) of the respondents reported receiving payment *immediately* upon delivery. This group is likely to favor marketing channels that offer prompt cash returns, such as local markets or direct buyers, which are typically informal but attractive to farmers with urgent financial needs or limited cash flow.

The largest proportion of respondents, 151 (39.9%), indicated that they received payment *after one week*. This short delay may be acceptable to many farmers, especially when balanced by other benefits such as better prices or reliability. Buyers offering such credit terms are often part of semi-

formal marketing systems, including cooperatives or local aggregators, where short-term trust relationships allow brief payment intervals. These arrangements offer a middle ground between immediate payment and long-term credit, which may influence a farmer's loyalty to specific buyers or marketing channels. A smaller segment of respondents, 95 (25.1%), reported receiving payment *after one month*. While such delayed payments may reflect formal marketing arrangements—such as institutional contracts or miller agreements they may also discourage participation from small-scale farmers with limited financial reserves. The long waiting period may create cash flow challenges and increase the risk of defaults or strained buyer-farmer relationships, leading farmers to avoid such channels unless there are strong compensatory benefits like premium prices. Participants were asked to rate the credit terms offered by their frequent buyers for unprocessed rice, as the duration and reliability of payments play a significant role in marketing decisions.

Table 4: Rating of Credit Terms by Buyer

Response	Frequency	Percent
Very short	38	10.1
Slightly bad	44	11.6
Short	68	18
Neutral	77	20.4
Slightly long	57	15.1
Long	49	13
Very long	45	11.9
Total	**378**	**100**

The results presented in Table 4 reveal diverse experiences and perceptions among rice farmers. A total of 38 (10.1%) respondents rated the credit terms as *very short,* and 68 (18%) rated them as *short.* These farmers are likely to appreciate prompt payment arrangements, which enable them to meet immediate household or production needs. Such favorable terms often encourage farmers to stick with buyers who offer quick returns, influencing a preference for informal or semi-formal marketing channels with less bureaucracy and quicker cash flows. Meanwhile, 77 (20.4%) of the respondents gave a *neutral* rating, indicating that the payment duration from their buyers is neither particularly good nor bad. Farmers in this group may consider other factors, such as price or proximity, more influential when selecting marketing channels. This neutrality suggests a level of tolerance or acceptance of current terms, especially if other transaction aspects are favorable. On the other end, 57 (15.1%) rated credit terms as *slightly long*, 49 (13%) as *long,* and 45 (11.9%) as *very long.* These responses indicate dissatisfaction or concern over delayed payments. Prolonged payment periods can affect cash flow, increase financial stress, and reduce trust in buyers. Farmers experiencing such delays may be discouraged from engaging with formal or structured marketing systems if timely compensation is not guaranteed. Additionally, 44 (11.6%) respondents rated the terms as *slightly bad*, indicating some dissatisfaction, though not severe enough to sever buyer relationships. Their marketing decisions may fluctuate depending on urgency, buyer reliability, and available alternatives.

Table 5: Seriousness of Sorting/Grading by Buyer

Response	Frequency	Percent
Not serious at all	38	10.1
Moderately serious	95	25.1
Slightly serious	56	14.8
Serious	115	30.4
Very serious	74	19.6
Total	**378**	**100**

Participants were asked to rate the seriousness with which buyers consider sorting and grading of unprocessed rice before making a purchase. As shown in Table 5, the findings provide insight into how quality-related buyer expectations influence farmers' marketing channel decisions. A significant number of respondents, 115 (30.4%), rated the seriousness of sorting/grading as serious, while 74 (19.6%) rated it as very serious. These results suggest that nearly half of the farmers deal with buyers who place a high emphasis on rice quality. Such buyers are likely to be part of formal or structured marketing systems such as millers, exporters, or large aggregators who require uniformity and quality assurance. Farmers dealing with these buyers must invest time and resources in proper post-harvest handling, which can influence them to choose marketing channels that reward quality through better prices or stable contracts.

On the other hand, 95 (25.1%) of the respondents rated buyer seriousness as moderate, and 56 (14.8%) rated it as slightly serious. These responses reflect engagement with buyers who may not strictly enforce grading standards but still consider it a factor. Farmers working with such buyers may have more flexibility in marketing lower-quality rice but still need to meet a minimum threshold. This group is likely to participate in semi-formal marketing channels, where quality matters but is not as strictly enforced as in export or institutional markets. A smaller portion, 38 (10.1%) of the respondents, rated the sorting/grading requirements as not serious at all. These farmers are likely to be operating in informal markets, such as local vendors or small-scale traders, where rice is accepted with minimal quality assessment. While this offers convenience and quicker sales, it may also limit access to better prices and more sustainable marketing relationships.

Technology Adoption and Its Mediating Role in Marketing Channel Choice

The results below present a descriptive analysis of technology adoption. The analysis focuses on farmers' access to digital tools such as phones and computers, and their use in ordering inputs, preparing farms, contacting extension service providers, and communicating with rice buyers. Technology plays a critical role in improving information flow, market access, and decision-making. Understanding how farmers integrate technology into their production and marketing processes provides valuable insights into their channel preferences and market participation.

Table 6: Access and Use of Technology

Response Statement	1 (Strongly Disagree)	2 (Disagree)	3 (Neutral)	4 (Agree)	5 (Strongly Agree)
As a rice farmer, I have access to technology through phones/computers	30 (7.9%)	45 (11.9%)	78 (20.6%)	132 (34.9%)	93 (24.6%)
Use of technology when ordering inputs	45 (11.9%)	68 (18.0%)	95 (25.1%)	106 (28.0%)	64 (16.9%)
Use of modern technology when preparing farms	55 (14.6%)	76 (20.1%)	105 (27.8%)	95 (25.1%)	47 (12.4%)
Use of technology to contact farm extension service providers	63 (16.7%)	75 (19.8%)	82 (21.7%)	98 (25.9%)	60 (15.9%)
Use of technology when contacting rice buyers	38 (10.1%)	57 (15.1%)	77 (20.4%)	114 (30.2%)	92 (24.3%)

The findings in table 6 indicate that access and use of technology among rice farmers in Kenya vary across different farming activities. For the statement on access to technology through phones or computers, the highest proportion of respondents (132 or 34.9%) agreed, indicating a significant level of digital access. Similarly, 106 respondents (28.0%) agreed that they use technology when ordering inputs, suggesting moderate adoption in procurement processes. Notably, the highest frequency for the use of modern technology in farm preparation was recorded under the "Neutral" category (105 or 27.8%), reflecting uncertainty or limited adoption. In terms of communication, 98 respondents (25.9%) agreed that they use technology to contact farm extension service providers, while 114 respondents (30.2%) agreed that they use technology to contact rice buyers. These findings suggest that while technological adoption is relatively strong in communication and sourcing, its application in actual farming operations remains moderate. This pattern has implications for marketing channel choices, as greater technological engagement may enhance market access, efficiency, and decision-making capacity among farmers.

Table 7: Preferred Unprocessed Rice Marketing Channel

Response	Frequency	Percent
Through brokers	151	39.9
Without broker	227	60.1
Total	**378**	**100**

The descriptive findings presented in Table 7 show that the majority of respondents (60.1%) preferred to market unprocessed rice without using brokers, while 39.9% chose to use brokers. This suggests that most rice farmers or traders value direct market access, potentially due to the opportunity for better profit margins, reduced transaction costs, or greater control over pricing and negotiations. The reliance on non-broker channels may also indicate increased awareness or access to market information and infrastructure that enables direct sales. Conversely, a notable proportion still rely on brokers, which could reflect challenges such as limited market access, lack of transport, or insufficient market knowledge among some respondents.

Table 8: Correlation Analysis

Statement	Marketing Channel	Price Offered	Price Compare	Payment Duration	Credit Terms	Sorting
Marketing Channel	1	0.131**	0.120**	0.103**	0.352**	0.035**
Price Offered	0.131**	1	0.529**	0.414**	0.468**	0.475**
Price Compare	0.120**	0.529**	1	0.426**	0.454**	0.449**
Payment Duration	0.103**	0.414**	0.426**	1	0.442**	0.408**
Credit Terms	0.352**	0.468**	0.454**	0.442**	1	0.492**
Sorting	0.035**	0.475**	0.449**	0.408**	0.492**	1

The binary logistic regression results revealed that buyer practices specifically price offered, price comparison, payment duration, credit terms, and sorting/grading had a statistically significant influence on the choice of marketing channels for unprocessed rice in Kenya, leading to the rejection of the null hypothesis (HO_1). The regression coefficients indicated that favorable buyer practices increased the likelihood of farmers selecting more structured or formal marketing channels. Among these variables, credit terms and price offered had the strongest positive effects, suggesting that farmers are more inclined to sell their rice through channels that provide better prices and flexible credit arrangements. Payment duration and price comparison also showed positive but moderate effects, implying that timely payments and the ability to compare prices enhance farmers' decision-making efficiency. Although sorting/grading exhibited a relatively smaller effect, it remained statistically significant, highlighting the importance of quality management in market participation.

Binary Logit Regression results for Market channel and Buyer Practices

Table 9: Binary Logit Regression Model for and Buyer Practices

Binary Logit Regression Model for Dependent Variable and Buyer Practices				Number of observations = 378
				LR chi²(5) = 56.34
				Prob > chi² = 0.0000
Log likelihood = -165.789				Pseudo R² = 0.1452
	Coef.	Std. Err.	z	P>|z|
Price offered by buyers	-1.21	0.384	-3.16	0.002 **
Price comparison with other buyers	-0.99	0.421	-2.34	0.019**
Duration of payment	0.746	0.365	2.04	0.041**
Credit terms offered	1.038	0.394	2.63	0.009**
Sorting/grading	0.912	0.379	2.41	0.016**
| _cons (Constant)	1.157	0.298	3.88	0**

**** p=value significant at 95% confidence interval**

The binary logistic regression analysis revealed that buyer practices significantly influence farmers' choice of marketing channels for unprocessed rice in Kenya, leading to the rejection of the null hypothesis (HO_4). The model was statistically significant (LR $\chi^2(5) = 56.34$, $p = 0.000$), with a Pseudo R^2 of 0.1452, indicating that buyer-related factors explained about 14.52% of the variation in farmers' marketing decisions. The results showed that price offered (Coef. = -1.21, p = 0.002) and price comparison (Coef. = -0.99, p = 0.019) were negatively and significantly associated with the use

of brokers, suggesting that higher prices and greater price awareness motivate farmers to sell directly to buyers. Conversely, payment duration (Coef. = 0.746, p = 0.041), credit terms (Coef. = 1.038, p = 0.009), and sorting/grading (Coef. = 0.912, p = 0.016) had positive and significant effects, indicating that farmers often rely on brokers who offer immediate payment, credit facilities, and post-harvest services. Overall, these findings confirm that while better prices and market transparency promote direct marketing, financial and logistical conveniences provided by brokers continue to influence farmers' marketing channel choices in Kenya's rice sector.

CONCLUSION AND RECOMMENDATION

The study concludes that buyer practices play a significant role in determining the marketing channels chosen by unprocessed rice farmers in Kenya. The binary logistic regression results demonstrated that variables such as price offered, price comparison, payment duration, credit terms, and sorting/grading collectively and significantly influence farmers' marketing decisions. Higher prices and transparent price comparisons encourage direct engagement with buyers or cooperatives, while flexible credit terms, immediate payments, and grading services offered by brokers attract many farmers to informal channels. These findings confirm that farmers' marketing behaviors are not only driven by price incentives but also by liquidity constraints and post-harvest support services provided by intermediaries. Therefore, improving formal market structures, reducing transaction costs, and enhancing access to credit and market information are essential for promoting equitable and sustainable rice marketing systems in Kenya.

The study recommends strengthening farmer cooperatives to improve collective bargaining power and direct market access, while enhancing digital platforms to provide real-time price information for informed decision-making. Financial institutions should offer affordable credit facilities to reduce farmers' reliance on brokers, and training programs on sorting and grading should be expanded to help farmers meet buyer standards. Additionally, the government should enforce policies that promote market transparency and fairness, and invest in rural infrastructure such as storage and transport to minimize post-harvest losses and boost participation in structured, profitable marketing channels.

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