

FACTORS INFLUENCING PROFITABILITY OF LOCALLY PRODUCED RICE MARKETING IN SOME SELECTED MARKETS IN IBADAN METROPOLIS, OYO STATE, NIGERIA

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ABSTRACT

This study was conducted to determine the factors influencing profitability of locally produced rice marketing in some selected markets in Ibadan Metropolis, Oyo State, Nigeria. Specifically, this study described the socio economic characteristics of the locally produced rice marketers; identify types of locally produced rice marketed; identify the price formations used by the locally produced rice marketers; identify the marketing channels used by the locally produced rice marketers; analyzed the costs and returns of locally produced rice marketing and determine the factors influencing marketing of locally produced rice in the study area. Multi stage sampling technique was used to select one hundred and twenty rice marketers. The objectives were analyzed using both descriptive and inferential. Multiple regression and chi square analysis were used to test the hypotheses of the study. Result of Socioeconomic characteristics revealed that majority (70.8%) of the respondents were female within the age range of 31-40 and 41-50 years of age, majority (89.2%) married, 42.5% of the respondents had secondary education, majority (86.7%) of the respondents had 1-5 household members, majority (74.2%) had trading as their secondary occupation, average (50.8%) had within 1-10 years of marketing experience, majority (80.8%) of the respondents has access to credit, most (62.5%) of the respondents had access to market, average (50.8%) of the respondents earned ₦1,000,001- ₦1,500,000 annually from locally produced rice marketing. The study also shows that Abakaliki rice was mostly marketed by the respondents, the price formation mostly used by the respondents was price from farm gate (mean=3.07), majority (98%) of the respondents used farm gate-wholesaler-retailer-consumer as their marketing channel. The adjuster R² was 0.0632 in the regression analysis with the p-value (0.728)>0.05. Three basic factors (marketing related problem, infrastructural related problems and Access to credit related problem) were identified that influence profit of locally produced rice marketing in the study area. Among all, the study recommends that Government should construct good roads that link the rural areas to the city so as to facilitate easy transportation of locally produced rice to the market since the study revealed that road access problem is the highest infrastructural problem faced by the local rice marketers in the study area

Key words: Locally Produced Rice, Factors, Marketing, profitability

1. INTRODUCTION

Rice (*Oryza sativa*) being the second largest consumed cereal after wheat shapes the lives of millions of people, and more than half the world's population depends on rice for about

80 percent of its food calorie requirements. Rice has been a good partner to mankind and the adaptations in terms of ecological, economic and technological changes around rice facilitated this "partnership between man

and rice” (Inuwa et al., 2011). As one of the most important cereals for human consumption, it is the staple food for over three billion people, constituting over half of the world’s population (Central and Reeves, 2002).

Rice marketing is the performance of all business activities in the flow of paddy and milled rice from the point of initial production until they are in the hands of the ultimate consumers (Basorun, 2012). Marketing is the management function which organizes and directs all those business activities involved in assessing and converting customers purchasing power into effective demand for a specific product or service and in moving the product or service to the final customer or user so as to achieve the profit target or other objectives set by the company or the trader (Basorun, 2012; Kolawole, 2005). Put succinctly, it is an organizational function and a set of processes for creating customers’ relationships in ways that benefit the organization and its stakeholders (American Marketing Association, 2007).

One of the major reasons for poor performance of local rice production and marketing is the neglect of the sector in the development priorities of the governments. Marketing can only take place when the products to be marketed are available (Osuji, 2011). However, some of the challenges facing the rice sector are lack of irrigation to guarantee all year production of rice, constraints of institutional and financing to enhance production and stocking, shortage of marketing opportunities, problems of transportation facilities occasioned by bad roads, lack of capital and credit facility and absence of price control agencies to check price fluctuations (Mbam 2014). Getting the role of government right in agriculture generally and rice production in particular has remained a serious challenge to the development of rice marketing in Oyo state and Ibadan Southwest Local Government Area in particular.

The main objective of this study is to determine the factors influencing

profitability of locally produced rice marketing in some selected market in Ibadan Metropolis, Oyo state, Nigeria. Specifically, this study sought to: describe the socio economic characteristics of the locally produced rice marketers in the study area; identify types of locally produced rice marketed in the study area; identify the price formations used by the locally produced rice marketers; identify the marketing channels used by the locally produced rice marketers in the study area; analyze the costs and returns of locally produced rice marketing in the study area; determine the factors influencing marketing of locally produced rice in the study area;

1.2 Hypotheses of the study

Ho1: There is no significant factor influencing the profitability of locally produced rice marketing in the study area

Ho2: There is no significant effect of the marketing channels used by the respondents on the profit of locally produced rice marketing in the study area.

2 METHODOLOGY

The study was carried out in Ibadan, which has 33 local government, a city in south western part of Nigeria, capital of Oyo State, located about 110 km northeast of Lagos. Ibadan is a major transit point between the coast and areas to the north. The population of Ibadan metropolis area increased at a growth rate of 3.9% per annum from 1952 to 1963 when the population rose to 1,258,625, then to 1,829,300 in 1999 at a growth rate of 1.65% from 1963 (National Population Commission, 2007). The population growth is said to have shifted gradually to the lesser city with a growth rate of 4.7% per annum between 1991 and 2006. The mean maximum temperature is 26.46°C and minimum 21.42°C and the relative humidity is 74.55%. It lies within the latitude 7° 19’ 08” and 7° 29’ 25” of the equator and longitude 3° 47’ 50” and 4° 0’ 22”. The major markets in Ibadan are Oje, Beere, Bodija, Oritamerin, Omi, Oja-Oba, Apata, Agodi gate, and Ojoo.

2.1 Sampling Procedure

A multistage sampling technique was used for this study. In the first stage purposive sampling techniques was used to select 6 markets from the 9 major markets (Oje, Beere, Bodija, Oritamerin, Omi, Oja-Oba, Apata, Agodi gate, and Ojoo) due to the predominance of locally produced rice marketers in the areas, the markets include; Bodija, Oja-Oba, Oritamerin, Apata, Ojoo and Omi. In the second stage 20 marketers were randomly selected from the 6 markets to give a total number of 120 respondents used in this study

2.2 Source of data

Primary Sources of data were obtained through the use of well-structured questionnaire.

2.3 Model specification

The empirical model for the ordinary least square multiple regression specified as follows:

$$C = f(x_1, x_2, x_3, x_4,$$

$$x_6, \dots) \dots \dots \dots \text{implicit form}$$

(1)

$$C = B_0 + B_1 X_1 + B_2 X_2 + B_3 X_3 + B_4 X_4 + B_5 X_5 + B_6 X_6 + B_7 X_7 + \mu \text{ explicit form } \dots \dots \dots (2)$$

Where

C = Profit of locally produced rice marketing (₦)

X₁ = Age of the marketers (in years);

X₂ = Sex (dummy; male =1, female =0)

X₃ =Marital status (married=1, single=2, divorced=3, widowed=4)

X₄ = Educational level (Adult education=1, primary education=2, secondary education=3,

Tertiary education=4)

X₅ = Secondary occupation (Farming=1, Trading=2, Civil servant=3)

X₆=Income (Naira)

X₇=Marketing experience (Years)

X₈= Price of imported rice (₦)

X₉= Taste of the local rice (Yes=1, No=2)

X₁₀= Taste of the imported rice (Yes=1, No=2)

X₁₁=Quantity of the local rice (kg)

X₁₂= Quantity of the imported rice (kg)

X₁₃=Price of the local rice (₦)

μ = Error term

2.3.1 Gross Margin Analysis

Gross Margin Analysis was used to determine the profitability of locally produced rice marketing in the study area:

$$GM = TR - TMVC \dots \dots \dots (3)$$

Where GM = Gross Margin

TR = Total Revenue

TMVC = Total Marketing Variable Cost

2.3.2 Factor Analysis

Factor analysis was used to identify factors influencing the locally produced rice marketing in the study area. The purpose is to identify new factors and their interpretation boils down to identify the variables that load high for its factor. Rick, (2014) developed a simple rule of thumb that variables with coefficient of 0.30 or more have high loading and may be used in naming a factor, this rule had general implication in all cases regarding the factor analysis.

2.4 Method of data analysis

Data were analyzed using both descriptive and inferential statistics. Descriptive statistics such as mean, frequency and percentage were used to achieve the objective i, ii, iii and v. Inferential statistics such as gross margin was used to analyze objective iv, objective v was realized with factor analysis. Hypothesis 1 was analyzed using Chi square while Hypothesis 2 was analyzed using ordinary least square multiple regression.

RESULTS AND DISCUSSION

4.1 Socio economic characteristics of the respondents

The results in Table 1 revealed that majority (70.8%) of the respondents were female while 29.2% were male. This is an indication that female were more involved in locally produced rice marketing than their male counterpart in the study area.

The Table 1 also shows that 36.7% of the respondents were within the age range of 31-40 and 41-50 years of age, 15.8% were within the age range of 51-60 years while few (2.5%) were within the age range of 11-30 years, with the mean age of 45 years; this shows that young adult female are mostly involved in locally produced rice marketing in the study area.

The result in table 1 also revealed that majority (89.2%) of the respondents were married, 4.2% of them were single and divorced and 2.5% were widowed; this implies that there are more married folks involved in locally produced rice marketing.

The result in Table 1 further shows that above average (56.7%) of the respondents were Muslim, while 43.3% of them were Christians, this is an indication that Muslims dominated the locally produced rice markets in the study area.

The result in Table 1 shows that 42.5% of the respondents had secondary education, 32.5% had tertiary education, 22.5% had primary education and 2.5% had adult education. This implies that local rice marketers in the study area had formal education. This finding substantiated the findings of Lawal and Idega (2004) who observed that the level of education attended by the marketers to a large extent determine the strategies, which he/she may use to solve his/her marketing problem and to adopt new innovation without difficulties that will increase his profit as soon as they became available to him/her.

The result on household size in Table 1 shows that majority (86.7%) of the respondents had 1-5 household members and 13.3% had 6-10 household members, this shows that local rice marketers in the study area do not have large household members who may help in marketing of locally produced rice.

The results also revealed that majority (74.2%) of the respondent had trading as their secondary occupation, 22.5% of them were civil servant while 3.3% had farming as their secondary occupation. This implies that the respondents were not doing only one business, they still involve in other trading to finance their business in marketing of locally produced rice.

The result in Table 1 also shows that average (50.8%) of the respondents had within 1-10 years of marketing experience, 46.7% had 11-20 years of marketing experience while 2.5% had 21 and above years of marketing experience; this implies that respondents in the study area are little experienced in locally produced rice marketing. Basorun, (2012) asserted that marketing experience is important in determining the level of profitability obtained by a marketer.

The result in Table 1 shows that majority (80.8%) of the respondents has access to credit while 19.2% had no access to credit. This shows that locally produced rice marketers have access to credit facilities which may be used to boost their business.

The result in table 1 also shows that most (62.5%) of the respondents had access to market information while 37.5% had no access to market information. This implies that market information will help the markets to adopt strategies in selling their product

The result on association shows that majority (94.2%) of the respondents belong to market association while 5.8% were not a member of any market association. This implies marketers who belong to association will have access to timely and useful information on locally produced rice marketing.

respondents earned ₦1,000,001- ₦1,500,000 annually from locally produced rice marketing, 31.7% earned ₦500,001- ₦1,000,000 annually from locally produced rice marketing, 5.0% earned above ₦2,000,001 while 3.3% earned ₦1- ₦500,000. This implies that majority of the respondents are high income earner.

The result in Table 1 on annual income indicates that average (50.8%) of the

Table 1: Socio economic characteristics of the respondents

Variable	Frequency	Percentage	Mean
Gender			
Male	35	29.2	
Female	85	70.8	
Age			
21-30	3	2.5	
31-40	44	36.7	
41-50	44	36.7	45years
51-60	19	15.8	
61and above	10	8.3	
Marital status			
Single	5	4.2	
Married	107	89.2	
Divorced	5	4.2	
Widowed	3	2.5	
Religion			
Muslim	68	56.7	
Christianity	52	43.3	
Educational status			
Adult education	3	2.5	
Primary education	27	22.5	
Secondary education	51	42.5	
Tertiary education	39	32.5	
Household size			
1-5	104	86.7	4
6-10	16	13.3	
Secondary occupation			
Farming	4	3.3	
Trading	89	74.2	
Civil servant	27	22.5	
Marketing experience			
1-10	61	50.8	11
11-20	56	46.7	
21-30	3	2.5	
Access to credit			

No	23	19.2	
Yes	97	80.8	
Market information			
No	45	37.5	
Yes	75	62.5	
Association			
No	7	5.8	
Yes	113	94.2	
Annual income			
1-500,000	4	3.3	
500,001-1,00,000	38	31.7	
1,000,001-1,500,000	61	50.8	
			₦1,334,034
1,500,001-2,000,000	11	9.2	
2,000,001and above	15	5.0	

Source: Field survey, 2020

4.2 Types of locally produced rice marketed in the study area

The result in Table 2 revealed the types of locally produced rice marketed by the respondents. The result shows that Abakaliki rice had the highest percentage of 99.2% and was mostly market by the respondents, other locally produced rice market by the respondents include Tomato rice (95.8%),

Champion rice (94.2%) and Ofada rice (73.3%) were mostly market by the respondents in the study area. Furthermore Lake rice (15.8%) had the least percentage and was least marketed by the respondents in the study area. This implies that Abakaliki rice, Tomato rice, Champion rice and Ofada rice were mostly marketed by the respondents.

Table 2: Types of locally produced rice

Types of locally produced rice	Yes	No
Ofada rice	88(73.3)	32(26.7)
Abakaliki rice	119(99.2)	1(0.8)
Tomato rice	115(95.8)	5(4.2)
Lake rice	19(15.8)	101(84.2)
Champion rice	113(94.2)	7(5.8)
Ilesa rice	70(58.3)	50(41.7)

Source: Field survey 2020

(multiple response)

All figures in parenthesis are in percentage

4.3 Price formations used by the locally produced rice marketers

The result on price formation shows that price from farm gate (mean=3.07), had the highest mean and was ranked first. Other price formation include grading and sorting (mean=2.34) and quality of locally produced rice (mean=1.52) which ranked 2nd and 3rd

respectively. This is an indication that price from farm gate, quality of locally produced rice bought for sales were the very important factor in price formation of locally produced rice. This may be due to the fact that price of locally produced rice bought for sales will determine the price the marketers will sell for the consumers

Table 3: Price formations used by the locally produced rice marketers in the study area

Determinants	VI	I	SI	NI	Mean	Rank
Bargaining/ Negotiations	101(84.2)	19(15.8)	0(0.0)	0(0.0)	1.48	4 th
Quality of locally rice bought for sales	19(15.8)	98(81.7)	1(0.8)	2(1.7)	1.52	3 rd
Grading/sorting	1(0.8)	47(39.2)	64(53.3)	8(6.7)	2.34	2 nd
Price from farm gate	34(28.3)	66(55.0)	14(11.7)	6(5.0)	3.07	1 st

Source: Field survey, 2020

All figures in parenthesis are in percentage

VI: Very Important, **I:** Important, **SI:** Slightly Important: **NI:** Not Important

4.4 Marketing channels used by the locally produced rice marketers for their product

The result in Figure 1, revealed the marketing channel used by the locally produced rice marketers for their product. The table shows that majority (98%) of the respondents used

farm gate-wholesaler-retailer-consumer. The mostly used marketing channel in the study area is farm gate-wholesaler-retailer-consumer this may be due to the fact that this channel increases the profitability of locally produced rice marketing.

Table 4: Marketing channels used by the locally produced rice marketers for their product

Marketing Channel	Yes	No
Farm gate-wholesaler-retailer-consumer	98(81.7)	22(18.3)
farm gate-retailer-consumer	25(20.8)	95(79.2)
Farm gate-wholesaler-consumer	19(15.8)	101(84.2)
Farm gate-consumer	8(6.7)	112(93.3)

Source: Field survey 2020

(multiple response)

All figures in parenthesis are in percentage

4.5 Profitability of locally produced rice marketing

Table 4 shows the total variable marketing cost incurred and total returns of the respondents in the marketing of locally produced rice in Ibadan. The Table indicates that ₦36, 836,570 was total marketing variable cost of locally produced rice while ₦43, 387,650 was obtained as revenue (which was quantity of locally produced rice sold multiplied by price

per bag). The profit made by the respondent was ₦6, 551,080

$$GM = TR - TMVC$$

$$TR = ₦43, 387,650$$

$$GM = ₦43, 387,650 - ₦36,836,570$$

$$= ₦6, 551,080$$

Since gross margin (₦6,551,080 per annum) is positive, therefore locally produced rice marketing in the study area is profitable.

Table 5: Profitability of locally produced rice marketing

Variable	Average Quantity and cost /naira/annum
Cost of locally produced rice bought for sale	₦35,310,000
Market Dues/levy cost	₦142,350
Government due/levy	₦144,400
Storage cost	₦420,900
Cost of market labour	₦156,000
Cost of transportation	₦407,450
Cost of loading	₦107,900
Cost of unloading	₦106,050
Cost of sack	₦41,520
Total variable marketing cost	₦36,836,570
Quantity of local rice sold (kg)	51,009
Selling price of paddy rice(per kg)	₦850
Total revenue (TR)	₦43,387,650
Gross margin (GM)	₦6,551,080

Source: Field survey, 2020

4.6 Factors influencing profit of locally produced rice marketing

Factor analysis was used to identify factors influencing profit of locally produced rice marketing in the study area. The purpose was to identify new factors and their interpretation boils down to identify the variables that had high factor.

These variables loading high were used in naming each of the extractor factors. Rick, (2014) developed a simple rule of thumb that variables with coefficient of 0.30 or more have high loading and may be used in naming a factor. These rules have general application in all cases regarding the factor analysis. The results are presented in table 6.

After careful examination of these factors, factor (1) was named marketing related problems because most of the variables that loaded high related to the marketing problem.

These problem include sex of the marketers which is the highest loading value of 0.908

Factor 2, has the road access problem (0.437) and inadequate storage facilities (0.166). These factors were named infrastructure related problems because their variables are related to infrastructural related problems. Road access problem is the major problem in factor 2, according to the marketers respondents have the highest loading value of (0.437).

Factor 3, has the high loading variable as inadequate capital. Hence, named access to credit related problem variable is related to access to credit problem.

From the result of the factor analysis, the (3) three basic factors influencing profitability of local rice marketing in the study area were critically explained and marketing factor was a dominant problem of local rice marketers in the study area.

Table 6: Factors influencing profitability of locally Produced Rice marketing

Factors	Marketing factor	Infrastructural factor	Access to credit factor
Age of the marketers	0.141	-0.051	-0.689
Sex	0.908	0.056	0.053
Marital status	0.727	-0.005	-0.032
Educational level	0.304	0.021	-0.493
Secondary occupation	0.609	0.154	-0.130
Income	0.888	0.096	-0.184
Marketing experience	0.924	0.143	-0.062
Price of imported rice	0.794	0.239	-0.020
Taste of the locally produced rice	0.696	0.112	-0.138
Taste of imported rice	0.399	0.314	-0.034
Quantity of the locally produced rice	0.658	-0.020	-0.112
Quantity of the imported rice	0.480	0.138	-0.246
Price of the locally produced rice	0.553	0.244	-0.266
High cost of purchasing from producer	0.333	-0.233	-0.351
Poor credit access	-0.631	-0.110	-0.004
Inadequate capital	-0.367	-0.157	0.133
Price punctuation	0.441	0.421	0.232
Inadequate storage facilities	-0.316	0.166	-0.355
Poor marketing information	0.405	0.366	-0.013
Perishability	-0.348	-0.374	-0.377
Road access problem	0.079	0.437	0.310
High market levy	-0.074	-0.186	-0.289
Poor quality of locally produced rice	0.656	-0.061	-0.232
High demand for imported rice than locally produced rice	0.450	0.146	-0.068

Source: Field survey 2020

4.7 Regression analysis shows the Factors affecting the profitability of locally produced rice marketing

The factors affecting the profitability of locally produced rice marketing were identified with multiple regression analysis and the hypothesis tested at 5% significant

level. The results as presented in table 6, showed that:

Age of the marketers had positive coefficient value which have direct positive influence on the profitability of locally produced rice marketing and show no significant differences ($p=0.921$) on the profitability of locally produced rice marketing.

Sex had positive coefficient value which had direct positive influence on the profitability of locally produced rice marketing and show no significant differences ($p=0.210$) on the profitability of locally produced rice marketing.

Marital status also had positive coefficient implying that there is a direct effect on the profitability of locally produced rice marketing and show no significant difference ($p=0.670$) on the profitability of locally produced rice marketing.

Educational level had positive coefficient, implying that there is direct positive influence on the profitability of locally produced rice marketing and show significant no difference ($p=0.866$) on the profitability of locally produced rice marketing.

Secondary occupation of the respondents had positive coefficient implying that there is a direct effect on the profitability of locally produced rice marketing and show no significant difference ($p=0.420$) on the profitability of locally produced rice marketing.

Income had positive coefficient, implying that there is direct positive influence on the profitability of locally produced rice marketing and show significant no difference ($p=0.479$) on the profitability of locally produced rice marketing.

Marketing experience had positive coefficient implying that there is direct positive influence on the profitability of locally produced rice marketing and show significant difference ($p=0.819$) on the profitability of locally produced rice marketing.

Price of imported rice had negative coefficient implying that there is an inverse effect on the profitability of locally produced rice marketing and show significant difference ($p=0.049$) on the types of locally produced rice consumed.

Taste of locally produced rice had positive coefficient implying that there is direct positive influence on the profitability of locally

produced rice marketing and show significant difference ($p=0.572$) on the profitability of locally produced rice marketing.

Taste of imported rice had negative coefficient implying that there is an inverse effect on the profitability of locally produced rice marketing and show no significant difference ($p=0.374$) on the types of locally produced rice consumed.

Quantity of the locally produced rice had positive coefficient value which had direct positive influence on the profitability of locally produced rice marketing and show no significant differences ($p=0.885$) on the profitability of locally produced rice marketing.

Quantity of imported rice had negative coefficient implying that there is an inverse effect on the profitability of locally produced rice marketing and show no significant difference ($p=0.202$) on the profitability of locally produced rice marketing.

Price of the locally produced rice had positive coefficient implying that there is direct positive influence on the profitability of locally produced rice marketing and show no significant difference ($p=0.145$) on the profitability of locally produced rice marketing.

High cost of purchasing from producer had positive coefficient value which had direct positive influence on the profitability of locally produced rice marketing and show no significant differences ($p=0.732$) on the profitability of locally produced rice marketing.

Poor credit access had positive coefficient, implying that there is direct positive influence on the profitability of locally produced rice marketing and show significant no difference ($p=0.441$) on the profitability of locally produced rice marketing.

Inadequate capital had positive coefficient, implying that there is direct positive influence on the profitability of locally produced rice marketing and show significant difference

(p=0.378) on the profitability of locally produced rice marketing.

Price fluctuation had negative coefficient implying that there is an inverse effect on the profitability of locally produced rice marketing and show no significant difference (p=0.719) on the profitability of locally produced rice marketing.

Inadequate storage facilities had positive coefficient value which had direct positive influence on the profitability of locally produced rice marketing and show no significant differences (p=0.502) on the profitability of locally produced rice marketing.

Poor marketing information had positive coefficient value which had direct positive influence on the profitability of locally produced rice marketing and show no significant differences (p=0.432) on the profitability of locally produced rice marketing.

Perishability had positive coefficient value which had direct positive influence on the profitability of locally produced rice marketing and show no significant differences (p=0.482) on the profitability of locally produced rice marketing.

Road access problem had positive coefficient value which had direct positive influence on the profitability of locally produced rice marketing and show no significant differences

(p=0.438) on the profitability of locally produced rice marketing.

High market levy had positive coefficient value which had direct positive influence on the profitability of locally produced rice marketing and show no significant differences (p=0.051) on the profitability of locally produced rice marketing.

Poor quality of locally produced rice had negative coefficient implying that there is an inverse effect on the profitability of locally produced rice marketing and show no significant difference (p=0.865) on the profitability of locally produced rice marketing.

High demand for imported rice than locally produced rice had positive coefficient value which have direct positive influence on the profitability of locally produced rice marketing and show no significant differences (p=0.814) on the profitability of locally produced rice marketing.

The adjuster R^2 was 0.0632 indicating that 63.2% of the profitability of locally produced rice marketing was explained by the influence of the factors in the regression model. Since the p-value (0.728) $>$ 0.05. Therefore, the null hypothesis was accepted meaning that factors measured have significant effect on the profitability of locally produced rice marketing in the study area

Table 7: Factors affecting the profitability of locally produced rice market

Variable	Coefficient	St. error	t-value	Sig	Decision
(Constant)	-506349.607	760420	-0.666	0.507	NS
Age of the marketers	7931.511	79725	0.099	0.921	NS
Sex	153207.316	121285	1.263	0.21	NS
Marital status	36633.84	85620.7	0.428	0.67	NS
Educational level	9849.066	58351.6	0.169	0.866	NS
Secondary occupation	91605.896	113001	0.811	0.42	NS
Income	72593.521	102202	0.71	0.479	NS
Marketing experience	33715.812	147093	0.229	0.819	S

Price of imported rice	4255.439	87308.7	0.049	0.961	S
Test of the locally produced rice	42272.263	74440.3	0.568	0.572	S
Test of imported rice	-57953.164	64852.4	-0.894	0.374	NS
Quantity of the locally produced rice	9559.428	65899.3	0.145	0.885	NS
Quantity of the imported rice	-53959.856	41975.7	-1.286	0.202	NS
Price of the locally produced rice	62396.103	42471.5	1.469	0.145	S
High cost of purchasing from producer	18997.111	55397.4	0.343	0.732	NS
Poor credit access	46470.714	60036.9	0.774	0.441	NS
Inadequate capital	44244.099	49943.4	0.886	0.378	S
Price Fluctuation	-18146.163	50253.8	-0.361	0.719	NS
Inadequate storage facilities	27749.007	41146.7	0.674	0.502	NS
Poor marketing information	42208.569	53423.5	0.79	0.432	NS
Perishability	27191.72	38530.7	0.706	0.482	NS
Road access problem	33362.572	42789.7	0.78	0.438	NS
High market levy	77798.223	39350.5	1.977	0.051	NS
Poor quality of locally produced riced	-8396.576	49361.9	-0.17	0.865	NS
High demand for imported rice than locally produced rice	9687.199	41137	0.235	0.814	NS
Adjusted R ²	0.632				
p-value	0.728				
F-value	0.8				

Source: Field survey, 2020

NS: Not significant

S:Significant

4.8 Chi square analysis showing the effect of the marketing channels used by the respondents on profitability of locally produced rice marketing

Result in Table 6 shows the relationship between the marketing channels used by the respondents and profitability of locally

produced rice marketing. The results revealed that farm gate-retailer-consumer ($\chi^2=1.1602$; $p=0.040$) is the only marketing channel that has significant relationship with profitability of locally produced rice marketing.

Table 8: Chi square analysis showing the effect of the marketing channels used by the respondents on profitability of locally produced rice marketing

Variable	Chi square value	Df	Significant	Decision
Farm gate-wholesaler-retailer-consumer	1.0442	91	0.159	NS
farm gate-retailer-consumer	1.1602	91	0.040	S
Farm gate-wholesaler-consumer	97.488	91	0.302	NS
Farm gate-consumer	98.571	91	0.276	NS

Source: Field survey, 2020

NS= Not significant

S= Significant

CONCLUSION AND RECOMMENDATIONS

Three basic factors (marketing related problem, infrastructural related problems and access to credit related problem) were identified that influence profit of locally produced rice marketing in the study area. Similarly, marketing related factors dominate the problems of locally produced rice marketers in the study area. However, based on the findings of this study, the following recommendations were made:

Government should construct good roads that link the rural area of the country to the city so as to facilitate easy transportation of locally produced rice to the market since the study revealed that that road access problem (0.437) is the highest infrastructural problem faced by the local rice marketers in the study area.

Marketers should organize themselves into cooperative society so as to have access to credit facilities because inadequate capital and poor access to credit are the major access to credit problem faced by marketers due to this constraint.

People should go into the locally produced rice marketing within the area of study, since the result of the gross margin shows positive profitability in locally produced rice marketing.

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