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Effect of credit services and socioeconomic factors on the income of cocoa marketers in Ondo State, Nigeria

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Abstract
Cocoa has remained a valuable crop and major foreign exchange earner among other agricultural commodity export of the Nigerian economy. Therefore, the study evaluates the effect of credit services and socioeconomic factors on the income of cocoa marketers in Ondo State, Nigeria. Primary data were used with the aid of a well-structured questionnaire. A multistage sampling technique was used to select 120 cocoa marketers. Descriptive statistics, budgetary technique and Ordinary Least Squares (OLS) were used for the analysis. The costs and returns analysis reveal that the net marketing income for the average cocoa marketer was ₦8,560,344 per annum while the total revenue of an average cocoa marketer was ₦20,716,187 per annum. The marketing efficiency ratio is 70.4 while the return on investment (ROI) is estimated to be 1.7. That is out of every ₦1 invested, the average marketer made a profit of ₦1 and 7 kobo. The results of OLS revealed that transportation, credit size, credit source, and credit duration were the main determinants marketers' income in the area. Lack of collaterals and poor financial management skills are the main constraints faced by the marketers. Thus, it is recommended that credit should be provided for cocoa marketers with moderate collateral requirement and interest rate in order to give each and every cocoa marketer the chance to expand their scale of operations.

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1. Introduction

Agriculture is an important sector of the Nigerian economy, employing over 70% of the labour force and contributing significantly to the country's GDP. However, smallholder farmers in Nigeria face a number of challenges, including limited access to credit and other financial services. In this context, credit services play a crucial role in supporting the development of the agricultural sector in Nigeria (Adeoye *et al*, 2020) [2]. Cocoa (*Theobroma cacao L*.) contributes greatly to the economic development of Nigeria (Okon and Nkang, 2009; Arene 2013) [29, 10]. The cash crop plays a crucial role in providing employment foreign exchange earnings, and revenue to governments of cocoa-producing States (Nkang *et al*., 2009) [23]. Additionally, cocoa is an important source of raw material for many agro-industries (Folayan and Daramola, 2006) [14] and it has high nutrient contents such as carbohydrate, protein, fat, and minerals that can be used for manufacturing beverages, wine, chocolate, cream, and livestock feed, among others (Amos, 2007) [7].

Cocoa marketing plays dominant role in terms of contribution to economic growth in Ondo State and Nigeria. However, in order to achieve higher cocoa marketing outputs, there is need for adequate farming inputs. Inputs financing is an important factor needed to improve cocoa outputs and strengthening rural economy. The issue of marketing inputs financing has received the attention of government and academics in the recent years (Oboh and Ekpebu, 2011, Meludu *et al*. 2017; Ladigbolu, *et al*. 2020) [25, 18, 16].

Agricultural credit is well-thought-out as a strategic resource for pushing crop productivity to the frontier, hence, raises the standards of living of many poor farmers. Therefore, access to agricultural credit is anticipated to assist farmers to optimally combine resources at their disposal. Agricultural credit has two sources: formal and informal. Credit from formal sources in Nigeria has more beneficial effects on the rural poor, and its access is abysmally low (Oke *et al.*, 2019) [27]. This is evident in the fact that the interest rate on formal credits is exorbitantly high in Nigeria (Moahid *et al*., 2021) [20]. Therefore, low access to formal credit is responsible for limiting marketers' productivity.

Credit services made available to cocoa marketers in Nigeria includes short-term loans, which are loans provided to meet the working capital needs of cocoa marketers. The loans are usually repayable within a year and are designed to help cocoa marketers finance activities such as buying, grading, and packaging of cocoa beans (Adeniji, 2017) [3]. Medium-term loans are also one of the credit services available to cocoa marketers. These are loans provided for a period of one to five years to finance the purchase of equipment, expansion of warehouses, or other capital investments in the cocoa value chain. Export financing is a credit services for financing cocoa exporters. This type of financing is provided to cocoa exporters to enable them to finance their export operations, such as pre-shipment inspection, grading, and transportation of cocoa beans (Garba *et al.,* 2014) [15]. Invoice discounting: This is a financing arrangement where cocoa marketers can receive immediate payment for their invoices at a discount. The lender pays the cocoa marketer a percentage of the invoice value upfront and collects the full amount from the buyer when the invoice becomes due (Olusegun *et al.* 2015) [32].

Consequently, it is worth of note that in expanding any sector of the economy for sustainable growth, the role of credit cannot be overemphasized. The paramount roles in which credit plays in agricultural investment project necessitated the move by the Central Bank of Nigeria to embark on various agricultural credit schemes like N200 billion commercial agriculture credit scheme which was inaugurated in the late 2000s with a view to financing large projects that involve the value chain in agricultural sector. Also, in order to improve the lending attitude of commercial banks towards agricultural sub sector of the economy, the apex bank in the country set up Agricultural Credit Guarantee Scheme Fund (ACGSF) by providing a guarantee of 75% of all agricultural loans to commercial banks. Since 2005, the commercial banks have been the principal players in ensuring continuous growth of loans to the farmers with the disbursement of ₦48.6 billion in 2005, which exponentially rose to ₦1, 88 trillion in 2015, connoting an estimate of 3000 percent increment. (CBN, 2017).

In Nigeria, the government has implemented various interventions to finance cocoa marketing and support the growth of the cocoa industry. Some of these interventions include: Cocoa Export Development Fund, this fund is managed by the Nigerian Export-Import Bank (NEXIM) and provides financing to cocoa exporters to enable them to expand their export capacity. The fund provides financing for activities such as pre-shipment inspection, grading, packaging, and transportation of cocoa beans. Nigerian Export-Import Bank. National Cocoa Development Programme, this programme is aimed at promoting the development of the cocoa industry through research and development, extension services, and capacity building for farmers and processors. The programme is implemented by the Federal Ministry of Agriculture and Rural Development. (Federal Ministry of Agriculture and Rural Development, 2017). Cocoa Marketing Boards, The Nigerian government has established cocoa marketing boards in various cocoa-producing states to regulate and coordinate the marketing of cocoa beans. The boards are responsible for ensuring fair prices for cocoa farmers and marketers and maintaining quality standards for cocoa beans (Ogunsanya, 2019) [26].

The income of cocoa marketers can vary depending on several factors such as the current market prices for cocoa, the quality and quantity of cocoa beans they sell, their level of experience and negotiation skills, and the prevailing economic conditions in the region they operate. However, cocoa marketers typically earn a profit margin on the difference between the price they purchase cocoa beans from farmers and the price they sell to cocoa processors or exporters. In some cases, cocoa marketers may also earn additional income through commissions or fees for services provided, such as logistics and transportation of cocoa beans (Mensah *et al.,* 2015) [19]. Credit is a major factor in any marketing business, as it would go a long way to expand the scope of the business and increase the volume of operations and at the same time contribute to the income of the cocoa marketer. However, having access to credit for the marketing of cocoa beans especially in large scale is determined by several factors which needs to be addressed in order to overcome the problem of income disparity among cocoa marketers. This will also encourage the youths to go into the business of cocoa marketing. Therefore, the general objective of the study is to analyze the effects of credit services to the income of cocoa marketers, while the specific objectives are to:

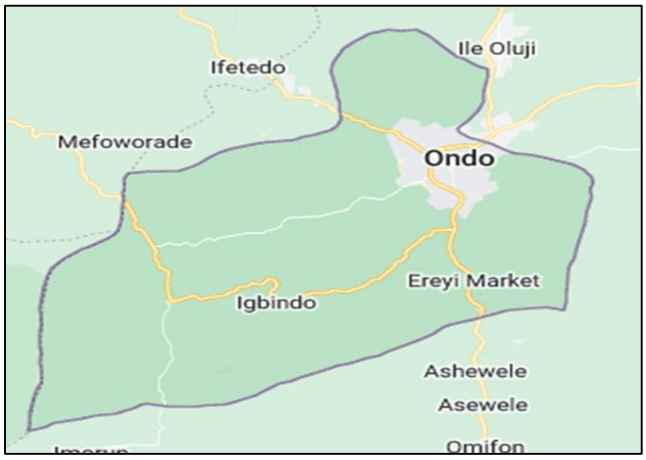
1. Describe the socio-economic characteristics of cocoa marketers in the study area;
2. Identify the credit services available to cocoa marketers in the study area;
3. Estimate the cost and return structure of marketing of cocoa in the study area;
4. Analyze the factors affecting the profitability of cocoa marketing; and
5. Identify the constraints of accessing the credit services by cocoa marketers

Several empirical studies have examined the effect of agricultural credit on cocoa marketing using various methods. For instance, a study by Aminu (2018) [8] in Nigeria found that access to credit significantly influenced the marketing behavior of cocoa marketers, and improved their marketing efficiency. Another study by Poku *et al*. (2020) [34] in Ghana revealed that credit access improved the quality and quantity of cocoa beans sold by farmers, and increased their bargaining power in the market. Similarly, a study by Addai and Owusu-Ansah (2016) in Ghana found that credit access positively influenced the marketing of cocoa by providing farmers with the necessary resources to purchase inputs, and transport their produce to the market. On the other hand, a study by Tetteh *et al.* (2021) [35] in Ghana found that credit access had no significant effect on the marketing of cocoa, but rather improved farmers' production practices and output. Despite the wealth of empirical studies on the effect of agricultural credit on cocoa marketing, there still exists a gap in literature regarding the extent to which credit services are

accessible to cocoa marketers in some regions, and the factors that hinder their access to credit services. Therefore, more studies are needed to investigate the availability and accessibility of credit services to cocoa marketers, and the challenges they face in accessing such services. However, none of these reviews have looked into the overall credit services available to cocoa markets in Ondo State and also been the state which top the largest of cocoa marketers in Ondo state. There are also gap in literature on the effect of credit services on income of cocoa marketers of which attention as only be focused on cocoa farmers in the study area. Hence this study is set to bridge the gap in literature on the analysis of credit services on the income of cocoa marketers in Ondo State.

2. Materials and Methods

The study was carried out in Ondo state, Nigeria. Data were collected using a well-structured questionnaire. Questions on the socio-economic characteristics of cocoa marketers such as age, sex family size, marketing experience, religion etc., were asked. A multistage sampling procedure was used in the study. The first stage involved purposive selections of Ondo West Local Government Area. The reason was because of the dominance of cocoa marketers in the study area. The second stage involved a simple random sampling technique to randomly select ten communities from Ondo West Local Government Area which are Lapawe, Itagbogi, Bagbe, Okeayadi, Ilunla, Ajagba, Igbindo, Laje, Newtown, and Okelisa. The third stage then involved random sampling of twelve (12) cocoa marketers from each community to make a total of one hundred and twenty (120) respondents in the study area. The Figure 1 presents the map of the study area.



***Source*:** Google Map Image (2023)

Fig 1: Map depicting Ondo west local government area

The variables that were used for this study includes dependent variables and independent variables. Descriptive statistics was used to analyze objectives i, ii and v, while budgetary technique and multiple regression were used to achieve objectives iii and iv, respectively.

Descriptive Statistics: Frequency and percentage table was used to describe the socio-economic characteristics of respondents such as age, sex, marital status, the credit that exist in the study area, and the constraints of cocoa marketers in accessing credit services.

Budgetary techniques: Budgetary techniques that were employed and they include Return on Investment (ROI), Benefit cost Ratio (BCR). This indicator determines the worthiness of an investment.

NMI= TR-TC (1)

Where:

NMI= Net Marketing Income (Naira/bg)

TR= Total Revenue (Naira/bg)

TC= Total Cost of Marketing (Naira/bg)

TC= TVC+TFC

Total Cost (TC) = Total Variable Cost (TVC) + Total Fixed Cost (TFC)

TVC = (cost of cocoa bean, labour, transportation, jute bag)

TFC = (weighing balance and knife.)

Return on Investment (ROI) is obtained by dividing the Gross Revenue (TR) over the

Total Cost (TC).

Therefore,

Where:

ROI = Return on Investment

TR = Total revenue

TC = Total Cost

The Benefit-cost ratio analysis will be measured

Using:

BCR = TR/TC (2)

Where:

BCR – Benefit-Cost Ratio

TR – Total Revenue (cocoa bean output (kg) x unit Price (₦))

TC – Total Cost (summation of total variable cost and total fixed cost (₦)).

ROI which is return on investment is the amount that is realized as profit from a business venture While BCR which is benefit cost ratio is what is used to determine whether a whole business venture is worthwhile.

BCR must be greater than 1 for an investment in Cocoa marketing to be worthwhile

The OLS Regression Model: Some of the factors that influence marketing margin of cocoa marketers were determined quantitatively using the ordinary least square (OLS) multiple regression model. The OLS function that is estimated for cocoa beans marketers in the study area is implicitly presented by the following equation: $Y= f (X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, \mu i)$

Where

Y = Income of cocoa marketer per annum

X_1 = Sex (0=female, 1=male)

X_2 =Age (years)

X_3 =Marketing Experience (years)

X_4 =Membership of association (0=not belonging 1=belonging)

X_5 =Education level (Years spent in school)

X_6= Transportation Cost (naira)

X_7=credit duration (years)

X_8=Credit size (Naira)

X_9 = Marital status (married =1 and 0, otherwise)

X_{10} = Labour (Naira)

X_{11} = Credit Source (1= relatives and 0, otherwise)

µi = the error term (which is assumed to have zero mean and constant variance)

The multiple regression analysis was estimated using the ordinary least square regression technique. The following functional forms was estimated for the factors that affect the profitability of cocoa

Marketing and the one that best satisfies the theoretical, statistical and econometric criteria for a production function was selected as lead equation. The functional forms that were used are exponential, linear and double log forms. The double log form satisfied the statistical criteria and was used as the lead equation.

3. Results and Discussion

Socioeconomic Characteristics of the Respondents

From the Table 1, the information drawn from the survey shows that 95.8% of the respondents are male and 4.2% of the respondents are female. This collaborated by the findings of Ahamefule *et al*. (2017) [5] that there are more males that are involved in cocoa marketing than female. This suggests that more males participate in cocoa marketing than females. The results also show that cocoa marketers were within the age range of age 51-60 (65.9%) had the highest age range with 54.7 mean. The result implies that the marketers are not in their productive age but the youth are not involved in the marketing of cocoa, According to Nwaru (2004) [24], age relates to strength, innovativeness, activeness and efficiency. The marital status of the respondents shows that majority of the respondents, about 75.8%, are married and only 1.7% are single, 18.3% were widow, 1.7% were divorce, and 2.5% were separated. The dominance of the married could indicate a large household and may be a source of labour thereby reducing expenses on hired labour for the marketing operations. Educational level of users of credit determine to a large extent level of awareness or existence of such organization and level of knowledge which will also guarantee to some extent efficient and productive uses of the loan to the benefit of the marketers and the nation at large as well as increase repayment rate. Majority (59.2) of Cocoa marketers attended at least secondary school. Marketers with secondary education accounted for the highest proportion of the entire respondents, Tertiary school education, 31.7%, primary school education 7.5%, while only 1.7% of respondents had no formal education. The result implies that cocoa marketers well educated and this is expected to contribute positively to decision making of marketers. This is in agreement with (Olagunju and Ajiboye, 2010) [31] who asserted that the educational attainment of a farmer does not only raise productivity but increase ability to appreciate the essences of credit and understand and evaluate the information on new techniques and processes disseminated through extension agents. According to the result, majority of the family size was within the range of 4-6 (87.5%). The average family size, however, mean was 4.6. The finding is consistent with Oladejo (2015) [30] who found out that the average household size for cocoa marketers was 4.6. Oseni *et al*. (2018) [33] opined that a large household size suggests a major source of farm labour which is consistent with the fact that household members constitute an important source of labour force required for Marketing. In a typical agrarian population structure in developing countries such as Nigeria and at the same time increases the consumption pressures which may have negative effect on the loan collected, that is, loan divergence for domestic uses.

According to results, cocoa marketers mean year of experience 24.6 indicated that cocoa marketers have years of experience**.** Experience is important in determining the profit levels of marketers; hence the implication of this result is that the more the experience, the more marketers understand the marketing systems, conditions, trends and thus, the profit maximization intention of the marketers is assured and secured which in return increases their chances of cocoa marketers getting credit facilities. The results shows that all the cocoa marketers (100%) had access to credit; this may be as a result of the huge capital and the profitability of cocoa marketing business. This result also means that cocoa marketing cannot be carried out in the absence of credit that will foster and bring about more profit. So, if a cocoa marketer must increase its profit margin and living standard, he or she must be able to procure financial assistance for him or herself. And this will be a significant reason why the youths especially graduate of Agriculture are not involved in this lucrative business. Results presented in Table 8 show that majority of the respondents (58.4%) who had access to credit obtained their credit from the exporters while the rest marketers in the study area got their source of credit from the commercial banks such as First bank, Zenith bank. Distribution of the respondents by Cocoa marketing association shows that 90.8% of the marketers belong to cooperative associations while 9.2% are non-members. This implies that majority of the marketers are likely to have increased access to credits and innovative ideas that could emanate from such cooperative associations. This is because cooperative membership is a major requirement for receiving certain loans especially from agricultural banks. Ajibefun and Aderinola (2007) [6]; Ashagidigbe *et al*. (2011) and Anyanwu (2012) [9] have argued that membership of cooperative affords marketers the opportunity of sharing information on modern marketing strategies and to help members financially.

Table 1: Results of the Socioeconomic Characteristics of the Cocoa Marketers

Variable	Frequency	Percentage	Mean
Gender			
Male	115	95.8	
Female	5	4.2	
Age			
40 – 45	5	4.2	54.7
46 – 50	23	19.2	
51 – 55	32	26.7	
56 – 60	47	39.2	
61 – 65	13	10.7	
Marital status			
Married	91	75.8	
Single	2	1.7	
Widow	22	18.3	
Divorce	2	1.7	

Separated	2	2.5	
Educational level			
No formal education	2	1.7	
Primary school education	9	7.5	
Secondary school education	71	59.2	
Tertiary education	38	31.6	
Family size			
1 – 3	10	8.3	4.6
4 – 6	105	87.5	
7 – 9	5	4.2	
Marketing experience			
10 – 15	7	5.8	24.6
16 – 20	25	20.9	
21 – 25	35	29.2	
26 – 30	46	38.3	
31 – 35	7	5.8	
Access to credit			
Yes	120	100.0	
No	0	0.0	
Source of credit			
Exporter	70	58.4	
Commercial bank	50	41.6	
Cooperative membership			
Yes	109	90.8	
No	11	9.2	
Total	120	100.0	

4.2.1 Measurement of Profitability of Cocoa Marketer

The budgetary analysis comprises total revenue and total cost of marketing. The total cost of marketing comprises total variable cost and total fixed cost. It was shown in Table 2 that the total variable cost formed about 44.1% of the total cost of marketing, while the total fixed cost contributed 32.1% of the total cost of marketing. Transportation cost accounted for about 33.2% of the total cost of marketing followed by cost of maintenance 24.0%, followed by depreciation cost of weighing scale 16.6%, followed by the depreciation cost of jute bag (4.8%), cost of grading 4.4%, depreciation cost on building, 4.0%, cost of labour 3.7%, depreciation cost on tarpaulin 3.1%, cost on association 2.6%, and depreciation cost of pallet, thread and needle, tray, and spade and sieve 1.4%, 1.2%, 0.4%, 0.3% and 0.1% respectively. The value of profit estimated to be, 8,560,344 indicated that cocoa marketing business is a profitable business in Ondo state. The results of the cost of marketing were similar to the findings of Oseni *et al*. (2018) [33] and Fatuase, Oparinde and Aborisade (2015) [12] who reported that variable costs always take more than 50% of the cost of marketing of most agricultural enterprises. The rate of return on investment (ROI) of 1.7 implies that cocoa marketer will realize 1.7 on each naira expended. Again, percentage profit of over 70.4% further confirmed that cocoa marketing is a highly profitable venture in the study area marketers should be able to pay back loans even at commercial bank interest rate of at least 18% per annum. The result of the BCR was 170 indication that the marketing profit of cocoa was efficient. The results of the analysis implies that cocoa business is highly profitable which may be due to the access to exporter and bank loans. Hence cocoa marketer will be able to pay the interest rate accrued by formal or in formal institution, therefore, credit facilities have a great effect on the profitability and income of cocoa marketers in the study area.

Table 2: Costs and Return Analysis of Cocoa Marketing

Items	**Value in (₦)**	**Mean**	**Percentage**
Revenue	20,716,187		
Purchasing cost	10,273,456		
	Fixed cost		
Depreciation cost on building		76,000	4.0
Depreciation cost on tray		6,738	0.3
Depreciation cost on Pallet		28,000	1.4
Depreciation cost on weighing scale		313,456	16.6
Depreciation cost on jute bag		90,230	4.8
Depreciation cost on Tarpaulin		58,736	3.1
Depreciation cost on basket and knife		7,951	0.4
Depreciation cost on thread and needle		22,091	1.2
Depreciation cost on spade and sieve		1,670	0.1
TFC		**604,872**	**32.1**
	Variable input		
Labour		69,516	3.7
Transport		624, 333	33.2
Association		49,291	2.6
Grading		82,375	4.4

Cost of maintenance		452,000	24.0
TVC		**1,277,515**	**67.9**
Marketing cost = VC+FC		**1,882,387**	100.0
TCM=Purchasing cost+(VC+FC)		**12,155,843**	
Total Revenue (TR)		20,716,187	
Profit =TR-TCM		8,560,344	
% profit or Marketing efficiency =(profit/TCM) *100		70.4	
ROI=TR/TCM		1.7	
BCR=TR/TC BCR*100		170	

Where; TCM= Total cost of marketing
BCR = Benefit cost ratio
***Source*: Field Survey, 2023**

4.3 Factors Affecting the Profitability of Cocoa Marketing

To examine the factors affecting marketing profitability of cocoa in the study area, three functional forms were fitted to the data and these are Double log, exponential, and semi-log. On the basis of the criteria of choice of the lead equation (economic, statistical and econometric criteria), the double log model was chosen as lead equation because it has the highest number of positive variables. The double log model also has and R^2 of .728 and this implies that 72.8% of the total variation in cocoa marketing is accounted for by all the explanatory variables in the regression model (Table 3). The results of the double log model indicated that four variables out of the eleven independent variables which are transportation cost in (naira), loan duration, credit size, and credit was significant at 1 and 5 percent alpha level. Credit size of cocoa and credit source were significant at 1% percent level and has positive coefficients, this implies that a unit increase in the credit size borrow and source of credit will increase the profit of cocoa marketers by 66.2% and 271.4%, this also means that the source of credit whether from the exporter or commercial bank is significant to the income of the cocoa marketer. Cocoa marketers have an ability and access to get an upfront payment from exporters which is the major source of credit. Therefore, increase in credit obtained from exporter will increase marketers of cocoa profit in the study area. Credit duration was significantly negative at 5% alpha level. The results implies that a unit increase in cocoa loan duration will decrease income by 43.8%. The negative coefficient of -0.438 for credit duration (X7) indicates that, holding all other variables constant, an increase in credit duration leads to a decrease in cocoa marketer income. In other words, the longer the duration of the loan, the lower the profitability of cocoa marketing. This relationship may be due to a number of factors. For example, longer credit durations may be associated with higher interest rates, which can increase the cost of borrowing and reduce the profitability of cocoa marketing. Alternatively, longer loan durations may be indicative of higher levels of debt, which can also increase the cost of borrowing and reduce profitability. It is also worth noting that the p-value for the coefficient of loan duration is significant at the 5% level, indicating that the relationship between credit duration and cocoa marketing profitability is statistically significant. The high t-value of -2.207 further supports the significance of this relationship. Overall, the coefficient of -0.438 for credit duration suggests that cocoa marketer should consider the cost of borrowing and the duration of loans when making financial decisions related to their cocoa business. Shorter loan durations may be more favorable for increasing profitability, but this must be weighed against other factors such as the size of the loan and associated interest rates The coefficient of 0.711 for transportation means that a 1% increase in transportation is associated with a 71.1% increase in cocoa marketing profitability. This suggests that transportation is an important factor in determining cocoa marketing profitability, and that increasing transportation can have a positive impact on profits/income.

Table 3: Results of the Multiple Regression Estimations

Independent Variables names	Variable letter code	Double log	Exponential	Semi-log
Constant	Coefficient	-6.732	12.328	-394320547.19
	T-value	(-1.933)	(14.667)	(-4.016)
	P-value	.056	.000	.000
Sex	X1	.201	.076	1495251.21
		(.712)	(.370)	(.188)
		.478	.712	.851
Age	X2	-.488	.002	-12229956.46
		(.712)	(.133)	(-.747)
		.403	.894	.46
Marketing Experience	X3	.288	.014	7813071.72
		(1.101)	(1.058)	(1.062)
		.273	.293	.291
Association	X4	.174	.152	2410556.94
		(.876)	(1.085)	(.431)
		.383	.280	.67
Years of education	X5	.064	.012	1360199.81
		(.365)	(.773)	(.274)
		.715	.441	.79
Transportation	X6	.711***	1.866E-6***	11571505.80**
		(3.622)	4.969	(2.091)

		.000	.000	.039
Credit duration	X7	-.438**	.036	-2861777.87
		(-2.207)	(.304)	-.512
		029	.762	.610
Credit size	X8	.662***	9.819E-10	11957978.48**
		(4.510)	1.360	(2.892)
		.000	.177	.005
Marital status	X9	.006	-.018	1082739.50
		(.085)	(-.458)	(.506)
		.933	.648	.614
Labour	X10	.122	7.915E-7	3080342.01
		1.304	.(644)	(1.170)
		.195	.521	.245
Credit source	X11	2.714***	1.134*	56469990.93***
		5.947	2.71	4.39
		.000	.008	.000
R square		.728	.702	.546
Adj R^2		.700	.671	.499
F- ratio		25.849	23.08	11.604

***Source*: Field Survey, 2023**
Figure in first line= estimated coefficient
Figures in parenthesis = t value
Figure in third line= p value
*** = 1% significance level; ** =5 % significance level; * = 10% significance level

4.4. Constraints faced by marketers in accessing credit services

In Table 4 shows the constraints encountered by cocoa marketers in sourcing for credit from the financial institution in the study area. Major constraints faced by cocoa marketers in obtaining credit services in order of their importance are as follows Lack of collaterals (4.5), poor financial management skill (4.3), poor record keeping (4.2), market illiteracy ((3.8), High interest loan (2.8), Agricultural uncertainty (2.6), lack of steady income (2.1), and seasonal nature of produce (2.1). Thus, Lack of collateral (4.5) which is the most important constraints faced by cocoa marketers in obtaining credit from financial services implies that most cocoa marketers may not have the financial institutions requirement for collaterals to obtain credit service. Assertions by Nkang *et al*. (2009) [23], which confirmed that lack of collateral and uncertainty facing the agricultural sector were important constraints to commercial banks in disbursing loans for agricultural purposes. Poor financial management (4.3) skills been the second most important constraints faced by cocoa marketers followed by poor record keeping (4.2). Marketers of cocoa need to be trained by extension services on the knowledge on how to keep record of their marketing produce in order to obtain credit services from financial institutions.

Table 4: Distribution of cocoa marketers' constraints in accessing credit services

Constraints	Very important		Important		Moderately		Rarely		Not at all		Mean
	F	%	F	%	F	%	F	%	F	%	
Lack of collaterals	67	55.8	52	43.3	1	0.8	-	-	-	-	**4.5**
Marketers' illiteracy	6	5.0	84	70.0	30	25.0	-	-	-	-	**3.8**
Agricultural uncertainty	-	-	3	2.5	77	64.2	40	33.3	-	-	**2.6**
Poor record keeping	35	29.2	85	70.8	-	-	-	-	-	-	**4.2**
Poor financial management skills	47	39.2	73	60.8	-	-	-	-	-	-	**4.3**
Lack of steady income	-	-	1	0.8	47	39.2	72	60.0	-	-	**2.4**
Seasonal nature of produce	-	-	1	0.8	20	16.7	99	82.5	-	-	**2.1**
High interest loan	-	-	24	20.0	68	56.7	17	14.2	11	9.2	**2.8**

***Source*:** Field Survey, 2023

Conclusion and Recommendations

In conclusion, the study revealed that cocoa marketing is a highly profitable venture in the study area, with a return on investment (ROI) of 1.7 and a percentage profit of over 70.4%. The profitability of cocoa marketing is influenced by various factors, including transportation cost, loan duration, credit size, and credit. However, cocoa marketers face various constraints in obtaining credit services, such as lack of collaterals, poor financial management skills, and poor record-keeping. Overall, the study provides useful insights for policymakers and stakeholders in the cocoa industry to improve the marketing and financing of cocoa in the study area. Based on the findings of the study, here are some possible policy recommendations to improve the marketing and financing of cocoa in the study area:

- Increase access to credit services: Policymakers can work with financial institutions to design loan products that cater to the needs of cocoa marketers. This could include flexible repayment terms, lower interest rates, and relaxed collateral requirements.
- Improve financial literacy: There is a need to improve the financial management skills of cocoa marketers to enable them to keep accurate financial records and manage their finances effectively. This could be achieved through training programs and workshops organized by relevant agencies.
- Enhance market literacy: Many cocoa marketers in the study area have limited knowledge of market dynamics,

which could limit their ability to make informed decisions. Policymakers could work with relevant agencies to provide training and education on market trends, pricing, and other relevant information.

- Encourage cooperative marketing: Policymakers could encourage cocoa marketers to form cooperatives to improve their bargaining power and access to credit services. This could also help to facilitate the sharing of information and resources among cocoa marketers.
- The government should also ensure that the youths participate in the marketing activities of cocoa by making it compulsory for graduate of agriculture to join agricultural commodity association in which cocoa is one of them, this will go a long way to reduce unemployment and make the youth participate actively in the marketing of cocoa because the youth will bring in more innovations to the system.

Overall, these policy recommendations could help to address some of the challenges faced by cocoa marketers in the study area and improve the profitability of cocoa marketing.

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