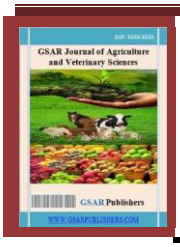

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Determinants of Profit Efficiency among Cattle Traders: A case study of Cattle Markets in Southwest, Nigeria

By

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Abstract

This study examined the profit efficiency among cattle marketers in Southwest, Nigeria. Primary data collected from 121 wholesalers and 379 retailers were analysed using descriptive statistics and Stochastic Profit Frontier Function. There was significant difference between average marketing experience of 27 years for wholesalers and 22 years for retailers (t=7.31 p< 0.05). There was significant difference (13.41, p<0.05) between number of cattle sold per month by wholesalers (40) and retailers (21). The Profit Efficiency model for wholesalers shows that costs of feed, transportation and labour were negative and statistically significant (p<0.05). Household size impacted on the profit inefficiency of cattle marketers. Poor and high transportation cost constituted the major challenge (38%) affecting efficient wholesale cattle marketing while inadequate access to capital was the major challenge among the retailers (29%). Therefore, cattle traders should seek for alternative feedstuffs and equally increase their participation in cooperative societies to raise adequate fund for cattle marketing. They should further imbibe the adult education programmes of various state governments to enhance their decision making process.

Keywords: *Cattle Markets, Profit Efficiency, Stochastic Profit Frontier Model.*

INTRODUCTION

According to FAO (2006), cattle account for over 50% of the nation's meat supply needs while various classes of livestock and other domesticated animals make up the remaining 40–50% of the balance. According to Nasiru (2012), Nigeria is home to roughly 16.7 million cattle, 57.9 million goats, and 36.4 million sheep. Since humans require high-quality protein for growth, development, and maintenance of metabolic activities, the demand for animal protein has increased due to the rapid expansion in the human population (FAO, 2016). Animal protein consumption has been connected to economic growth, which suggests that people in countries with high levels of high-quality animal protein consumption have excellent physical and mental health (FAO, 2016). Nigerians and sub-Saharan African nations consume considerably less protein than the average (FAO, 2016). Ruminants, which include sheep, goats, and cattle, make up the livestock in Nigeria and are raised by farmers in the nation's agricultural system (Hassan, 2009). Majority of these animals are located in the Northern part of the country, despite the fact that livestock production is a tool for socioeconomic transformation to increase income and quality of life. In particular, the Northern region of the country is home to 70% of the sheep and goat populations and about 90% of the country's cattle (Girei *et al*., 2013X). The ecological conditions of the area, which are characterized by brief rainfall duration, lighter sandy soils, and a longer dry season, are responsible for the concentration of Nigeria's cattle base in the Northern region (Lawal-Adebowale, 2012).

Given that Nigeria's consumption of animal protein is low compared to the recommended amounts, there is every reason to be concerned about this scenario (Mafimisebi, 2011). Despite the fact that Nigeria is one of the top four producers of cattle in the sub-Saharan region, a significant amount of cattle, sheep, and goats, as well as a variety of milk products, were imported in 2003 to the tune of over $250 million (FAO,

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2006). As a result, it is necessary to address the issue of the rising demand for cattle products. Doing so will boost productivity and, in turn, efficiency in their marketing in Nigeria. According to Little *et al.* (2001), the sale of livestock serves as the primary source of income for a significant majority of rural households in SSA. Despite the functions that these animals serve, research is needed to address the challenges in cattle markets and marketing practices. From the point of breeding to the consumption, the issues are readily apparent. Stress-related issues during transit, supply issues, the occurrence of economically significant diseases, middlemen's speculative actions, lack of knowledge about the sources of supply and demand and revenue generation, among others, are encountered (Filani, 2006). It must be mentioned that one of the

ongoing concerns with livestock movement is the regular ethnic conflicts that directly or indirectly involve the Fulani herdsmen (Filani, 2006).

Despite the huge demand for these animals and their bye-products, there is shortage due to factors such as poor transportation and high animal costs. The price of the animals also reflects the significant disparity between supply and demand for livestock, as the high cost of the animals' acquisition affects the volume of livestock provided or sold in the market (Adamu *et al*., 2005).

The demand for beef has been rising while the availability of cattle and its products has been decreasing (Mafimisebi *et al*., 2013). The shortfall in the supply of cattle is frequently attributed to the high cost of cattle marketing. Furthermore, there are significant pricing disparities for livestock between the places of supply and retailing as well as, and more significantly, within the areas of consumption (Mafimisebi, 2011). According to Mafimisebi and Okunmadewa (2006), this is caused by the many types of market intermediaries that exist between the locations of production and consumption. The temporal effects of season are brought to bear by the delay between supply and demand, which has an impact on animal pricing.

The inefficiency of the ruminant market may endure unless production and marketing issues are thoroughly addressed and integrated, as experience has shown to be the case with distribution issues involving live animals (Udensi, 2003). Due to marketing inefficiencies, there has been a persistent issue with price and sales volume variation over time (Erhabor *et al*., 2008). The

difficulty in marketing cattle has caused a rise in transaction costs and, thus resulting in an increase in the final retail price of cattle and its products.

The study aimed at investigating the factors influencing profit efficiency among cattle traders in the Southwest region of Nigeria. The specific objectives are to: (i) describe the characteristics of the cattle market participants in southwest region of Nigeria; (ii) examine the determinants of profit efficiency of cattle marketing in the study area; and (iii) identify the constraints to efficient functioning of cattle markets in Southwest Nigeria.

Methodology

The research was carried out in Southwest Nigeria. About 75% of the population reportedly relies on farming as their primary or secondary source of income due to these favorable annual weather changes (Adenegan *et al*., 2012). States in the Southwest geopolitical zone are: Ekiti, Lagos, Ogun, Ondo, Osun, and Oyo. The states have three distinct ecological zones: the rainforest belt, derived savannah, and Guinea savannah. With a sizable population comes a comparatively high demand for cattle. The indigenous Fulani population, who move their cattle haphazardly and cause clashes between farmers and herders, also raised cattle locally in the area. The study area is filled with many cattle markets. Primary data were gathered using a structured questionnaire. The study used a multi-stage sampling process. At the initial stage, three of the six states in Southwest Nigeria were purposefully chosen. The second stage comprised the selection of five Local Governments Areas in each State that were known to harbour thriving cattle markets. However, one market was chosen from each local government area in the third stage. In the fourth stage, market associations' member registers were used to proportionally choose 30 per cent of the respondents in each market. Finally, 169 cattle marketers were selected from Lagos State, 160 from Ogun State, and 171 from Oyo State giving a total sample size of five hundred (500) respondents.

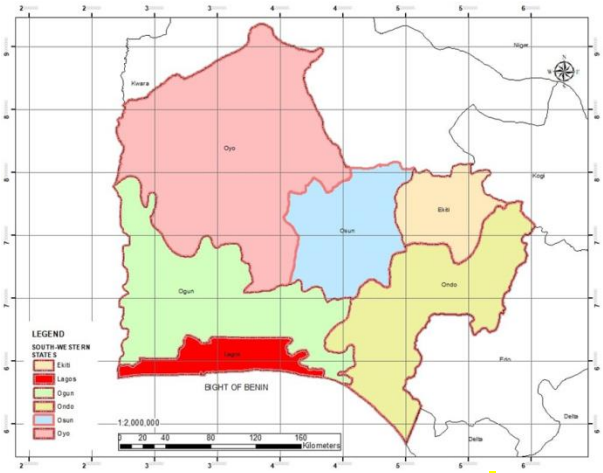

Figure 3: Map of Southwest Nigeria indicating the Study Area

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Table 1: Sample Size and Sampling of the Respondents in the Study Area

Market Name		Total Registered Marketers	30% of Registered Marketers	Wholesalers	Retailers
Lagos	Sabo	143	43	9	34
Oko-oba		207	62	15	47
Alaba Rago		78	23	6	18
Imota		68	20	5	15
	Igan	68	20	5	15
	Sub-Total	**564**	**169**	**40**	**129**
Ogun	Imowo	138	41	10	31
	Mowe	130	39	10	29
	Ikeoluwa	54	16	4	12
	Corner	55	17	4	12
	Berger	157	47	11	36
	Sub-Total	**534**	**160**	**39**	**121**
Oyo	Kara	129	39	10	29
	Amode	138	41	10	31
	Akinyele	106	32	8	24
	Bodija	142	42	11	31
	Oke-ose	55	17	3	14
	Sub-Total	**570**	**171**	**42**	**129**
Total		**1,668**	**500**	**121**	**379`**

Source: Field survey, 2020

Analytical Methods

Markets participants' Characteristics and market constraints

The respondents' socioeconomic traits and challenges to marketing were analysed using descriptive statistical methods such frequency tables and distributions, percentages, and averages.

Testing for significant difference in socioeconomic variables was done by T-test:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{S^2\left(\frac{1}{n_1} + \frac{2}{n_2}\right)}} \quad \ldots (1)$$

Where:

X_1 = Mean age (years), income (naira), marketing experience (years), household size (numbers) of wholesalers

X_2 = Mean age (years), income (naira), marketing experience (years), household size (numbers) of retailers.

S^2 = Variance of the socio-economic characteristics of wholesalers S^2 = Variance of the socio-economic characteristics of retailers

n_i = Number of wholesale respondents n_2 = Number of retail respondents

Stochastic Profit Function Frontier model

Analysis of the profit efficiency and inefficiency of the cattle trading was done using the Stochastic Profit Function Frontier following Battese and Coelli, (1995) model which assumed that profit function behaves in a manner concordant with the stochastic frontier theory (Aminu *et al*., 2022). The stochastic profit function is however specified as:

$\pi_i = f(Pij, Zkj) \text{ Exp. } ei$

Where:

π = normalized profit of the jth market

*Corresponding Author: **Okeowo, T. A.**

This is computed as a ratio of gross margin and variable cost by the market specific output Price, Pij = price of j^{th} variable input faced by the i^{th} market divided by output price

Zik = level of the k^{th} fixed factor on the I^{th} market

e_i = error term,

I = 1……., n, is the number of markets in the sample.

The stochastic profit frontier, using Cobb-Douglas functional form, was specified as follows: $\ln \pi = \ln\beta_0 + \beta_1\ln X_1+\beta_2\ln X_2 +\beta_3\ln X_3 +\beta_4\ln X_4 +\beta_5\ln X_5 +\beta_6\ln X_6 + \beta_7\ln X_7 + ei$ (3)

Where,
$\ln \pi$ = Gross margin (₦)
X_1 = Cost of feed (₦)
X_2 = Cost of transportation (₦) X_3 = Medication cost (₦)
X_4 = Tax expenses (₦) X_5 = Security cost (₦) X_6 = Cost of labour (₦) X_7 = Selling Price (₦)

The profit inefficiency model was specified as:
$Ui = \delta o + \delta_1Q_1 + \delta_2Q_2 + \delta_3Q_3 + \delta_4Q_4 + \delta_5Q_5 + \delta_6Q_6 + \delta_7Q_7$ (4)

Where:
Q_1 = Age (years)
Q_2 = Educational level (years) Q_3 = Experience (years)
Q_4 = Sex (1 if male; 0 otherwise) Q_5 = Household size (number)
Q_7 = Quantity of cattle sold (number) δ1 - δ9= parameters to be estimated

The parameters of the stochastic frontier profit function and the inefficiency model simultaneously were estimated based on Frontier Version 4.1c program (Coelli, 1996).

Results and Discussion

Personal Characteristics of Cattle Marketers

Table 2 displays the personal features of the marketers. The average age of wholesalers was 46 years, compared to roughly 47yeras for retailers. This suggests that most marketers are in their prime years and can handle the demanding tasks associated in cattle marketing. According to Nse-Nelson *et al*. (2017) and Mafimisebi *et al*. (2013), respondents between the ages of 41 and 50 made up the bulk of ruminants' marketers, and this result corroborated their findings. According to Oseni (2010), age has been regarded as a crucial socioeconomic tool for evaluating cattle dealers' individual marketing effectiveness. It enables the cattle traders to dedicate more of their time to the marketing concern.

Table 2: Distributions of Personal Characteristics of Cattle Marketers

Variable	Categories	Wholesalers		Retailers	
		Freq	%	Freq	%
Age range (years)	<30	07	5.78	27	7.12
	31-40	43	35.54	72	19.00
	41-50	67	55.37	193	50.92
	51-60	04	3.31	70	18.47
	61-70	-	-	17	4.49
	Total	121	100.0	379	100.0
	Mean	46.17		46.96	
	SD (T-value=0.93	8.46		7.96	
Sex	Male	121	100	349	92.08
	Female	-	-	30	7.92
	Total	121	100.0	379	100.0
Marital status	Single	10	8.26	42	11.08
	Married	106	87.60	281	74
	Widow/Widower	04	3.31	37	9.76
	Divorced	01	0.83	19	9.76
	Total	121	100.0	379	100.0
Household Size (Nos)	1-5	05	4.13	86	22.69

*Corresponding Author: **Okeowo, T. A.**

	6-10	81	66.94	283	74.67
	11-15	30	24.79	07	1.85
	16-20	05	4.13	03	0.79
	Total	121	100.0	379	100.0
	Mean	9.85		7.73	
	SD (T-value+17.93	3.02		1.66	
Education	No formal education	21	17.36	50	6.60
	Primary School	62	51.24	88	23.22
	Secondary School	36	29.75	201	53.03
	Post-secondary school	02	1.65	65	17.15
	Total	**121**	**100.0**	**379**	**100.0**
Marketing Experience (years)	<10	03	2.48	35	9.23
	11-20	30	24.8	158	41.69
	21-30	51	42.15	142	37.47
	31-40	24	19.83	39	10.29
	41-50	05	4.1	05	1.32
	Above 50	08	6.61	-	-
	Total	121	100.0	379	100.0
	Mean	27.31		21.83	
	SD. (T-value=7.31***	7.34		7.11	

Most wholesalers (100%) and retailers (92.08%) were men. This demonstrates that the marketing of cattle is dominated by men. The outcome is not unexpected given the demanding effort required for cattle marketing and distribution, as well as the stress this causes on market participants. This outcome agreed with Garba (2019) and Girei *et al*. (2013). The results further indicate that most of the Cattle Marketers, wholesalers (87.60%) and retailers (74.0%)) were married. As a result, they may become more practical in their cattle marketing efforts because they depend on a steady stream of cash to survive. Najamudeen *et al*. (2012), studies corroborated this conclusion. Further in Table 2, majority of retailers (74.67%) had households with an average of eight, whereas wholesalers had an average of ten. This shows that wholesalers had larger families, which may have aided in the trade of cattle. This result corroborated the findings of Adegbite (2007 but differs from Garba's (2019) conclusion. There was significant difference between the household sizes of wholesalers and retailers (t=21.98 p0.05). Table 2 displays the marketers' level of educational attainment. About 51.24 per cent of wholesale marketers attended school through the sixth grade. Although the results showed a relatively low level of schooling, the respondents' acquired skills allow them to read and write in a manner that is appropriate for the type of trade they are likely to do. Additionally, the results demonstrated an improvement in the level of education among retailers, with 53.03 per cent holding a secondary school diploma. This finding was consistent with that of Nse-Nelson *et al*. (2017), who noted that primary and secondary education levels were held by 60 per cent and 33.3%, respectively, of cattle traders. Mafimisebi *et al*. (2013) noted a comparable outcome.

Wholesalers having an average of 27 years of marketing experience, compared to 22 years for retailers. This suggests that in the cattle trading industry, wholesalers have more experience than retailers. The difference in cattle sales experience between wholesalers and retailers was statistically significant (t=7.31 p< 0.005), supporting the notion that wholesalers have more industry expertise than retailers. This result was inconsistent with that of Ugwumba *et al*. (2011), who noted that the mean years of experience for wholesalers and retailers, respectively, were 18 and 25 years. Table 3 shows that 53.17 per cent of wholesalers, obtained cash for their businesses from personal savings whereas 34.83 per cent of retailers get their business funding from cooperative organisations. This confirms that a bigger proportion of respondents depended on unsecured sources of credit or loans to pay for the marketing of cattle. The consequence is that the two groups of marketers in the research area may find it difficult to expand their cattle business if they cannot easily access financing with single-digit interest rates. Friends, family, and cooperative societies are reportedly easier sources of funding for the cattle business because there is no requirement for collateral and loans are readily available (Mafimisebi *et al*., 2010).

All respondents belonged to one or the other association of livestock sellers. This demonstrates the significance of association membership in the marketing of cattle. Market associations support its members' sales, offer up-to-date

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information, and get involved in helping to resolve crises in and around their area of expertise Thomas *et al*. (2014). Although associations do emerge inside the marketing system, in theory this portends imperfection (Adegeye and Dittoh, 1985). The findings show that, in addition to cattle marketing, trade serves as the primary other occupation of the respondents in the research area. Having additional jobs by the cattle traders assist in coping with uncertainties of life, which in the end stabilise income flow and possible effect on efficiency of the primary business.

Table 3: Distributions of Personal Characteristics of Cattle Marketers (cont'd)

Variables	Wholesalers		Retailers	
	Frequency	Percentage	Frequency	Percentage
Source of Capital				
Personal savings	65	53.72	116	30.61
Friends and relatives	5	4.13	34	8.97
Bank loan facilities	39	32.23	97	25.59
Cooperative societies	12	9.92	132	34.83
Total	121	100.0	379	100.0
Membership of association				
Yes	121	100.0	379	100.0
No				
Categories of other Jobs				
Trading	60	49.59	134	35.36
Farming	35	28.92	98	25.86
Artisans	26	21.49	80	21.11
Civil service	-	-	67	17.68
Total	121	100.0	379	100,02

Source: Field Survey, 2020

Profit Efficiency Analysis of Wholesale Cattle Marketers in Southwest Nigeria

The result of the stochastic profit function for the cattle wholesale marketers is presented in Table

4. The sigma-square value of 0.009 is significant at 1% alpha level, implying that the model fits the data well. The gamma value of 0.989 implies that about 98% of the deviations in the total profit are largely as a result of the inefficiency in input use and other marketing practices. The result shows that costs of feed, transportation and labour were negative and statistically significant at 5% probability level. This implies that gross margin decreases with these variables. Thus, one naira increase in the costs of feed, labour and transportation would reduce gross margin by ₦0.08, N0.01and N0.09 respectively. Okewu and Iheanacho (2015) reported similarly on same. However, the cost of medication was positive but insignificant.

Table 4: Maximum likelihood estimates for Cattle Wholesalers

Parameter	Coefficient	T-value
Efficiency model		
Constant	1.422	4.119**
Feeding	-0.079	-1.755*
Transport	-0.092	-1.923*
Medication	0.012	0.306
Tax	0.018	0.484
Security	-0.042	-0.549
Labour	-0.011	-1.712*
Selling price	0.114	11.762***
Inefficiency model		
Age of Trader	-0.0009	-0.133
Education of trader	0.0006	0.084

*Corresponding Author: **Okeowo, T. A.**

Experience of trader	-0.002	1.564***
Gender of Trader	0.0982	0.319
Household Size of trader	-0.0103	-1.454***
Quantity of cattle sold	-0.004	-1.779***
Sigma-squared	0.009	7.739
Gamma	0.999	0.141
Log likelihood function	260.642	

**** Significant at 1 percent; ** Significant at 5 percent; * Significant at 10 percent*

Source: Computed from Survey Data, 2020

Profit inefficiency of the Wholesale Cattle Marketers in the Study Area

Result of the profit inefficiency of cattle marketing in Table 4 reveals that the coefficients of household size ($p<0.05$), experience in cattle marketing ($p<0.05$) and quantity sold ($p<0.01$) were negative and significant. This implies that profit inefficiency in cattle marketing decreases with household size, experience in cattle marketing and quantity sold in the study area. However, coefficients of sex and education of the marketers were negative and positive respectively but not significant. This implies that profit inefficiency decreases with sex of the traders but increases with education in the study area. This tallies with the works of Musaba and Chibalani, (2021) that differential exists between male and female farmers in profit efficiency attitude among smallholder broiler farmers in Zambia. The positive coefficient of education implies that profit inefficiency of the marketers rises with education. Marketers who are well read at times tend to be more cautious in decision making regarding marketing.

Levels of Profit Efficiency among Cattle Wholesalers in the Study Area

Profit efficiency of cattle wholesalers' ranged from 0.76 to 0.98 (Table 5) with a mean profit efficiency of 0.89. This result implies that the cattle marketers realized about 98 percent of the possible profit efficiency level, suggesting that cattle marketing was about 2% below the frontier in the study area.

Table 5: Frequency Distribution of Profit Efficiency of the Cattle Wholesalers

Efficiency range %	Frequency	Percentage
< 0.80	16	12.59
0.81-0.85	03	2.36
0.86-0.90	49	38.58
> 0.90	59	46.45
	127	100.0
Mean	0.893	

Source: Computed from field data, 2020

Profit Efficiency Estimation of Retail Cattle Marketers in the Study Area

Profit efficiency frontier function for retailers (Table 6) revealed that the sigma squared and gamma coefficients were statistically significant at 1% level. The gamma value was 0.150, indicating that 15% of profit variation is as result of efficiency difference with the rest 85%, attributable to external factors captured by the model. The gamma value was significant and far from unity, implying the some important factors influencing inefficiency did not enter the model. The table indicates that the coefficients of the function were negative except for security and selling price. Feed cost, transportation cost and labour cost were significant at 5% probability level. This imply that a unit increase in the cost of these variables reduces the profit efficiency by 1.675, 0.0034 and 0.046 respectively. However, following *a priori* expectations, the model reveals that as the selling price increases, the profit obtained by the retailers through the revenue enhancement will increase. Furthermore, the sigma-square ($\delta 2$) on the other hand was 0.028 and significant at $P< 0.05$, demonstrating a good fit and the correctness of the specified assumptions of the distribution of the composite error term.

Table 6: Maximum Likelihood Estimates for Cattle Retailers

Parameter	Coefficient	T-ratio
Profit Efficiency Model		
Constant	1.675	1.675**
Feeding cost	-1.675	-1.676**
Transport cost	-0.0034	-1.934**
Medication cost	-0.0337	-0.034
Tax expenses	-0.0034	-0.0034
Security cost	0.048	0.0478
Labour cost	-0.046	-2.047***
Selling Price	0.124	0.1234
Inefficiency model		
Age of Trader	-0.100	-0.000
Education of trader	0.034	0.000
Experience in marketing	0.115	3.076***
Sex of Trader	0.004	0.000
Trader's Household Size	0.411	0.0000
Quantity of cattle sold	-0.001	0.095
Sigma-squared	0.028	0.022
Gamma	0.150	0.050
Log likelihood function	58.158***	

Source: Computed from field data, 2020

Profit Inefficiency Estimation for Cattle Retailers

*Corresponding Author: **Okeowo, T. A.**

Estimating inefficiency model was to define the relationship between profit efficiency and cattle traders' characteristics. The coefficient of the age of the traders was negative and concur with *apriori* expectation and significant at 5% probability level (Table 6). The correlation between inefficiency and age of the traders could be associated with the conservativeness of aged traders in adopting marketing innovations, leading to low profit in their ventures.

Profit Efficiency levels among the Cattle Retailers in Southwest, Nigeria

More than 90 percent of the traders falls below 0.30 efficiency level, thus indicating a relatively low efficiency among cattle traders at the retail level (Table 7).

Table 7: Frequency Distribution of Profit Efficiency Levels of Cattle Retailers

Efficiency range	Frequency	Percentage
0.10-0.20	201	53.46
0.21-0.30	140	37.23
0.31-0.40	19	5.05
0.41-0.50	06	1.6
0.51-0.60	06	1.6
> 0.60	04	1.06
Total	**376**	100.0
Mean	**0.909**	

Source: Computed from field data, 2020

Constraints to Efficient Functioning of Cattle Marketing in Southwest Nigeria

The findings indicated that 23.14 per cent of marketers were restricted in their operations due to a lack of funding. According to Mafimisebi *et al*. (2013), '60 per cent of cattle dealers in southwest Nigeria rely on their own money'. 'The danger of seasonal volatility in demand and price offered imposes significant hurdles to entry to the cattle business, according to Ayele *et al*.'s (2017) hypothesis, in addition to capital requirements'. Another issue that affected 38.02 per cent of marketers was the cost of transportation. This issue was likely caused by poor road systems, high transportation costs due to high fuel prices, security concerns, and unfair levies or fees that were levied against truck drivers as they transported animals, mostly to the south of the country. The findings of Musa *et al*. (2018) are consistent with the high transportation costs among livestock sellers.

Table 8: Distributions of Constraints to efficient Cattle Wholesale Marketers

Constraints	Frequency	Percentage
Inadequate capital	28	23.14
Inadequate infrastructure	01	0.83
Poor and high transportation	46	38.02
Inadequate supply of forage, scarcity of grasses	19	15.70
Herder-farmer clashes	12	9.91
Inadequate Veterinary/Extension	15	12.40
Total	**121**	**100.0**

Source: Filed Survey, 2020

It was determined that there are not enough veterinarians, and in certain marketplaces, there are none at all. Due to its impact on both consumer and animal health, this presents a significant issue for the marketing of cattle.

According to the results, 28.50% of the retailers claimed that lack of money prevented their business from growing. Most of retailers relied on contributions from cooperative groups or self-financing. 7.92 per cent of retailers reported that the market's infrastructure was not up to standard (Table 9). Additionally, the results show that 20.05 per cent of the retailers reported a lack of grasses and legumes, particularly during the dry season while pilferage constituted 15.57 per cent of the issues preventing effective selling of cattle. The results support those of Oladejo (2014), who noted comparable difficulties with goat marketing, including limited access to financing, theft, high veterinarian service and prescription costs.

Table 9: Constraints to efficient Marketing of Cattle by Retailers

Constraints	Frequency	Percentage
Inadequate capital	108	28.50
Inadequate infrastructure	30	7.92
Poor and high transportation	45	15.57
Inadequate supply of forage, scarcity of grasses	76	20.05
Pilferage	59	15.57
Overlapping market charges	41	10.82
Inadequate	20	5.78

*Corresponding Author: **Okeowo, T. A.**

Veterinary/Extension		
Total	**379**	**100.0**

Source: Field Survey, 2020

Conclusion

Sizable portion of cattle traders are quite young. The relatively youthful age will affect their propensity to adopt new marketing strategies and technologies and to cope with the difficulties that frequently accompany the cattle trade in Southwest Nigeria. Inadequate supporting market infrastructure that could assist efficient service offering in the market exists. 15% of profit variation is as result of efficiency difference among the retailers. The coefficient of the age of the retailers was negative in the inefficiency model. Feed cost, transportation cost and labour costs constitute significant factors influencing profit efficiency frontier function, thus opening up opportunities for the traders to come together as cooperative to enhance economies of scale while household size, experience in cattle marketing and quantity sold were inversely related and significant.

Recommendations

Based on the findings and conclusions drawn from this study, a number of policy implications arose and appropriate recommendations to improve on cattle markets in Southwest, Nigeria are made as follows:

In general, the price of cattle is affected by its marketing costs. Utilizing economies of scale, cattle marketers could form cooperative societies and raise adequate finance to float haulage ventures thus reducing transportation costs while engaging government in promoting positive policy to improve the efficient running of the railway system to convey these cattle from the areas of sourcing.

Poor road infrastructures was equally identified as a very significant phenomenon in cattle marketing which impacts highly on eventual price of sales in area of study. It is recommended that synergy between government and private sector through collaboration for improved road network provision and maintenance should be encouraged. Further, government should as deliberate policy restore the effective functioning of the railway system and appropriate haulage model for conveying live animals.

Inadequate capital was observed to constrain efficient functioning of cattle marketing. Thus, cooperative societies, and other lending agencies are advised to explore innovative means by which cattle marketers can access soft loans at single digit interest rate in order to reduce the problem of inadequate capital concerning the cattle traders and make the business more competitive.

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