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ANALYSIS OF PROFITABILITY AND OPERATIONAL EFFICIENCY OF SHEA BUTTER MARKETING: EMPIRICAL EVIDENCE FROM IBADAN, OYO STATE, NIGERIA.

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Abstract: This study examines empirically profitability and operational efficiencies in the marketing of Shea butter in Ibadan, Oyo State, Nigeria. Primary data were used for the study. Well structured questionnaires were used to obtain information from a total of 120 Shea butter marketers in three major Shea butter markets. Costs and returns analysis were used to determine profitability of the marketers while efficiency ratio, profitability ratio and operational efficiencies were used to examine the Shea butter marketing performance in terms of efficiencies measures. The results of the analysis revealed that marketing of Shea butter was highly profitable in the study area; but the marketers that perform the function of both wholesalers and retailers (wholesaler/retailer) had the highest operational efficiency level (85.8%) followed by the retailers (83.5%) while the wholesalers have the least (59.7%). Similarly, for every ₦100 invested in Shea butter trading in the study area, wholesalers/retailers, retailers and wholesalers realized ₦ 76.7, ₦ 51.4 and ₦ 23.2 respectively while total gross margin per quarter of wholesaler/retailer and wholesaler were ₦ 1,017,000 and ₦ 922,000 respectively. The retailer has the least gross margin of ₦ 890,000 per quarter. This positive and size of profit obtained for each Shea butter marketing institutions is an indication that these institutions were able to recover their operating expenses. Hence, Shea butter market is profitable and efficient.

Keywords: Operational Efficiency, Profitability, Wholesalers, Retailers, Shea butter

INTRODUCTION

Shea butter is traditionally used as a source of vegetable fat for cooking as well as a moisturizer to stave off the drying effect of the West African winds. Shea butter is an ancient African commodity that still plays an important role in village life even while gaining global popularity. The Shea tree (*Vitellaria paradoxa*, formerly known as *Butyrospermum paradoxum*) is the source of Shea butter. It is one of the major components of the agro forestry parklands in the dry zones of sub-Saharan Africa and is the main indigenous oil-producing plant of this region. Indigenous only to Africa, its natural range is the semi-arid zone ranging from Gambia to Uganda [1;2]. Market chain analysis provided information on profitability along the market chain and these figures suggest that Shea marketing is fairly lucrative, particularly for the wholesalers. In West Africa, particularly Ghana and Mali, marketing channels are well defined and there has been a long standing export of Shea nuts and butter to European and North American countries [1]. The primary export market for the West African Shea butter is as a substitute for cocoa butter in the chocolate and confectionery industry. However, there have also been some attempts to market local cosmetics products such as "Vaseline Shea Butter" since 1996 and this keeps increasing every year. Shea oil provides a major source of income to the households that engaged in its trade. Interviews in the villages and rural

markets revealed that women processors rated Shea oil as the highest source of income generation. Furthermore, Shea oil provides more income than brewing and farming [3]. The money made through Shea is also clearly for the women though much of a woman's labour goes into products that are sold by the head of the family. Wholesalers also indicated that trading in Shea was highly lucrative, with gains being higher on Shea compared with other crops such as groundnuts and maize. Similarly, Shea fruit and oil provide an essential part of the diets for the people in the Shea belt [4]. Trading in Shea also provides an important source of income that is used by the rural households to purchase food and other items. Bekure *et al* [5] concluded that the main cosmetics buyers of Shea butter/oil are located in Europe and the United States and market for it in international market keeps expanding yearly. Similarly, Shea butter is used extensively in Japan's food industry; European and United States cosmetics companies buy from a variety of sources, based on their requirements and Nigeria is one of their major sources in West Africa. A large proportion of cosmetics Shea butter is purchased from the food industry in a highly refined form [5; 6]. The West African product is usually referred to as butter, due to its solid form at room temperature but the East African product is liquid at room temperature and is usually termed oil. Though several reports [7;8;9;10;11;12;13; 14;15] showed that Shea butter has a very good prospect in African markets but inadequate information still exists on the profitability as well as operational efficiency of its marketing institutions especially in Nigerian markets. This has thus generated some skepticisms and uncertainties in the mind of investors and other stakeholders on investing in Shea butter marketing. This is because they are not really sure if they will make good returns from their investment. Assessing the profitability and operational efficiency of Shea butter will help to clear the uncertainties in the mind of investors and stakeholders involved in marketing Shea butter. Increased efficiencies benefit farmers, traders, processors, wholesalers, retailers, consumers and society as a whole. This study will also be addition to knowledge on studies in Shea markets. This paper therefore aims at assessing profitability and operational efficiencies of the institutions marketing Shea butter in Ibadan, Oyo State, Nigeria.

CONCEPTUAL FRAMEWORK

A marketing system is operating efficiently when the consumer price is equal to the producer price plus marketing costs. In an efficient marketing system therefore, marketing costs must exclude rents [16]. Operational efficiency assumes that the quantum and quality of commodities and services are constant while efforts are directed at reducing their costs. Operational efficiency refers to the extent to which costs can be reduced while output levels are either maintained or even increased [4]. Marketing costs are incurred when commodities move from the point of production to the final market, whether they are moved by farmers or marketing intermediaries. As the product is moved over greater distances, through more intermediaries and given better packaging, marketing cost increases [17]. Marketing costs include labour, transport, packaging, containers, rent, utilities, advertising, selling expenses, depreciation allowances and interest charges [18]. In a perfectly competitive market, the marketers will strive to minimize marketing costs in an attempt to maximize their profits. As they minimize costs, parts of the gains of cost minimization are passed on to the consumers in terms of reduced prices. Cost analysis is therefore central to the notion of operational efficiency [19].The lower the costs, the higher the operational efficiencies. Firms with lower marketing costs are hence deemed to be more efficient. This has led to the concept of relative efficiency in which the unit cost of each firm in the sector is compared with the unit cost of the most efficient firm (the least cost firm) [4;20]

METHODOLOGY

Study Area: The study was carried out in major markets of Ibadan, Oyo State, Nigeria. Ibadan is located in southwestern Nigeria with a population of 3.2 million on 1.190 sq mi. Ibadan is the capital city of Oyo State and the third largest metropolitan geographical area. At Nigerian independence, Ibadan was the largest and most populous city in the country, the third in Africa after Cairo and Johannesburg and it keeps expanding with increase in urbanization [21]. Ibadan was purposively selected because of the presence of both major traditional and modern markets for Shea butter in it. It is also the end points for most agro-forest products in Southwestern Nigeria [22]

Sampling Techniques

A multi stage sampling techniques was used to select 120 Shea butter marketers. The first stage involved a purposive selection of Ibadan North Local Government Area (LGA), Ibadan South West LGA and Ibadan North West LGA based on *a priori* expectation that the three LGA has effective traditional and modern markets for Shea butter; and both men and women are actively involving in Shea butter marketing. The second stage involved a random selection of a market from each LGA namely- Bodija market which is the largest food market in Ibadan from Ibadan North LGA, Oje market which is one of the major traditional market in Ibadan from Ibadan North West LGA and Oja Oba which is the oldest market in Ibadan from Ibadan South East LGA [21]. The last stage involved random selection of equal number of 10 wholesalers, 20 retailers and 10 wholesalers/ retailers from each market making a total of 120 marketers in all. It was surprising that no Shea butter processors were found selling their products in the markets at the time of this study. They only processed it in the villages and then supply other marketing institutions through well organized links. The equal selection of respondents was done because of the presence of approximately equal volumes of each of the marketing institutions in the three markets.

Analytical Technique: To evaluate empirically the performance of Shea butter marketing in the study area, cost and return analysis specified by Folayan *et al.*, [4] was adopted. It was used to examine the profitability of the marketers while efficiency ratio, profitability ratio and operational efficiencies were used to examine the Shea butter marketing performance in terms of efficiencies measure.

Cost and Return analysis: This was used to determine the profit margin of the marketing institutions and was specified as follows:

$\Pi = TR - TC = P \times Q - TC$

$TR = PQ;$

$GM = TR - TVC$

Where,

Π = Profit

TR = Total Revenue

TC = Total Cost

TVC = Total Variable Cost

GM = Gross Margin

TC = TVC + TFC but for this study, there is no Total Fixed Cost. Hence, Total Cost = Total Variable Cost.
P = Price of a unit quantity of Shea butter (₦)
Q = Quantity of Shea butter bought (Bowl)

Measure of Market performance by Efficiency: As a measure of market performance, efficiency ratio, profitability ratio and operational efficiency were specified as follows:
i. Efficiency Ratio (ER) = TR/TC = TR/TVC
ii. Profitability ratio (PR) = Π/ TC = G.M/ TVC
If ER > 1 and PR > 1, the industry is said to be operationally efficient and vice-versa
iii. The operational efficiencies with respect to local optimum and global optimum performance was calculated using long run unit cost minimization (LRUCM) such that firm with the lowest unit cost industry size would be the most operationally efficient for that size locally and the one with that characteristics in the industry will be the most operationally efficient globally.
The long run unit cost minimization is specified as the value of the least unit marketing cost incurred by the most efficient firm industry (MC_l) divided by the value of unit marketing cost incurred by the firm whose performance is being compared (MC_i) multiply by 100 as specified below:

$$LRUCM = \frac{MCl}{MCi} \times 100$$

Where LRUCM represents long run unit cost minimization, MC_l represent firm with the least marketing cost (cost efficient) MC_i represents firm whose performance is being compared.

RESULTS

Measure of Market Performance using Profitability and Efficiencies ratios

Profitability Ratio

The computed profitability ratio in Table 1 showed that wholesalers had the highest total variable cost (₦ 3,973,000) and total revenue (₦ 2,340,000) respectively. This was followed by the retailers while marketers that perform the function of wholesalers and retailers concurrently (wholesaler/retailer) had the least. In contrast, wholesalers had the least gross margin (₦ 922,000) followed by the retailers (₦ 890,600) while wholesaler/retailer had the highest (₦ 1,017,000). Hence, wholesalers/retailers had the highest profitability ratio of 0.769 while the retailers and wholesalers had 0.514 and 0.232 respectively.

Efficiency Ratio: The estimated efficiency ratios of wholesalers/retailers, retailers and wholesalers were 1.767, 1.514 and 1.232 respectively.

Long Run Unit Cost Minimization: Table 2 summarizes the distribution of operational efficiencies based on the long run unit cost minimization as defined in section 2. The distribution ranged from 70% to 100% for the wholesalers, 68% to 100% for the retailers while their mean operational efficiency range from 85.83% to 100% and 83.5% to 100% respectively.

DISCUSSION

The result of profitability ratio in table 1 means that for every ₦ 100 invested by each of the wholesalers/ retailers, retailers and wholesalers in the study area, each gained ₦ 76.7, ₦ 51.6 and ₦

23.2 respectively. Hence, trading in Shea butter is confirmed to be profitable in all the marketing institutions. This result agrees with Olugbire *et al.,* [3] who declared that marketing of Shea butter is a profitable venture in southwestern Nigeria. The efficiency ratio indicates that the operation of each marketing institution of Shea butter were efficient since their estimated efficiency ratios were greater than unity. This confirms Olugbire and Aremu [22], Olugbire *et al.*,[3] and Folayan *et al.*, [4] who concluded in their various studies that marketing of non forest timber products (NFTP) in which Shea butter is major is not only profitable but also efficient in Nigerian markets. The distribution of operational efficiency of wholesaler/retailer was found to range from 48.0% to 100% while its mean efficiency was 59.7%. The fact that the computed operational efficiency for the two marketing institutions (Wholesalers and Retailers) was greater than 60% is an indication that Shea butter marketing is efficient at these levels in terms of achieving least marketing cost in carrying out Shea butter trading in the study area. Similarly, as the mean of operational efficiency of wholesaler/retailer was found to be approximately 60%, Shea butter marketing is also efficient at this level but adequate care must be taken because any slight mistake may lead to inefficiency.

CONCLUSION

This paper used cost and return analysis and measures of market operational efficiency such as profitability ratio, efficiency ratio and operational efficiency which is based on the least cost unit of minimization concept to examine the performance of marketing institution in the study area. The results showed that gross margin of wholesalers, retailers and wholesaler/ retailer revealed that Shea butter marketing is profitable. Using the profitability ratios, it was discovered that for every ₦ 100 invested by the wholesalers/retailers, retailers and wholesalers as marketing institutions involved in Shea butter trading, each realized ₦ 76.10, ₦ 51.40 and ₦ 23.20 respectively. This implies that the operations of Shea butter marketing institution are efficient and profitable since its efficiency and profitability ratios are positive while the magnitude of their operational efficiency are also greater than 60%. The implication of this result is that Shea butter marketing has the potential of improving the standard of living of the participants. Hence, it can minimize poverty level as it eradicates the problem of unemployment that is now rampant in Nigeria. This is because incomes are evenly distributed among the marketing institutions considering the profitability level recorded in this study. It is therefore recommended that proper awareness of the prospects of Shea butter business should be created among Nigerians. Similarly, necessary facilities that will increase the quality of Nigerian Shea butter and its products in the global market should be provided.

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Table 1: Summary of Distribution of Cost and Return Analysis of Shea butter Marketing Institutions in the Study Area

Parameters	Wholesalers/Retailers	Retailers	Wholesalers
Total Variable Cost (₦)	1,323,000	1,733,400	3,973,000
Total Revenue (₦)	2,340,000	2,624,000	4,895,000
Gross margin π (₦)	1,017,000	890,600	922,000
Profitability ratio (π/₦)	0.769	0.514	0.232
Efficiency ratio (TR/TVC)	1.769	1.514	1.232

Source: Field survey, 2014

Table 2: Summary of Percentage Distribution of Operational Efficiency at the Wholesale/Retail, Retail and Wholesale levels

Score (x 100)	Wholesalers/Retailers	Retailers	Wholesalers
Minimum Efficiency	70.0	68.0	48.0
Maximum Efficiency	100.0	100.0	100.0
Mean Efficiency	85.8	83.5	59.7

Source: Field survey, 2014

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