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PERFORMANCE OF DATE PALM FRUIT MARKETING IN JIGAWA STATE, NIGERIA

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ABSTRACT

The study examined the performance of date palm fruit marketing in Jigawa State, Nigeria. Purposive and simple random sampling procedure were employed in selecting 122 marketers in the study area. Data was obtained through primary source with the aid of questionnaire and gross margin, marketing efficiency, Return on Investment (ROI) and marketing margin were employed in the analysis. The average gross margin of retailers and wholesalers were ₦0.46/kg and ₦2.01/kg, respectively. Gross margin for wholesalers revealed a total monthly revenue of ₦21,069,750.00 and ₦19,843,500.00 for retailers with 42555.38 kg as total quantity of date palm fruit traded by wholesalers and 47840.63 as total quantity traded by retailers. The result revealed that gross margin for both retailers (₦48.23/kg) and wholesalers (₦36.17/kg) were positive, an indication that both categories of respondents are making profit. The average marketing efficiency of wholesalers and retailers were 117.11% and 115.08%, respectively. The marketing efficiency of retailers (109.83%) in Shuwarin market was higher than that of wholesalers (107.30%); and efficiency of wholesalers (120.36%) was higher than retailers (117.53%) in Babaldu market. The result indicated that marketing efficiency of retailers (117.12%) was higher than wholesalers (116.10%) in Maigatari market and retailers (110.36%) had higher efficiency than wholesalers (106.33%) in Gumel market, while wholesalers (135.44%) had higher efficiency than retailers (130.48%) in Kazaure market which is an indication that both wholesalers and retailers are efficient in the marketing of date palm fruit in the area. The Return on Investment (ROI) indicated that marketing of date palm fruit was profitable since the ratio-values were greater than one implying that ₦1 invested into the business, marketers get an average of ₦0.15 and ₦0.17 for retailers and wholesalers, respectively. The average marketing margin of retailers and wholesalers were 16.20 and 20.41, respectively, an indication that wholesalers realized higher margin (higher profit) than retailers. In conclusion, wholesalers realized higher profit in bulk transactions while retailers realized more profit in smaller transactions. Purchase of large quantity of date palm fruit during peak period, provision of storage and processing facilities in the study area were recommended.

Keywords: Date palm, Efficiency, Gross margin, Marketing margin, Return on Investment.

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INTRODUCTION

Developing countries are at disadvantage because they give less attention to marketing of organic date fruits while its marketing is increasing globally (Mahmoudi *et al*., 2008). Also, the marketing and distribution of food in developing countries are described as a system with little efficiency that attracts high marketing margins. This has led to high prices and aided in restricting availability of produce to several potential end users. This has also resulted to malnutrition in children and numerous amounts of disease exhibited among nursing mothers and adults (Akanni, 2012). The performance of a market is the net value it generates (Berg, 2003) which indicates that the higher the net value the better performance. Net value is the collective benefits above costs generated for consumers and suppliers in the market with no any external effort. Gwin (2001) noted that evaluative industry or market performance from the perspective of the consumer is tricky. Performance must be weighed between value-creation and market power. Market performance refers to the extents to which markets result in outcomes that are deemed good or preferred by society. Market performance refers to how well the market fulfils certain social and private objectives. These include price levels and price stability in the long and short-term profit levels, costs, efficiency and quality of food commodities sold (Kizito, 2008). Although performance is defined variously and much debated. According to Scarborough and Kydd (1992), commonly the following characteristics of an industry and its markets are referred to productive and allocate efficiency progressiveness, equity and employment. Market performance represents the economic results of structure and conduct, in particular the relationship between distributive margins and the cost of production or marketing services.

In assessing performance, the technological and economic concepts, marketing margin approach, the Shepherd-Futrel model and consumer's/producers divergent views on agricultural marketing efficiency are all taken into consideration. Ukwu (1979) stated that a well-organized marketing scheme performs a key role in economic enhancement. Markets are well-organized when the ratio of the value of output to the value of inputs during the course of the marketing system is taken full advantage of (Tweeten, 1997), he added that outputs values are based on consumer estimate of goods and input values, strong-minded by the values of different production proficiency. An efficient market enables marketers to take advantages of opportunities, revolutionize, and enhance changes as a result of response to demand and price (Fakayode *et al.,* 2010).

Market margin can be defined as difference between two different market levels. Moreover, market margin generally used to mention the difference between producer and consumer prices of a counterpart quantity and quality of a commodity, and also describes the price differences between other levels within the marketing chain. The price spreads are usually calculated using two methods; i) the net price received by the marketer which is calculated by deducting the marketing costs from the original price paid by marketer or middlemen, ii) the net margins are calculated by subtracting the sum of all operating costs from gross margin (Scarborough and Kydd, 1992). Key *et al*. (2000) identified two types of marketing margins i.e. the concurrent margin method in which determines the difference in prices that prevail for

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a commodity at different stages of marketing at a given point in time and the lagged margin method which considers the time that elapse between buying and selling of a commodity by the intermediaries and also time between the farmer and the ultimate consumer.

MATERIALS AND METHODS

The Study Area

Jigawa State is located in northwestern part of Nigeria between longitudes 8°.00′E to 10°.15′E and latitudes 11°.00′N to 13°.00′N. It has both national and international boundaries with Kano and Katsina States to the west, Yobe State to the northeast and Bauchi State to the east as national boundaries while the international boundary is with Zinder in the Republic of Niger. The semi-arid weather is characterized by short rainy season and long dry season accompanied with Iggi, Hadejia, and Kafin Hausa rivers for dry season farming. The native of the the State were mainly Hausa/Fulani, Kanuri and indications of Badawa in the north-eastern areas who were mainly farmers and animal breeders (Mohammed, 2014). The State has 11 major irrigation schemes out of which seven (7) are borehole base and four are small irrigation schemes. One of the major schemes is the Hadejia valley project which covers a land area of about 300ha. Major crops grown are wheat, carrot, maize, lettuce, sorghum, rice, melon, onions, peppers, tomatoes and sugarcane are cultivated, while crops like millet, maize, sorghum, groundnut, rice, melon, cotton and ginger are more dominant in the rainy season (Babalola *et al*., 2013). The map of Jigawa State showing the study area in Figure 1.

The State has a population of about 4.3 million with land area of approximately 22,410 Km² (National Population Commission [NPC] 2006). It has a maximum temperature of about 40°C in the months of March to September, and low temperature of 11°C between October and February with considerable variations during these times (Bidoli *et al*., 2012). The average rainfall is about 650mm with a minimum of about 600mm and a maximum of 1000mm. Greater proportion of the State lie within the Sudan Savannah in the southern part with elements Guinea savannah in the southern part of the state. Majority of the inhabitants are farmers and animal breeders with about 80% engaged in subsistence farming and animal husbandry as their major economic activity (Bidoli *et al*., 2012).

The State is regarded as one of the most agriculturally oriented states in Nigeria with over 80% of arable landmass that enabled continued stance for improving productivity based on the institutional and support programs of the State government in harnessing agricultural potentials and other support strategies. However, the inhabitants of the State were mostly producing in small scale due to inability to access and apply agricultural inputs to large scale practices. The main challenge to improved agricultural productivity is poverty and reliance on traditional farm implements and methods of production are the major reasons of poverty in agricultural sector coupled with lack of land rights for grazing animals, limited research and extension services and poor linkages between institutes, government agencies and farmers and there is also low level of private sector participations and low investments into large scale agricultural production in the State (Jigawa State Ministry of Agriculture, 2013).

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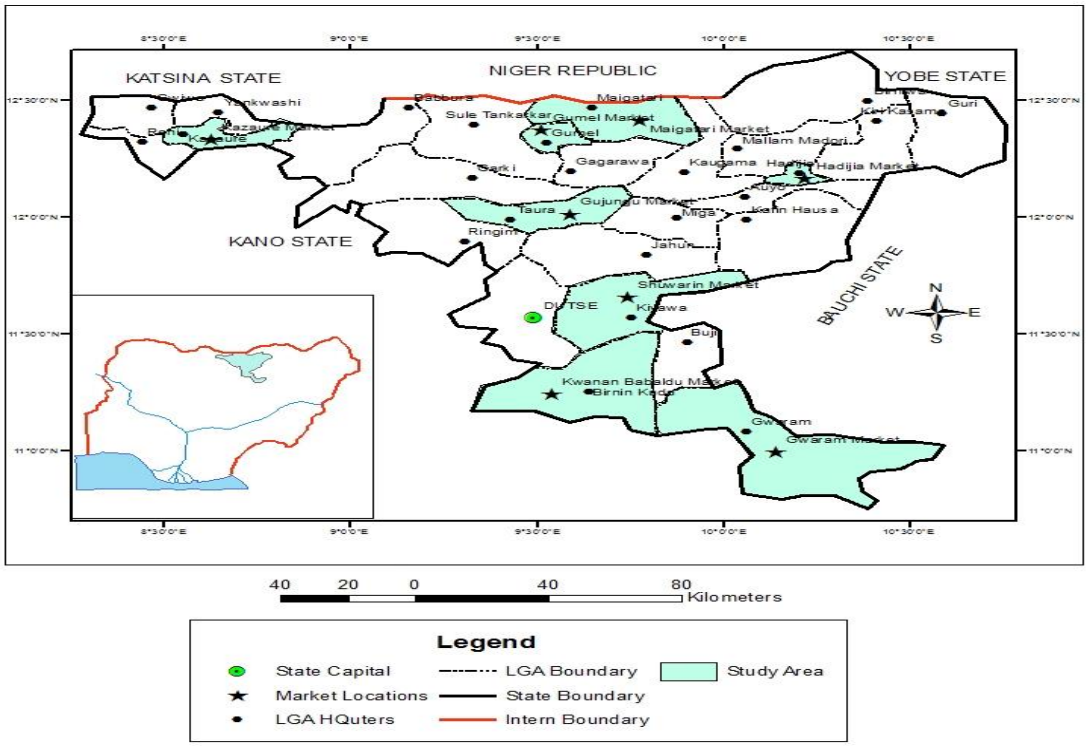

Figure 1: *Map of Jigawa State showing the study area*
Source: Geographic Information System (2015): Geography Department MAUTECH, Yola

Method of Data Collection

Primary data were collected through administering questionnaire to 122 sampled date palm fruit marketers in the study area.

Sampling Techniques

The sampling techniques employed for the study were purposive and simple random sampling techniques. Purposive selection of eight markets due to large number of date palm marketers was undertaken in eight (8) local government areas (LGAs) of the State. The markets selected were Maigatari, Shuwari (Kiyawa), Babaldu (Birnin Kudu), Gwaram, Gujungu (Taura), Gumel, Kazaure and Hadejia markets. The selection was based on categorization of marketers into wholesalers and retailers such that about 40% of the population were selected to obtain a sample of 122 marketers from a total population of 305 as indicated in Table 1.

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Table 1: Sampling Frame and Size Plan of the Study

Markets	Wholesalers		Retailers	
	Population	Sample	Population	Sample
Shuwarin	17	7	50	20
Babaldu	7	3	53	21
Gujungu	-	-	40	16
Maigatari	10	4	28	11
Gumel	5	2	30	12
Hadejia	-	-	30	12
Kazaure	5	2	20	8
Gwaram	-	-	10	4
Total	44	18	261	104

Source: Field survey (2015)

Analytical Techniques

The analytical techniques employed for the study were; gross margin analysis, marketing efficiency and marketing margin analysis. Gross margin can simply be defined as the difference between revenue and costs based on the assumption that fixed component of marketing is negligible. Gross margin (GM) by definition is simply the difference between the total revenue (TR) and the total variable cost (Olukosi and Erhabor, 2005) and is expressed as:

$$GM = TR - TVC \quad \ldots(1)$$

where;

GM = Gross margin in naira of date palm per marketer per month

TR = Total revenue in naira/month

TVC = Total variable cost in naira/month

The monthly total revenue was calculated by summation of selling prices multiplied by their respective quantities while all the variable costs were calculated by summation of various prices multiplied by their respective quantities. The variable costs include cost of date palm, cost of loading/offloading, tax, cost of empty bags, cost of transportation, cost of leather bags, buying agents, cost of securing and cost of threading. The gross margin analysis involves evaluating and estimating profitability of an individual enterprise and is applicable when fixed cost is negligible (Olukosi and Erhabor, 2005).

An enterprise is considered profitable if the gross margin is positive. This implies that the total revenue (TR) is greater than the total variable cost (TVC). If the gross margin (GM) is negative the enterprise is not economically profitable. The higher the gross margin, the higher the level of profitability of an enterprise and vice versa.

The study adopted the Shepherd-Futrel model as used by Giroh *et al*. (2010) and Andem *et al*. (2015) in determining the marketing efficiency and the model is expressed as:

$$ME = \frac{TR}{TC} \times 100 \quad \ldots(2)$$

where;

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ME = Marketing efficiency (%)
TR = Total revenue in naira
TC = Total cost in naira

The summation of price multiplied selling price gave the total revenue (TR) and summation of cost price multiplied quantity gave the total cost. The average total revenue was divided by the average total cost of each market to obtain the return on investment (ROI) and the return on investment was multiplied by 100 to obtain the marketing efficiency. The higher the ratio of efficiency, the higher the efficiency since efficiency involves evaluating the ratio of benefits to costs expressed in percentage.

The return on investment (ROI) is calculated by dividing the total revenue (*TR*) by total marketing cost (TC). A ROI greater than one is an indication that, marketing of the commodity is profitable, while a ratio less than one indicates that marketing of the commodity is not profitable. Also, a ROI value of exactly one indicates a break-even and is expressed as:

$$ROI = \frac{TR}{TC} \qquad \ldots(3)$$

where;
ROI = Return on Investment
TR = Total revenue in naira
TC = Total cost in naira

Marketing margin was employed to determine the performance of marketers in the area. The marketing margin was computed by subtracting the average cost price from the average selling price divide by average selling price multiplied by 100 specified in equation 4.

$$MM = \frac{SP - S^{*}P}{SP} \times 100 \qquad \ldots(4)$$

where;
MM = Marketing margin (%)
SP = Selling price in kg
$S^{*}P$ = Supply price in kg.

RESULTS AND DISCUSSION

The monthly costs and returns of respondents as indicated in Table 2 revealed a monthly total revenue of ₦21,069,750 and ₦19,843,500 for retailers and wholesalers, respectively, while the cost of purchasing date palm is ₦17,568,000 and ₦16,468,500 for retailers and wholesalers, respectively. Cost of loading/offloading is ₦33,205 and ₦49,400 for retailers and wholesalers respectively while tax is ₦20,940 and ₦72,750, respectively.

The cost of empty bags for retailers is ₦45,750 for retailers and ₦41,500 for wholesalers while the cost of transportation is ₦555.505 for retailers and ₦851,400 for wholesalers, and ₦121,805 is the cost of leather bags for retailers and ₦27,510 for wholesalers. Buying agent constituted of ₦398,770 for retailers and ₦35,550 for wholesalers while cost of securing constituted of ₦7,500 for retailers and ₦37,000 for wholesalers and cost of threading constituted of ₦8,400 for retailers and ₦20,700 for wholesalers. Retailers had other cost which

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constituted of ₦8,000/month. The total quantity of date palm fruit traded by retailers per month is 47840.63 kg while the total quantity of date palm fruit traded by wholesalers is 42555.38 kg.

Table 2: Monthly Cost and Returns of Date Palm Fruit in Naira

Variables	Retailers	Wholesalers
Total revenue	₦21,069, 750	₦19,843,500
Date palm (purchase)	₦17,568,000	₦16,468,500
Loading/Offloading	₦33,205	₦49,400
Tax	₦20,940	₦72,750
Empty bags	₦45,750	₦41,500
Transportation	₦555.505	₦851,400
Leather bag	₦121,805	₦27,510
Buying agent	₦398,770	₦35,550
Securing	₦7,500	₦37,000
Threading	₦8,400	₦20,700
Others	₦8,000	-
Total quantity	47840.63kg	42555.38kg

Source: Field survey (2015)

The gross margin analysis was used to determine market performance ₦/kg indicated in Table 3 below. The values obtained in Table 3 were divided by their respective total quantities which had resulted to obtain the values for cost and returns of respondents per kg. The result revealed total revenue of ₦440.42 per kg for retailers and total variable cost of ₦392.19/kg which resulted to a gross margin of ₦48.23/kg for retailers. The result of gross margin for retailers revealed that cost of date palm has accounted for 93.68% of the total variable cost, while loading/offloading accounted for 0.17%, tax accounted for 0.11% while cost of empty bags accounted for 0.24% and cost of transportation accounted for 2.93%. The result further revealed that cost of leather bag has accounted for 0.65%, buying agents constituted about 2.13%, while securing constituted about 0.04%, while threading accounted for 0.05% and other costs constituted for about 0.04%. The positive sign of the gross margin is an indication that retailers and wholesalers were profitable in marketing of date palm.

However, the total revenue for wholesalers was ₦466.30/kg with a total variable cost of ₦430.13/kg which resulted to a gross margin of ₦36.17/kg. Cost of date palm accounted for 89.97% of the total variable cost, while loading/offloading accounted for 0.27%, tax accounted for 0.40% while cost of empty bags accounted for 0.23% and cost of transportation accounted for 4.65%. Cost of leather bag has accounted for 0.15%, buying agents constituted about 4.02%, while securing constituted of about 0.20% and cost of threading accounted for 0.11%. The average gross margin of retailers and wholesalers were ₦0.46/kg and ₦2.01/kg respectively. The result revealed that gross margin for both retailers (₦48.23/kg) and wholesalers (₦36.17/kg) were positive, an indication that both categories of respondents are making profit. However, it was observed that retailers had higher gross margin and this could

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be attributed to the fact that they sell in small quantities which had yielded more profit than wholesalers that sell in large quantities. The study agrees to Mani (2014) in her study of structure, conduct and performance of date palm marketing in Katsina State obtained a positive gross margin in all the markets participants of date palm which involved importers, wholesalers and retailer's categories in Katsina State. This is in accordance with the study conducted by Mangan *et al*. (2016) on profit earned by date palm farmers and contractors in district Khairpur, Sindh, Pakistan which indicated gross margin of date palm marketers was positive indicating that marketers were making profit. Ahmed and Faki (2014) assessed the economic aspect and agricultural resource used in perennial food crops in Northern Sudan and obtained gross margins of all perennial crops to be positive. Though the gross margin of date palm was positive but the lowest and the gross margins of mangoes was the highest, followed by guava, citrus and alfafa. Ahmed (2014) found that the gross margin accruing to the respondents per month is 91,200 which is positive and the monthly average gross margin bag is 1,500 which indicates that marketing in Borno State the profitable.

Table 3: Costs and Returns of Date Palm Marketers in Naira per kg

Variables	**Retailers**		**Wholesalers**	
	Value (₦)	**Percentage**	**Value (₦)**	**Percentage**
Total revenue	440.42	100	466.30	100
Variable costs				
Date palm (purchase)	367.22	93.68	386.99	89.97
Lading/Offloading	0.67	0.17	1.16	0.27
Tax	0.44	0.11	1.71	0.40
Empty bags	0.96	0.24	0.98	0.23
Transportation	11.51	2.93	20.00	4.65
Leather bag	2.53	0.65	0.65	0.15
Buying agent	8.34	2.13	17.28	4.02
Securing	0.17	0.04	0.87	0.20
Threading	0.18	0.05	0.49	0.11
Others	0.17	0.04	-	-
Total variable costs	392.19	100	430.13	100
Gross margin (a-b)	48.23		36.17	
Average gross margin	0.46		2.01	

Source: Field survey (2015)

Marketing Efficiency and Return on Investment (ROI) Analysis

In Table 4, the result of marketing efficiency of retailers revealed that Shuwarin market had a marketing efficiency of 109.83%, Babaldu market had marketing efficiency of 117.53% and Gujungu market had a marketing efficiency of 125.48%. Maigatari market had the marketing efficiency of 117.12%, while Gumel market had the marketing efficiency of

110.35% and Hadejia market had marketing efficiency of 101.96%. The marketing efficiency of Kazaure market was 130.48% while that of Gwaram market was 107.89%.

However, the marketing efficiency of wholesalers revealed that Shuwarin market had the marketing efficiency of 107.30%, while Babaldu market had marketing efficiency of 120.36%, Maigatari market had the efficiency of 116.10%, Gumel market had the marketing efficiency of 106.33% and Kazaure market had the marketing efficiency of 135.44%.

The marketing efficiency of retailers (109.83%) in Shuwarin market was higher than that of wholesalers (107.30%), while efficiency of wholesalers (120.36%) was higher than retailers (117.53%) in Babaldu market. The result indicated that marketing efficiency of retailers (117.12%) was higher than wholesalers (116.10%) in Maigatari market and retailers (110.36%) had higher efficiency than wholesalers (106.33%) in Gumel market, while wholesalers (135.44%) had higher efficiency than retailers (130.48%) in Kazaure market. The marketing efficiency of 100 is perfect efficiency while more 100 is excess profit and marketing efficiency of less than 100 results to inefficiencies and the higher the value the higher the marketing efficiency. The Shephard-futrel model indicates efficiency in marketing of date fruits in the area, since the marketing efficiency values are more than 100.This is an indication that costs of moving outputs in the marketing system effectively reflects prices in the area (Olukosi *et al*., 2012). Giroh *et al*. (2010) employed Shepherd-Futrel model to determine marketing efficiency and obtained a marketing efficiency of ₦122 which is also more than 100 which is an indication of efficiency in the markets and the net of returns obtained from marketing of date palm are greater than the marketing cost incurred which also means excess profit. This is in accordance with findings of Andem *et al*. (2015) realized a marketing efficiency of bitter kola to be 135.2, implying that bitter kola market is efficient in the area.

Also, in Table 4, the return on investment of retailers indicates that for every ₦1 invested into the business a marketer gets a net return of ₦0.10 in Shuwarin market, a net return of ₦0.18 for Babaldu market, ₦0.25 for Gujungu market, ₦0.17 for Maigatari market, ₦0.10 for Gumel market, ₦0.02 for Hadejia market, ₦0.30 for Kazaure market and ₦0.08 for Gwaram market. However, for ₦1 invested by wholesalers the marketers get a net return of ₦0.07 in Shuwarin market, and a net return of ₦0.20 in Babaldu market, while ₦0.16 in Maigatari market, ₦0.06 in Gumel market and ₦0.35 in Kazaure market. Moreover, in Shuwarin market for ₦1 invested in the business retailers gets a net return of ₦0.10, while wholesaler gets a net return of ₦0.07 while in Babaldu market retailers get a net return of ₦0.18 and wholesalers get a net return of ₦0.20. In Maigatari market retailers get a net return of ₦0.17 and wholesalers get a net return ₦0.16, in Gumel market retailers get a net return of ₦0.10 and wholesalers get a net return of ₦0.06 and in Kazaure market retailers get a net return of ₦0.30 and wholesalers get a net of ₦0.35. This is an indication that marketing of date fruits in the area is profitable since all the values of the return-on-investment ratios were greater than 1 as shown in Table 4.

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Table 4: Market Efficiency and Return on Investment Analysis

Markets	Retailer		Wholesaler	
	Efficiency (%)	Return on Investment (₦)	Efficiency (%)	Return on Investment (₦)
Shuwarin	109.83	1.10	107.30	1.07
Babaldu	117.53	1.18	120.36	1.20
Gujungu	125.48	1.25	-	-
Maigatari	117.12	1.17	116.10	1.16
Gumel	110.36	1.10	106.33	1.06
Hadejia	101.96	1.02	-	-
Kazaure	130.48	1.30	135.44	1.35
Gwaram	107.89	1.08	-	-
Average	115.08	1.15	117.11	1.17

Source: Fiel survey (2015)

Boateng *et al*. (2016) discovered that vegetables' marketing in Temale metropolis is profitable with return-on-investment ratio greater than one; they added that wholesalers had higher returns than retailers and both traders had higher net returns in the dry season than in the wet season. The study is also in consonance with the study of Onu and Iliyasu (2008) in their study obtained a marketing efficiency of 254.7%, an implication that marketing and pricing policy in food grain marketing is highly efficient in the area. Emam (2011) evaluated marketing efficiency of tomato in Khartoum and concluded that it is very important to enhance marketing efficiency at wholesale level in Khartoum market through the reduction of marketing cost (transportation, handling, packing, and other cost items). He further stated that the reduction is essential and would similarly encourage efficiency. Robert and Emmanuel (2012) evaluated the efficiency of orange marketing system in Tanzania and discovered that farmers were the most efficient marketing operators, followed by wholesalers and then lastly retailers because farmers incurred less average cost per output, followed by wholesalers then retailers. They further stated that farmers had no cost of transport incurred and do not hire labour and further recommended that efficiency could be increased through the provision of subsidy for inputs to reduce cost of production and enlightenment campaigns.

Marketing Margin Analysis

The result of retailers (Table 5) revealed a marketing margin of 16.85% for Shuwarin market which indicates that the sales price is 16.85% higher than cost incurred in marketing, 15.66% for Babadu market indicated the sales price is 16.66% higher than the cost incurred in marketing. Marketing margin of 20.45% for Gujungu market indicates that the sales price is 20.45% higher than cost incurred in marketing, while a marketing margin of 17.39% for Maigatari market indicates that the sales price is 17.39% higher than cost incurred in marketing and 16.06% for Gumel market indicates that the sales price is 16.06% higher than the cost incurred in marketing. The marketing margin for Hadejia, Kazaure, and Gwaram markets were 8.56%, 26.46% and 8.13% respectively which indicates that the sales price 8.56%, 26.46% and

8.13% higher than the cost incurred by retailers in Hadejia, Kazaure and Gwaram markets respectively. However, the marketing margin of wholesalers indicated that Shuwarin market has a marketing margin of 17.02% while Babaldu market has a marketing margin of 18.05%, and Maigatari market has a marketing margin of 18.33%, Gumel market has a marketing margin 20.24% and a marketing margin of 28.33% for Kazaure market.

For wholesalers in Shuwarin market the sales price is 17.02% higher than the cost incurred in the marketing process, while the sales price for wholesalers in Babaldu market is 18.05% higher than the cost incurred in marketing and wholesalers in Maigatari market the sales price 18.33% higher than the cost incurred in marketing process. Gumel market is 20.24% higher than of the cost incurred in marketing by wholesalers.

Generally, wholesalers realize higher margin than retailers and hence a higher profit and this could be attributed to the bulk quantity in their transaction as a result of bulk purchase. The low marketing margin of respondents in the area is an indication that the share in naira received by respondents from the amount paid by consumer is low. The result is in accordance with Hamidu (2014) who studied socio-economic characteristics and returns of date palm marketing in Gombe metropolis, Gombe State, Nigeria and obtained a low marketing margin of 20% each for the small measure and the big measure and 10.16% for a bag, although the general marketing margin in Gombe State is low and selling in measures realized higher returns than selling of bags. Giroh *et al.* (2010) obtained a high marketing margin, which is a reflection of imperfect competitive market condition. Also, Madugu and Edward (2011) concluded that marketers in the study area are making profit, ascertained by high marketing margin of 39.8% in the area. Dastarigi *et al*. (2013) indicated that the marketing cost of different crops in India were efficient, AP and West Bengal had more marketing cost than Tamil Nadu, Manipur and Rajasthan. The marketing margin was 7% to 24% in A P, 5% to 23% in West Bengal, 16% to 22% in Rajasthan, 5% to 60% in Manipur, 4% to 9% in Tamil Nadu and 6% to 7% in Punjab, which is generally a low margin. Abassian *et al*. (2010) applied the Ordinary Least Square (OLS) technique in determining marketing margin and discovered there is a negative relationship between farm price of date palm fruit and the total marketing margin. With 1% increase in the farm price, the total marketing margin drops by 0.3231% while services spent by wholesalers has a significant and positive relationship with wholesale marketing margin. A 1% increase in wholesale price and marketing costs brings about an increase in marketing margin by 2.5485 and 0.101%, respectively. Similarly, 1% increase in retail and cost of marketing service leads to increase in retail marketing margin by 2.895 and 0.203% respectively as shown in Table 5.

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Table 5: Marketing Margins per kg for Date Palm Marketing in Jigawa State Nigeria

Items	**Marketing margins (%)**	
	Retailers	**Wholesalers**
Shuwarin	16.85	17.02
Babaldu	15.66	18.05
Gujungu	20.45	-
Maigatari	17.39	18.33
Gumel	16.06	20.34
Hadejia	8.56	-
Kazaure	26.46	28.33
Gwaram	8.13	-
Average	16.20	20.41

Source: Field survey (2015)

CONCLUSION AND RECOMMENDATIONS

In conclusion, both wholesalers and retailers were profitable in their business but wholesalers realize more profit in terms of bulk transactions while retailers realize more profit in small transactions. Both categories were efficient in marketing of date palm fruit and cost of marketing system reflects prices in the area. However, share in naira received by respondents from the amount paid by consumer is low. Based on the findings of the study, it was discovered that, though marketers of date palm were making profit but shortage of the product during off-peak period will rises the prices of date palm. Based on the findings of the study, the following recommendations were made:

1. Purchasing large quantity of date palm during peak period when the product is highly available in and at low cost so as to the reduce cost of transportation.
2. Provision of enhance and storage and processing facilities to sustain availability throughout the year.

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