

THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

Marketing Performance of Smoked Fish Dealers in Rural Areas, Semi-Urban and Urban Areas in Umuahia, Abia State, Nigeria

Chukwuemeka Chidiadi Okereke

Lecturer, Department of Marketing, Nnamdi Azikiwe University Awka, Nigeria

Thelca Kelechi Okpe

Lecturer, Department of Marketing, Federal Polytechnic, Nekede, Owerri, Nigeria

Irenues Chukwudi Nwaizugbo

Professor, Department of Marketing, Nnamdi Azikiwe University Awka, Nigeria

Abstract:

The study examined e-marketing performance of smoked fish dealers in rural areas, semi-urban and urban areas in Umuahia, Abia State. The specific objectives were to examine the socio-economic characteristics of smoked fish dealers, and ascertain sales volume variances among smoked fish dealers based on location in rural areas, semi-urban and urban areas in Umuahia, Abia State. The study adopted descriptive survey design. The method of data collection entails a survey study conducted by the researcher using the questionnaire as the research's major instrument. Thus, the total sample size of 75 smoked fish dealers from Ndoro market, Ahiaeke market and Ubani market was all in Umuahia, Abia State. This is necessary so as to obtain reliable quantitative data on sales volume. The data were presented using frequency and percentage, while hypotheses were tested with multiple ANOVA (Univariate) through statistical package for social science (SPSS). The descriptive result showed that most of the respondents 37 (49.4%) sold within 51 – 75 pieces of smoked fish per week followed by 19 (25.4%) and 15 (20.0%) of the respondents who sold above 75 pieces of smoked fish and 26 – 50 pieces of smoked fish per week respectively. More so, 41 (54.7%) of the smoked fish dealers incurred more than ₦30,000 as expenses per week. This was followed by 23 (30.6%) of the respondents with ₦20,001 - ₦30,000 expenses per week. The least were 2.7% of the respondents who incurred within ₦1,000 - ₦10,000 as expenses for fish smoking and marketing. In addition, 55 respondents (75.3%) realized above ₦50,000 per week and 12 (16.0%) respondents realized within ₦30,001 - ₦50,000 in sales of smoked fish per week. From the empirical result, there are no significant variances in sales volume among smoked fish dealers in rural areas, semi-urban and urban areas in Umuahia, Abia State. This recommended that since smoked fish is consumed among the populace residing in rural areas, semi-urban and urban areas, smoked fish dealers can site his/her business at any part of Umuahia since there is no variation in sales volume among dealers in different locations.

Keywords: Marketing, performance. Smoked fish dealers, in rural, semi urban and urban areas

1. Introduction

Fish is one of the living aquatic resources exploited for food, recreation and other economic purposes. The term covers both fin fishes and other aquatic vertebrates such as - crocodiles, shell fishes and even sea weeds. It is often the most popular diet in the world and was long termed the doorman's protein. Fish is a very important agricultural product in the country as it occupies a prime place in the economy of the country. The term 'fish' is a diverse group of animals that live and breathe in water by means of gill. Fish is one of the most diverse groups of animals known to man with over two thousand five hundred species. There are more species of fish than all other vertebrates (Eyo, 2008). In Nigeria, a negligible proportion of the fish caught are marketed fresh, while greater quantity is preserved through ice, smoking and sun-drying by mainly women at artisanal level. The preservation of fish helps to increase utilization in menu, reduced wastes of bulk catches and increased protein availability (Akpan and Apeh, 2015). Agbabiaka (2010) noted that fish processing (dry, smoked, cooked, iced) has been widely investigated, but marketing of fish among dealers in different location is not found in the latest literature.

Smoked fish marketing in Nigeria is traditionally carried out in coastal towns and villages. In most fishing communities, the main economic activity of populace is fish processing (Omwoga and Osewe, 2010). Depending on the type of fish to be smoked, its uses and possible storage period, the smoking process can take the form of 'wet' hot smoking or 'dry' hot smoking. Both processes are carried out at temperatures above 80°C, which are high enough to cook the fish (Tetteh, 2009). Smoking also preserves fish by drying and depositing natural wood smoke chemicals like phenols and

aldehydes, both of which have powerful bactericidal action and prevent the growth of other micro-organisms on the flesh of the fish which are mostly done by women. Smoked fish is also tastier and provides longer shelf-life.

Marketing is mostly seen as the practice by which companies create value for customers and build strong customer relations in order to capture value from customers in return (Kotler & Armstrong, 2007). A marketing strategy is a process that can allow an organization to concentrate its limited resources on the greatest opportunities to increase sale and achieve suitable competitive advantages. In effect, fish marketing essentially consists of all the activities involved in delivering fish from the producer to the consumer, while distribution provides channels that link the marketing institutions and producers together. Fish marketing may be broadly defined as all those functions involved from the point of catching of fish, to the point of final consumption. As the fish moves closer and closer to the ultimate consumer, the selling price increases based on location, margins of the various intermediaries and functionaries. The price efficiency is concerned with improving the operation of buying, selling and other connected aspects of marketing process so that it will remain responsive to consumer direction (Nwabunike, 2015). The role of marketing as an incentive to fish production and productivity cannot be over-emphasized. The marketing of agricultural commodities in Nigeria involves various markets or exchange points. The number of exchange points depends on the nature of the point of production and that of consumption. If the marketing process is efficient, it will go a long way in providing sufficient food to the populace through the process of market mechanism.

However, in most of Nigeria, fish are mostly smoked in rural areas but demand is higher in some of the semi-urban and urban areas. Nevertheless, most of the smoked fish marketers in urban area incurred more expenses of transportation from point of processing in rural area to their outlet in urban area before getting to the final consumers. Invariably, smoked fish dealers in rural areas encounter challenges of buying the fresh fish in the urban areas (point of production and packaging) before processing into the smoked form which may lead to decrease economies of scale and high cost of processing. Moreover, some of the smoked fish dealers lack appropriate marketing strategies, skills and knowledge in marketing. As indicated by Mutambuki and Orwa (2014), the current situation of most fish dealers is characterized by haphazard marketing strategies, and there is no concerted effort of initiating and sustaining a strategic marketing culture and empowerment for efficiency marketing of fish to avoid decay due to high perishability tendency.

The fish enterprise has been facing challenges which include (Mutambuki and Orwa, 2012) access to markets and market information, policy, legal and institutional framework, lack of access to water resources, poor human capacities, lack of access to fish production, empowered producer organization, lack of business skills for stakeholders. Furthermore, due to the cumbersome nature of fish distribution channel, the smoked fish dealers in rural, semi-rural and urban areas encountered problem of profit maximization leading to marketing deficiency. In the same vain, despite the increasing studies on fish production and economic importance, scholars, and organizations (Eyo, 2008; Akpan and Apeh, 2015; Mebrate and Worku, 2019; Mutambuki and Orwa, 2012; Nwabunike, 2015), there is still no limited literature on measuring marketing performance variation of smoked fish dealers in rural areas, semi-urban and urban areas in a particular area. It is worth noting that much has been said about the importance of fish consumption in terms of balance in protein in the developed and developing world, but studies associated with measuring marketing performance variation of smoked fish dealers in rural, semi-urban and urban areas in developing country like Nigeria are rarely found. This study will contribute in minimizing this gap in the literature and thereby establish the basis to understanding the marketing position of smoked fish dealers.

1.1. Objectives of the Study

The main objective of the study was to examine marketing performance of smoked fish dealers in rural areas, semi-urban and urban areas in Umuahia, Abia State. The specific objectives were to:

- Examine the socio-economic characteristics of smoked fish dealers;
- Ascertain sales volume variances among smoked fish dealers based on location in rural areas, semi-urban and urban areas in Umuahia, abia state.

1.2. Hypothesis

The hypothesis was stated in a null form and tested with univariate/multiple analysis of variance (ANOVA).

- H01: There is no significant variance in sales volume among smoked fish dealers in rural areas, semi-urban and urban areas in Umuahia, Abia State.

1.3. Scope and Significance of the Study

The research of marketing performance of smoked fish dealers in rural areas, semi-urban and urban areas was carried out in Umuahia, Abia State. The study covered smoked fish dealers in Ndoro market, Ahiaeke market and Ubani market. The findings and recommendations from this study would be of immense significance to fish dealers in general in terms of siting their fish business in a most profitable location. It is aimed that this study will show the relevant information necessary for improving smoked fish dealers in Umuahia market; such as efficient location or point of marketing processed fish. In effect, this research adopted primary data by sourcing information from smoked fish dealers in the study area. To researchers and students interested in a similar field of study in future, they will find this work useful as a conceptual guide and reference material.

2. Review of Related Literature

2.1. Concept of Smoked Fish

Smoked fish is a fish that has been processed by smoking (Rozum, 2012). Fishes have been smoked by humans throughout history. In more recent times, fish is readily preserved by refrigeration and freezing and the smoking of fish is generally done for the unique taste and flavour imparted by the smoking process. Rozum (2012) further stated that the process of smoking fish occurs through the use of fire. Wood contains three major components that are broken down in the burning process to form smoke. The burning process is called pyrolysis, which is simply defined as the chemical decomposition by heat. The major wood components are cellulose, hemicellulose and lignin (Tys and Pieters, 2009). The major steps in the preparation of smoked fish are salting (bath or injection of liquid brine or dry salt mixture), cold smoking, cooling, packaging (air/vacuum or modified), and storage. Smoking, one of the oldest preservation methods, combines the effects of salting, drying, heating and smoking. The typical smoking of fish is either cold (28–32°C) or hot (70–80°C). Cold smoking does not cook the flesh, coagulate the proteins, inactivate food spoilage enzymes, or eliminate the food pathogens, and hence refrigerated storage is necessary until consumption; (Alasalvar, Miyashita, Shahidi and Wanasundara, 2011) although dry-cured hams are cold-smoked and require no refrigeration. The process of smoking or drying fish eliminates moisture from the fish, adds flavor and helps in the preserving process. The dried fish turns out really tasty, it imparts a smoky flavor into anything you are cooking.

Smoked Fish is fresh fish which is processed by smoked drying. Smoking is deployed in the Niger Delta for primarily two reasons. Firstly, in the absence of widespread cold chain storage, smoking is the dominant form in which fresh fish is preserved. Secondly, smoking fish is a means of product differentiation. Key participants in the sector include fishermen, fish smokers, distributors and marketers. In terms of employment it is estimated that there are about 16,430 fish smokers, comprised of rural and urban fish smokers. In rural areas, fish smokers numbering approximately 13,080 are dependent almost wholly on wild capture fish for supply. However, in urban areas, fish smokers numbering approximately 3,360 secure supply of both pond fish and wild capture fish. The vast majority of smokers (99%) are women. Conservative estimates the number wholesalers and retailers of smoked fish.

2.2. Marketing of Smoked Fish

Marketing is one of the vital aspects of agriculture since agriculture entails the production of goods and services, and production is said not be completed until the commodity produced reaches the final consumer (Oladejo, 2016). According to Iliyasu, Onu, Midau and Fintan, (2011) agricultural production and fish marketing must develop in hand-in-hand because fish production is not complete until it reaches the consumer. Meanwhile, considering the nature of fish as a highly perishable product, lack of organized marketing system would, no doubt, result in low profit and efficiency respectively. Consequently, the contribution of fisheries to the Nigerian economy is significant when viewed from the supply of animal protein and macro nutrient requirement, income and employment generation, rural development and exchange earning potentials (Foluke, 2007).

However, from the various studies cited, (Osarenren, and Ojor, 2014; Osarenren and Ojor, 2014; Abah, Zakanayiba and Simon, 2013; Nsikan, Okon, Umoh and Nyong, 2015) fish marketing is constrained by low prices, low fish supply, sales of immature fish, inadequate fund, high transportation cost, inadequate storage facilities and high levy and other taxes. The nature of the product on one hand and lack of organized marketing system on the other often resulted in low profit and efficiency respectively. Meanwhile, to be more profitable, fish trade requires every activity that increases sales revenue and as well decreasing the costs of marketing. Thus, prioritizing the adopted marketing strategies to improve profit becomes necessary, since profitability is the primary goal of all business. So, measuring current and past profitability and projecting future profitability is very important. Profitability of fish is the measure of fish profit against its power to earn profit (Monica, 2014). Meanwhile, on the previous investigation on the profitability of smoked fish marketing, Osarenren and Ojor (2014) indicated that smoked fish was a profitable venture. Therefore, identification and adoption of the right market appealing to the consumers as a technique for achieving profitability can be said to be one of such right steps because it enables fish farmers not only to produce and sell but also to maintain the right marketing delight with their customers which ends in enhancing profit which is the goal of the marketer.

Accordingly, marketing efficiency is a measure of market performance and is defined as the movement of crops and livestock from the producers to consumers at the lowest cost consistent with the provision of the services desired by consumers (Oladejo, 2016). Nwari, Nwosu and Agummuo (2011) stated that an efficient marketing system ensures that goods, which are seasonal, will be available all year round, with little variation in prices, which can be attributed to cost of marketing functions like storage, processing, transportation, etc. A resourceful marketing system makes both the producers and consumers better off (Adegeye and Dittoh, 1985). And to ensure continuous availability of fish for human consumption, nutrition and wellbeing, the Nigerian economy requires effective and efficient marketing systems. As a result of the foregoing, efficient fish marketing is important when distance distribution is necessitated, top quality, maximum yield and highest possible profits are to be achieved in the market (Davies and Davies, 2009).

2.3. Fish Marketing Channels

The fish smoking and marketing are involved in a set of practices or activities necessary to transfer the ownership of goods from the point of production cum processing to the point of consumption. In this way, smoked-fish gets to the end-user (the consumer). These practices and or activities carried out by the fish smoking and marketing pass along or through a specified route or medium which has been customized here as a distribution channel. The marketing channel(s) describes/describe the existence of a trade medium for communication or the passage of smoked-fish that bridges the

access gap between fish producers, marketers and consumers in the area under survey. In these regards, marketing of smoked-fish in the study area provides a social process by which individuals and groups obtain what they need and want through creating and exchanging products and value with others. Comparisons of marketing channels or paths through which goods or materials could move from producers to users make it easy to understand how the term 'middleman' came into being as a way to explain product flows (Lou *et al.*, 2014).

A marketing channel operates as a team, sharing resources and risks to move products and resources from their point of origin to their point of final consumption. According to Subba *et al.*, (2004), agricultural commodities move from the farmers to consumers over time and space, and the movement is possible through various market intermediaries that operate in the marketing system. Subba *et al.*, (2004) further stated that marketing channels differ from commodity to commodity implying that the marketing channel for smoked-fish differs from that of eggs. Furthermore, they opined that marketing channel strategically links producers to buyers, influences the firm's pricing strategy, affects product strategy through branding among other roles.

2.4. Fish Smoking as an Important Preservation Method in Nigeria

Marketing comprises all strategies and ways through which a product of agricultural industry is transferred from where they are produced to the ultimate consumers (Subba *et al.*, 2004). Through marketing processes, the economic process of exchanging goods (fish) and services (smoking) between the producer, marketers and the consumers cum the determination of their values in terms of money prices is ensured. The process of fish marketing is a very delicate one if the quality and nutritive value is to be maintained to the highest possible level. It includes processing, storage, preservation, transportation, wholesaling and retailing. Based on these facts, efficient marketing would be a way forward for management of the available resources given the high rate of produce deterioration. Moreover, processing and marketing activities provide the greatest opportunities for employment within the aquaculture industry (Okoronkwo, 2016).

Market for fish is, therefore, perceived as a place where title of goods and or services are exchanged at a given time and price from producers to smoked fish marketers and from smoked fish marketers to retailer and to the final consumers, given the prevailing marketing channel. Exchange of titles in fish marketing requires at least two individuals here referred to as buyers and sellers that have to bargain and agree for transaction on the good and or service to occur, leading to a higher level of satisfaction by each individual. For these key marketing functions to be actualized, the performance of some other major marketing functions such as assembling, grading, transportation, fire-drying (processing), storing, sales, etc. for and by middlemen of interest, mostly smoked fish marketers and or retailers have to be fulfilled. Fish marketing like marketing of other goods and services has economic value because it gives form, time, place, utility to products and services (Osarenren, Adams and Ojor, (2014)).

2.5. Theoretical Framework

The study anchored basically on Rationale Choice Theory which explains how sellers make choice on location of siting business. Hence, for smoked fish sellers to be efficient in distribution, rationale decision on location must be considered as one of the criteria.

2.5.1. Rational Choice Theory

Rational Choice Theory was propounded by Gary Becker (1981). The rational choice theory, which is also known as choice theory or rational action theory, is the main theoretical paradigm in the currently-dominant school of micro-economics. It is a framework for understanding and often formally modeling social and economic behaviour. Rational choice theory attempts to deduce what will happen when individuals are faced with a situation such as wholesaler's choice of management for efficient marketing. The theory borrows from economics the assumption that all individuals are rational egoists. Wholesalers are assumed to be rational in the capacity to devise, choose and put into practice effective means to clear ends (improve standard of living, income and profit maximization); they are egoists because the ends in question generally refer to the self-interest of that individual. Wholesalers choose the alternative that is likely to give them the greatest satisfaction in terms of management strategies. Models that rely on rational choice theory often adopt methodological individualism, the assumption that social situations or collective behaviours are the result of individual actions alone, with no role for larger institutions. Choice models estimated will reflect the a priori assumptions of the modeler as to what factors affect the decision process. In economics, utility means the real or fancied ability of a good or service to satisfy a human want. The concept of utility applies to both single-attribute and multi-attribute alternatives. The fundamental assumption in utility theory is that the decision maker, such as wholesalers, always chooses the alternative for which the expected value of the utility is maximum. If that assumption is accepted, utility theory can be used to predict or prescribe the choice that the wholesaler will make, or should make, among the available alternatives.

2.5.2 Empirical Review

Adeola, Ayegbokiki, Akerele, Adeniyi and Bamidele (2016) determined the marketing perspective of smoked catfish (*Clarias gariepinus*) by consumers in South West Nigeria. A Multi-stage sampling procedure was used for data collection. Three States in South West were randomly selected for the study. A total of 300 respondents were sampled. Descriptive statistics and Tobit model were the statistical tools used for the analysis. The result revealed that there was a high level of smoked catfish acceptance (92.6%) and consumption (88.3%) in the study area. Considering the factors that actually influenced the quantity of smoked catfish consumed, the result showed that consumers' income (0.0018671) and household size (0.2691329) had positive and statistically significant influence (at 5%, respectively) on the quantity of

smoked catfish consumed. There was a negative relationship between higher educational level and fish consumption (-0.3855556), which was significant at 10%. Since household size, level of income and male headed household (0.5373099), which was significant at 1%, all influenced consumption of smoked catfish; it is, therefore, expected that smoked catfish will be a lucrative business in south west Nigeria.

Fapohunda (2012) conducted a study on economic analysis of smoked fish marketing in Owo Local Government Area (LGA). The markets were selected randomly from towns in the LGA; smoked fish marketers were interviewed from each market with the aid of structured questionnaire and personal interviews. The data collected was analyzed using gross and marketing margin, regression analysis and descriptive statistics such as frequency, minimum and maximum values and percentages. Results showed that 71% of smoked fish marketers were young people between the ages of 18 and 39 years, 23% of them were of middle-aged, between 40 and 49 years. The gross margin analysis showed that smoked fish marketing was a profitable venture. In the study area, the high marketing margin of N189, 726.00 on the average suggested that the marketing of smoked fish was inefficient. The regression analysis showed that the coefficient of multiple determinations (R^2) of 0.946 implied that about 94.6% of variation in the sales value of smoked fish in the study area was explained by the variables: age of respondents, level of education, experience of smoked fish sellers, operating cost and acquisition cost included in the model. The variables of age, experience, education and acquisition cost had positive sign and were each less than unity. This implied that each of the variables used was in Stage II of the marketing function and was efficiently allocated. The variables of operating cost was negative implying that it is in Stage III of the marketing function and was inefficiently allocated, the use of which should be reduced so that it can come back to Stage II. The identified constraints to effective and efficient marketing of smoked fish included inadequate and high cost of transportation and lack of good roads.

Onogwu, Asogah and Akise (2019) examined the economic viability of fish smoking and marketing in Ibi, Taraba State, Nigeria. A multi-stage random sampling technique was employed to illicit response from 80 respondents for the study. Data collection was through structured questionnaire. Descriptive statistics, regression analysis, marketing margin and net marketing margin estimation procedures among others, were used to determine the values of the profitability measures that infer the significant influential variables economic viability of fish smoking and marketing venture. Marketing margin obtained was 23.43%, with a net marketing margin of 13.77%, resulting from a total gross and net revenue of smoked fish sales of N1, 378,889 and N810, 580, respectively. The smoked fish selling price, unsmoked fish purchasing price and total smoked fish cost stood at N5,886,079, N4,507,190 and N5,075,449, respectively. The fish smoking efficiency of 3.06 and smoked fish marketing efficiency of 2.43 indicates that the dealers make a net return of 3.06 times per N1.00 invested in fish smoking which sells 2.43 times faster than unsmoked type. Hence, a clear indication that fish smoking and marketing is economically viable in the area studied. It is recommended that national market development coordinating should be put in place to ensure the adoption of standard weight and measure for fish smoking and marketing in the area; cost saving transportation and smoking service facilities should be sustained by private individuals and corporate groups alike to improve efficiency of venture by dealers; capacity building for agricultural extension officers and enumerators on market information service (MIS) should be intensified by Government.

Taiwo, Foluso and Abiodun (2019) studied profitability and marketing efficiency of smoked fish: an empirical evidence from Ondo State, Nigeria. The study considers 80 fish marketers from Ondo state using purposive sampling technique. The data collected for the study were analyzed using budgetary technique and shepherd efficiency model. The study revealed that fish marketing is profitable with gross margin of #38,101.36 and 15k as return on investment. The shepherd efficiency model revealed that fish marketing activities among fish marketers is highly efficient with efficiency value far higher (558.0%) than 100% deducing that an increase in the cost of performing marketing service (that is added time, form and place utility) by 100 percent will give more than proportionate increase of 458.0 percent in the level of satisfaction derived from a kilogram of fish sold in the market. It was recommended that government should focus on policy that encourages farmers and young graduates in the business as it is noted for its profitability, efficiency and being a source of livelihood.

Mutambuki and Orwa (2014) determined marketing strategies of commercial fish farming in Kitui County. The study population comprised of a total of 667 fish farmers selected across eight constituencies of Kitui County. The study adopted a simple random sampling technique to select a sample size of 200 respondents. Questionnaires were used as the major data collection instruments and administered to the respondents. The results from the study have clearly indicated that the product branding, sales promotion, market positioning and core competences marketing strategies affect commercial fish farming under economic stimulus. These four factors had different indices of determinacy with branding of fish products being main influencing factor closely followed by core competences. Sales promotion and the market positioning were found to be also important in determining commercial fish farming. Most of commercialized fish farmers would not easily sell their produce due to poor mechanisms of marketing. These can be associated to lack of enough branding of fish products and fish farmers' low competences. This study found the need for comparative commercial fish farming marketing studies in other counties to reach elaborative findings for this industry.

3. Methodology

For the purpose of achieving the objectives of the study, descriptive survey design method was used. This study was carried out in major food markets (Ndoro market, Ahiaeke market and Ubani market) in Umuahia, Abia State, Nigeria. Umuahia is the capital city of Abia State, located in the south east geo-political zone of Nigeria. Data for this study were generated from smoked fish sellers through the use of a structured questionnaire (primary data). The study adopted purposive sampling technique to select mackerel smoked fish dealers only. From the selected market, twenty-five (25) mackerel smoked fish dealers were selected; making it a total of seventy-five (75) respondents which represent the

sample size of the study. The study used panel data because the researcher visited the selected market four (4) consecutive times, which is once a week, only on market day when large number of smoked fish dealers bring their products to the market.

Structured questionnaire was the major instrument for data collection, the instrument was given to three research experts in marketing and measurement and evaluation to scrutinize. Error(s) detected by the experts were duly addressed before administering the questionnaire on the respondents. The data sourced were analyzed as follows. The simple descriptive statistics was used to analyze OBJECTIVE 1 (respondents' socio-economic characteristics). However, the Analysis of Variance (ANOVA) was used to test OBJECTIVE 2 (sales volume variance of smoked fish dealers). The model is specified as follows:

$$\Sigma^2/(-)$$

$$F = \Sigma^2/(- 1) \dots 3.1$$

Where,

Σ^2 = the total sum of squared deviation of y_2

Σ^2 = the total sum of square deviation explained by all the regression together

Σ^2 = the sum of residual deviation

N-K and K-1 = degree of freedom per Σ^2

4. Result and Discussions

In this section of the study, the data obtained through administration of questionnaire are presented analyzed as follows:

Variable	Descriptions	Frequency	Percentage
Location	Ndoro market	25	33.3
	Ahiaeke market	25	33.3
	Ubani market	25	33.3
	Total	75	100
Age (years)	Below 25	6	8.0
	25–40	38	50.7
	41–55	21	28.0
	Above 55	10	13.3
	Total	75	100
Gender	Male	13	17.3
	Female	62	82.7
	Total	75	100
Educ. Qualification	No formal edu.	-	-
	FSLC	13	17.3
	Secondary	40	53.3
	Tertiary	22	29.4
	Total	75	100
Marital Status	Single	14	18.7
	Married	61	81.3
	Total	75	100

Table 1: Socio-economic Characteristics of the Respondents

Source: Field Survey, 2021

Table 1 addressed the socio-economic characteristics of smoked fish sellers in Umuahia. The result revealed that 25 (33.3%) of the smoked fish sellers operate their business in Ndoro market, Ahiaeke market and Ubani market accordingly. The rationale of selecting equal number of the respondents from the selected market was to avoid variation in mean response on the sales volume and profitability differentials.

From the result, most of the respondents 38 (50.7) fell within 25 – 40 years of age, followed by 21 (28.0%) of the respondents within 41 – 55 years of age. More so, 13.3% and 8.0% of the respondents were above 55 years of age and below 25 years of age respectively. From the result, more than 85% of the respondents are below 56 years of age. This set of smoked fish dealers were selected because they have the ability to keep records on sales volume and profit ratio of the business.

From the Table 1 result, majority of the respondents constituting 62 (82.7%) were females as against 13 (17.3%) respondents who were males. From the result, most of the smoked fish dealers in the study area are women.

Table 1 further revealed that 40 (53.3%) of the respondents were certified senior secondary school certificate holders followed by 22 (29.4%) of the respondents with tertiary institution certificate holders; only 13 (17.3%) were primary school certificate holders. None of the respondents had any formal education. This is basically true and conforms to a priori expectations because most of the market men and women have registered themselves for studies in part-time programme in both secondary and tertiary institutions.

In addition, the table showed that 61 (81.3%) of the respondents were duly married as against 18.7% of the respondents who were single. The high ratio of married respondents may be as a result of the nature of smoked fish being tasking. Hence, the dealers may not operate it comfortably alone without assistant.

Variable (*per week) Years of Dealing with Smoked Fish	Descriptions	Frequency	Percentage
	Below a year	-	-
	1 – 5 years	10	13.3
	6 – 10 years	21	28.0
	11 – 15 years	30	40.0
	16 and above	14	18.7
	Total	75	100
Number of smoked*	1–25	4	5.3
	26–50	15	20.0
	51–75	37	49.4
	Above 75	19	25.3
	Total	75	100
Total Expenses*	₦1,000 - ₦10,000	2	2.7
	₦10,001 - ₦20,000	9	12.0
	₦20,001 - ₦30,000	23	30.6
	Above ₦30,000	41	54.7
	Total	75	100
Income from smoked fish*			
	Less than ₦10,000	2	2.7
	₦10,000 - ₦30,000	6	8.0
	₦30,001 - ₦50,000	12	16.0
	Above ₦50,000	55	75.3
	Total	75	100

Table 2: Smoked Fish Related Information from the Respondents

Source: Field Survey, 2021

Table 2 shown that 30 (40.0%) of the respondents have been dealing with smoked fish within 11 – 15 years and 28.0% of the respondents have 6 – 10 years of smoked fish marketing experience. 18.7% and 13.3% of the respondents have above 15 years and 1 – 5 years of smoked fish marketing experience. None of the respondents had less than a year experience. This indicates that the selected respondents have tangible experience on smoked fish marketing.

As revealed in Table 2, 37 respondents (49.4%) sold within 51 – 75 pieces of smoked fish per week followed by 19 (25.4%) and 15 (20.0%) respondents who sold above 75 pieces of smoked fish and 26 – 50 pieces of smoked fish per week respectively. In addition, only 4 (5.3%) respondents sold within 1 – 25 pieces of smoked fish per week. From the result, more than 90% of the selected respondents sold more than 25 pieces of smoked fish per week. The researcher purposively selected these set of respondents because only dealers with experience can deal with large quantity of smoked fish without depreciation in value.

More so, 41 (54.7%) smoked fish dealers incurred more than ₦30,000 as expenses per week followed by 23 (30.6%) respondents with ₦20,001 - ₦30,000 expenses per week. The least were 2.7% of the respondents who incurred within ₦1,000 - ₦10,000 as expenses for fish smoking and marketing. In addition, 55 (75.3%) respondents realized above ₦50,000 per week and 12 (16.0%) respondents realized within ₦30,001 - ₦50,000 in sales of smoked fish per week.

5. Test of Hypotheses

- H01: There is no significant variance in sales volume among smoked fish dealers in rural areas, semi-urban and urban areas in Umuahia, Abia State.

5.1. Tests of Between-Subjects Effects

Dependent Variable: Sales Volume Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.137 ^a	32	.036	181.672	.000
Intercept	5.534	1	5.534	28284.536	.000
Rural	.396	4	.100	451.212	.000
Semi-urban	.334	3	.111	568.713	.000
Urban	4.835E-005	4	1.209E-005	.062	.993
rural * semi-urban	9.616E-005	5	1.923E-005	.098	.916
rural * urban	1.371	6	.228	1315.909	.000
Semi-urban * urban	.000	4	3.529E-005	.180	.947
rural * semi-urban * urban	3.530E-005	2	1.765E-005	.090	.914
Error	.008	42	.000		
Total	26.319	75			
Corrected Total	1.146	74			

Table 3: Three Way- ANOVA Result Testing the Variation in Sales Volume among Smoked Fish Dealers in Rural Areas, Semi-Urban and Urban Areas in Umuahia, Abia State
A. R Squared = .993 (Adjusted R Squared = .987)

Decision Rule: If F_{cal} Is Greater Than the F_{tab} , Accept Alternate Hypothesis and Reject Null Hypothesis, But, If Otherwise, Accept Null Hypothesis and Reject Alternate.

F-Tab Value = 2.74

Df = 74 (0.05 @ 95% Degree of Freedom)

Source: Field Survey, 2021 (Spss Version 20 Computation)

Table 4.11 above showed the hypothesis testing the variation in sales volume among smoked fish dealers in rural, semi-urban and urban areas in Umuahia, Abia State.

The result revealed that there is no variation in sales volume of smoked fish in rural and semi-urban area in Umuahia since the f-calculated value of 0.062 is less than F-tabulated value of 2.74 as observed from the analysis. However, there is variation in sales volume of smoked fish among dealers in rural area and urban area in Umuahia since the f-calculated value of 1315.909 is greater than F-tabulated value of 2.74 as observed from the analysis. Invariably, there is no variation in sales volume of smoked fish in semi-urban and urban area in Umuahia since the f-calculated value of 0.180 is less than F-tabulated value of 2.74 as observed from the analysis. The result revealed that there is no variation in sales volume of smoked fish among dealers in rural area, semi-urban and urban area in Umuahia since the f-calculated value of 0.090 is less than F-tabulated value of 2.74 as observed from the analysis. It is shown in this result that the calculated F-distribution is less than the tabulated F-distribution; therefore, the null hypothesis was accepted against the alternate hypothesis. This means that there is no significant variance in sales volume among smoked fish dealers in rural, semi-urban and urban areas in Umuahia, Abia State.

6. Summary of Findings

The major findings revealed by the study are discussed as follows:

The findings from the socio-economic characteristics of the respondents revealed that 38 respondents (50.7) fell within 25 – 40 years of age followed by 21 (28.0%) respondents within 41 – 55 years of age. 62 respondents (82.7%) were females as against 13 (17.3%) respondents who were males. 40 (53.3%) respondents were certified senior secondary school certificate holders followed by 22 (29.4%) of the respondents with tertiary institution certificate holders; 61 (81.3%) respondents were duly married as against 18.7% of the respondents who were single. 30 (40.0%) respondents have been dealing with smoked fish within 11 – 15 years; 28.0% of the respondents have 6 – 10 years of smoked fish marketing experience. 37 respondents (49.4%) sold within 51 – 75 pieces of smoked fish per week followed by 19 (25.4%) and 15 (20.0%) respondents who sold above 75 pieces of smoked fish and 26 – 50 pieces of smoked fish per week respectively. More so, 41 (54.7%) smoked fish dealers incurred more than ₦30,000 as expenses per week. This was followed by 23 (30.6%) of the respondents with ₦20,001 - ₦30,000 expenses per week. The least were 2.7% of the respondents who incurred within ₦1,000 - ₦10,000 as expenses for fish smoking and marketing. In addition, 55 (75.3%) respondents realized above ₦50,000 per week, while 12 (16.0%) respondents realized within ₦30,001 - ₦50,000 in sales of smoked fish per week.

From the empirical result, there is no variation in sales volume of smoked fish among dealers in rural, semi-urban and urban areas in Umuahia since the f-calculated value of 0.090 is less than F-tabulated value of 2.74 as observed from the analysis. It is shown in this result that the calculated F-distribution is less than the tabulated F-distribution; therefore, the null hypothesis was accepted against the alternate hypothesis. This means that there is no significant variance in sales volume among smoked fish dealers in rural, semi-urban and urban areas in Umuahia, Abia State.

7. Conclusion

In conclusion, the total demand for fish product is higher in Nigeria than in many other West African Countries because the local communities and urbanized area consume smoked fish for its cheaper price. Since smoked fishes are

produced mostly in local area and the distance between fish producers and consumers has increased, fish marketing has become very important. Smoking of fish or sun drying serves the purpose of preserving and maintaining the quality, though both fresh and dried fishes have to be transported to the urban center to actualize sales. It is widely accepted that smoked fish is a profitable business in Umuahia, Abia State. Since smoked fish is consumed among the populace residing in rural, semi-urban and urban areas, smoked fish dealers can site his/her business at any part of Umuahia since there is no variation in sales volume among dealers in different locations.

8. Recommendations

Based on the empirical findings, the following recommendations were suggested:

- There is need for smoked fish marketers form co-operative society to enable them maintain same price in all locations. This is because in the process of data collection it was discovered that the majority of the smoked fish dealers place varying value for the product.
- All the smoked fish dealers in a particular market need to position themselves at a particular point in market to avoid illegal new entry.

9. References

- i. Abah D., Zagnayiba, D. and Simon, E. (2013). Economic Analysis of fish marketing in Lafia Local Government Area of Nasarawa State, Nigeria. *Production Agriculture and Technology Journal* 9 (2), 54-62.
- ii. Adegeye, A. J. & Dittoh, J. S. (1985). *Essentials of agricultural economics*. Impact publishers Nigeria limited Ibadan, Nigeria, 63-67.
- iii. Adeola, A. A., Ayegbokiki, A. O., Akerele, D., Adeniyi, B. T. and Bamidele, N. A. (2016). Marketing perspective of smoked catfish by consumers in South-West Nigeria. *Applied Tropical Agriculture*, 21 (2) 58-66. A publication of the School of Agriculture and Agricultural Technology, The Federal University of Technology, Akure, Nigeria.
- iv. Agbabiaka, M. A. (2010). Commercialization and gender roles among Lake Victoria shore fishing communities of Uganda. Department of Women and Gender Studies, Makerere
- v. Akpan, E. U. and Apeh, S. L. (2015). Women, work and fishing: An examination of the lives of fisherwomen in Odukpani. *Journal of trade and business Research*, 27 (27), 205– 227.
- vi. Alasalvar C, Miyashita K, Shahidi F and Wanasyunda U (2011) *Handbook of Seafood Quality, Safety and Health Applications* Page 349, John Wiley & Sons.
- vii. Davies, R. M. and Davies, O. A. (2009). Traditional and improved fish processing technologies in Bayelsa State, Nigeria. *Eur. J. Sci. Res.*, 26, 539-548.
- viii. Eyo A.A (2008). Utilization of fresh water species in Nigeria. *Proceeding of Annual Conference of the Fisheries Society of Nigeria*.
- ix. Eyo, A. A. (2008). Fish processing technology in tropics. University of Ilorin press, Nigeria. Technical Paper, 86:163-166.
- x. Fapohunda, O. O. (2012). Economic analysis of smoked fish marketing in Owo local government area, Ondo-State, Nigeria. *Continental J. Fisheries and Aquatic Science*, 6(1), 38 – 46.
- xi. Foluke, O. (2007). How fisheries contribute to food security in Nigeria the national president of Fisheries Society of Nigeria, FISON.
- xii. Iliyasu, A. H., Onu, J. I., Midau, A. and Fintan, J. S. (2011). Economics of smoked and dried fish marketing in Yola North and South local Government areas of Adamawa State, Nigeria. *J. Agric. Soc. Sci.*, 7: 13–16.
- xiii. Kotler, P. & Armstrong, G. (2007). *Marketing management* (13th Edition ed.). India: Prentice Hall.
- xiv. Lou, E., Pelton, D. S. and James, R. L. (2014). *Marketing channels: A relationship management approach*. U.K: McGraw-Hill Companies, Inc.
- xv. Mebrate, Y. & Worku, A. (2019). Structure, conduct and performance of fish market in Central Ethiopia. *Management Studies and Economic Systems (MSES)*, 4 (4), 295-303.
- xvi. Monica, T., (2014). Profitability Analysis (A comparative study of SAIL & TATA Steel). *IOSR Journal of Economics and Finance*, 3(2), 19-22.
- xvii. Mutambuki, M. K. and Orwa, B. H. (2014). Marketing Strategies of Commercial Fish Farming under Economic Stimulus Programme (ESP) in Kenya: An Empirical Study of Kitui County. *International Journal of Humanities and Social Science*, 8 (4), 111 – 122.
- xviii. Nsikan, E. B., Okon, E. U., Umoh I. U. and Nyong E. E. (2015). Analysis of the determinants of fresh fish marketing and profitability among captured fish traders in South Nigeria: The Case of Akwa Ibom State: *British Journal of Economics, Management and Trade* 5(1), 35-45.
- xix. Nwabunike M. O. (2015). Constraints of fish marketing in Abakaliki Metropolis. *International Journal of Fisheries and Aquatic Studies* 2 (4), 337-344.
- xx. Nwaru, J. C., Nwosu, A. C. and Agummuo, V. C. (2011). Socio-economic determinants of profit in wholesale and retail banana marketing in Umuahia agricultural zone of Abia State, Nigeria. *Journal of sustainable development in Africa*. 13(1) 200-210.
- xxi. Okoronkwo, V. U. (2016). Analysis of women retailers and smoked fish marketers participation in fish marketing in Ebonyi north, Nigeria. An M.Sc dissertation presented to the department of agricultural economics and extension, faculty of agriculture, Abia State University, Uturu.
- xxii. Oladejo, J. A., (2016). Profitability and marketing efficiency analysis of women cassava processors in Oyo State, Nigeria. *Global Advanced Research Journal of Agricultural Science*, 6(3), 078-083.

- xxiii. Onogwu, G.O., Asogah, S. E. & Akise, G. O. (2019). Economic viability of fish smoking and marketing: Evidence from Ibi, Taraba State, Nigeria. *Journal of Marketing and Consumer Research*, 23 (24), 33 – 47.
- xxiv. Osarenren C. O. and Adams O. Ojor, (2014). Marketing analysis of smoke-dried fish in Etsako East Local Government Area of Edo State, Nigeria. *Net Journal of Agricultural Science*, 3(2), 104-106,
- xxv. Rozum, J. R., ed. (2012). Fish smoking and drying. Elsevier Applied Science. ISBN 978-1-85166-247-0.
- xxvi. Subba S. Reddy et al., (2014). Agricultural economics. Oxford & IBH publishing company pvt. Ltd. New Delhi.
- xxvii. Taiwo, A., Foluso, O. and Abiodun, A. (2019). Profitability and marketing efficiency of smoked fish: an empirical evidence from Ondo State, Nigeria. *International Journal of Agricultural Extension and Rural Development Studies*, 6 (3), 26-33.
- xxviii. Tetteh, A. U. (2009). FAO's role and experiences with improving the social and economic status of women in fishing communities in Asia and the Pacific. FAO, Rome, London, 9 pp.
- xxix. Tys, D. and Pieters M (2009). Understanding a medieval fishing settlement along the southern Northern Sea: Walraversijde, c. 1200–1630. In: Sicking L and Abreu-Ferreira D (Eds.) beyond the catch: fisheries of the North Atlantic, the North Sea and the Baltic, 900–1850, Brill, pages 91–122.

Appendix

Questionnaire

Dear respondent,

I am currently conducting a study; marketing performance of smoked fish dealers in rural areas, semi-urban and urban areas in Umuahia, Abia State. The study is strictly academic. Kindly respond to the questionnaire items with all sincerity and promptness required. The questionnaire contains two sections: Respondents' Demographic Characteristics and Structured Statements Based on the Objectives 2 of the Study.

Your responses will be treated with utmost confidentiality and used only for the purpose of the Study.

Thank you.

**Mrs. K. C. Thecla
(Researcher)**

Respondents' Demographic Characteristics
(Please, Tick Appropriately)

Location:

- | | |
|----------------|--------------------------|
| Ndoro market | <input type="checkbox"/> |
| Ahiaeke market | <input type="checkbox"/> |
| Ubani market | <input type="checkbox"/> |

Age Brackets (In Years):

- | | |
|------------|--------------------------|
| Below 25 | <input type="checkbox"/> |
| 25–40 | <input type="checkbox"/> |
| 40–55 | <input type="checkbox"/> |
| 55 & above | <input type="checkbox"/> |

Gender:

- | | |
|--------|--------------------------|
| Male | <input type="checkbox"/> |
| Female | <input type="checkbox"/> |

Educational Qualification: No formal edu

- | | |
|-----------|--------------------------|
| FSLC | <input type="checkbox"/> |
| Tertiary | <input type="checkbox"/> |
| Secondary | <input type="checkbox"/> |

Marital Status:

- | | |
|---------|--------------------------|
| Single | <input type="checkbox"/> |
| Married | <input type="checkbox"/> |

Years of smoked fish dealing: below a year

- | | |
|---------------|--------------------------|
| 1 – 5 years | <input type="checkbox"/> |
| 6 – 10 years | <input type="checkbox"/> |
| 11 – 15 years | <input type="checkbox"/> |
| 16 and above | <input type="checkbox"/> |

Number of smoked fish sold per week

- 1 – 25 years
- 26 – 50 years
- 51 – 75 years
- above 75

Total expenses incurred for dealing with smoked for per week

- ₦1,000 – ₦10,000
- ₦10,001 – ₦20,000
- ₦20,001 – ₦30,000
- above ₦30,000

Total income realized from smoked fish selling per week:

- Less than ₦10,000
- ₦10,000 – ₦30,000
- ₦30,001 – ₦50,000
- above ₦50,000

Tests of Between-Subjects Effects					
Dependent Variable: salesvolume					
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	1.137 ^a	32	.036	181.672	.000
Intercept	5.534	1	5.534	28284.536	.000
rural	.396	4	.100	451.212	.000
semiurban	.334	3	.111	568.713	.000
urban	4.835E-005	4	1.209E-005	.062	.993
rural * semiurban	9.616E-005	5	1.923E-005	.098	.916
rural * urban	1.371	6	.228	1315.909	.000
semiurban * urban	.000	4	3.529E-005	.180	.947
rural * semiurban * urban	3.530E-005	2	1.765E-005	.090	.914
Error	.008	42	.000		
Total	26.319	75			
Corrected Total	1.146	74			

a. R Squared = .993 (Adjusted R Squared = .987)

Table 4

8. rural * semiurban * urban

Dependent Variable: salesvolume

rural	semiurban	urban	Mean	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	1.00	1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.	.	.	.
2.00	2.00	5.00	.	.	.	.
		1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.	.	.	.
		5.00	.	.	.	.
		1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.	.	.	.
		5.00	.	.	.	.
3.00	3.00	1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.	.	.	.
		5.00	.	.	.	.
		1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.	.	.	.
		5.00	.	.	.	.
4.00	4.00	1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.	.	.	.
		5.00	.602	.014	.574	.630
		1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.	.	.	.
		5.00	.	.	.	.
5.00	5.00	1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.699	.010	.679	.719
		4.00	.699	.014	.671	.727
		5.00	.699	.014	.671	.727
		1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.	.	.	.
		5.00	.	.	.	.
1.00	1.00	1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.	.	.	.
		5.00	.	.	.	.
		1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.	.	.	.
		5.00	.	.	.	.
2.00	2.00	1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.	.	.	.
		5.00	.	.	.	.
		1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.	.	.	.
		5.00	.	.	.	.
3.00	3.00	1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.	.	.	.
		5.00	.	.	.	.
		1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.	.	.	.
		5.00	.	.	.	.
4.00	4.00	1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.301	.014	.273	.329
		4.00	.	.	.	.
		5.00	.	.	.	.
		1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.	.	.	.
		5.00	.	.	.	.
		1.00	.	.	.	.
		2.00	.	.	.	.

		5.00	.	.	.	.
		1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.699	.014	.671	.727
		5.00	.	.	.	.
		1.00	4.181E-016	.014	-.028	.028
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.	.	.	.
		5.00	.	.	.	.
		1.00	.	.	.	.
		2.00	.	.	.	.
		3.00	.	.	.	.
		4.00	.	.	.	.
		5.00	.	.	.	.
		1.00	.	.	.	.
		2.00	.	.	.	.
	3.00	3.00	3.00	.477	.014	.449
			4.00	.477	.010	.457
			5.00	.477	.014	.449
			1.00	.	.	.
			2.00	.	.	.
		4.00	3.00	.	.	.
			4.00	.602	.006	.591
			5.00	.602	.014	.574
			1.00	.	.	.
			2.00	.	.	.
		5.00	3.00	.	.	.
			4.00	.	.	.
			5.00	.699	.014	.671
			1.00	.	.	.
			2.00	.	.	.
		1.00	3.00	.	.	.
			4.00	.	.	.
			5.00	.	.	.
	4.00		1.00	.	.	.
			2.00	.	.	.
		2.00	3.00	.	.	.
			4.00	.	.	.
			5.00	.	.	.
		3.00	1.00	.477	.014	.449
			2.00	.	.	.

		3.00	.477	.010	.457	.497
		4.00	.477	.008	.481	.493
		5.00	.477	.014	.449	.505
		1.00	-*	-	-	-
		2.00	.602	.010	.582	.622
	4.00	3.00	.602	.007	.588	.616
		4.00	.602	.004	.595	.609
		5.00	.614	.005	.604	.624
		1.00	-*	-	-	-
		2.00	-*	-	-	-
	5.00	3.00	.699	.014	.671	.727
		4.00	.699	.008	.683	.715
		5.00	.699	.007	.685	.713
		1.00	-*	-	-	-
		2.00	-*	-	-	-
	1.00	3.00	1.711E-016	.014	-.028	.028
		4.00	-*	-	-	-
		5.00	-*	-	-	-
		1.00	-*	-	-	-
		2.00	-*	-	-	-
	2.00	3.00	-*	-	-	-
		4.00	-*	-	-	-
		5.00	-*	-	-	-
		1.00	-*	-	-	-
		2.00	-*	-	-	-
	5.00	3.00	.477	.014	.449	.505
		4.00	.477	.010	.457	.497
		5.00	-*	-	-	-
		1.00	.602	.014	.574	.630
		2.00	-*	-	-	-
	4.00	3.00	.602	.014	.574	.630
		4.00	.602	.014	.574	.630
		5.00	-*	-	-	-
		1.00	.699	.014	.671	.727
		2.00	-*	-	-	-
	5.00	3.00	-*	-	-	-
		4.00	-*	-	-	-
		5.00	-*	-	-	-

a. This level combination of factors is not observed, thus the corresponding population marginal mean is not estimable.

Table 5