

MARKET CONCENTRATION AND DEMAND FOR ALCOHOLIC BEVERAGES IN MAJOR MOTOR PARKS WITHIN IBADAN METROPOLIS, OYO STATE, NIGERIA

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Abstract: *The value addition to alcoholic beverages through packaging in small nylon and the increase in the introduction of new brands has led to its high demand and many Nigerians earning their means of livelihood through the sales. The study showed that the average consumption per day was 6.1 sachets per week. The study revealed that 28.6% of the consumers' monthly income was spent on alcoholic beverages per month. Seaman brand had the highest market share (73.4%); this was followed by Chelsea (66.2%). The study affirmed that 62.9% of the consumers based their choice on high alcoholic content while 3.1% claimed the choice was based on the medicinal (cures pile) value. Also, Captain Jack had the highest market concentration (0.35). The age of respondents, marital status, household size, and the quantity consumed per week were the factors that influenced consumers' monthly expenditure on alcoholic beverages. It is recommended that efforts should be made by the government to reduce the rate of consumption of alcoholic beverages at the motor parks by enforcing the existing (FRSC Act cap 141 Laws of the Federation of Nigeria) law banning/regulating the sales or increasing tax on the brands to make it out of reach for most consumers.*

Keywords: *Alcoholic beverages, Burukutu, Market concentration, Probit regression*
(JEL Code: C01, D11, D40, R2)

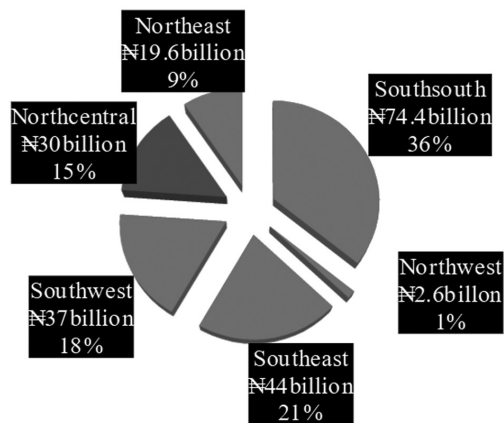
INTRODUCTION

Alcohol has been consumed in many socio-cultural contexts for millennia, and its history dates back to the prehistoric era (Smart, 2007). In Africa and other areas of the world, alcohol use has long been accepted, particularly when it is used in moderation rather than to the point of total drunkenness. Nigeria has a lengthy history of alcoholic beverage manufacture and usage (Olorunfemi, 1984; Heap, 2005; Korieh, 2003). According to Ademola (2021) and National Alcohol Experiences (2007), Nigerian societies have been making and enjoying alcoholic beverages for a very long time, even before European traders arrived with foreign drinks. For almost 150 years, the nation has been consuming palm wine, which is made from oil and raffia palm trees. Drinks like pito, which is prepared from millet or guinea corn, and burukutu, which is produced from maize, are popular in northern Nigeria.

Alcoholic Beverage (AB) is a fermented liquor that contains ethyl alcohol, often known as ethanol ($\text{CH}_3\text{CH}_2\text{OH}$), as an intoxicating ingredient. Examples of ABs include wine, beer, and distilled spirits. Fruits, berries, grains, plant saps, tubers, honey, and milk are among the elements that ferment to produce them. The fermented liquid can then be concentrated to produce a stronger alcoholic beverage. In several societies, alcohol intake holds significant social implications. Beer, wines, and spirits are the three general categories into which alcoholic beverages can be divided according to their source and composition (Dime-lu et al., 2011; Durodola, 2009). Durodola (2009) states that whereas wines and beers typically contain 10 to 22 percent alcohol, spirits (40–60%) tend to be “harder” or more prone to cause drunkenness than either wine or beer. Spirits, known by their street name Plebe, make up the majority of the banded sachet liquors.

The manufacture, distribution, and use of alcoholic drinks are governed by regulations in the majority of nations (Drug.com, 2021; International Wines and Spirits Record, 2018; International Alliance for Responsible Drinking, 2016). In Nigeria, the alcoholic beverage sector is a significant business in addition to creating jobs. National Bureau of Statistics (2016) estimates that Nigerians spent around ₦208 billion on alcohol (see Figure 1 for consumption by Geopolitical Zone (GPZ)). The biggest and lowest percentages of Nigerians' alcohol expenditures were found in the geopolitical zones of the south-south and northwest. According to NBS (2016), the use of alcoholic drinks in rural areas costs ₦125 billion, whereas urban communities pay ₦82.5 billion. Although the intake of alcohol varies throughout Nigeria's ethnic groups, Dumbili (2013) posited that the cultural requirements of many communities and individuals allow alcohol to be an integral part of their culture through rituals, marriage ceremonies, and chieftaincy enthronement.

Figure 1: Percentage distribution of amount spent on alcoholic beverages by GPZ



Source: NBS (2016)

Alcohol is a depressant that, when taken in moderation, produces exhilaration, lowers anxiety, and boosts social interactions. Higher dosages can result in mortality, stupor, intoxication, or unconsciousness. Prolonged consumption may result in physical dependency, an increased risk of various cancers, and an alcohol use disorder. Approximately 33% of people worldwide today consume alcohol for recreational purposes, making it one of the most popular substances in the world (Griswold et al., 2018).

A valuable complement to agricultural products such as grains, tubers, fruits, berries, and palm wine is alcoholic beverages. According to Banars and Pawan (2019), farmers may see a decrease in price for a certain crop because of overproduction. A higher return is obtained by adding value through processing new items that are either partially or fully completed. Additionally, value addition creates new job prospects. alcohol-containing sachet, often marketed for between ₦50 and ₦100, and available in three different sizes: 30 ml, 35 ml, and 50 ml. There are several locations where you may buy sachet liquors, such as supermarkets, drug stores, motor parks,

and beer parlors (Durodola, 2009). The sachets are comparatively inexpensive at ₦50, which leads to a high level of consumption. Numerous variables can contribute to the demand and sales of alcoholic drinks. Kehinde and Adegoke (2012) discovered that drivers drink alcohol because they think it can heal a remarkable variety of illnesses, but Adekoya et al. (2011) suggested that long-distance drivers who reported feeling stressed out use alcohol as a panacea or antidote to lessen their stress. Not only do drivers consume alcoholic drinks, but passengers do as well, along with vendors and craftspeople near the motor park. Petty traders are the ubiquitous sellers of alcoholic drinks. Petty trade, according to Mbisso (2012), is an economic activity that entails the small-scale sale and purchase of products and services, ranging from farm produce to locally made and imported consumer items.

Previous studies on alcoholic beverages within Nigeria (Arasi and Ajuwon, 2020; Taiwo et al., 2016; Abayomi et al., 2013) and outside Nigeria (Lim et al., 2013; Dimelu et al., 2011). Most of these studies carried out in Nigeria addressed the prevalence and health implications of alcoholic beverage consumption. However, this study is an attempt to bridge the gap in the literature on the demand for alcoholic beverages, identify the different brands, the reasons for the choice of brand, and the existing market concentration in alcoholic beverages most especially in the motor parks where most sellers are found. It is expected that the study will provide insight into how customers behave in large motor parks and how market concentration affects their preferences and decisions about alcoholic drinks. Analyzing market concentration in the beverage sector would reveal information about market dynamics and competitive intensity. Policymakers may find this information helpful in determining if regulations are necessary to encourage fair competition and stop monopolistic practices. To achieve the objective of the study, the following research questions are raised:

- (i) What are the socio-economic characteristics of the buyers and sellers of alcoholic beverages?
- (ii) What is the extent of inequality in sales revenue among sellers of alcoholic beverages?
- (iii) What are the drivers of consumers' preference for brands of alcoholic beverages?
- (iv) What are the factors influencing the amount spent on alcoholic beverages?

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

This study is supported by theories of consumer behaviour and brand loyalty. Utility, according to Reynolds (2005), is the ability of a good (or service) to fulfill a need. Psychological, economic, social, and cultural elements are among those that influence consumer behaviour. For example, price, consumer income, a brand of alcoholic beverage, and other factors would all influence consumer behaviour when it comes to the demand for alcoholic drinks. Jacoby (1971) posited that brand loyalty is the biased (non-random) behavioral reaction (buying) that a decision-making unit exhibits over time

about one or more alternative brands out of a collection of brands. It is a result of psychological processes and emotional responses. This idea implies that customers in the major motor garages may already have predilections for specific alcohol brands. Demand may rise if some brands have a dominating market share because consumers are more likely to choose well-known brands.

Demand analysis has made use of different analytical approaches. Almost Ideal Demand System is one of them (Motallebi and Pendell, 2013; Dawoud and Seham, 2013; Iwang, 2014.), Linear Expenditure System (Olubokun and Agbede, 2018), Double Hurdle Model (Akinbode and Dipeolu, 2012; Olasunkami, 2012). Notwithstanding the extensive application of these analytical instruments, their limitations have been widely noted in scholarly works. For example, the AIDS model did not perform well when income shifted in terms of price and income elasticity. The inconsistent estimates in the presence of heteroscedasticity and non-normality of the error components constitute the double hurdle model. Although the linear expenditure system is limiting, it nonetheless makes it possible to estimate the demand equations using the software that is now available and solve the issues of heteroscedasticity and zero consumption.

Analytical frameworks of Gini coefficient, Probit and multiple regressions

The summary of the analytical framework of different tools used in the study is explained:

Gini coefficient

Following the Organization for Economic Co-operation and Development report (2023), the Gini coefficient is derived from the comparison of cumulative population proportions to cumulative income proportions. A perfect equality scenario yields a Gini coefficient of 0, whereas a perfect inequality scenario yields a value of 1. The Gini coefficient is represented as:

$$G = \frac{1}{2\mu} \int_{-\infty}^{\infty} \int_{-\infty}^{\infty} p(x)p(y)|x-y|dx dy \quad (1)$$

Where:

$$\mu = \int_{-\infty}^{\infty} xp(x)dx \quad \mu \text{ is the mean obtained from the distribution.}$$

Probit regression

Binary or dichotomous outcome variables are modelled using probit regression (Karlin, 2023:). The probit link function is given as:

$$probit(EY) = \Phi^{-1}(p) = \Phi^{-1}(P[Y=1]) \quad (2)$$

Equation (2) is applied to alter this 0/1 dependent variable's expectation. Next, we have a linear predictor by modelling the probit of the mean as a linear mixture of the variables (regressors) X as:

$$probit(EY) = X\beta \quad (3)$$

Where X is the explanatory variable, and is the vector of the unknown regression coefficient

Multiple regression

Multiple regression analysis describes a group of methods used to examine the linear connections between two or more variables. Multiple regression estimates the β 's in the equation:

$$y_j = x\beta + \epsilon \quad (4)$$

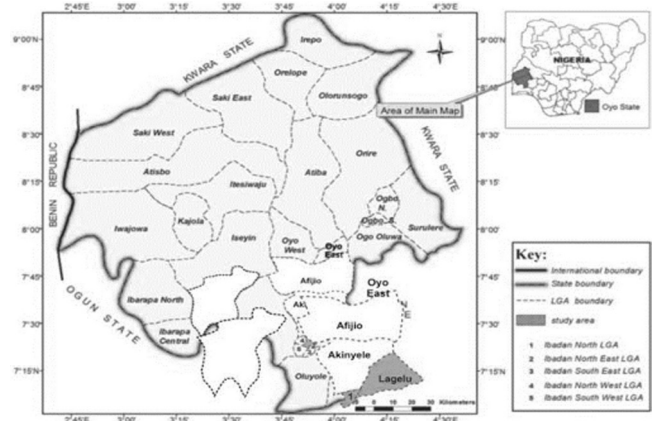
Where x is the regressor, y is the regressand, β is the unknown coefficient, and ϵ is the error term

MATERIAL AND METHOD

Description of the study area

The study was carried out in the Ibadan metropolis of Oyo State, Nigeria. The choice of the location was because there are many motor parks (intrastate, interstate as well as journey to West African countries) with high concentration of commercial activities which encourage demand for an alcoholic beverage in sachets. Oyo State is located in Southwestern Nigeria, and Ibadan is the capital. The capital of Oyo State is Ibadan. The city, which has a population of over 3 million, is situated on the edge of the savannah and is the third-largest metropolitan region in Nigeria in terms of population, behind Lagos and Kano (Makama, 2007). Latitude 7.23N and longitude 3.55E define the location of Ibadan. Ibadan metropolis is situated in Southwest Nigeria, 530 kilometers southwest of Abuja, the Federal Capital, and 128 km inland northeast of Lagos. The city spans 3080 km² in total.

Figure 1: Map of Oyo state



Sampling Procedure

A three-stage sampling procedure was used for the study. In the first stage, three major motor parks in the Ibadan metropolis were purposively selected. These were Iwo Road, Gate, and Sango. Sellers of alcoholic beverages were randomly selected from each of the motor parks proportionate to

size using the list of the sellers of alcoholic beverages in the motor park. The breakdown showed that eighteen (18), twelve (12), and eight (8) sellers were randomly selected from Iwo Road, Gate, and Sango, respectively. A random sample of 140 consumers of alcoholic beverages was selected from the three motor parks.

Type of Data and Research Instrument

Primary data was used in this study. Data were obtained through the use of well-structured questionnaires (buyers and sellers). For the consumers of alcoholic beverages, one hundred (100) copies of the completed questionnaire were returned and thirty-eight copies of the completed questionnaire were returned to time and used for the analysis. The questionnaire contains two sections (consumers and sellers). The socioeconomic features were listed in Section A (for customers). Brand, and quantity of alcoholic beverages questions, among others, were in Section B (for consumers).

Methods of Data Analysis

The socioeconomic profile of the sellers' households and consumers of alcoholic drinks in the motor parks sampled was created using descriptive statistics. Tables, charts, measures of central tendency, and measures of dispersion were the descriptive analysis carried out. The degree of inequalities in the revenue among the alcoholic drinks sellers was estimated/ revealed using the Gini coefficient and Lorenz curve. It displayed the proportion of sellers who command the majority of alcoholic beverage sales. Based on the Lorenz curve, a mathematical definition of the Gini coefficient was developed. It displays the percentage of the total number of sellers that the total income/revenue earns over time. The equation for the Lorenz Curve:

$$L\left(\frac{k}{p}\right) = \frac{\sum_{i=1}^k Y_i}{Y} \tag{5}$$

Where:

$k=1, \dots, n$ = is the position of each seller in the market share of total revenue

$i=1, \dots, k$ = is the position of each seller in the market share of total revenue

P = is the total number of sellers in the market

Y_i = is the total revenue of the i th seller in the market

$\sum_{i=1}^k Y_i$ = is the cumulated revenue up to the k th-seller

It is apparent that $\sum_{i=1}^k Y_i$ ranges between 0, for $k = 0$, and Y , for $k = n$, therefore, equation (5) value ranges between zero and one.

Probit regression was used to determine the drivers of consumers' preference for the major brands of alcoholic drinks in the study area. The model takes the form:

$$\Pr (Y = 1 / X \dot{=} \mathcal{O} (X^T \beta) \tag{6}$$

Where Y is the dependent variable ($Y=1$ for consumer preference for a particular brand, others=0), X_1 is age (year) of consumer, X_2 is marital status of consumer (Married=1, Others = 0), X_3 is years of education of consumer, X_4 is educational status of consumer (Educated=1, Not educated=0), X_5 is household size of consumer, X_6 is monthly income of consumer and X_7 is quantity of alcoholic beverages drank by consumer

Factors influencing consumers' expenditure per month on alcoholic beverage was determined using multiple regression. Multiple regression estimates the β 's in the equation:

$$Y_j = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \epsilon \tag{7}$$

Where y is consumers' expenditure per month on alcoholic beverages, X_1 is the age (year) of the consumer, X_2 is the marital status of the consumer (Married =1, Others = 0), X_3 is years of education of the consumer, X_4 is educational status of consumer (Educated=1, Not educated=0), X_5 is household size of consumer, X_6 is monthly income of consumer, X_7 is the quantity of alcoholic beverages drank by consumer per month.

RESULTS AND DISCUSSION

Socio-Economic Characteristics of Respondents (Consumers and Sellers)

The study showed that 65.9% of consumers of Alcoholic Beverages (AB) were within the age bracket of 28 - 47 years while 76.3% of the sellers were within the same age bracket. The averages of consumers,' and sellers' ages were 44.7 and 41.1 years, respectively. The study also revealed that only males were consumers while only females were sellers of alcoholic beverages. This result is contrary to the claim of some female sellers (34.2%) that they consumed alcoholic beverages occasionally. About three percent (2.8%) of the sellers had tertiary education while none of the consumers had tertiary education. Also, 18.4% and 19.4% of the consumers and sellers had no formal education. More than seventy-one percent (71.1%) of the buyers and sellers of AB were married, respectively. Most consumers of AB (39.2%) were commercial drivers at the motor park while 18.6% were officials of NURTW (National Union of Road Transport Workers) and RTEAN (Road Transport Employer Association of Nigeria). This is in agreement with Adekoya et al. (2011) study that drivers consumed alcohol and cigarettes regularly.

Table 1 Socioeconomic characteristics of consumers and sellers

Variables	Consumers		Sellers	
	Frequency	Percentage	Frequency	Percentage
Age of consumers (Years)				
18-27	2	2.1	2	5.3
28-37	24	24.7	9	23.7
38-47	40	41.2	20	52.6
48-57	13	13.4	7	18.4
58 and above	18	18.6	na	na

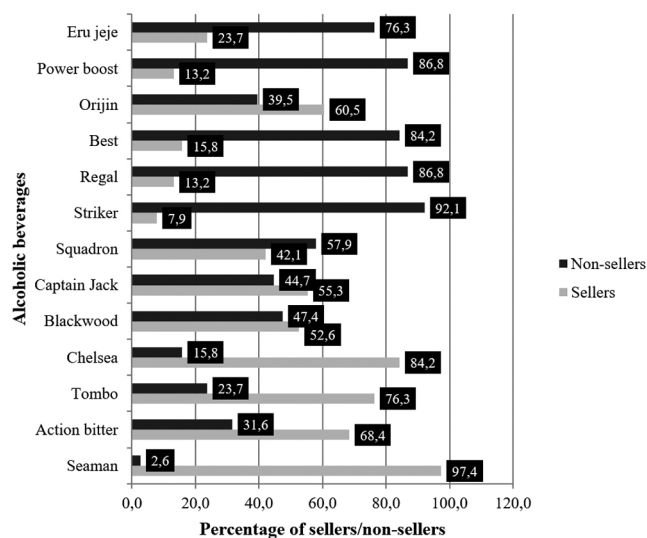
Average	44.7 years		41.1years	
Sex of respondents				
Male	100	100	0	0
Female	0	0	100	100
Educational status				
No formal education	19	18.4	7	19.4
Primary education	67	71.1	25	69.4
Secondary education	14	2.6	3	8.3
Tertiary education	na	na	1	2.8
Marital status				
Single	16	16.5	8	21.1
Married	69	71.1	27	71.1
Divorced	5	5.2	2	7.9
Widower	7	7.2	1	2.6
Household size				
1-4	54	55.7	20	52.6
5-8	41	42.2	18	47.4
9 and Above	2	2.1	na	na
Average	4.36		4.39	
Occupation/other occupation			Only 15 out of 38	
Artisanal work	19	19.6	2	5.3
Trading	15	15.5	4	10.5
Civil/Public Service	7	7.2	na	na
Driving	38	39.2	na	na
NURTW and RTEAN official	18	18.6	na	na
Hairdresser	na	na	3	7.9
Laborer	na	na	6	15.8
Monthly Income	₦17,111.13			
5000-25000	86	95.6	na	na
25001-50000	1	1.1	na	na
50001-75000	2	2.2	na	na
75000 and above	1	1.1	na	na
Average	₦17,111.13			
How consumers get to know about their favorite drink				
Friends	82	82.0	na	na
Traditional drink	10	10.0	na	na
Party	2	2.0	na	na
Promotion sale	2	2.0	na	na
From childhood	4	4.0	na	na
What influences the choice of drink of the consumer				
High alcoholic content	61	62.9	na	na
It is tasty	21	21.6	na	na
The volume is much	7	7.2	na	na
It is handy	1	1.0	na	na
It is cheap	2	2.1	na	na
Sexual booster	2	2.1	na	na
Medicinal (cures pile)	3	3.1	na	na
How frequently consumers consume the drink				
Daily	80	82.5	na	na
Weekly	16	16.5	na	na
Occasionally	1	1.0	na	na
Selling hours per day				
5-8	na	na	7	19.4

9 and above	na	na	29	80.6
Average			9.7 hours	
Sellers who you drink occasionally				
Yes	na	na	13	34.2
No	na	na	25	65.8

However, the sales of AB at the motor park and its consumption by commercial motor drivers are contrary to the FRSC ban on the sales of alcoholic beverages in and around all motor parks in Nigeria as contained in FRSC Act cap 141 Laws of the Federation of Nigeria (LFN). The majority of the consumers (95.6%) had monthly income within the bracket of ₦5000 - ₦25000. The average monthly income of the consumers was ₦17,111.13. The study affirmed that respondents spent 28.6% of their income on AB per month with an average of 6.1 sachets consumed per week. The high percentage of monthly income spent on AB may be attributed to the fact that most consumers are youths that likely addicted to the daily consumption. This quantity is however smaller than 12.5 sachets per week (2.5 sachets per day) as revealed by Otim et al. (2019). Most drinkers (82.0%) of AB got to know about their favourite brands through friends. The choice of AB by consumers was Seaman (73.4%), Chelsea (66.2%), Squadron (52.7%), and Captain Jack (44.5%) (Table 2). The choice of AB by consumers (62.9%) was mainly influenced by high alcoholic content while 3.1% claimed the choice was based on the medicinal (cures pile) value. The study revealed that 82.5% and 16.5% of the respondents consume AB daily and weekly, respectively.

Moreover, the study showed that 39.4% of the sellers of AB engaged in other economic activities. Specifically, 7.9% were hairdressers and 15.8% as casual labourers. More than 50.0% of the respondents sold Seaman, Action Bitter, Tombo, Chelsea, Captain Jack, and Orijin while half of the sellers did not sell Erujeje, Power Boost, Best, Regal, Striker, and Squadron. Table 2 shows that Seaman sellers had the highest (see Figure 2). Almost all the sellers had Seaman to display for customers.

Figure 2: Distribution of sellers and non-sellers of Alcohol Beverages by brand



This is followed by Chelsea and Tombo, accordingly. This corroborates the highest demand for Seaman by the consumers. Most sellers (80.6%) displayed AB for at least 9 hours per day. The average selling hours was 9.7 hours.

The Extent of Inequalities in Daily Sales Revenue of Alcoholic Beverages

The study revealed that 61% of Captain Jack sellers had around 82% of the total daily sales of Captain Jack, whereas 61% of Chelsea sellers held approximately 78% of the sales of Chelsea per day. Furthermore, 58% of the seaman sellers accounted for approximately 73% of the daily sales of a

seaman (see Appendices for Figures 3a, 3b, 3c, 3d, 3e, and 3f). The findings indicate that there was a disparity in the alcoholic beverage market. The Gini coefficient displayed in Table 2 affirmed the disparities in the alcoholic beverage market. With a 0.36 Gini coefficient, Captain Jack had the highest (Table 1).

Determinants of Consumers' Preference for Alcoholic Beverage

The regression result in Table 2 shows the factors influencing consumers' preference for each brand of alcoholic drink. The diagnostic result revealed that the log-likelihood and the Likelihood Ratio Ch2 were negative and significant, respectively. This means that the models have a good fit. Specifically, coefficients of age, educational status, and monthly income were the factors that influenced consumers' preference for the seaman. Monthly income and educational status negatively influenced consumer preference for seaman alcoholic drinks. Being educated will reduce the consumer's preference for seaman by 20%. Also, respondents' preference for Chelsea was influenced by age, educational status, quality of beverage, and monthly income. Every ₦1000 increase in the monthly income of respondents increases the preference for Chelsea by 11.8%. For Captain Jack, the age of respondents, household size and quality of the alcoholic beverage were the factors that influenced the preference of consumers. A unit increase in household size increases consumers' preference for Captain Jack marginally (0.049%).

Table 2: Average daily sales, percentage of brands' buyers, and Gini coefficient estimates of AB

Brand	Average daily sales(₦)	Number of sellers	Gini coefficient	Percentage of buyers
Seaman	9861.11	36	0.239	73.4
Action Bitter	5245.45	22	0.243	34.8
Tombo	8125.93	27	0.252	36.9
Chelsea	9500.00	34	0.263	66.2
Blackwood	6000.00	5	0.173	23.4
Captain Jack	5663.16	19	0.357	44.5
Squadron	5333.33	6	0.302	52.7
Best	4200.00	2	0.167	18.6
Orijin	4100.00	16	0.232	17.4
Eru Jeje	6750.00	4	0.231	20.1

Table 2 Probit regression result

Year	Seaman					Chelsea					Captain jack				
	Coeff.	Std.	z	p	dy/dx	Coeff.	Std.	z	p	dy/dx	Coeff.	Std.	z	p	dy/dx
Ag	0.035*	0.0193	1.80	0.072	0.008	-0.049**	0.019	-2.60	0.009	-0.019	-0.043**	0.021	-2.048	-0.09	-0.0014
Marstat	0.561	0.515	1.09	0.276	0.159	-0.498	0.451	-1.10	0.270	-0.196	0.269	0.714	0.377	0.707	0.0139
Yoed	0.068	0.075	0.90	0.369	0.017	-0.161**	0.076	-2.12	0.036	-0.064	0.108	0.112	0.964	0.333	0.00466
Edstat	-0.687**	0.327	-2.10	0.046	-0.200	1.124*	0.645	1.74	0.081	0.410	-1.192	1.032	1.155	0.248	-0.1166
Hhs	0.083	0.106	0.78	0.434	0.020	0.109	0.099	1.10	0.270	0.044	0.311**	0.154	2.019	0.048	0.00049
QuObev	0.030	0.050	0.24	0.656	-0.001	.0208*	0.012	1.73	0.076	0.008	-0.474**	0.206	-2.301	0.022	-0.0204
Moninc	-0.005**	0.012	-2.23	0.035	-0.007	0.297***	0.071	4.18	0.000	0.118	-0.022	.0215	-1.023	0.022	-0.00094
Constant	-2.50	1.041	-2.40	0.017		-.362	0.952	-0.38	0.704		2.756	1.859	1.483	0.138	
	LR ch2 = 27.47 Probability = 0.0282 Log likelihood = -43.404 Pseudo R2= 0.0324					LR ch2 = 35.94 Probability = 0.000 Log likelihood = -51.326 Pseudo R2= 0.215					LR ch2 = 23.86 Probability = 0.0342 Log likelihood = -34.074 Pseudo R2= 0.327				

Note: *, **, *** Represents 10%, 5% and 1% level of significance respectively

Source: Field survey (2019)

Factors Influencing Consumers' Monthly Expenditure (₦) on Alcoholic Beverages

The regression results in Table 3 shows the determinants of the consumers' monthly expenditure on alcoholic beverage. The model has an F value of 6.51 showing that the model has a good fit ($p < 0.01$). The significant variables accounted for approximately 24.6% variation of the variation in the monthly

expenditure on AB. Age, marital status, household size, and quantity consumed were the factors that influenced the monthly expenditure on alcoholic beverages. Age, marital status, and household size negatively influenced the monthly expenditure on AB while quantity consumed (number of sachets consumed per day) had a positive relationship with the monthly expenditure on AB. Cheah et al. (2019) affirmed the negative relationship between monthly expenditure on AB and household size.

This may be attributed to the financial burden associated with larger households on the head of the household. The negative relationship between the age of the consumer and the monthly spending on alcoholic beverages agrees with the findings of the National Institute on Aging (2022) that as one ages, health issues or prescription medications may dictate that one cut back on alcohol consumption (spend less) or abstain from it entirely.

Table 3: Multiple regression results

Variable	Coefficient	Std. dev	z-value	p-value
Age (year)	-79.472*	43.467	-1.828	0.071
Marital status	-3895.813***	1071.918	-3.634	0.002
Year of Education	-116.688	186.366	-0.626	0.533
Education status	1279.957	1522.694	0.841	0.403
Household size	-562.508**	238.861	-2.355	0.021
Quantity consumed per month	285.020***	74.178	3.843	0.000
Monthly income	-3.168	28.382	-0.112	0.911
Constant	11453.07	2220.462	5.158	0.000

Adjusted R square = 0.2461, F (7, 76) = 4.87, Prob p < 0.0001

Note: *, **, *** Represents 10%,

5% and 1% level of significance respectively

Source: Field survey (2019)

CONCLUSION AND RECOMMENDATIONS

The study showed that there was high demand for alcoholic beverages and a substantial percentage of respondents' income was spent on drinks. The larger proportion of consumers of alcoholic beverages among commercial motor poses a great danger to the safety of travellers. Other identified characteristics of the consumers of alcoholic beverages were youthfulness and poor education. The brand preference of most consumers of alcoholic beverages was based on high alcoholic content. Specifically, Seaman had the highest market share while Captain Jack had the highest market inequality based on sales revenue. Education had a negative influence on the consumers' preferences as well as the monthly spending on alcoholic beverages. The age (youth and non-youth), marital status and household size (areas where large and small household sizes are concentrated) are the key factors that producers of alcoholic beverages may consider for market segmentation to increase their market share and maximize their returns. Based on the evidence from the study, it is recommended that efforts should be made by the government to reduce the rate of consumption of alcoholic beverages at the motor parks by enforcing the existing (FRSC Act cap 141 Laws of the Federation of Nigeria) law banning/regulating the sales or increasing tax on the brands to make it out of reach for most consumers. Although individuals earn their means of livelihood from production and the sales of alcoholic beverages, the need for adult education and routine enlightenment campaigns on the danger inherent in the consumption of alcoholic beverages is imperative for the safety of travellers and drivers and the use of disposable income for other important needs.

Limitations of the Study and Areas of Possible Future Research

The selection of commercial motor parks as study areas might have had an impact on the study's conclusions and introduced sampling bias. Increasing the sample size to include other locations other than the motor parks might yield a more accurate depiction of alcohol consumption in the city. Self-reporting, which is prone to social desirability bias, may be the basis for data on alcohol intake. Because of the stigma associated with alcohol use or legal concerns, participants might have under- or over-reported their intake. More objective measurements of alcohol intake may be investigated in future studies. The suggested possible future studies are:

- It is advised to start a longitudinal study to monitor how patterns of alcohol use evolve over-time. Study locations other than parking lots should be used to facilitate respondent monitoring.
- Health and human nutrition specialists can investigate the effects of alcohol use on the population under study.
- Another proposed future study is assessing the efficacy of various treatments and policies targeted at lowering alcohol use and its related harms in the examined region.

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APPENDICES

Figure 3a: Seaman's Lorenz curve

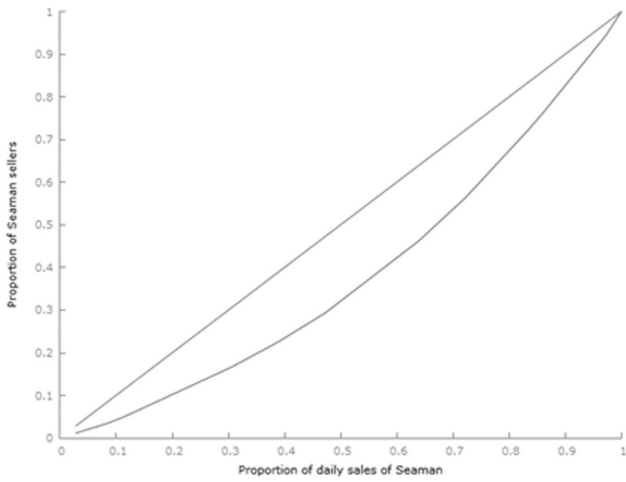


Figure 3b: Action Bitter's Lorenz curve

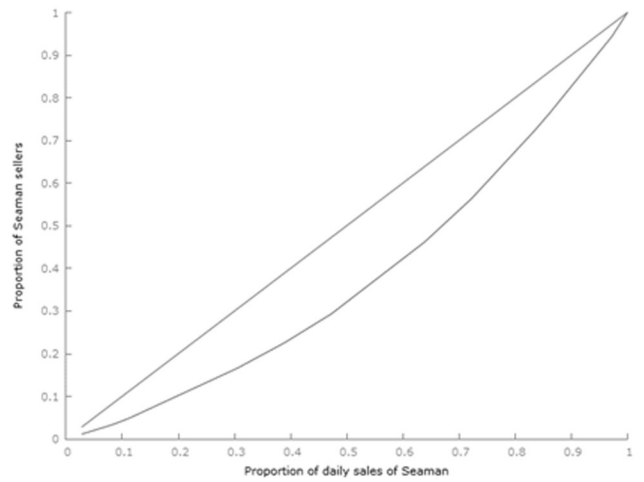


Figure 3c: Tombo's Lorenz curve

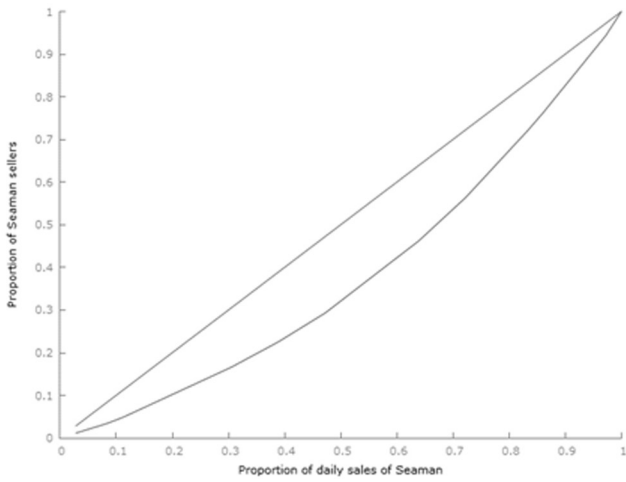


Figure 3d: Chelsea's Lorenz curve

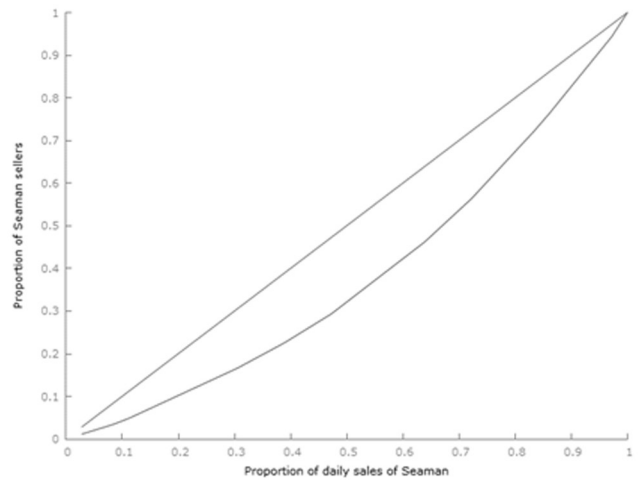


Figure 3e: Blackwood's Lorenz curve

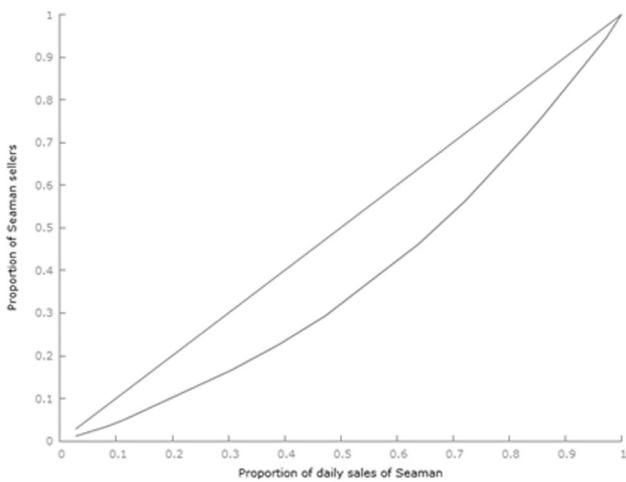


Figure 3f: Captain Jack's Lorenz curve

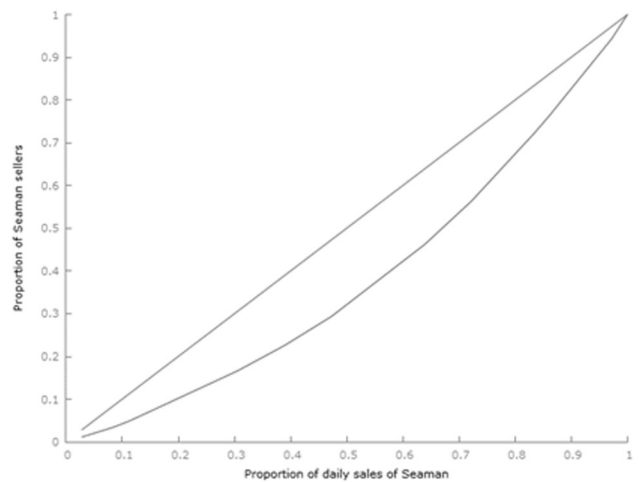


Figure 3g: Squadron's Lorenz curve

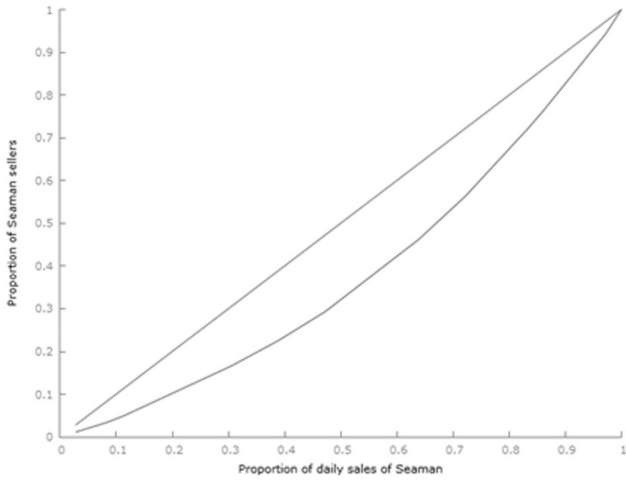


Figure 3h: Blackwood's Lorenz curve

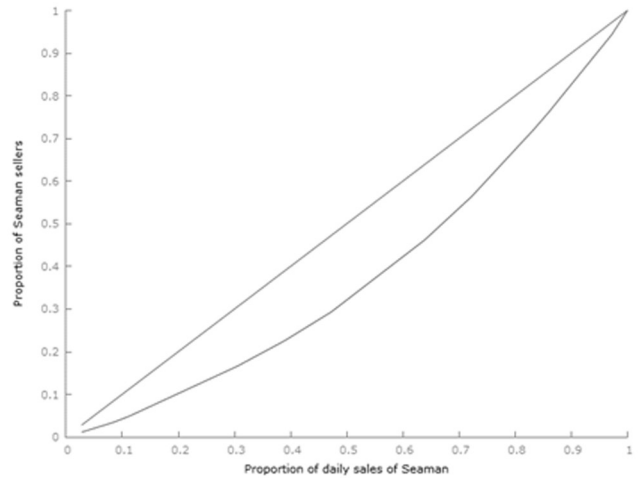


Figure 3i: Origin's Lorenz curve

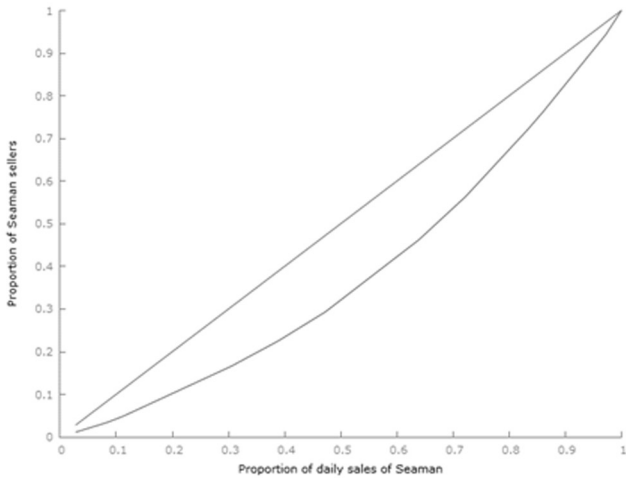


Figure 3j: Blackwood's Lorenz curve

