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## Consumers' Loyalty to Bottled Water Brands in Nigeria: An Empirical Study

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### Author's contribution

*This whole work was carried out by the author OCA.*

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### ABSTRACT

**Aims:** This study operationalized a theoretical framework, the “brand-choice sequences” theory, to empirically measure and analyze consumers' loyalty to brands of bottled water in Nigeria, using Awka, a capital city of Anambra State, Nigeria and six bottled water brands as study slices. The study objectives focused on determining if brand loyalty exists among the bottled water consumers and to what extent. This study provides marketing intelligence on loyalty to brands of bottled water in this part of Nigeria. Such marketing intelligence on brand loyalty is expected to contribute to the formulation and reformulation of promotional strategies in the bottled water industry in Nigeria.

**Study Design:** This study was based on a survey of a convenience sample of 280 bottled water consumers resident in the place of study at the time of the study.

**Place and Duration of Study:** The place of study is Awka a capital city of Anambra State, Nigeria. The duration of the study was from August 1<sup>st</sup> to August 30<sup>th</sup>, 2013.

**Methodology:** Quantitative methodology involving the use a questionnaire with interval and nominal scales was used to collect data on consumers' purchases and repeat purchases of the bottled water brands under consideration. The interval scales on the measurement instrument yielded a Cronbach's alpha of .63. The method of data analysis was a computerized analysis involving single sample t-tests and analysis of variance (ANOVA).

**Results:** This study found that there while there were significant differences in brand loyalties to the bottled water brands, there was however no significant undivided loyalty to any of bottled water bands. Segmentation analysis of brand loyalty by age showed no significant difference across the age segments. The income segments also showed no

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significant difference in brand loyalties. Across the education segments, no significant difference in brand loyalties was detected.

**Conclusion:** The study concludes that the “brand-choice sequences” theory can be empirically applied to measure, and analyze brand loyalty in the bottled water market in Nigeria, thus extending the testing and universality of the theory. This extension is significant in the study of brand loyalty, an area of marketing where there appears to be insufficient application of theoretical frameworks in measuring and analyzing brand loyalties in various consumer goods categories in Nigeria.

*Keywords: Brand-choice sequences; bottled water brand loyalty.*

## 1. INTRODUCTION

As I have previously stated, consumers' buying behavior in terms of purchases and repeat purchases of consumer products or services may be perceived, instinctively, as depicting brand loyalty to that product or service [1,2]. However, in the arena of marketing theory and practice, evidence exists in the literature of works by several academics and authors to establish theoretical frameworks for structured definitions, measurements and analysis of brand loyalty in the consumer goods categories [1] used one of such theoretical frameworks, the “brand-choice sequences” theory, postulated by [3], to measure and analyze brand loyalty to beer brands in a part of Nigeria. [2] also used the same theoretical framework by [3] to measure and analyze consumers' loyalty to toothpaste brands in a part of Nigeria. The theoretical framework for this empirical measurement and analysis of consumers' loyalty to bottled water brands in Nigeria also rests on the “brand-choice sequences” theory postulated by [3], as cited in [4].

As presented in [4] and previously discussed by [1,2], the “brand-choice sequences” theory enunciated by [3] posits that if, for instance, A, B, C, D, E, F are different brands (Eva, Gossy, Ragolis, Ivy, Aquafina and Marvel) in the bottled water category, then for at least five consecutive purchases of bottled water by a consumer or household, the consumer or household is classified as exhibiting one of the following loyalty types, thus yielding a four-fold typology of brand loyalty, represented by:

“AAAAAA	Undivided Loyalty
ABABAB	Divided Loyalty
AAABBB	Unstable Loyalty
ABCDEF	No Loyalty” [3]

The bottled water brands in Nigeria fall into national and non-national brands. At the time of this study, outstanding national brands available in the area of study included Eva and Gossy, with Eva being a leading national brand. Some non-national brands of bottled water available in the area of study when this study was done included the Marvel brand. Both the national and non-national brands are produced locally in Nigeria by a profusely fragmented competitive bottled water industry led by Coca Cola, the producer of the leading Eva brand of bottled water, which in 2012 held about 12% share of the bottled water market in Nigeria [5].

Using the theoretical framework adopted in this study to measure and analyze consumers' loyalty to brands of bottled water in this part of Nigeria, and estimating the distribution of brand loyalties across the bottled water brands and across the socioeconomic and

demographic groups in the study, provides bottled water marketers and bottled water brands' managers with marketing intelligence on consumers' loyalty to bottled water brands in this part of Nigeria. Marketing intelligence on loyalty to brands of bottled water in this part of Nigeria, may lead to reformulation of promotional strategies aimed at the different socio-economic and demographic groups. Brand managers of bottled water brands in this part of Nigeria may then harness the benefits of such promotional reformulations for their individual brand management, with subsequent impact on consumers' loyalty.

Brand loyalty may exist in the Nigerian bottled water market generally, considering the multiplicity of brands of bottled water in Nigeria, and market research reports by [5]. However, it is not clear from the literature the extent to which consumers' loyalty to different bottled water brands exists in different parts of Nigeria. The desire to study consumers' loyalty to bottled water brands in different parts of Nigeria, using a theory on brand loyalty, informed this research on consumers' loyalty to bottled water brands, using Awka, capital and a commercial city of Anambra State, Nigeria, as a study slice.

### **1.1 Statement of the Problem**

Brand loyalty may be a significant phenomenon whose study may be useful to bottled water brand managers and marketers in the Nigerian bottled water industry, in terms of promotional strategy. Probably, brand loyalty exists in the Nigerian bottled water market, and perhaps the loyalty is manifested to different extents in different parts of Nigeria. Consequently, the research problem in this study is focused on the possible lacuna that seems extant in the non-application of theoretical frameworks to measure and analyze consumers' loyalty to bottled water brands in different parts of Nigeria, using Awka, capital and a commercial city of Anambra State, Nigeria, as a study slice.

### **1.2 Scope of the Study**

Consumer brand loyalty in the area of consumer behavior in marketing is the subject scope of this study. Brand loyalty is one of the variables considered in the study, and has a range of 'no loyalty' to 'undivided loyalty', as per the theory of behavioral brand loyalty, "brand-choice sequences" theory, operationalized in this study. The continuum of 'no loyalty' to 'undivided loyalty' presumably makes brand loyalty both an interval and ordinal variable. Education, income, and age, are categorical variables in the study. The geographical scope of the study is Awka, Anambra State, Nigeria. Awka is the capital and a major commercial city of Anambra State, Nigeria. Anambra state, one of the thirty six states of Nigeria, has a population of about 4.1 million people, which is about 3% of Nigeria's 140.5 million people [6]. Anambra State of Nigeria consists of a constellation of closely related cultural groups, in terms of language, customs and traditions, with nuances that may or may not be distinguishable. Nigeria is one of Africa's most populous countries, thus suggesting a sizeable market that should attract the attention of consumer goods producers, marketers, and researchers. The study unit scope is only the adult bottled water consumers who buy bottled water by themselves and use any of the following brands of bottled water: Eva, Gossy, Ragolis, Ivy, Aquafina and Marvel, which are the brands of bottled water of interest in the study. The study units, at the time of the study, resided in the geographical area described above. In this study, several limitations and exigencies, both anticipated and unanticipated, were encountered in various forms and degrees. It is not possible to comprehensively describe the limitations. The concept of consumer based marketing research is perhaps still in its infancy in many parts of the world, including the part of Nigeria

in this study. In view of this, cooperation of the respondents was not as readily available as expected. The literacy levels of some respondents also came into question at some points, in terms of their requiring additional explanation to fully comprehend the questions posed in the data collection instrument. However, these limitations were adequately managed so as not to compromise the findings from this study.

### **1.3 Objectives of the Study**

In line with the problem statement, this study using empirical quantitative data from bottled water consumers in Awka, Anambra State, Nigeria, has the following objectives which are to:

- know whether the bottled water consumers are brand loyal to the brands under study and to what extent, based on the “brand-choice sequences” theory
- examine any variability that may exist in brand loyalties across the bottled water brands under study, based on the “brand-choice sequences” theory
- compare across levels of socioeconomic and demographic groups (age, income, and education), consumers’ brand loyalties, based on the “brand-choice sequences” theory

### **1.4 Research Questions**

In order to accomplish the objectives of the study, the following research questions (RQs) were addressed:

- RQ1. Are consumers of bottled water brands in Awka undividedly brand loyal to the brands under study, based on the “brand-choice sequences” theory?
- RQ2. Is there any significant variation in brand loyalties across the bottled water brands in Awka, based on the “brand-choice sequences” theory?
- RQ3. Across levels of socioeconomic and demographic groups (age, income, and education), are there any significant differences in the brand loyalties of bottled water consumers in Awka, based on the “brand-choice sequences” theory?

### **1.5 Research Hypotheses**

The following hypotheses, in the null forms, were formulated to guide the study.

- Ho1: Based on the “brand-choice sequences” theory, bottled water consumers in Awka are undividedly brand loyal to the brands under study.
- Ho2: Based on the “brand-choice sequences” theory, there is no significant variation in brand loyalties across the bottled water brands in the study.
- Ho3: Across levels of socioeconomic and demographic groups (age, income, and education), there are no significant differences in the brand loyalties of bottled water consumers in Awka, based on the “brand-choice sequences” theory.

### **1.6 Significance of the Study**

The development, early tests, and applications of the theory of “brand-choice sequences” were done using data from consumers outside Nigeria and mostly in the USA. This study, utilizing data from bottled water consumers in Awka, Anambra State, Nigeria, extends the testing and application of the “brand-choice sequences” theory to outside the USA and the

so-called developed nations. By adding to and extending the testing and application of this theory, this study not only enhances the universality of the theory, but also provides additional resource in the literature, knowledge management and pedagogy in brand loyalty in the Nigerian bottled water market. The methodology adopted in the study can also be used or adapted by other academics in studies relating to measuring and analyzing brand loyalties in the consumer goods categories.

Using the theoretical framework adopted in this study to measure and analyze consumers' loyalty to brands of bottled water in this part of Nigeria and estimating the distribution of brand loyalties across the bottled water brands and across the socioeconomic and demographic groups in the study, provides bottled water marketers and bottled water brands' managers with marketing intelligence on consumers' loyalty to bottled water brands in this part of Nigeria. Marketing intelligence on loyalty to brands of bottled water in this part of Nigeria, may lead to reformulation of promotional strategies aimed at the different socio-economic and demographic groups. Brand managers of bottled water brands in this part of Nigeria may then harness the benefits of such promotional reformulations for their individual brand management, with subsequent impact on consumers' loyalty. Promotional contents are expected to also produce more and better informed consumers. As I have previously discussed on the relevance of continual brand loyalty, sustaining and increasing brand loyalty for a bottled water brand in this part of Nigeria is expected to enhance a brand's sales volume with, perhaps, accompanying positive impact on the brand's profitability and equity. Brand loyal consumers constitute a market niche for a brand. A market niche ultimately gives a brand a competitive position, based on the brand's attributes that have emotional appeals to its loyal consumers.

### **1.7 Brief Literature Review**

As canvassed in the brand loyalty studies in [1,2], present in the literature and pedagogy on consumer behavior are various works on brand loyalty, continuums of brand loyalty, and variations of brand loyalty across socioeconomic and demographic groups. Among the works, as cited in [4], are early studies by [3,7,8]. Later studies on brand loyalty include the works of [9,10,11,1,2,3] propounded the "brand-choice sequences" theory, while some other works in the literature pointed to a "preference-purchase" theory of brand loyalty. [11] Presented an approach to "classify a brand's buyers into groups with varying degrees of loyalty along a continuum from hard-core loyal to hard-core switcher". [11]'s presentation showed a four-fold typology of brand loyalty and supports a visualization of a continuum imbedded in brand loyalty measurements. Other structures for defining and measuring brand loyalty are also found in the literature, but the essential ingredients encapsulated in [3]'s "brand-choice sequences" theory are found in traces in the various forms of postulates on brand loyalty.

The motivation for citing the earlier elegant works of pioneers in the area of research on brand loyalty is simply explained by the immense contribution which such earlier works have made to the works of contemporary researchers and academics. The works of scientists, academics and researchers of several decades ago, for instance Einstein's theories of early 1900s, Brown's 'brand-choice sequences' theory of 1952, McCathy's 4ps paradigm of the 1960s, Kotler's marketing theories and concepts of the 1960s, etc are adopted in scientific works today and have provided platforms for many contemporary works in the academia, research and industry. The notion of 'outdated' or "very outdated" seems to suggest that today's knowledge in the academia and research world have been jettisoned from the annals of research is questionable. Those earlier works, theories and concepts on which

contemporary pedagogies, paradigms and ontologies are based are explicitly or implicitly used to a great extent today. Obviously, there may be considerable modification and dynamism in the use and application of the earlier works as this present world strives for the next level, as there appears to be always a next level in this present existence, which seems always hungry and thirsty for another level. Actually, many of the theories and concepts, irrespective of their dates of emergence, have not been fully tested and applied in many so-called undeveloped parts of the world, since a lot of the theories and concepts were developed using data obtained from so-called developed nations. However, all the uncontroverted theories and concepts in the present utterly troubled world must continue to find testing and application in some form until the present world is replaced by the world in glory which will appear when the glory of the Spirit, Jesus, appears along with souls whose sins have been washed away by faith alone in the name and blood, Jesus. With the foregoing in perspective, I think that where a theory has not been verifiably disproved by another theory or concept, no previous knowledge in the academia or research should be considered 'outdated', even though accessing the database of such earlier works may involve more work on the part of the researcher.

As I have discussed previously, the studies by the authors, cited above, measured brand loyalty to specified categories of consumer products, such as toilet paper, tea, orange juice, coffee, beer, toothpaste, etc. Except [1,2], the studies were based on data from consumer goods markets outside Nigeria, a country with a multiplicity of cultures, some of which are closely related. The literature on brand loyalty to consumer products in Nigeria and Africa is apparently lean. Besides [1,2], some of the brand loyalty studies done in Nigeria include the work of [12] whose study focused on examining relationships between brand loyalty and variables such as promotions and customer satisfaction, but not in the bottled water market. This work by [12] is not clear on whether brand loyalty theories were applied in measuring the construct of brand loyalty used in the study. Marketing research organizations such as [5,13] have studied, analyzed, and reported on the increase in beer sales in Nigeria, and the proliferation of breweries in Nigeria. Their reports point to 'strong consumer loyalty', especially among consumers of the premium beer brands as a major variable that can help to explain the differentiations in sales among the competing brands of beer in Nigeria. Again, the research reports by [5,13] did not specify if any brand loyalty theory was used to obtain what they characterized as 'strong consumer loyalty' in their reports. These studies discussed the health effects and growing markets of various brands of bottled waters but did not measure brand loyalty to the brands of bottled water in Nigeria.

Especially noticeable in the literature is the absence of the application of brand loyalty theories to study consumers' loyalty to bottled water brands in Nigeria. What is also clear from literature is the existence of at least ten brands of bottled water in Nigeria, [14], suggesting that competition may be scattered among the brands. The list of bottled water manufacturers and thus brands displayed in [14] does not include other bottled water manufacturers in Nigeria such as Coca Cola in Nigeria that produces the Eva brand of bottled water, and the manufacturers of Gossy and other bottled water brands. The bottled water brands seem to be widely distributed and available at in-store and out-store displays, shelves, and cooling units in supermarkets, and various local shops and markets in states in Nigeria. As I have previously discussed, Anambra state in Nigeria is one of the thirty six states of Nigeria, and has a population of about 4.1 million people, which is about 3% of Nigeria's 140.5 million people (Nigerian Population Commission, 2006), thus having a sizeable market worthy of the attention of researchers and marketers of consumer products.

As canvassed in [1,2], consumer characteristics, such as socioeconomic and demographic variables (income, education and age) may or may not produce differentiations in consumers' loyalty to brands of consumer products, such as bottled water, toothpaste, beer, etc. The same view is also upheld by [4]. The work of [4] did not relate the demographic factors to consumers' loyalty to bottled water, which this study does. Researchers on brand loyalty such as [15], as cited in [4], used panel data from the Advertising Research Foundation, USA, and focused on bottled water, coffee, and tea purchasing behavior of the consumers. They found a mild correlation between brand loyalty and socio-economic, demographic, and personality variables. Bottled water is a household consumer product that is often used by many consumers on a daily basis, and this study considered the variation in brand loyalty across segments of some selected demographic and socioeconomic variables, such as income, education, and age in a part of Nigeria.

## **2. MATERIALS AND METHODS**

As I have previously discussed, quantitative and qualitative research methodologies exist in the literature on research methodology [16]. Quantitative methodology was used in this study. Unlike qualitative methodology, quantitative methodology uses quantifiable and structured data, as were collected for this study, and statistically analyzed the data to make inferences and recommendations. This section on materials and methods considers also the research design for this study, geographical area of the study, population, sampling method and sample size, measuring instrument for data collection, reliability and validity of the instrument for data collection, data collection, analytical techniques, and assumptions.

### **2.1 Research Design**

As used in [1,2], the survey method was used as the research design for the study. The survey method involved a descriptive, single cross-sectional design in which non-probability sampling methods (convenience and judgmental sampling methods) were used to obtain a one-time (single cross-sectional) sample from a specified population of bottled water consumers in Awka, Anambra State, Nigeria. This quantitative study permitted the quantification of brand loyalty, as defined by the operationalized theory. As I have previously discussed, the quantitative methodological approach also permitted the use of analysis of variance to study and analyze the data collected from the study. The quantitative methodology was used on the assumption that behavioral brand loyalty can be measured on a continuum and thus be treated as an interval variable that possesses means and variances which permitted statistical analysis of and inference on the brand loyalty means generated from the consumers' responses.

### **2.2 Area and Population of the Study**

The geographical area in which the study was done is Awka, Anambra State, Nigeria. The population for the study consisted of only adult bottled water consumers in Awka who made their own purchases of bottled water for their personal consumption, and at the time of the study resided in Awka, Anambra State, Nigeria. Anambra state, one of the thirty six states of Nigeria, has a population of about 4.1 million people, which is about 3% of Nigeria's 140.5 million people [6].

### **2.3 Sample and Sampling Procedure**

At the time of the study, there was no data base of adult bottled water consumers who made their own purchases of bottled water brands, and resided in Awka, Anambra State, Nigeria. Consequently, there was no sampling frame, i.e., a listing of all adult bottled water consumers in Awka, Anambra State, Nigeria. As discussed in [1,2], where no sampling frame exists, probability sampling techniques cannot be used, and [16] suggests the use of non-probability sampling techniques, such as convenience or/and judgmental sampling methods, to reach subjects in such a situation [16]. Further suggests a minimum sample size of 200 in non-probability sampling techniques aimed at problem solving. Consequently, a non-probability sample of size 280 was obtained from the defined population of bottled water consumers in Awka. Using the convenience sampling method, the sample was obtained using the equivalent of a 'mall intercept' in which the qualified respondents were conveniently and judgmentally located in and around shops, markets, neighborhoods, and university communities in the commercial city of Awka, capital of Anambra State, Nigeria [1] and [2]. Using a questionnaire in a polite face to face setting, information about the consumers' behavioral brand loyalties was obtained from the bottled water consumers who were willing to participate in the study, see appendix for questionnaire adapted from [1] and [3].

### **2.4 Measuring Instrument**

As I have previously discussed and as presented in the literature review above, the construct of brand loyalty has theoretically been characterized as a variable that can be scaled on a continuum. Leaning on the continuum property of brand loyalty, as espoused in the literature, a structured questionnaire containing interval and nominal variables was used for data collection in the study. Interval variables on the questionnaire were used to measure consumers' behavioral loyalty and attitudinal propensity for the brands of bottled water. Behavioral loyalty was scaled on a continuum represented by an interval variable with a range of 'no loyalty' to 'undivided loyalty'. Nominal variables on the questionnaire were used to facilitate the description of classes that may exist. There are typologies of reliability tests in the literature including test-retest, alternative forms, internal consistency, and split-half which yields the Cronbach's alpha reliability tests [16]. The Cronbach's alpha reliability test approach seems to have an edge in the literature over the others, given its user friendliness which is easily facilitated through the use of SPSS computer software, and the interpretability of the resulting Cronbach's alpha. Cronbach's alpha is a correlation coefficient which ranges from 0 to 1. Values of Cronbach's alpha greater than .6 are indicative of satisfactory internal consistency reliability Malhotra, [16]. The Cronbach's alpha internal consistency reliability test was used to test the internal consistency reliability of the interval scales. A reasonable Cronbach's alpha of .63 was obtained, pointing to a reasonable internal reliability of the scales. A convenience sample of 40 bottled water consumers in Awka was used to pretest the questionnaire, and Cronbach's alpha was computed from the pretest data, using the SPSS computer software. As in reliability tests, a multiplicity of validity tests exists in the literature. Among these are content, criterion, construct (including convergent, discriminant, and nomological) validity tests Malhotra, [16]. The validity of the test instrument was ascertained to be reasonably adequate by five marketing lecturers in Awka, Anambra State, Nigeria.



## **2.5 Procedures and Analytical Techniques**

One objective of this study is to know whether bottled water consumers in Awka, Anambra State, Nigeria, are brand loyal to the bottled water brands under study and to what extent, based on the “brand-choice sequences” theory. To accomplish this objective, one sample t-tests were used to compare the consumers’ mean behavioral loyalty to the measurement scale value of 4.00 which represents ‘undivided loyalty’. The second objective of the study is to compare the brand loyalties for the bottled water brands under study, based on the “brand-choice sequences” theory. To accomplish this objective, computerized analysis of variance (ANOVA), with post-hoc multiple means comparisons and overlap analysis, were used to compare the mean brand loyalties attracted by the bottled water brands in the study. Based on the “brand-choice sequences” theory, the third objective of the study is to compare across levels of socioeconomic and demographic groups (age, income and education), consumers’ behavioral brand loyalties, based on the “brand-choice sequences” theory. To accomplish this objective, computerized analysis of variance (ANOVA), with post hoc multiple means comparisons and overlap analysis were done.

## **2.6 Assumptions**

As I have also previously discussed, the notion that statistical inferences can be made on the basis of non-probability sample information, such as information obtained through convenience and judgmental sampling methods, is a ‘painful’ assumption that must be noted. The results from a non-probability sample may not be generalized to the population, simply because the convenience and judgmental sampling methods do not produce representative samples. However, [16] notes that even though convenience sampling has its limitations, yet it is used in huge market research surveys, and the author recommends sample sizes that are experientially suitable for market research surveys involving non-probability sampling [16]. The assumption that typologies of brand loyalty can be measured on continuums bearing the semblance of interval scale may be arguably overbearing. Using interval scales for collecting data in the study presents some theoretical and pragmatic issues that may be considered to be painful assumptions. Using an interval scale to measure consumers’ behavioral brand loyalty suggests that brand loyalty, in the context of this study, is a continuous variable. Arguably, the calibration on the scale does not represent equal distances, but the scale suggests that it does. [17] Posited that there was some controversy surrounding the use of itemized rating scales that are used to measure variables that may be non-continuous. To worsen the pain in the assumption of continuity in the scale of measurement, theoretical statistics requires that such variables assumed to be continuous should be normally distributed; and the error terms in the analysis of variance models should be uncorrelated, normally distributed, with means equal to zero, and variances that are constant [16]. Even though the data were not tested for normality, however, large samples sizes ( $n$  greater than 30, as in this study) permit the assumption of normality for the resulting statistics, especially the sample means emanating from populations that may not be normally distributed. Furthermore, [16] opined that, often, the statistical theory requirements are satisfied in pragmatic data analyses involving analysis of variance and regression analysis, thus making them commonly used analytical techniques. Furthermore, the assumption that the variables involved in the study need not be transformed into other forms, such as log-linear, quadratic, and other forms, may be erroneous. The assumptions made in this study are by no means exhaustive.

### 3. RESULTS AND DISCUSSION

Using computerized data analysis, the hypotheses in this study were tested, and Tables 1, 2, 3A, 3B and 3C below contain the results and findings from the tests. As used elsewhere in [1,2], in QII on the questionnaire, a score of 4 represents the sequence AAAAAA = Undivided Loyalty, a score of 3 represents the sequence ABABAB = Divided Loyalty, a score of 2 represents the sequence AAABBB = Unstable Loyalty, and a score of 1 represents the sequence ABCDEF = No Loyalty. The Levene's tests for equality of variances of the populations compared in Tables 2, 3A, 3B and 3C, respectively, yielded *P* values of .181, .183, .129 and .152, respectively, for the populations of consumers compared in those tables. The *P* values suggest that there are no significant differences in the variances of the populations compared in the ANOVAs.

**Table 1. Ho1: Based on the “brand-choice sequences” theory, bottled water consumers in Awka are undividedly brand loyal to the brands under study**

Brand	n	Observed Mean Brand Loyalty	Test Value (Undivided Loyalty)	<i>P</i> value	Significance Level (alpha)
AQUAFINA	53	3.00	4.00	.000	.01
IVY	76	2.72	4.00	.000	.01
EVA	39	2.64	4.00	.000	.01
MARVEL	30	2.50	4.00	.000	.01
GOSSY	54	2.44	4.00	.000	.01
RAGOLIS	28	2.07	4.00	.000	.01

The results of the computerized data analysis in Table 1 above indicate that, generally, bottled water consumers in Awka show no significant undivided loyalty to the bottled water brands in the study. This is shown by the observed values of the consumers' mean brand loyalties for each brand which are each significantly less than the test value of 4.00 that indicates undivided brand loyalty on the questionnaire. Relative to consumers of other brands in the study, the consumers of Aquafina, Ivy and Eva show relatively higher mean brand loyalties than the consumers of the other three brands in the study.

**Table 2. Ho2: Based on the “brand-choice sequences” theory, there is no significant variation in brand loyalties across the bottled water brands in the study**

Brands	n	A	B	C
AQUAFINA	53	3.00		
IVY	76	2.72	2.72	
EVA	39	2.64	2.64	
MARVEL	30	2.50	2.50	2.50
GOSSY	54		2.44	2.44
RAGOLIS	28			2.07
		<i>P</i> =.055	<i>P</i> =.292	<i>P</i> =.090

*Mean Brand Loyalty Groupings\**

The model for the Analysis of Variance (ANOVA) results shown in Table 2 above is significant at .01 significance level (*P*=.000). This indicates that there are significant variations in brand loyalties across the bottled water brands considered in the study. The ANOVA results in Table 2 are derived from using the Duncan Multiple means comparison

option in computerized ANOVA to group comparable means into respective groups represented by A, B, and C. The means in group A are all comparable ( $P=.055$ ), means in group B are all comparable ( $P=.292$ ), and means in group C are all comparable ( $P=.090$ ). However some of the means overlap across groups, as sometime is the case in multiple means comparisons. The results shown in Table 2 indicate that although there are significant variations in mean brand loyalties across the bottled water brands, yet the mean brand loyalties are from unstable loyalty to, at best, divided loyalty. Aquafina tops the list with a mean brand loyalty of 3.00, indicative of divided loyalty, while the Ragolis brand is at the bottom of the list with the least mean brand loyalty of 2.07, suggestive of unstable loyalty.

**Table 3A. Ho3: There is no significant variation in brand loyalties across the education groups in the study, based on the “brand-choice sequences” theory**

Education Groups	n	A
LT Secondary	82	2.72
University	77	2.69
Secondary	121	2.51
		P=.239

*Mean Brand Loyalty Groupings*

The ANOVA model that produced the results in Table 3A above is not significant ( $p=.642$ ). This indicates that there is no significant variation in mean brand loyalties across the education groups. The mean brand loyalties across the education groups all seem to suggest unstable loyalty at worst, and divided loyalty at best.

**Table 3B. Ho3: There is no significant variation in brand loyalties across the income groups in the study, based on the “brand-choice sequences” theory**

Income Groups	n	A
Above N200,000 per month	101	2.70
Between N50,000 & N200, 000 per month	78	2.59
LT 50,000 per month	101	2.56
		P=.428

*Mean Brand Loyalty Groupings*

The ANOVA model that generated the results depicted in Table 3B above is not significant ( $p=.665$ ), indicating that there is no significant variation in mean brand loyalties across the income groups. Here also, the mean brand loyalties to the bottled water brands in the study are between unstable to divided loyalty.

**Table 3C. Ho3: There is no significant variation in brand loyalties across the age groups in the study, based on the “brand-choice sequences” theory**

Age Groups	n	A
25 to 35 yrs	115	2.72
36 to 50 yrs	62	2.65
Above 50 yrs	103	2.50
		P=.204

*Mean Brand Loyalty Groupings*

The ANOVA model that produced the results in Table 3C is not significant ( $p = .591$ ), indicating that there is no significant variation in mean brand loyalties across the age groups. Here also, the mean brand loyalties to the bottled water brands in the study lie between unstable to divided loyalty.

#### **4. CONCLUSION AND RECOMMENDATIONS**

From the analysis contained in Tables 1, 2, 3A, 3B and 3C above and based on the study area, the following conclusions emanate.

- Based on the theoretical framework operationalized in this study, brand loyalty exists among the bottled water consumers. However, the consumers of the bottled water brands in the study do not have significant undivided loyalty towards their brands.
- The brands of bottled water in the study significantly do not attract undivided brand loyalties from their consumers.
- Undivided brand loyalty does not exist across the socioeconomic and demographic segments considered in the study.

Consequently, the following recommendations are made.

- As I have previously discussed, for academics and pedagogy on brand loyalty, since a behavioral construct, the "brand-choice sequences" theory, was used in the study, another study based on both behavioral and attitudinal constructs of brand loyalty is worthwhile to examine the extent to which the attitudinal antecedents of brand loyalty agree with the behavioral manifestations of brand loyalty. Furthermore, juxtaposing the two constructs in another study will provide verification of the extent to which the two constructs can be used interchangeably as valid paradigms and theories for measuring and analyzing brand loyalty. Additionally, the convergent construct validity of the two theories will be further substantiated when the correlation between the behavioral and attitudinal constructs is computed.
- I have previously pointed out some opportunities that the absence of brand loyalty may engender. Therefore, bottled water marketers should cease the opportunities provided due to the lack of undivided brand loyalty among the bottled water consumers, by evolving innovative marketing strategies aimed at cultivating undivided loyalty for their brands. This may be a utopian recommendation, but the payoff in terms of sales and subsequent effect on brand equity may be rewarding for any bottled water brand that can attract and sustain undivided brand loyalty from its consumers.
- While caution should be exercised in adopting and generalizing the results from this study, because non-probability sampling methods were used in data collection, a larger probability sample, if possible, should be used in future studies to make the results of the study more generalizable.

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#### **COMPETING INTERESTS**

The author has declared that no competing interests exist.

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## **APPENDICES**

### **A. Data Collection Instrument (adopted from [1] and [2])**

#### **BOTTLED WATER PURCHASES STUDY**

I am Okey Akabogu, a doctoral student at Anambra State University. I am conducting a research on how consumers, who reside in this state, purchase some brands of bottled water in this state. The information obtained from this study will be used strictly and only for the purposes of understanding the consumption patterns in the bottled water market, and also for the teaching of marketing in educational institutions. Your name is not required for this study, and all information that you volunteer will be used only for the purposes stated above. Please, would you be kind enough to freely partake in this study by completing this short questionnaire? Your cooperation will be highly appreciated.

(Q1 is asked only after ascertaining that the respondents currently reside in Awka, Anambra State, and buy and consume the bottled water they buy.)

QI Which one of the following brands of bottled water would you say is your brand of bottled water: Eva, Gossy, Ragolis, Ivy, Aquafina and Marvel ? (Choose one only.)

QII Which one of the following statements best describes how you buy bottled water for your own consumption? (Choose one only.)

4. Buy your brand always.
3. Buy your brand now, buy another brand next time, buy your brand next time, and buy another brand next time....and so on in this manner.
2. Buy your brand half of the times, and buy any of the other five brands half of the times.
1. Buy your brand now, buy another brand next time, buy another different brand next time, and buy another different brand next time....and so on in this manner.

QIII Now, in thinking about your brand of bottled water, what opinion do you think you have in your mind concerning your brand of bottled water? Please, indicate below, on a scale of 1 to 5, your opinion of your brand of bottled water. Select one number only.

5. Very favorable opinion
4. Somehow favorable opinion
3. Neutral opinion
2. Unfavorable opinion
1. Very unfavorable opinion

QIV Please, what level of education do you have? Select one number only.

- Less than secondary school education
- Secondary school education only
- University education

QV Please, which of the following income level best describes your income? Select one number only.

- Less than N50, 000 naira per month
- Between N50, 000 and N200, 000 per month
- Above N200, 000 per month

QVI Please, which of the following age groups best describes your age? Select one number only.

- Between 25 years to 35 yrs.
- Between 36 yrs. to 50 yrs.
- Above 50 yrs.

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