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EFFECT OF PRODUCT PACKAGING DESIGN AND GRAPHICS ON CONSUMERS' CHOICE OF BREAD BRANDS IN ABUJA METROPOLIS, NIGERIA

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Abstract

This study set out to determine the effect of packaging on consumers' choice for bread brands in Abuja metropolis. Specifically, the study examined the effect of product packaging design and graphics on consumers' choice of bread brands in Abuja metropolis. The study adopted survey research design as the method for collection of the primary data required to test the two formulated hypotheses for the study. Primary data were collected using structured questionnaire that was administered on four hundred and fifty three respondents selected from the infinite population of bread consumers in Abuja metropolis. The data were presented on tables and applied in testing formulated hypotheses using Partial Least Square Structural Equation Modeling. The findings of the study are that packaging design has positive and significant effect on consumers' choice of bread brands while packaging graphics has positive and insignificant effect on consumers' choice of bread brand. The study concluded that all the two packaging attributes can be applied in varying proportions in repackaging bread brands for increased consumers' choice of bread brands in Abuja metropolis. The study recommended that Bread marketers in Abuja should invest in using appealing colors, clear labeling, and high-quality materials that enhance the overall visual appeal and convey product quality. The marketers should also focus on enhancing the graphic elements of their packaging.

Keywords: Brand Choice, Bread, Design, Graphics, Packaging

1. Introduction

In a product market like bread, characterized by many small producers and buyers, ease of entry and exit from the market, adequate supply of products, existence of many largely undifferentiated and competing brands, and where buyers are highly knowledgeable and discriminating in their buying behavior, marketers are challenged to create and sustain competitive advantage for their brands. In such a product market, buyers' choice is central for the success of any brand and will be based on some objective considerations which can be identified and defined. It is the existence of such competitive advantages that will enable marketers to attract buyers and get them to choose their brands.

Increasing competition in the marketing environment signposts product packaging as a very

important and influential instrument for selling convenience products from manufacturers to end users. Packaging is the fundamental component of any product that seeks to attract customers. Hence packaging has been described as a silent salesman in the store and is the only communication between a product and the final consumer at the point of sales (Borishade et al, 2017). Packaging is also usually the last impression the consumer has of the product before making the final purchase decision (Alex-Ilani, 2021).

The strategic importance of packaging is further buttressed by its three attributes which include the visual elements, verbal elements and the elements that make for convenience. While verbal element is the packaging information about the product, producer, country of origin, and shelf-life, the visual attributes of

color, shape, and graphics are for attractiveness, the attributes such as the size, form and the packaging material make for product convenience (Kuvykaite et al, 2011). Based on these three important product packaging attributes, a good package is expected to be characterized by three product strong selling points: attractiveness to draw buyers' attention, communicativeness to provide information about product quantity and brand utility and convenience to allow for free and easy movement of the product while stored, in transit, and being used.

Packaging consists of both structural (e.g. packaging material, shape, size, weight and texture and graphic features) and verbal design features that are placed on the product, such as textual information (James & Msafiri, 2020; Steenis et al, 2017). According to Marsh and Bugusu (2007) packaging has the following elements which should be kept in mind, shape, color, symbol, graphic patterns, pictures, and size. Smith and Taylor (2014) identified six packaging elements to include size, graphics, color, text, material and smell. According to Keller (2009) aesthetic elements or components of packaging include size, color, text, graphics, material and shape. Even as the focus of the study is on ascertaining the effect of packaging on buyers' choice of bread brand, the specific intent of the study is to identify and determine the unique effect of special attributes of packaging that are considered critical to the market success of bread brand. The critical elements or attributes of bread packaging in the opinion of this researcher are packaging design and graphics and they constitute the independent variable or dimensions of packaging for the purpose of this study. The study will emphasize the effect of these dimensions on the choice of bread brands among buyer-consumers of bread in Abuja metropolis.

It is on account of the imperative to consume bread soon after baking, that this researcher observed with great trepidation the high incidence of bread sellers experiencing increasing unsold stock of bread in the product market in Abuja. The inability of sellers to finish selling their stock of bread every day and having to cope with the largely unprofitable effort at preserving what is not sold on the day, is the extant reality of bread

selling in Abuja. This situation is accentuated in Abuja by the rising prices of bread, from 500 naira to 1500 naira for standard family loaves, within May 2023 and April 2024. Rising price in the midst of deteriorating living conditions of most families coping with stagnant salaries and loss of jobs portends further and continuing reduction in the effective demand of the bread. As bread sellers witness falling effective demand, the bakers are facing reducing demand from them and are challenged to intensify efforts to boost the market acceptance of particular brands. Unfortunately, price reduction is not a viable option to bakers and bread sellers as the rising prices is caused by cost driven inflation that is not showing any signs of abating in the near future.

It is in the light of the potential and great ability of packaging to effect customer-consumer behavior at the point of sale, that this study is initiated to determine the effect of the various dimensions of packaging on consumers' choice of bread brand in Abuja metropolis.

The following hypotheses were formulated for the study:

1. Packaging design has no significant effect on buyers' choice of bread brand.
2. Packaging graphics has no significant effect on buyers' choice of bread brand.

2. Literature Review

2.1 Conceptual Framework

Packaging has been defined quite simply as an extrinsic element of the product i.e. attributes or features that are related to the product but does not form part of the physical product itself (Olson & Jacoby, 1974). In discussing total product concept, packaging as an important part of the total product comes after core product (consumable aspect of the product), formal product comprising branding and labelling and cork, but before product augmentation variables. Packaging encompasses all materials of any nature used for the protection, containment, handling, shipment, delivery and preservation of goods from the producer to the final user or consumer of the product. Packaging is the container for a product, encompassing the physical appearance of the container and including the design,

color, shape, labelling and materials used (Arens, 1998). Packaging can be used to create a distinctive brand image and identity (Belch & Belch, 2005). The primary package is the buyers' first encounter with the product, because design package draws the attention of consumers in and encourages product choice (Kotler & Keller, 2014). Packaging is thus, all the process or activities of designing and producing the container or wrapper for a product (Otaki, 2022). The objectives of packaging have been articulated to include physical protection of the core product from shock, vibration, compression, temperature, dispersion etc., barrier protection (barrier from dust, air, water, vapor, dirt, and other contaminated particles, containment or agglomeration (small items are always grouped together in a package for transport and efficient handling, information transmission (carrying information on how to use, handle, transport, recycle, or dispose of the product). Packaging generally refers to the material used in the wrapping of goods that are used for containing, identification, describing, protecting, displaying and promotion and making product to be marketable and keeping it clean (Otaki, 2022).

The essential qualities of good packaging as determined by Soederberg and Cassady (2017) are:

Attractive appearance- that is, attracts customer's attention, creates his interests in the product and creates positive image of product.

Packaging, according to Lundberg and Fredman (2012), is a strong marketing strategy for businesses because it can be used as a powerful competitive advantage tool to attract attention, describe a product, and make sales.

According to Chitroda and Patel (2020), there is a clear and overall consumer perception of different product packaging variables. When packaging color, background image, package design, language used on the package, and printed information are imparted to a product's packaging, a positive image is created in the minds of consumers. In terms of the relationship between product, packaging, and the impact on consumer purchasing behavior, it is clear that visual appeal is more important than the qualitative aspect of packaging.

According to Chukwu and Enudu (2018), poor packaging can deter customers from purchasing a product. Furthermore, a poorly packaged product presents a serious problem for salespeople because it will necessitate sufficient explanations to persuade customers to purchase the product. Customers dislike products that are poorly packaged. Good and appealing product packaging influences consumer purchasing behavior by encouraging them to buy and continue to patronize the product.

Consumer purchasing behaviour

Consumer buying behavior or purchasing decision is mostly concerned with the actions and decisions undertaken by buyers in the process of searching, evaluating and buying of particular brands of products from the many that maybe available in the market. As noted by Al-Samarraie et al (2019) consumer buying behavior refers to the mental, physical and emotional actions an individual carries out during the selection, purchasing, consumption and disposing of goods and services that are done in order to satisfy a need. A customer/consumer assailed with many competing brands of bread will have the difficult task of choosing one from the many that are within his reach. This choice at any particular point in time is expected to be affected and informed by the packaging of the bread one way or the other. Marketers are therefore challenged to choose the right mix of elements/attributes of packaging and to weave them professionally if they are to be assisted in attracting the attention of buyers, and having their brand considered for purchase and ultimately selected from the lot, consistently.

2.2 Empirical Review

In a study of 323 customers of packaged (bottled) water in Nasarawa State, Nigeria in 2022, Otaki (2023) analyzed the effect of packaging attributes on consumers buying behavior. The packaging attributes analyzed were packaging material, packaging information, packaging graphics, and packaging design. The findings of the study revealed that elements of material (b-022 has a negative but insignificant effect on consumer buying behavior, packaging information

($b=-.098$) has negative and insignificant effect on consumer buying behavior, packaging graphics ($b=.754$) has positive and significant effect on consumer buying behavior and packaging design ($b=.011$) has positive but insignificant effect on consumer behavior. Negative but insignificant effect of packaging material on consumer buying behavior suggests that as bottled water companies try to change the existing package material of the product, customers may feel very reluctant to buy the product as though the new material may not be perceived by customers to be of significant value (too many information may be confusing to customers). Negative but insignificant effect of packaging information on consumer buying behavior implies that an increase in package information will lead to a little or no decline in buying behavior of consumers. Effectively it implies that customers may not appreciate products with too many information. Positive and significant effect of packaging graphics on consumer buying behavior towards water in Nasarawa State implies that an increase in package graphics will lead to an increase in buying behavior of consumers especially in the areas of choice and preferences. This indicates that as firms modify the graphics in their package in terms of pictures, fonts as well as drawings and illustrations, customers tend to explore the new features of such product thus influencing buying behavior. Positive but insignificant effect of packaging design on consumer buying behavior towards bottled water signifies that an increase in packaging design may lead to an increase in the buying behavior of consumers in terms of choice, preference and loyalty, although the increase may not be noticed. Design of product package may attract customers but may not necessarily influence the choice of a product or loyalty to a particular brand.

In a study on the impact of product packaging on consumer buying decision, Saha (2020) made some remarkable conclusions on the effect of packaging dimensions on consumers buying decisions of cosmetic products. Packaging is an integral part of any product that attracts consumer. Many firms have used packaging as a promotional tool in their marketing campaigns. Hence, this research aims to explore the key factors of packaging that influence consumers in Fast

Moving Consumer Goods industry of Bangladesh. Data was collected via structured questionnaire from 338 respondents and analyzed using Statistical Package for the Social Sciences to evaluate the strength of hypothesized relationship, if any, among the constructs, which include color of packaging, materials of packaging, attractiveness of wrapping design, labeling, and innovative packaging as independent variables or predictors and consumer buying decision as the dependent variable. The results provide enough evidence to support the hypothesized relationship and useful information for managers in formulating strategies to influence consumers regarding buying decision behavior. To summarize, we discovered that packaging design is crucial for branding in the cosmetics sector. It is the sole way to express the brand's identity when the packaging is displayed on a retail shelf. Design is a huge differentiator for customers, as it provides different shapes, designs, and functionality. Every day, when consumers use a particular product and examine its looks, their opinion of that brand is shaped. So, packaging design must complement the overall branding approach. To establish a solid foundation for investigating how packaging design might be used to build a brand. It was discovered that packaging design is made up of two types of aspects: visual and structural, with the visual elements serving as the best brand message carriers and having the most impact on consumer perceptions and attention, that stood out from its surroundings in terms of color, shape, and images and had a better probability of creating a strong relationship with the consumer. When shopping for cosmetic products, it was seen that the consumer had a low level of engagement and hence made the majority of decisions subconsciously or with little inquiry and consideration. As though it were a spontaneous act. Many cosmetic goods are purchased as a result of point-of-sale decisions, and so visual cues at the time of sale are critical to the decision-making process for a cosmetic product.

2.3 Theoretical Framework

Cue utilization theory

The Cue Utilization Theory was first proposed by Lutz (1975). Cue Utilization Theory, also known as the

Ecological Approach to Perception, explains how consumers use environmental cues, including packaging, to make judgments and decisions. It suggests that people rely on information available in their environment to gather cues that help them understand and interpret the world around them. According to this theory, packaging serves as a cue that consumers use to assess the quality and value of a product. Packaging elements such as color, design, and materials can convey information about the product's attributes, functionality, and overall quality. Consumers often rely on these cues to make quick judgments about a product's desirability, leading to purchasing decisions. Consumers often make quick judgments based on these packaging cues, especially in situations where they have limited time or cognitive resources to evaluate every product detail. Packaging cues act as mental shortcuts or heuristics that help consumers form immediate impressions and expectations about the product. These impressions, in turn, influence their purchasing decisions.

However, it's important to note that packaging cues are not the sole determinant of consumer behavior. Other factors, such as price, brand reputation, past experiences, and word-of-mouth recommendations, also influence consumer decision-making. Moreover, individual differences, cultural norms, and situational factors can moderate the impact of packaging cues on consumer behavior. Cue Utilization Theory suggests that consumers are motivated to utilize packaging cues as a means to simplify decision-making, reduce risk, enhance confidence, and save time. By understanding and leveraging these motivations, marketers can design packaging strategies that effectively communicate product attributes and influence consumer purchasing behavior.

The study adopted Cue Utilization Theory given that it recognizes packaging as an instrument capable of affecting purchasing behavior of consumer, as well as competitiveness of firms in a particular industry.

3. Methodology

The study used survey research design in collecting the data that aided in testing the formulated hypotheses of

the study. The focus is on determining the collective effect of the attributes of packaging on consumers' choice of bread brands in Abuja metropolis.

The population of the study constituted the customer-consumers of bread brands in Abuja metropolis. The number of bread brand customers in Abuja metropolis could not be ascertained, as there are no published or printed figure capturing the population that could be identified or accessed by the researcher within the period of this study. Cochran (1977) formula was therefore used in determining the sample size for the study to be 385.

Questionnaire was adopted as the survey instrument for data collection. A structured questionnaire was developed, peer reviewed, pretested and confirmed having Cronback Alpha of more than 0.70. Section A of the questionnaire addressed the effect of the two product packaging attributes of design and graphics on buyers' choice of Bread brands while sections B, and C addressed the effect of packaging design and graphics on buyers' choice of Bread brand in Abuja metropolis. Section B used statements related to the elements of Packaging Design (Handling efficiency, Packaging sizes, Ease of opening and closing and Packaging modification). Section C used statements related to four elements of Packaging Graphics (appropriate color mixture, packaging color combination, picture and font size and style). Section D addressed questions of profile of respondents-gender, age, educational qualification, marital status and income earning status. In sections A-C, statements requiring responses from respondents on their agreement to them using LIKERT Scaling of strongly agree to strongly disagree were used.

Data collected were presented by the use of frequency table for better access, understanding and further statistical analysis. Outliers, z-test, and Durbin Watson's statistics were used to test autocorrelation among the error terms, missing vals, reliability statistics and out of range analysis tests were conducted by the use of SPSS version 20.0. Thereafter, multivariate regression analysis was used to determine the degree and extent of the relationship between the dependent variable (buyers' choice of Bread brand) and independent variables (packaging design and graphics)

of the study. Multivariate regression analysis model employed in determining the relationship between buyers' choice of Bread brand and the two packaging attributes.

The data collected was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with the aid of SmartPls3.

3.1 Model specification

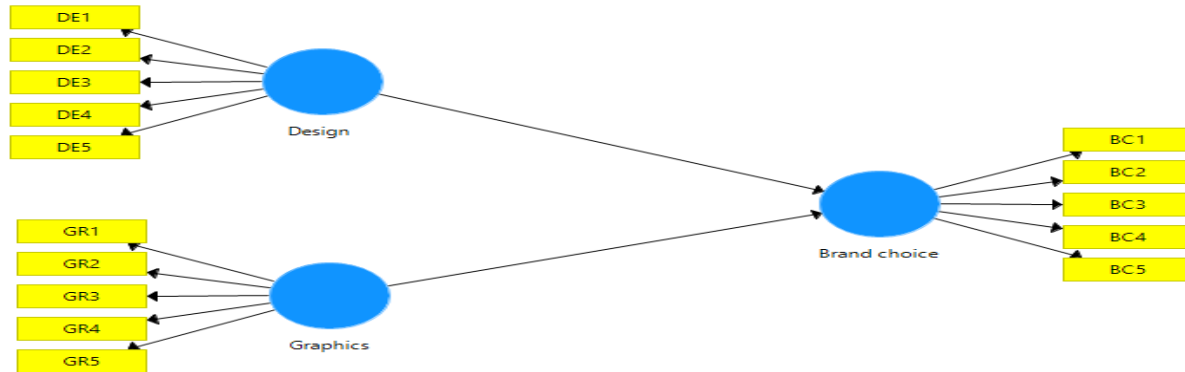


Figure 1: Structural model for direct relationship between packaging and brand choice

4. Data Presentation and Analysis

A total of 400 copies of questionnaire distributed, four hundred and sixteen (356) was retrieved giving a response rate of 89%. 44(11%) were not properly filled but returned. All further analyses were carried out using 416 responses.

4.1 Data Analysis

Indicator Reliability

When evaluating the measurement model, we initiate the process by examining the item outer loadings.

Generally, it is recommended to consider loadings above 0.708, as they signify that the construct accounts for more than 50 percent of the variance in the indicator, ensuring acceptable item reliability (Hair et al., 2019). However, Hair et al. (2019) also suggest that low but statistically significant indicator loadings (below 0.50) may be included. Conversely, outer loadings below 0.4 should be eliminated, and in exploratory research, loadings between 0.4 and 0.7 may be retained if the average variance extracted is satisfactory (Hair et al., 2014). This justifies the decision not to exclude indicators with loadings below 0.70 and above 0.40 from the model.

Table 1: Factor Loadings of the Constructs

	Brand choice	Design	Graphics
BC1	0.702		
BC2	0.714		
BC3	0.824		
BC4	0.846		
BC5	0.848		
DE1		0.769	
DE2		0.751	
DE3		0.873	
DE4		0.855	
DE5		0.780	
GR1			0.686

GR2	0.688
GR3	0.773
GR4	0.785
GR5	0.742

Source: SMARP-PLS Output, 2024

Convergent Validity

Convergent validity gauges the degree to which a construct converges to elucidate the variance within its items. To evaluate convergent validity, the average variance extracted (AVE) should exceed 0.5. As

depicted in Table 2, the AVE values for all constructs surpass 0.5, affirming that our constructs meet the criteria for convergent validity. This observation suggests that the entire construct accounts for 50 percent or more of the variance present in the items comprising the construct.

Table 2: Construct Reliability and Validity of the Indicators

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Brand choice	0.847	0.850	0.892	0.623
Design	0.871	0.888	0.903	0.651
Graphics	0.792	0.803	0.855	0.542

Source: SMART PLS Output, 2024

Table 3: Heterotrait-Monotrait Ratio (HTMT)

	Brand choice	Design	Graphics
Brand choice	1.000		
Design	0.651	1.000	
Graphics	0.590	0.408	1.000

Source: SMART-PLS Output, 2024

Model Goodness of Fit (GoF)

To validate the PLS model, it is essential to evaluate its goodness of fit, as recommended by Hair et al. (2017). In this study, the standardized root mean square residual (SRMR) was employed for this purpose. The selection of this index was based on the fact that SRMR provides an absolute fit measure, where a value of zero

signifies a perfect fit. Following Hu and Bentler's (1998) suggestion that a value below 0.08 represents a good fit when using SRMR for model assessment, the study's result revealed an SRMR value of 0.03. This indicates that the model fits well. Besides the chi-square, other measures corroborate the goodness of fit in the study's model.

Table 4: Model of Goodness of fit Summary

	Saturated Model	Estimated Model
SRMR	0.03	0.03
d_ULS	5.778	5.778
d_G	5.451	5.451
Chi-Square	7338.713	7338.713
NFI	0.397	0.397

Source: SMART-PLS Output, 2024

4.2 Test of Hypotheses

The table below showed the path coefficients, t-values and p-values used to test the first four null hypotheses of the study:

Table 5: Path Coefficient of the Model

Variables	Beta	T Statistics (O/STDEV)	P Values	Decision	F ² Value
Packaging Design -> Brand choice	-0.394	7.206	0.000	Rejected	0.144
Packaging Graphics -> Brand choice	1.097	21.736	0.000	Rejected	1.121

Notes: ***($P < 0.01$), **($P < 0.05$), *($P < 0.1$)

Source: SMART-PLS Output, 2024

Hypothesis One

H₀₁: Packaging design attribute has no significant effect on buyers' choice of bread brand in Abuja metropolis.

The result of the test as shown in table 5 revealed that packaging design attribute negatively and significantly affected buyers' choice of bread brand in Abuja, with $\beta = -0.394$ and $p = 0.000$. Thus, hypothesis one was not supported and therefore rejected at 5% level of significance. There is adequate evidence to reject the null hypothesis and the study therefore concluded that packaging design attribute has negative and significant effect on buyers' choice of bread brand in Abuja metropolis.

Hypothesis Two

H₀₂: Packaging graphics attribute has no significant effect on buyers' choice of bread brand in Abuja metropolis.

The result from table 5 shows that packaging graphics attribute has positive and significant effects on buyers' choice of bread brand in Abuja, with $\beta = 1.097$ and $p = 0.000$. Thus, hypothesis two was not supported and therefore rejected at 5% level of significance. There is adequate evidence to reject the null hypothesis and the study therefore conclude that packaging graphics attribute has positive and significant effects on buyers' choice of bread brand in Abuja metropolis.

4.3 Discussion of Findings

Packaging design attributes negatively and significantly affected buyers' choice of bread brand in Abuja metropolis, indicating that unattractive or poorly designed packaging can deter consumers and influence their preference for other brands. This suggests that consumers place importance on packaging appeal and that an unappealing design can decrease a product's competitiveness in the market. The finding is in agreement with that of Jephchirchir (2018)) who found that packaging design has negative and significant effect on consumer's buying behaviour in Kenya.

On the other hand, packaging graphics attribute has positive and significant effect on buyers' choice of bread brand in Abuja metropolis, implies that visually appealing and well-designed graphics can attract consumers and enhance brand preference. This suggests that consumers are likely influenced by attractive packaging visuals, which play an important role in distinguishing a brand and driving purchasing decisions in a competitive market. This finding agrees with the findings of Otaki (2021) who found that packaging graphics has positive and significant effect on consumer buying behavior in Nigeria.

5. Conclusions and Recommendations

The findings indicate that packaging design attributes have a negative and significant impact on buyers' choice of bread brands in Abuja metropolis. This concludes that unattractive or ineffective packaging

design discourages consumers from choosing certain brands, highlighting the importance of appealing and well-thought-out packaging in influencing consumer decisions in the bread market.

Packaging graphics attributes have a positive and significant effect on buyers' choice of bread brands in Abuja metropolis. The study concludes that visually appealing packaging graphics play a crucial role in influencing consumer purchasing decisions. Well-designed graphics can attract consumer attention, enhance brand appeal, and differentiate products in a competitive market, ultimately leading to increased preference and choice of certain bread brands among buyers.

The following recommendations were proffered:

1. Bread manufacturers in Abuja should invest in improving the design aspects of their packaging. This includes using appealing colors, clear labeling, and high-quality materials that enhance the overall visual appeal and convey product quality. Regular market research on consumer preferences regarding packaging design can also help manufacturers stay competitive and attract more buyers.
2. Bread manufacturers in Abuja should focus on enhancing the graphic elements of their packaging. This can include using vibrant colors, appealing images, and modern design trends that resonate with consumer preferences. Investing in visually impactful graphics can help brands stand out on the shelves and attract a larger customer base, giving them a competitive edge in the market.

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