Influence of Intrinsic and Extrinsic Characteristics of Detergents on Preferences of Female Employees of Selected Public Universities in Nigeria

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ABSTRACT

This study examined the influence of intrinsic and extrinsic characteristics of detergents on consumer preferences of female employee consumers. The study was carried out in Federal, and State universities located in Osun, Ogun, Lagos, Ondo, Oyo and Ekiti States of Southwest Nigeria. A total of 888 female employees in the selected institutions were sampled using two-stage sampling technique. Data were collected using a structured questionnaire. The data collected covered information on specific attributes and characteristics of detergents. Data collected was analysed using descriptive statistics, discrete choice model. Results showed that functional value of detergents and risk of use was the intrinsic characteristics of detergents influencing consumer preferences among female employees in public institutions. Extrinsic characteristics influencing consumer preference were price. The study concluded that consumer preference for detergents among female employees in selected public institutions in Southwest Nigeria is determined by hosts of factors which include brand, quality, intrinsic and extrinsic characteristics of detergents. It was thus recommended that business managers should link up with manufacturers of detergents to pay greater attention to intrinsic and extrinsic values of their products. Finally managers should enhance trust and reduce perceptions of risk associated with using available brands by promoting the quality and reliability of their retail brands.

Keywords: Intrinsic, Extrinsic, Preferences, Public Universities

INTRODUCTION

Over the years different approaches have emerged on factors that determine consumer preference. Consumer preference is a set of attitude that characterize the patterns of consumer choices. Apart from the essential internal factors which are recognized as influencing consumers’ preference, there are a number of external situational context that affect consumer choices too. According to Walter (1970), the consumer is simultaneously influenced by his choice of products and by some attributes such as price, quality, packaging, sales promotion and quality, which influence a brand preference of a product. People may seek the benefit that a product provides rather than the products itself and consumers may consider the available alternative from the vantage point of the usage context which they experience or the specific application they are considering. Most of these factors have been categorized as intrinsic and extrinsic determinants of preference for products.

Existing studies have shown that consumers are not always able to accurately evaluate the characteristic intrinsic and extrinsic cues before making a buying decision, and in some cases even in a post purchase evaluation (Alba, 2000; Kardes, Kim & Lim, 2001). In some situations,
actual product attributes are discounted in favour of extrinsic cues believed by consumers to be more reliable than their own opinions (Kardes, Cronley, Kellaris & Posavac, 2004).

All these, among others are the ideal beliefs of various past researchers on consumer preference for a product. However, various studies have also shown that all the ideas of the past researchers might not be appropriate to make generalization on what factors influence consumer preference for a product. The rationale behind this is that different products might have different peculiarities that distinguish them from one another. This might likely bring in some factors that might not be covered by the scope of past researchers and these factors are most likely to have varying degrees of influences on consumer preference for certain products (Parasuraman, Zeithaml & Berry, 1994) especially detergents.

Detergent as a domestic household commodity possesses unique features that can account for changes in consumer preference for it. Households are faced with allocation of their scarce resources to satisfy all their domestic needs. Detergents are one of the households’ commodities, which are used daily domestically for cleaning.

The massive increase in the supply of cleansing products most especially detergents into the Nigerian market necessitated a need for research attention. In general, extant literature on determinants of increase in supply of domestic products, have focused on the role played by preference behaviour of consumers.

Many of the studies focused only on market segment with a narrow focus on the marketers, thereby neglecting business managers and administrators who are crucial to policy implementation on sale of detergents, (David & James;1998, Bradhl; 2003,Janneke & Jabilyn;2009, Marlia, Nassuddin & Fazleen; 2011, Rook & Fisher;1995). A critical look at these studies showed that many of the researchers concentrated on consumer behavior and consumer attitude, (Ifegwu & Ajetomobi, 2014; Amadi & Ezekiel, 2013; Ezeh & Onubuobi, 2011; Oghojafor, Ladipo & Nwagwugwu,2013). However none was found to have been conducted on the influence of intrinsic and extrinsic characteristics of detergents on the preferences of female employees of selected public universities in south-west Nigeria. This study therefore intends to fill this gap.

LITERATURE REVIEW

Product characteristics are those features of a product which are used as (technical) indicators for product quality and are (in principle) measurable with (standardized) analytical (including sensoric) methods (Becker, 2000). The characteristics that are of importance and relevance for the purpose of this study, further explain how it influences the consumer in the decision making process.

The physical characteristics of a products, the ones related to the products technical specifications, and also the physiological characteristics, the ones that can be measured objectively, are referred to as the intrinsic cues of the product (Grunert, Bradhl & Brunso., 2003). These examples given are not characteristics that can be measured or evaluated by using the human abilities. On all the characteristics the consumer is exposed to, only the ones that apparently have an effect on his quality perception and further influence on his purchase decision (Grunert et al., 2003).

Intrinsic and Extrinsic Cues

The knowledge of how the intrinsic and extrinsic cues affect the consumers’ motivation of a purchase is important in this study. Becker (2000) categorizes the product cues into two
groups; intrinsic and extrinsic. Intrinsic is explained as the appearance, colour, shape, and presentation of the product. Extrinsic cues include the price, brand name, stamp of quality, country-of-origin, store, production information and nutritional information of the products. Further on, Evans and Colleagues (2009) argue that both intrinsic and extrinsic cues influence the consumer in the product evaluation by reminding them about previous knowledge and experience with the product. Consumers tend to rely more on extrinsic cues during the product evaluation, since they become more aware of them over time. Further, when intrinsic cues do not provide the consumer with useful information, the extrinsic cues are then used as quality indicators. This can happen in the following situations; consumer has no information or just a little information about the product, the consumer does not have enough time to evaluate the intrinsic cues, or when the consumer cannot evaluate the intrinsic cues (Zeithaml, 1988).

Attributes that signal quality have been dichotomized into intrinsic and extrinsic cues (Olson 1977; Olson & Jacoby 1972). Intrinsic cues involve the physical composition of the product. In a beverage, intrinsic cues would include such attributes as flavor, color, texture, and degree of sweetness. Intrinsic attributes cannot be changed without altering the nature of the product itself and are consumed as the product is consumed (Olson 1977; Olson & Jacoby 1972).

Extrinsic cues are product-related but not part of the physical product itself. They are, by definition, outside the product. Price, brand name, and level of advertising are examples of extrinsic cues to quality. A small number of cues, most notably those involving the product’s package, are difficult to classify as either intrinsic or extrinsic. Package could be considered an intrinsic or an extrinsic cue depending on whether the package is part of the physical composition of the product (e.g., a dripless spout in detergent), in which case it would be an intrinsic cue, or protection and promotion for the product in which case it would be an extrinsic cue. For purposes of the model, package is considered an intrinsic cue but the information that appears on the package (e.g., brand name, price, and logo) is considered an extrinsic cue.

Researchers have identified key lower level attributes used by consumers to infer quality in only a few product categories. These lower level cues include price (Olson 1977; Olson and Jacoby 1972), studied level for detergents. Generalizing about quality across products has been difficult for managers and researchers. Specific or concrete intrinsic attributes differ widely across products, as do the attributes consumers use to infer quality. Obviously, attributes that signal quality in fruit juice are not the same as those indicating quality in washing machines or automobiles. Even within a product category, specific attributes may provide different signals about quality.

Though the concrete attributes that signal quality differ across products, higher level abstract dimensions of quality can be generalized to categories of products. Garvin (1983), for example, proposes that product quality can be captured in eight dimensions: performance, features, reliability, conformance, durability, serviceability, aesthetics, and perceived quality (i.e., image). Abstract dimensions that capture diverse specific attributes have been discussed in earlier studies such as Johnson (1983) and Achrol, Reve & Stem (1983). In describing the way consumers compare non comparable alternatives (e.g., how they choose between such diverse alternatives as a stereo and a Hawaiian vacation), Johnson posited that consumers represent the attributes in memory at abstract levels (e.g., using entertainment value as the dimension on which to compare stereos and Hawaiian vacations).
Rather than itemizing specific variables that affect particular firms in different industries under varying circumstances, they proposed conceptualizing the environment in terms of its abstract qualities or dimensions (e.g., homogeneity-heterogeneity, stability-in-stability, concentration-dispersion, and turbulence). Olson (1977) pointed out that consumers may use informational cues to develop beliefs about products and that task response (i.e., choice or evaluation) may be a direct function of these mediating beliefs.

Extrinsic attributes (e.g., price, brand name) are not product-specific and can serve as general indicators of quality across all types of products. Price, brand name, and level of advertising are three extrinsic cues frequently associated with quality in research, yet many other extrinsic cues are useful to consumers. Of special note are extrinsic cues such as product warranties and seals of approval. Price, the extrinsic cue receiving the most research attention appears to function as a surrogate for quality when the consumer has inadequate information about intrinsic attributes. Similarly, brand name serves as “shorthand” for quality by providing consumers with a bundle of information about the product (Jacoby Olson and Haddock, 1987).

**EMPIRICAL REVIEW**

Nashath, Vigues and Thaire, (2013) carried out a study on impact of various factors on customer preference towards soft drinks. Focused was made on finding various independent factors such as brand name, price, quality, task, aesthetics, variety, availability, discounts and offers, brand ambassador, advertisement, eco-friendliness and ingredients on overall customer preference towards soft drinks. They examine various demographical factors that affect the customer preference using multiple regression table and simple frequency table and chi square. From the study it was concluded that all the factors such as brand, taste, aesthetics, variety, availability, discount and offers, brand ambassador, advertisement, eco-friendliness and ingredients except price, quality and availability have significant impact on overall customer preference.

Naseem, Mhlanga, Diagne, Adegbola, and Gnonna, (2013) investigated consumer preferences for various attributes of rice marketed in Benin. Consumer choice theory postulates that products are consumed not for themselves, but for the characteristics they possess that satisfy consumers’ greater liking of one attribute over another. In the case of rice, quality attributes, as incentives for both producers and consumers, have important price implications. In this study, it was empirically analyzed that there is a relationship between the price paid by consumers for their choice of rice and its attributes in the markets of Benin using hedonic pricing and discrete choice models of demand. Data was collected from rice-consuming households in four major provinces of Benin, in both rural and urban areas, during 2006. The results of this econometric estimation indicated that there was considerable variability in consumer preferences for different rice attributes across the regions studied. Nevertheless, consumers paid a premium price for observable attributes, such as grain size and breakage. In addition, both urban and rural consumers preferred imported and parboiled rice to domestic and raw rice. The study results showed that implicit prices paid by consumers for both domestic and imported rice were based on quality attributes. These findings have important implications for future breeding programs aimed at making domestic rice more competitive with imported rice.

Shalim and Masood (2010) determined consumer preference for multi attribute hybrid services like tourism so as to enable the state tourism board to deliver a desired combination of intrinsic attributes, helping it to create a sustainable competitive advantage, leading to greater customer satisfaction and positive word of mouth, information, security, choice offered, complaint redress, modes of access and less value should be placed on a variety of sightseeing options.
THEORETICAL FRAMEWORK

The Revealed Consumer Preference Theory
The Revealed Preference Theory, pioneered by American economist Paul Samuelson (1938), is a method by which it is possible to reveal the preferences of consumers by observing their purchasing habits. Revealed preference theory came about because the theories of consumer demand are based on a diminishing marginal rate of substitution (MRS). The diminishing MRS is based on the assumption that consumers make consumption decisions based on their intent to maximize their utility. While utility maximization is not a controversial assumption, the underlying utility functions cannot be measured with great certainty. Revealed preference theory is meant to reconcile demand theory by creating a means to define utility functions by observing behavior.

The main idea behind revealed preference theory is based on the assumption that if the consumer chooses detergent A when detergent B is affordable, and then we say that detergent A is preferred to detergent B. Therefore if the consumer ever purchases detergent B then it must be the case that the detergent A is unaffordable. The theory also tries to estimate consumer evaluation for attributes which are obtained from past behaviour of consumers. It does not require a group of respondents to make commitments to select a particular option. It considers alternatives to the goods in question as observables and essentially embodies existing technological constraints.

Theory of Rational Choice
The theory of rational choice by Oliver (1997) can be stated succinctly and cogently. The basic unit of analysis is the consumer, with a set of well-specified preferences. Such a consumer behaves rationally by acting upon his preferences: when facing two opposite courses of choices, he will choose the one that most closely fits her preferences and is the least costly. The individual choice will be transitive and consistent: if he prefers detergent A to detergent B and B to detergents C, he will also prefer A to C. When presented with identical options in identical circumstances, he will make the same choice. In this case the individual compares products perceived performance maximization, makes decisions from clear value preferences in relation to his expectation. The consumer rational choice also comprises attitude components, which in the end represents the basis of forming a preference. This theory gives a model contribution to better understanding of the way consumers are found and providing the necessary means of researching and foreseeing the evolution of consumer preference.

MATERIALS AND METHODS
This research is exploratory in design, to implement the research design for this study, both qualitative and quantitative research approach were employed. Specifically for this study, qualitative approach in the form of interview guide and focus group discussion was used. Quantitative data was collected to make generalizations and understanding of the mechanisms through which the characteristics of the products (detergents) influenced preference decisions of respondents. Purposive and Simple random techniques were used for this study; primary data was collected for this study. Information on extrinsic characteristics such as price, packaging, brand and availability. Intrinsic characteristics which are directly associated with the function of detergents was also elicited from the female employees of the selected institutions. Reliability test was done using the Cronbach Alpha method for the purpose of assessing the consistency of the entire scale. All the questions on the validation were reported based on the alpha score that is above the standard guide of 0.70. Data collected were analyzed using discrete choice model.
RESULTS AND DISCUSSION

Influence of intrinsic characteristics of detergents on consumer preference

The result of the estimated influence of intrinsic characteristics of detergents on consumer preferences is presented in Table 1. Parameter estimate of perceived quality of detergent is negative, indicating that female consumers’ preference for detergent would increase without necessary increase in quality of the detergent products. But the variable is not statistically significant. This could be attributed to possible effect of marketing programmes which often exert a considerable effect on consumers’ buying decision. Consumers’ purchasing decisions are normally based on their own perception and representations of quality. But, quality is a concept that is difficult to define most especially because it is classified as credence attributes-product attributes that are not easily verifiable by consumers. Quality could be derived from other product cues, either intrinsic or extrinsic. Hence, the non-significance of the variable and the negative sign could be attributed to marketing effect on female employee consumers in the sampled university.

Parameter estimate of functional value of detergent indicates a positive and significant influence on preference of female employees’ consumers in the sampled universities in the study area. The positive sign shows that a unit increase in functional value of detergent would lead to increase in consumer preference for the products by 0.258. The significance of the parameter estimate signifies the importance of the variable in stimulating high preference for detergents products among female employee of universities. Functional value of detergents relates to washing and stain removing power of the product, gentility on fabric, smell and health risk associated with use of such detergents.

Risk of using detergents exerts a negative and significant (p < 0.05) influence on female employee preference for detergents products. Increase in perceived risk associated with the use of detergents in terms of harshness on fabrics and hands would lead to reduction in the level of consumer preference for detergents.

The findings of this study points to the relevance of intrinsic attributes in determining consumer preference for a product such as detergents. Understanding such attributes enable the manufacturers, business men and marketers to deliver a desired combination of intrinsic attributes, which helps to create a sustainable competitive advantage, leading to greater customer satisfaction. This finding corroborates Shalim and Masood (2010).

| Intrinsic Characteristics | Coeff. | Std.error | z-value | P>|Z| |
|---------------------------|--------|-----------|---------|--------|
| Quality                   | -0.122 | 0.119     | 0.103   | 0.303  |
| Functional value          | 0.258  | 0.133     | 1.94*   | 0.053  |
| Risk of use               | 0.212  | 0.092     | -2.35** | 0.019  |
| LR chi2(3) = 8.82         |        |           |         |        |
| Prob> chi2 = 0.0318       |        |           |         |        |
| Pseudo R2 = 0.0249        |        |           |         |        |
| Log likelihood = 172.675778 |       |           |         |        |

Source: Authors Computation (2016)

Influence of extrinsic characteristics of detergent on preferences of consumers

Results in Table 2 highlight the influence of extrinsic characteristics on respondents’ preference for detergents. Price has a positive and significant (p < 0.10) influence on preference of female employee for detergent products. The result indicates a positive relationship between price and preference decision of consumers exists. The results suggest...
that female consumers of detergents are generally not sensitive to price of the commodity possibly due to high demand of detergents by female consumers. Price is generally viewed as the amount of money charged for a product or service, or the sum of the values that consumers exchange for the benefit of having or using the product or service (Kotler et al., 2005). The price is affected by the supply and demand of the detergent market and it is a factor that changes when the demand and supply for the detergent product changes. When supply increases, the price will decrease since there will be more of the product in the market and in order to sell it, the suppliers will decrease the price. When demand for the good increases, the price will increase since the consumers will be willing to pay more for the product and the price will increase. Although price is a separate attribute it can also be used as an indication of quality.

Parameter estimate of brand exerts a negative and significant (p < 0.05) influence on preference for detergents by female employees of sampled universities in the study area. The result suggests that decrease in preference for a brand of detergent would induce an increase in preference for the detergent. Consumers who are less familiar with a brand tend to evaluate the product based on the brands’ attributes. Therefore it can be assumed that the less familiar a consumer is with a brand, the lower the preference for that product and the more the consumer will consider other extrinsic cues. The findings suggest that the manufacturers of various brands should take necessary steps to ascertain the position of their brands. The result also shows that brand of a particular product plays a fundamental function in consumer’s perception of a product. It helps in developing a market position, prestige and image of the product (Aaker, 1996).

Parameter estimate of ‘packaging’ attribute of detergent is found to have a negative influence on female employee choice of detergents in the study area. But the variable is not statistically significant. This signifies that detergent consumers form their preference decision on other characteristic difference from packaging. Although, product quality judgments are largely influenced by product characteristics reflected by packaging between different stages of decision making process. If it communicates high, consumers tend to assume that the product is of high quality. If the package represents low quality, consumers associate this low perception to the product itself (Estiri, Hasangholipour and Yazdani, 2010). Packaging design must therefore ensure that consumer response is favourable since consumers seem to view packaging holistically to ensure that it conforms to his social identity before he purchases a brand of detergents.

Availability of detergent has a negative but insignificant (p > 0.05) influence on preference decision of female employees in the study area. Less frequently available detergent may induce preference of consumers and triability of the product, even if the product is not the most preferred.

The findings show that consumers tend to rely more on extrinsic cues during the product evaluation, since they become more aware of them over time. Further, when intrinsic cues do not provide the consumer with useful information, the extrinsic cues are then used as quality indicators. This can happen in situations when consumers have no information or just a little information about the product.

The extrinsic cues influence the consumer in the product evaluation by reminding them about previous knowledge and experience with the product. Consumers tend to rely more on extrinsic cues during the product evaluation, since they become more aware of them over time.
Further, when intrinsic cues do not provide the consumer with useful information, the extrinsic cues are then used as quality indicators. In line with (Zeithaml, 1988), this can happen in situations where a consumer has no information or just a little information about the product such as detergents. Since extrinsic attributes are not product-specific, they can serve as general indicators of quality across all types of products.

<table>
<thead>
<tr>
<th>Extrinsic Characteristics</th>
<th>Coeff.</th>
<th>Std.error</th>
<th>z-value</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>0.2778</td>
<td>0.1426</td>
<td>1.95*</td>
<td>0.051</td>
</tr>
<tr>
<td>Brand</td>
<td>-0.2381</td>
<td>0.1085</td>
<td>-2.19**</td>
<td>0.028</td>
</tr>
<tr>
<td>Package</td>
<td>-0.0469</td>
<td>0.1193</td>
<td>-0.39</td>
<td>0.694</td>
</tr>
<tr>
<td>Availability</td>
<td>-0.2422</td>
<td>0.1527</td>
<td>-1.59</td>
<td>0.113</td>
</tr>
</tbody>
</table>

LR chi2(4) = 10.06
Prob > chi2 = 0.039
Pseudo R² = 0.028
Log likelihood = -173.474

Source: Data Analysis, 2016

***, significant at 10%, 5% respectively

CONCLUSION AND RECOMMENDATIONS

One of the key elements in successful product marketing is to understand the target audience. The target audience must be the focus for the overall marketing message, including the intrinsic and extrinsic characteristics of the product. This applies to all detergents marketing, based on the main findings, the following conclusions were reached. First, functional value of detergent, in terms of its ability to effectively perform its primary role as a ‘cleansing agent’, is much more important to the female employees of public institutions. While the female employees showed a high preference for this intrinsic attribute, it is important that detergents with good functional value become less risky in relation to its gentility on the users and their fabrics. Second, it could be concluded that preference of female employees for detergents were shaped by the price, brand and availability of the products. This confirmed that both intrinsic and extrinsic attributes of detergents significantly influenced female consumers in the public institutions. This is an important finding with notable managerial value, since these characteristics can be utilized by marketing managers in the context of marketing strategy formulation. As the conclusion for the study has suggested, it is recommended that retailer should stock detergents brand with high functional value. The marketing managers should also “re-educate” the female consumers by underlaying “brand” from being the main reason-why a particular detergent is chosen. Since retail brand may not necessarily be correlated with quality of the products. On the contrary, it seems that gentility of the products on fabrics, the users can be safely correlated with other important benefits for consumers, and this has to be utilized in influencing retail brand-decision making. It is thus recommended that business managers should link up with manufacturers of detergents to pay greater attention to intrinsic value of their products.

Also, it is recommended that managers should take into account that consumers are more willing to purchase detergent brands if they are positively inclined towards them. Business managers should therefore try to influence female consumers by making products available in the market and also provide female employees with detailed information about the benefits that they can expect to obtain from their detergents in terms of functional value, price and benefits to their household.
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