

PROMOTING FOOD PREFERENCE AT UNIVERSITY SHOPPING CENTRE THROUGH FOOD LABELING: THE NIGERIAN PERSPECTIVE

Abugu, James Okechukwu¹ and Orogun E. Simeon²

¹Department of Marketing FBA Enugu Campus University of Nigeria, Nsukka Nigeria.

²Department of Business Education, School of Vocational and Technical Education, College of Education Warri, Delta State.

Corresponding Author: Orogun E. Simeon

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Abstract: Global standard on food policies is expected to cover food labeling of product packages and food in the restaurant menu. This study seeks to establish the influence of food labeling on consumers' buying choice. The cross-sectional survey was carried out at Enugu amongst academic staff and students of Enugu State University of Science and Technology and University of Nigeria, Enugu Campus, that consume labeled food products. A 5-points likert structured questionnaire was used to collect data from a sample of 400 respondents using convenience sampling method. The data so collected were analyzed using SPSS version 23, whereas the hypotheses for the study were tested using Pearson Correlation Technique and Chi-Square (χ^2) statistical tools. Findings revealed that certain label characteristics such as information on food ingredients and nutrition values, label colour and health and safety information found on the product labels significantly and positively influence consumers' buying choice. The researchers thus concluded that product label characteristics significantly and positively influence consumers' food buying choice and recommended that packaged food manufacturers and marketers should strictly engage in effective products labeling that result to buying cue such as; ingredients and nutrition values, attractive and informative colour, and health and safety of packaged product offered for sale. Further, create more awareness and engage in regular research to enhance consumers appropriation of elements of product label.

1.0 Introduction

Manufacturing firms are in a better position to have detailed information concerning what they produce than those who buy or consume it. They can apply this information, to indicate the quality

of their products and receive reasonable – premium. University community constitutes a large market (actual and potential customers) made up of staff and students, thus marketers and business people had always exploited the

Abugu, James Okechukwu and Orogun E. Simeon

opportunity by strategically opening Retail stores, Grocery shops, superstores, Restaurants and Pharmacy shops at the University business center to capture the patronage of the staff and students. Often these staff and students are seen at the business center going through label information when engaged in purchasing. Labeling is a printed information attached to the product or package for recognition and provision of detailed information about the product. The label elements include; colour, logo, information on product quality, nutrition, safety and health. Food labeling however, is used to transfer certain information from the producer to the consumers, essentially as a result of gap between the producer and the consumer (Van Boxstael et al, 2014). Abugu (2005) stated that a label is that part of a product that carries information about the product and manufacturer. Studies have shown that globally food policies focus on the need for food labeling. The labeling is not limited to product packages but extends to food in restaurant menus. Labeling is one of the most visible parts of product, also an important element of the marketing mix (Shah, Ahmed & Ahmad, 2013). Types of label include; brand label, descriptive label and grade label with functions of giving information about product brand, specifying product usage and describing the aspects and features of product respectively. Organizations use these labels as cue to promote food choice. Food and Drug Administration (FDA, 1998) submits that a label is expected to contain certain relevant information as product name, ingredients, legal nutritional information, and direction on how to use products. Packaging and labeling go beyond protection and identification of products, to play a vital role in developing product image visibility and attractiveness of the brand within a target market. Both the product package and label convey certain guides and persuasive messages

about product attributes, also that which ensures product protection during transportation and at home, storage among others. Firms have resorted to innovations in product labeling to stimulate consumers' buying choice. Naturally consumers tend to go for repeat patronage if satisfied with benefits derived from earlier purchase. This led company like Nestle Nigeria Plc decision to include its logo on the label of its products to enhance consumers' recognition. Efficacy of this measure depends on whether consumers appropriate product labeling when making purchase decision. There is sparse of studies establishing that product labeling elements significantly and positively influence consumers buying choice of packaged food, to the researchers' knowledge. For instance, Ahaiwe and Ndubisi (2015) conducted a study on product packaging effects on consumers' preference for Cosmetics Products in Abia State, Nigeria, Hassan and Khan (2009) conducted a study on the impact of package on consumer brand preference. Thus the need to investigate the influence of product label elements on the buying choice of consumers (using the populace of the university community as respondents) to complement the existing evidence. In this context, establishing those aspects of products label elements that exert driving force when consumers' make purchases becomes relevant. Therefore the researchers postulate that;

1. Label information on product ingredients and nutrition values do not significantly and positively influence consumers' buying behaviour.
2. Label colour does not significantly and positively influence consumers' buying behaviour.
3. Label information on product health and safety warning does not significantly and positively influence consumers' buying behaviour.

2.0 Literature Review

2.1 Label information on Product ingredients, nutrition values and consumers' buying choice

Some product label contains certain useful information about the product nutrients (Koirala, 2014, Thapa et al, 2014). The nutrition label describes the nutrients contents of packaged products. (Hayati, et al 2015). Nutrition according to World Health Organization (WHO) is a fundamental pillar of human life health and development across the entire lifespan. The driving force of nutritional contents of products to purchase decision is anchored on the classical or the theory of balanced nutrition which is concerned with the concepts of ideal food/necessary food requirements/ingredients for normal living. Given the above, nutrition information as influencing consumers' behaviour cannot be ruled out. In addition, label information on product ingredients and nutritional value as factor influencing buyer choice, can be linked with the value of nutrition as in the submission made by Alamgir, Sami, Salahuddin et al (2018) that nutrition is the process which provides energy to the body to perform various tasks in routine life.

Nutrition labeling of food package and restaurant menus can effectively be used to disseminate information about product value and influence consumers' purchasing intent (Roberto & Khandpur, 2014). In line with the above view, Food and Agricultural Organization (FAO), (2016) stated that food label provides consumers with information about food contents to guide on making healthier food choices. Adding to this, Jessie, Aviva and Karen (2015), submitted that Front of Package (FOP) and Back of Package (BOP) labeling are the basic label formats that greatly influence buyers' choice. While agreeing on the above, Tempel and Fraser

(2014) contended that nutrition labeling when designed properly can be used to influence diet choice of the consumers significantly and positively. However, some studies reported that inability to interpret nutritional label information by elderly and low educated consumers greatly affects the objective choice when making purchase decision, nevertheless this is by few number of the consumers. That notwithstanding, evidence from the research on nutrition and health by Biakova, Sasse and Fenko, (2016) Norton and Parkinson (2013) Fenko, Kersten and Bilkova (2015) Van Buul and Brouns, (2015) Berning, Chouinard and McCluskey, (2011) and Orquin and Scholdere, (2015) showed both positive and negative effects of these claims on consumers' preferences and purchase behaviour.

1.2 Label Colour and Consumers' Choice

Colour plays important role on potential customers' decision making process (Zekiri & Hassan, 2015). Kauppinen Raisanen (2014) Palmer and Schloss (2010) revealed that colour could influence consumers overall subjective perception and in turn might affect consumers' purchase behaviour. This, according to Yu et al (2018) could vary for different products. The influencing role of colour on the consumer buying choice can be linked to colour theory. Colour theory according to Kris (2016) focuses on two perspectives – science and art of using colour. It refers to the messages colour communicates and the methods applied to replicate colour. For instance, green colour stands for growth, harmony, freshness, fertility, Blue stands for trust, loyalty, wisdom, intelligence, confidence, etc. White stands for innocence, goodness, virginity, purity, etc. Colour elements of product label is necessary and if well designed can be very effective in the brand association. Human sight is always attracted by colour and this exerts great effect on behaviour.

As established by Chang and Lin (2010), of the five human senses, sight undoubtedly has the most powerful effect on consumers' perceptions. This notwithstanding, people with cultural background develop their unique colour infirmity (Rundh, 2009) Cohen and Babey (2012) contended that in twenty minutes shopping expedition, colour largely serves as a means of communication. Firms use colour to strategically promote their products in a given environment.

Borgongo et al (2015) described colour as quality cue that drive consumers when engaged in shopping activities. In support of this, Labreque and Milne, (2012) averred that colour could be applied as a strategy to boast brand personality and congeniality for purposes of influencing consumers buying behaviour. Customers purchasing behaviour in relation to brand preferences is greatly influenced by colours (Sun, Adhikari & Koppel, 2015). Chang and Lin (2010) however, stated that colours aid corporate brands in conveying traits to customers, plays important role in increasing product sales (Chitturi et al, 2019). Keller (2009), stated that consumers expect certain type of colour for certain products. Consumers are thus most likely to purchase the products whose colours made better meaning and may ignore others with lesser attraction. This is in agreement with the views of Javel and Javel (2015) that, "Right colour can clinch the sale but a wrong colour can negatively affect sales.

2.3 Label information on Product Health and Safety and Consumers' buying choice

The main goal of any product policy, aimed at protecting the consumers, hinges on the regulation concerning product safety (Salim et al, 2017). Product health and safety labeling information and consumer buying choice is anchored on change theories. Change theories attempt to explain why behaviour changes.

Consumers are likely to change their purchase choice based on the product(s) that meet(s) their health needs. The product health and safety labeling is used to communicate to the consumers or customers the health and safety implications of the products. Bandara et al (2016) established that information that attracts attention of the consumers when making food choice include, food safety, environmental protection and brand reputation. The demographic and environmental changes has brought to fore, health and safely consciousness of the product purchased by different categories of consumers. As reported by Zarniewski (2014) the increase in age of the population has caused a greater demand for product that support health, vitality, looking young, etc, being purchased by older adult. Ideally, consumers are likely to develop positive buying behaviour on products that are safe to health. In line with this, Koen, Blaauw and Wentzel Viljoen (2016) revealed that food labels inform consumers about the composition and nature of product to avoid confusion and protect the consumers against risk, mis-use and abuse. The label aspects of food is very relevant in the conveyance of the nutritional composition of the product attributes relating to the consumers' health (Kumar & Kapoor, 2017). This greatly attracts consumers purchase action. In support, in a study conducted by Syrengelaas et al (2017) it was revealed that consumers are willing to pay higher price for the food attributes perceived to enhance health – the "natural" claim. Product labeling according to Britwum and Yiannka (2019) provided information bothering on safety claims. Such information could trigger motivational appeals to consumers resulting to positive attitude towards product offered for sale. However, according to Lahteenmaki, Lampila, Grunert, Boztug, Ueland and Astrom (2010) and Van Wezemael, Caputo, Nayga, Chryssochoidis and

Verbeke (2014) certain health claims on previous studies submitted that effect on preferences and purchase decision cannot easily be transferred between different nations.

3.0 Data and Methods

The study adopted survey design method to collect relevant data from the target respondents. The research was carried out at Enugu – Nigeria. The population of the study are the academic staff and students of Enugu State University of Science and Technology and University of Nigeria Enugu Campus who are of 16years of age and above and that purchase and consume such labeled products as Coffee, Golden Mourn, Nestle pure life Table water, Milo and others and who showed interest to participate in the study and were conveniently selected. The choice of the respondents aligned with the views of Wiles, Peterson and Meakar (2009) Nabil and Imed (2010) that respondents with tertiary education qualifications are in a better position to use the information on packaged food labels when compared with people with secondary education qualification.

Additionally, the respondents (academic staff and students) are from two different Universities – State and Federal, respectively. Moreover, they are from different parts of Nigeria and World, so are deemed suitable respondents for the study. Data for the study were collected through the questionnaire issued to a convenience sample of 400 participants and was to establish; whether label information on product ingredients and nutrition values significantly and positively influence consumers' buying choice, if label colour significantly and positively influence consumers' buying choice, and to ascertain if label information on product health and safety significantly and positively influence consumers buying choice. The responses to the questions were rated using a 5 point likert ordinal scale. The reliability of the study instrument is 0.8,

determined using Cronbach's Alpha formula, and was acceptable (Revelle & Zinbarg, 2009). The data obtained from the field for the study were presented and analyzed using descriptive statistics while the test of the hypotheses for the study was done using Pearson Correlation and Chi-Square analytical technique with the aid of Statistical Package for Social Science (SPSS) version 23.

3. Data Presentation and Analysis

Table 1: Age of respondents

Age	No of Respondent	Percentage (%)
16-20 years	47	11.75
21-30 years	118	29.5
31-40 years	154	38.5
41-50 years	62	15.5
Above 50 years	19	4.75
Total	400	100.00

Source: survey data, 2022

The table 1 reveals that the respondents aged 16-20 years are 47(11.75%) those within the ages of 21-30 years are 118(29.5%) those of 31-40 are 154(38.5%), 62(15.5%) of the respondents are those aged within 41 and 50 years and finally the respondents aged 50 years and above are 19(4.75%). On the whole, respondents' aged 31 to 40 has the highest number.

Table 2: Educational Qualifications

Qualifications	No of Respondent	Percentage (%)
WASC/GCE/SSCE	96	24
OND/NCE	20	5
B.Sc/PGD/B.PHARM	137	34.25
M.Sc/Other Masters	98	24.5
Ph.D & Others	49	12.25
Total	400	100.00

Source: Survey data, 2022.

The table 2 presents the educational qualifications of the affected respondents. Those who possessed WASC/GCE/SSCE are 96(24%), OND/NCE holders are 20(5%). In respect of those with B.Sc/PGD/B. Pharm qualification, they are the highest with 137(34.25%) in number,

M.Sc and Other holders of appropriate master degrees are 98(24.5%) whereas holders of Ph.D and Other professional qualifications which are

all academic staff numbered 49(12.25%) of the entire respondents.

Table 3: Label information on product ingredients and nutrition values significantly and positively influence consumers' food buying choice

Option	No of Respondents	Percent %	Valid percent %	Cumulative %
Strongly disagree	59	14.75	14.75	14.75
Disagree	56	14.00	14.00	28.75
Fairly agree	32	8.00	8.00	36.75
Agree	143	35.75	35.75	72.5
Strongly agree	110	27.50	27.50	100.0
Total	400	100.00	100.00	

Source: Survey data, 2022.

The table 3 presents details on respondents rating of label information on product ingredients and nutrition values and consumers' buying choice relationship; 59(14.75%) strongly disagreed, 56(14.0%) disagreed, 32(8.0%) fairly

agreed, 143(35.75%) agreed, 110(27.5%) strongly agreed that label information on product ingredients and nutrition values has significant and positive relationship with consumers' buying choice.

Table 4: Product label colour significantly and positively influence consumers buying choice

Option	No of Respondents	Percent %	Valid percent %	Cumulative %
Strongly disagree	15	3.75	3.75	3.75
Disagree	57	14.25	14.25	18.0
Fairly agree	35	8.75	8.75	26.75
Agree	110	27.5	27.5	54.25
Strongly agree	183	45.75	45.75	100.0
Total	400	100.00	100.00	

Source: Survey data, 2022

The table 4 provides details on respondents rating of product label colour influence on consumer's buying choice. A total of 15(4.75%) strongly disagreed, 57(14.25%) disagreed, 35(8.75%) fairly agreed. 110(27.5%) agreed, 183(45.75%) strongly agreed. The valid response

in respect of the subject matter is 293(73.25%). The valid figure is higher than those of non-valid and is adjudged significant, therefore product label colour significantly and positively influence consumers' buying choice.

Table 5: Label information on product health and safety warning significantly and positively influence consumers buying choice

Option	No of Respondents	Percent %	Valid percent %	Cumulative %
Strongly disagree	18	4.5	4.5	4.5
Disagree	38	9.5	9.5	14.0
Fairly agree	65	16.25	16.25	30.25
Agree	157	39.25	39.25	69.25
Strongly agree	122	30.5	30.5	100.0
Total	400	100.0	100.0	

Source: Survey data, 2022.

On whether label information on product health and safety influences consumers buying choice as contained in the table 5; 18(4.5%) strongly disagreed, 38(9.5%) disagreed, 65(16.25%) fairly agreed, 157(39.25%) agreed, 122(30.5%) strongly agreed. The valid responses are the summation of 157(39.25%) and 122(30.5%) which is 279(69.75%). This figure is significant and is a cue supporting that label information on product

Table 6: Correlating label information on product ingredients and nutrition values with buying choice.

Significant at 0.05, N = Number, X = Mean, SD = Standard Deviation, DF = Degree of Freedom, r-cal = Calculated value, r-crit = Critical value

Variable	N	X	Sd	Df	r-cal	r-crit	Sig.
Influence of packaging	400	80.0	37.84	112	0.56		
Choice of Nestle products	400	80.0	39.41				

Table 6 indicates that a calculated r-value of 0.56 was achieved due to the relationship between information on product ingredients, nutritional value and consumers buying choice of labeled products. This calculated r-value of 0.56 is significant since it is greater than the critical r-value of 0.34 given 112 degrees of freedom 0.05 level of significance. Therefore label information

Table 7: Relationship of label colour and consumers buying choice

Significant at 0.05, N = Number, X = Mean, SD = Standard Deviation, DF = Degree of Freedom, r-cal = Calculated value, r-crit = Critical value

Variable	N	X	Sd	Df	r-cal	r-crit	Sig.
Product colour influence	400	80.0	34.50	102	0.88	0.32	0.00
Consumer buying behaviour	400	80.0	27.72				Rejected

Table 7 represents r-value of 0.88 which resulted due to the relationship between product colour and consumers buying choice. The r-value of 0.88 is significant since it is greater than the critical r-value of 0.32 given 102 degree of freedom; hence, there is significant relationship between label colour and consumers buying choice. Therefore, we conclude that label colour significantly and positively influence consumers buying choice.

health and safety warnings significantly and positively influence consumers buying choice.

Test of Hypotheses

Hypothesis I

Label information on product ingredients and nutrition value does not significantly and positively influence consumers' buying choice. This hypothesis was tested with the use of Pearson Correlation technique presented below.

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Hypothesis II

Label colour does not significantly and positively influence consumers buying choice. This hypothesis was tested with the use of Pearson Correlation as presented in table 7 below

Hypothesis III

Label information on product health and safety warning does not significantly and positively influence consumers' buying choice. the above hypothetical statement was tested with the use of chi-square (χ^2) statistical tool. Tables 8 and 9 below guide;

Table 8: Health and safety product labels relationship with consumers buying choice

	Observed N	Expected N	Residual
Strongly disagree	18	80.0	-62.0
Disagree	38	80.0	-42.0
Fairly agree	65	80.0	-15.0
Agree	157	80.0	77
Strongly agree	122	80.0	42.0
Total	400		

Table 9: Test Statistics

	Product labels: FOB & BOP labels influences on consumer buying behaviour
Chi-square	169.075*
Df	4
Asymp Sig.	.000

The outcome of the above indicated that χ^2 calculated value is 169.075. Comparing the p-value with α -value, if the p-value is less than the level of significance 0.05, accept, if otherwise reject. The analysis indicates that p-value $0.000 < 0.05$). Therefore, label information on product health and safety has significant and positive relationship with consumers buying choice of labeled products.

4. Discussion of Findings

Findings from the analysis of data to establish whether label information on product ingredients and nutrition values significantly and positively influence consumers' food buying choice indicated that the greater number, 253 (63.25%) representing those that strongly agreed and agreed of a sample of 400 respondents for the study, affirmed that label information on product ingredients and nutrition are significantly and positively linked to consumer buying choice.

Again test of hypothesis one in this regard produced similar positive result, with value of 0.53 > critical value of 0.34. The researcher therefore rejects the hypothesis one and affirm that, label information on product

ingredients and nutrition values significantly and positively influence consumers buying choice. Misbah (2015) shares similar view that label information on nutrition has positive effects on consumers' purchase behavior. In a study by Koen et al (2016) it was revealed that information on food contents aid in product sales. Contradicting this, Kiesel, McCluskey and Villas Boas (2011), however observed that consumers may not use the information on nutrition labels as it requires time to process the information therein. Similarly the other remaining respondents 56 (14%), that have low opinion on the significant and positive influence of nutrition labeling information on consumers' buying choice could be as a result of learned behavior resulting from complexity in understanding label messages and false claim of some label information contents of product ingredients and nutrition. This aligned with findings made by Delacruz et al (2012) in a study carried out at Mexico to evaluate consumers label comprehension, where though 57% respondents indicated to have understood the nutrition facts panel, (NFP) yet only 12% correctly got the necessary information as directed to them. This is also in agreement with Jacob et al (2010) that the choice of the product could be prejudiced if consumers are finding it difficult to interpret label contents. Helfer and Shiltz (2014) opined that the aim of nutrition label includes communication of product nutritional quality and facilitate comparison of food products within and between the company's food categories. This guides buyers and consumers and promotes sales. In a study conducted by Steinhauer, Janssen and Hamm (2019), on "who buys products with nutrition and health claims; it was established that consumers with higher nutrition knowledge and higher health motivation looked at nutrition and

health claims greatly when taking purchase decision as compared to the other consumers.

The analyzed data to establish the influence of label colour on consumers' buying behavior showed that 293 (73.25%) of the respondents strongly agreed and agreed respectively that product colour significantly and positively influence consumers' buying choice. Product colour as an element of packaging is another independent variable established to have significant effect on a consumer buying choice. In this study, the highest number of the respondents 293(73.25%) strongly agreed and agreed respectively, that product colour significantly influence consumer buying choice.

The hypothesis tested to substantiate this was in affirmative. In the calculated r-value to that effect, 0.88 resulted basically due to the relationship between colour and consumer buying choice. The calculated r-value of 0.88 > critical value of 0.32 under 102 degree of freedom at 0.05 level of significance thus added to the fact that label colour significantly and positively influence consumer buying choice. This agreed with the views of Labreque, Patrick and Milne (2013) who contended that colour could be used successfully in the customers purchasing behaviour and according to Sun, Adhikari & Koppel (2015) overwhelming possibility of brand colours attention cannot be ruled out. Studies have shown that the colour of product packaging label significantly influence the choice of a particular product. (Brian, 2016). Although in this study, the highest number of the respondents supported the significantly and positively driving force of colour on purchase choice, Prinsloo, Merive, Bosman and Trasmus (2012) contended that colour of packaging could result not only to apprehension but rejection by customers. 72(18%) (table 4) of the respondents who indicated strongly disagreed and disagreed respectively supported the aforementioned.

Nevertheless, in a study conducted by Borgogno et al, (2015) on meat, it was discovered that colour is one of the intrinsic quality cue. Colour draws fresh attention to existing products by making it stand out of others (Bankole, 2016), proven to drive consumer behaviour due to associative learning (Chitturi et al, 2019). Among the role of food label elements, is to inform consumers about the food contents and aid in selling the product (Koen et al. 2016).

In the analysis carried out to ascertain whether label information on products health and safety warnings exert significant and positive influence on consumers' buying choice, 279 (69.75%) of the respondents (table 7) strongly agreed and agreed respectively that label information on products health and safety warnings positively and significantly determine consumers' buying choice. In hypothesis 3 test for the same purpose, using Chi-square statistical tool, it revealed that P-value, $0.000 < 0.05$, therefore supporting that the label information on products health and safety warnings, significantly and positively influence consumers buying choice. In line with the above tenet, consumers are willing to pay even higher price for the food attributes perceived to enhance health. In a study by Lewis et al (2017) it was reported that country of origin gives cue for consideration by the consumers who placed interest on food safety because of regulations on product safety.

In a study conducted by Bandara et al (2016) on impact of food labeling information on consumer purchase decision, food safety, environmental protection, origin of the food and brand reputation were established as among food choice determinants.

Further, in support of the finding of hypothesis three, Huang and Lu (2016) revealed in their study, that healthiness of product has become an increasing important attribute for consumers making purchase decision. The driving force of

information on products health and safety warnings to purchase decision can therefore not to be under estimated.

Implications of the Findings and the Limitations

The salesmanship normally exhibited by label elements implies that food producers and marketers key into promoting benefits which products labels offer to make products presented for sale competitive.

The necessary ingredients and nutrition values' contents of the products being offered for sale should be reflected clearly on the products' label. Colour promotes emotion, and can be used to interpret product worth and consumers personalities, therefore, label should be very clear for comprehension essentially ensuring that products label colour widely captured different demographics and cultural perspectives' of the customers or consumers.

Considering the current informed consumers' knowledge on healthy living, such information on health safety aspects of products, dosage/usage, product place of origin, manufacturing and expiring dates should all be clearly indicated on the products' label.

As per the limitations, the respondents for the study are the academic staff and students of selected universities thereby negating the opinion of non academic staff and others who are also part of the university community and equally engage in food selection at the university business center.

The study constructs, product ingredients and nutrition values, colour, product health and safety, did not cover all other label elements like logo design which can as well influence buyers' choice.

Conclusions and Recommendations

Relevant data and extant literature on the study provided an overwhelming support that product labeling elements significantly and positively

influence consumers' buying choice. Specifically, certain label elements in the study constructs viz; information on product ingredients and nutrition values, label colour and label information on product health and safety warning, were established to have significant and positive influence on buying choice of consumers. Therefore these label elements greatly assist in the achievement of organizational marketing objectives.

The researchers recommended that more awareness be aggressively created to enhance consumers' appropriation of label information such as sign, colour, logo and nutrition values, product health and safety. Further, engagement in research by the producers and marketers from time to time for innovation aimed at ensuring adequate alignment of certain label elements such as design, size, colour and other label features toward relevant cultural values and target market segments. Nevertheless, the producers should strictly adhere to the rules of the regulatory agency while accommodating necessary labeling elements.

About the Authors

1. Abugu, James Okechukwu. holds Ph.D in Marketing and is a senior lecturer in Marketing Department, University of Nigeria, Nsukka, Nigeria.
2. Orogun E. Simeon hold M.Sc in Marketing and is a Lecturer in department of Business Education School of Vocational and Technical Education, College of Education Warri, Delta State

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