

Impact of Packaging on Sales Volume, A Comparative Study of Made in Nigeria and Foreign Products (Case of Rural Communities in South East Nigeria)

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Abstract-Good quality packaging is a contributory factor to sales volume enhancement. This is however a reverse in the rural areas of Nigeria with the South East geo-political zone as study area. Hence locally made products are higher demand even at better package offer of foreign products. The research is executed based on 25 rural communities of the five South Eastern states of Nigeria, to determine the reasons for poor demand for better packaged foreign products and data were analyzed using the Likert ranking scale and the 't' test statistics. These show that this reverse impact of packaging on sales volume is attributed to the high level of poverty in the rural area of Nigeria given low level of per capita income and high level of quantitative rather than qualitative education with attendant inability to read. Thus consumers are influenced by the affordability and availability of products in demand as such physical and aesthetic values as well as communication, functional and perceptual benefits and environmental, health and safety concerns of packaging are not much considered. This work recommends good consumer marketing research activities as aid to market segmentation and market offer positioning, based on the characteristics of Nigeria rural markets especially for the bridging of the gap in demand between made in Nigeria and foreign products; given the features and characteristics of package (packaging), for the realization of expected return on investment based on target market satisfaction.

Keywords: Packaging; sales volume; indigenous products; foreign products; rural communities; South East Nigeria; poverty and illiteracy

1. INTRODUCTION

Packaging is associated with the art and science of designing and producing the container or wrapper for a product –Kotler and Armstrong (2006), in which the product is offered for sale and on which information is communicated –Berkowitz, Kerin, Hartley and Rudelius (2000).

Package as the product of packaging has two major layers-primary and secondary package and for international marketing especially by shipping, the third layer referred to as container-product of containerization, is necessary for storage and product identification. Package is expected to showcase information about the product as label.

Product package as the first point of contact of the customer with the product is considered expensive and an important index of marketing strategy; as it builds brand equity and drive sales-Kotler and Keller (2009), it has well considered impact on consumers' later product experiences-The Dallas Morning News (October 9, 1995), Watch (1995) and Brand Week (1996).

Packaging like advertising has been subject of abuses; both in the developed and developing economies, hence consumer rights to value of offer and in offer in exchange relationship have been neglected. These abuses include: Misleading nutritional claims in statements on few packaging; deceptive packaging practice involving the

reduction of product contents or size of the package while maintaining the price-Wall Street Journal (Feb. 5. 1995) and Assael (1992), lowering price of offer for the purpose of turning customers into store where the sale personnel try to influence customers to buy higher priced item referred to as bait-and-switch pricing and selling practice where sale personnel are not truthful about the defects of their packaged product-Assael (1992).

In spite of these package related frauds and misrepresentations, modern packages have contributed to the generation of sales. This is attributed to the fact that modern package compared to previous forms of packages offer self-service based on their ability to perform sales tasks of attracting attention, giving the product in offer and their features, good quality description; creation of confidence in the consumers as well as creation of overall favourable impression of the product. It is also augured that contemporarily, consumers are becoming more affluent hence can afford to pay higher for packages that offer convenience, dependability and prestige as well good quality in appearance-Kotler and Keller (2009).

From the producers' point of view, packaging has continued to be in vogue given its efficiency in contributing to the instant recognition of the product, the producer (company) or and the brand of the product especially given outdoor advertisement, as well as the innovative ability packaging offers producers given its

unique materials and features-Seth (2003) and Kottler and Keller (2009) and Kotler and Armstrong (2006). This work asserts the impact of packaging on sales volume for made in Nigeria products compared to foreign products given the relative low per capita income in Nigeria and the high level of poverty among consumers; especially for household consumables as well as the poor attitude to environmental concerns among Nigerians.

2. FRAME WORK OF THE STUDY

Package is a part of the product offering that often irritate consumers and on which they (consumers) voice frustrations. For solution to these frustrations, producers and vendors have had to make packages to offer more convenience and or appealing for modification without however modifying the core product. This is considered to have least cost impact of profit as a product modification strategy to market diversification and expansion.

Given this, the features of the package are adjusted for the optimization of the characteristics of the target market, and will in the contribution of Luck and Ferrell (1979) often consider:-

- Adequacy for protecting the product,
- Ease of opening, dispensing, and closing properly size and shape for storage,
- Dispensability,
- Simplicity for use or preparation of the product
- Eye appeal and quality connotation (including the label) and value in re-use for other purposes
- And from the dealers' point of view, good package design should highlight:
- Ease of unpackaging
- Number of units per case
- Ease of price mark and stacking in shelves
- Protection from pilferage and
- Visibility on display

Following the growth and development of competition globally, the growing use of e-commerce and reverse auction and the relative ease in the business of sourcing materials for packaging and product promotion, which have created cost efficiency in the production of consumable goods, the desire to satisfy consumers for relevance has been on the increase. Thus more vigor has been added to the packaging policies, strategies, and methodology of different firms and industries globally.

In some economies, given the low level of income and poor standard of living, the idea is to encourage the use of unpackaged food. Generally, opportunities abound for growth in packaging with a good quality drive for consumption of packaged rather than unpackaged goods, across a range of consumer goods areas.

Growth in packaging usage in some fast growing economies of the globe presents new opportunities for packaging suppliers. This is even in the face of a high degree of risk of exposure of this activity to emerging markets in other parts of the global.

Authorities in the field of packaging attribute the growth and acceptance of packaging to trends in the global market. These trends in the assertion of World Packaging Organization 2008-www.worldpackaging.org include:

- The aging of the world population;
- The trend towards smaller households;
- The increasing requirement for convenience among consumers;
- Rising health awareness among consumers;
- The trend towards "on-the-go" life style among increasing time-poor consumers;
- Growing requirements for brand enhancement/ differentiation in an increasing competitive environment;
- New packaging material development;
- The work towards smaller pack-sizes as the incidence of families eating together at the dinner table become less common, and
- Increasing awareness of environmental issues, and the adoption of new regulatory requirements on packaging recycling.

These trend issues in association with variables vital for the investigation of the effectiveness of packaging in performance to consumers satisfaction of aesthetics, image communicated, information carried and conveyed to actual and potential consumers; extra values added to the product; protection for the product, convenience in use by the consumers and marketing intermediaries, visibility of the package for attractive, environmental friendliness and impact of product name and logo on product acceptance form the bases of determining the impact of packaging on sales values given a comparative study of made in Nigeria and foreign products, with major sub heads as communication, financial, perceptual benefits as responsible for creating customer value, and environmental sensitivity and health and safety concerns, as issues of global trends in packaging.

3. OBJECTIVE OF THE STUDY

This exercise has the objective of showcasing Nigeria as-a peculiar economy in its response to the packaging activities of producers and vendors given the low per capita income and high indices of poverty among consumers as well as poor attitude to environmental concerns.

4. SIGNIFICANT OF THIS STUDY

Results of research exercise in the area of the impact of package on sales volume show that consumers respond favourable to positive adjustments in the features of packages, hence sales volume experience increases at varying percentage. This as shown in Wagner-www.develaity.com>material handling; Lucas-www.packagingdigest.com; Berkowitz, Kerin, Hartley and Redulius (2000); The World Street Journal (March 24, 1995); Springen (2004), Rosen (2003) Dunn (2002), Business Week-(December 16, 2002), Godin (2003),

Arnold (2003), www.dutchboy.com/twisland pour index---store(accessed November 2013), Hammer (2006), Frazier (2006), McMath (1997) and Underwood (2003) is accepted in theory, however the situation in Nigeria creates exception to this theory

This work is considered significance as it establishes the causes of this exception and proffers solutions, with a view to aiding indigenous and foreign firms position their market offer for greater acceptance without however laying greater emphases on packaging as a marketing tool.

5. HYPOTHESES

This work is based on two hypotheses stated thus:

H0: Packaging is not valued based on its significant influence and the ability at creating consumer value and sales volume among producers in Nigeria.

H0: Environmental sensitivity, health and safety concerns as attributes of packages are in- significant considerations in consumers' choice of market offer in Nigeria.

6. LITERATURE

Packaging and Its Impact on Sales Volume:

Globally, increase in acceptance of packaging and its technology in the contribution of Wager--www.develocity.cony.material handling (2013) in Cooke (2013) is attributed to the following:

- **Emerging Markets** with 70 percent of world growth expected to come from emerging markets, companies will have to optimize packaging design for non-Western countries.
- **Big science.** Advances in scientific knowledge will lead to new substrates. Nanotechnology, for example, will allow packagers to simplify material, going from seven to possibly two layers to achieve the same package functionality.
- **Demanding consumers.** Packaging will have to provide more details to consumers who use smartphones to obtain product information. Conductive inks will be used to print information that can be relayed via radio signal to a smartphone.
- **Environmental concerns.** The continuing emphasis on sustainability is pushing alternatives to petroleum-based materials.
- **More legislative oversight.** Governments at all levels are enacting packaging regulations, creating a complex web of rules covering everything from labeling to disposal.
- **Developments in neuroscience.** Neuroscientific insights into personal behaviour will allow packaging to be target more precisely to consumers' needs.
- **A riskier world.** Increasing product and safety risk puts pressure on packaging to ensure safe food, high – integrity materials, and tamperproof goods.
- **New retail models.** Because products ordered online vary in size and shape, internet retailers will be

challenged to find standard, common sizes for their packages.

- **The risk of BRIC** (Brazil, Russia, India and China) countries. The growing middle class in those countries will lead to more worldwide competition for the resources used to make packaging.

- **Innovative designs.**

Packagers will develop special designs whose look and shape will provide a competitive advantage for their brands.

Contributing to the discourse on global packaging trends, Lucas-www.packagingdigest.com/0/523290-5(2013) lists 5 top global packaging trends to include:

- **Sustainability:**

Consumers are motivated to loyalty to firms and products that are environmental sustainability oriented in their package design and formulation, as it provides consumers the platform to compare market offers for differences, given their green expectations. Sustainability satisfies consumers' skeptic and aids them determine whether corporate offer delivers its claim, especially in the area of recycling of packages and provision of preservatives.

- **Authentic, Credible, traceable:**

It is important that packages should provide traceable information about locality and place of origin of the product as a means of re-establishing connectivity between the consumer and the product brand especially in food substances. Packaging should reassure product authenticity and credibility, as provenance serve as medium of communicating premium quality, authenticity and unique and distinctive taste.

- **Branding:**

Good packaging activity aids the branding of product, as it distinguishes the product at the shelf. Packaging generates opportunities for vendors to amplify a brand's essence, connects with brands heritage, pique interests in trials/purchase, demonstrates brands premium value and allows consumers to express themselves through choice.

- **Shipper Manager their Budgets:**

Developments in the field of packaging are shaping consumers' behaviours especially in response to the demand for the sustainability of the eco-system. Smaller, easier to carry packages that command lower price are in vogue in different parts of the globe especially in the Europe and US. Flexibility in modern packaging is also aiding consumers to maintain their budgets.

- **Wellness: What Shopper Seeks?**

Good packaging in design aids shoppers identify their needs especially in crowded, ever-changing shelves of health and wellness products, as they focus on the information that is most crucial in the consumers' minds. Packages highlights benefits or ingredients of the shelved products thus make it easier for shippers

to identify for choice the right product for their needs, as the goodness, simplicity and naturalness of the ingredients are showcased.

Research results especially in the developed economies show that good quality packaging exercises as well as packaging changes; have immediate impact on sales volume as Penguin Books Ltd repackaged most of its titles and spent \$500, 000 to promote them under the banner, classic books, fresh looks and recorded 400% for Dorothy parker's complete stories, 50% for a new transaction of Dan Qukote and 43% for pride and Prejudice-Spingen (2004) and Rosen (2003).

Dutch Boy Paint re-packaged its product in new containers that cost a dollar or two more than the traditional cans and secured their loyalty of over 50% of its customers and new stores. This increase is attributed to the innovative ability of packaging-Kotler and Armstrong (2006). It was observed that not only did the new packaging increase sales, it also got more distributors at higher retail price-Dunn (2002), Business Week (December 16, 2002), Godin (2003), Arnold (2003) and www.dutchbuy.com/twistandpour/index_store.asp accessed November 2013.

Kleenox tissues seasonally themed oval-shaped boxes, Domino sugar's easy-to-store plastic canister and crest tooth paste's beauty-product influenced and stimulated vivid white packaging to accumulative sales increase-Hammer (2006).

Comtrex cold medicine was re-packaged and adopted as test subject based on tracking research method. Results show that only 50% of consumers considered the old package on shelf while 62% favoured the newly re-designed package-Frazier (2006).

Just Born Inc changed the packaging of her product brands of Jolly Joes and Mike and Ike treats from the old fashioned back and white packages to the flour colour based packaged with animated grape and cherry features, and recorded 25% sales volume increased-Berkowitz, Kerin, Hartley and Rudelius (2000).

The wall street journal-(March 24, 1995) reported a worldwide sales increase of 8% for coca-cola following the re-introduction of its famous pale-green contoured 8 ounce bottle that attracted consumers of its product based on glass bottle rather than the aluminum cans and large plastic bottles.

Research results also show that poor package design irritates customers and leads to loss of sales McMath (1992) and Underwood (2003) reports Planters Life Savers Company in an effort at creating association between fresh-roasted peanuts and fresh-roasted coffee based on the use of innovative packaging, packaged its fresh. Roast salted peanuts in vacuum-packed "Brick-Pacs" that were similar to those used for ground coffee. These caused confusion among consumers as they mis-took the peanuts for a new brand of flavoured coffee and used them for their super market coffee-grinding machines. This unfortunately created a govery mess, disappointed customers and lost of irate store managers.

Given this discourse, it is obvious that a good package that must generate increase in sale volume must in design and usage satisfy both the firm and the consumers, thus must have the ability of identifying the product brand; conveying descriptive and persuasive information about the offer in core, symbol and augment; facilitates product transportation and protection; assists at home storage and aids (causes) ease in product (usage) consumption -Bassin (1988). It is therefore expected that this package must satisfy engineering tests of ensuring that that package stands up under normal conditions; visual tests that proves that the inscription of the package is legible and the colours are harmonious; dealers test, with the view to ensuring that the qualities of the package are in conformity with expectations of dealers, especially creating package attractiveness and ease in material handling and consumers' test which ensures that package commands favourable perception and acceptance among consumers-Kotler and Keller (2009).

Concluding this discussion on packaging, Lucas -www.shanl can asserts:

The opportunities identified are based on shopper/consumer trend, and represents not so much predictions, as opportunities exhibited in the market place while packaging has long been on of the most efficient marketing/media vehicle (10 to 25 percent of the cost of advertising, promotion or display programmers), technology, innovation, changing views and behaviours of consumers afford large potential for packaging.

With so many claims vying for the attention at the shelf, providing simple, easy to understand benefits on the package is a greater aid to shoppers. It communicates that the brand "gets them"

Finally, more than any other time, packaging is poised to play a heroic role in the building of brand and business. Packaging can play a larger strategic role in helping brand create relevance for consumers.

7. ANALYSIS

Test 1. Assessment of features and characteristics of Nigeria and Foreign products of the same usage purpose is based on Table 1

Table 1: Features and characteristics of local and foreign product packages

Characteristics/Features	Local	Foreign
Communication benefits:		
- How to use the product (directly)	2.55	4.20
- Computation of the product	3.08	4.50
- Attractiveness on the shelf	2.00	4.65
Functional Benefits		
- Base and conscience in conveyance	2.16	4.25
- Protection of content	2.50	4.60
- Storage	2.65	4.55
Perception benefit		
- Creation of status	2.10	4.45
- Economy	2.25	4.70
- Quality	3.10	

Total	23.30	40.2
Mean	2.58	4.46

Packages of the selected made in Nigeria products are rated at 2.58 on a 5 scale ranking scale compared to foreign package products of the same class rated at 4.46, based on communication, functions and perceptual benefits.

't' test statistic for difference of means is adopted for the test of significance of mean difference as it is represented given the mathematical notation1

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}} \quad (1)$$

Where: \bar{x}_1 = mean of the rating of the local (made in Nigeria) packages

\bar{x}_2 = mean of the rating of foreign packages

n_1 = Sample size of made in Nigeria package rating variables

n_2 = sample of foreign made packages rating variables

S_1^2 = variance (S_1^2) or standard deviation (S_1) of the made in Nigeria product packages

S_2^2 = variance (S_2^2) or standard deviation (S_2) of the foreign made product packages

Hypotheses for test of significance difference in characterized of the different packages are as follows

H0: There is no significant difference between made in Nigeria product packages and foreign product in terms of the communication, functional and perceptual benefits

H1: There is significant difference between made in Nigeria product packages and foreign product in terms of their communication, functional and perceptual benefits

The variables for the test are computed in table 2

Table 2: Computation of test variables for significance difference between made in Nigeria packages and foreign packages

Nigeria (Local)		Foreign	
X_1	X_1^2	X_2	X_2^2
2.55	6.50	4.20	17.64
3.00	9.00	4.50	20.25
2.00	4.00	4.65	21.62
3.15	9.92	4.25	18.06
2.50	6.25	4.60	21.16
2.65	7.02	4.55	20.70
2.10	4.41	4.45	19.80
2.25	5.06	4.70	22.09
3.10	9.61	4.30	18.49
$\sum X_1$ = 23.30	$\sum X_1^2$ = 61.77	$\sum X_2$ = 40.20	$\sum X_2^2$ = 175.81

$$\bar{X}_1 = 2.58, \quad \bar{X}_2 = 4.40,$$

$$S_1 = 0.42, \quad S_2 = 0.17$$

Substituting for mathematical equation 1

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}} = 7.23 \quad (1)$$

The computed 't' statistic is 7.23, and at 0.05 level of significance at 16 degrees of freedom (18-2), the critical value is given as 1.746.

Decision

Since the computed 't' statistic of 7.23 is greater than the critical value of 1.746, the null hypothesis is rejected, thus the test is considered significant. Hence there is significant difference between made in Nigeria product packages and foreign packages at 2.58 and 4.46 on 5 scales ranking rate respectively in terms of their communication, functional and perceptual benefits as attributes.

Test 2:

Assessment of the significance of environmental, health and safety characteristics of packaging among rural dwellers in Nigeria is presented in table 3

Table3:Environmental, Health and Safety Characteristics of Packages

Packages Characteristics/Feature	Local	Foreign
Environmental Sustainability Concerns		
- Biodegradability	2.0	4.56
- Re-usability	2.5	4.65
- Recyclability	2.3	4.70
- Ease in disposal	2.7	4.80
Health and Safety Concerns		
- Safe packaging	3.0	4.85
- Extension of shelf life	2.6	4.90
Total	15.1	28.4
Mean	2.51	4.73

Packages of selected made in Nigeria products were rated at 2.51 on a 5 scale ranking scale compared to foreign packaged products of the same category that were rated at 4.73 based on their environmental, health and safety characteristics and considerations.

The 't' statistic for mean difference assessment is adopted for the test of significance in mean differences. This is represented by the mathematical notation 1 thus:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}} \quad (1)$$

Where: \bar{x}_1 = mean of the rating of the local products packages

\bar{x}_2 = mean of the rating of the foreign product packages

n_1 = sample size of locally made product packages

n_2 = sample size of foreign made product packages

S_1^2 = variance (S_1^2) or standard deviation (S_1) of the made in Nigeria product packages

S_2^2 = variance (S_2^2) or standard deviation (S_2) of the foreign made product packages

For the assessment of the significance difference in the environmental, health and safety features of the local and foreign packages, the following hypotheses were adopted.

- H₀:** there is no significant difference between the environmental, health and safety concerns of consumers for local and foreign product packages
- H₀:** there is significant different between the environmental, health and safety concerns of consumers for local foreign product packages

Variables considered for this assessment are shown in table 4

Table4: Environmental, health and safety characteristics of locally and foreign made packages compared.

Nigeria (Local)		Foreign	
X_1	X_1^2	X_2	X_2^2
2.0	4.00	4.50	20.25
2.5	6.25	4.65	21.62
2.3	5.29	4.70	22.09
2.7	7.29	4.80	23.04
3.0	9.00	4.85	23.52
2.6	6.76	4.90	24.01
$\sum X_1$ = 15.1	$\sum X_1^2$ = 38.59	$\sum X_2$ = 28.4	$\sum X_2^2$ = 134.53

$$\bar{X}_1 = 2.51, \quad \bar{X}_2 = 4.73, \\ S_1 = 0.342, \quad S_2 = 0.134$$

Substituting for mathematical equation 1

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} = 7.79 \quad (1)$$

Values computed in respect of 't' statistic is 7.79. This is at 0.05 level of significance at 10 degrees of freedom (12-2) and has its critical value as 1.812.

Decision

Computed value of 't' statistic of 7.79 is greater than critical value of 1.812, thus the null hypothesis is rejected. This shows that the test is significant; hence there is significant difference between the environmental, health and safety concerns for locally packaging of products compared to foreign packaging of products.

Considering hypotheses in tests 1 and 2, the conclusions is that foreign packaging serves the consumers better than locally packaging and is as well more environmental friendly and are safe for usage.

Test 3

The assessment of impact of packaging on sales volume is thus considered as follows

Table 5 shows the sales volume index of 25 semi-urban and rural communities in the South East Nigeria that

served as sample for the research –comparing made in Nigeria and Foreign products of the same category.

Table 5: Sales volume Comparison Nigeria and foreign products:

	Communities		Nigeria	Foreign
1	Abia-	Uturu	4.45	1.60
2		Ndume-Umuahi	4.10	2.70
3		Uzuako	4.25	2.15
4		Nsulu	4.05	1.75
5		Igbere	4.60	1.90
6	Imo-	Ihube	4.25	2.10
7		Nekede	4.20	1.80
8		Amaifeke	4.00	2.05
9		Owerrinta	4.55	1.85
10		Ehime-Mbano	4.65	2.45
11	Anambara-	Agulu	4.08	2.20
12		Umunze	4.70	2.40
13		Oraifite	4.50	1.65
14		Awka	3.60	1.50
15		Uli	3.90	2.50
16	Enugu-	Akwu	4.70	2.65
17		Attackoru	4.80	2.30
18		Nineth mile	4.75	2.15
19		Nsugbe	3.95	1.95
20		Issienu	3.80	2.55
21	Ebonyi-	Ozziza	3.90	2.60
22		Ndufu Alike	4.65	2.50
23		Ugwulangwu	4.30	1.35
24		Efume	4.85	1.20
25		Ntasi Aba	4.90	1.15

Analysis is based on these hypotheses:

H₀: Good quality packaging has significant linearity with customer value creation and sales volume among rural dwellers in Nigeria.

H₀: Good quality packaging has no significant linearity with customer value creation and sales volume among rural dwellers in Nigeria

Computations of the variables considered important are in table 6

Table 6: Computation of value –sales volume and packaging in the rural communities of South East Nigeria

Nigeria (Local)		Foreign	
X_1	X_1^2	X_2	X_2^2
4.45	19.20	1.60	2.56
4.10	16.81	2.70	7.29
4.25	18.06	2.15	3.61
4.05	16.40	1.75	3.06
4.60	21.16	1.90	3.61
4.25	18.06	2.10	4.41
4.20	17.64	1.80	3.24
4.00	16.00	2.05	4.20
4.55	20.70	1.85	3.42
4.65	21.62	2.45	6.00
4.08	16.64	2.20	4.84
4.70	22.09	2.40	5.76
4.50	20.25	1.65	2.72
4.60	27.76	1.50	2.25
4.90	24.01	2.50	6.25
4.70	22.09	2.65	7.02
4.80	23.04	2.30	5.29
4.75	22.56	2.15	4.62
4.95	24.50	1.95	3.80
4.80	29.04	2.55	6.50
4.90	24.01	2.60	6.25
4.65	21.62	2.50	6.25
4.50	20.25	1.35	1.82
4.85	23.52	1.20	1.44
4.90	24.01	1.15	1.32
$\sum X_1$ = 104.68	$\sum X_1^2$ = 518.74	$\sum X_2$ = 51	$\sum X_2^2$ = 109.05

$$\bar{X}_1 = 4.58, \quad \bar{X}_2 = 2.04, \\ S_1 = 0.552, \quad S_2 = 0.456$$

Substituting 't' test mathematical equation 1

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} = 13.26 \quad (1)$$

The computed 't' statistic is 13.26, at 0.05 level of significance and at 48 degree of freedom(50-2), the critical value is 1.689

Decision

Since the computed 't' statistic of 13.26 is greater than the critical value of 1.689, the null hypothesis is rejected, thus good quality packaging has insignificant influence in customer value (perception) creation and sales volume among rural dwellers in Nigeria.

8. FINDINGS

Based on the above analysis, the conclusion is that:

- Foreign packagings show better acceptability in terms of its communication, functional and perceptual benefits, as well show more concern for the environmental, health and safety characteristics required of the consumers, thus conform to key drivers and trends in modern packaging compared to local packaging of products, in the rural communities of South East Nigeria.
- Locally packaged products are more in demand compared to foreign products among rural dwellers in Nigeria.
- Quality of packaging does not motivate the rural dwellers to accepting products in Nigeria.

9. DISCUSSIONS OF FINDINGS

The raise in use of e-commerce and reverse auction has significant positive impact on the business material sourcing; hence cost efficiency for users of consumables is also considered high. Given this, firms, industries and economies desire to maximize the associated benefits of marketing and consuming packaged products compared to unpackaged ones. As a result of this, different economies of the globe are adjusting to the dynamics of modern packaging in relation to the key drivers and trends in the industry.

This work in assessing the response of the rural dwellers in Nigeria to these key drivers and trends in modern packaging tailored around: the aging of the world population; the trends towards smaller households; the increasing requirement for convenience among consumers; raising health awareness among consumers; trend towards on-the-go' life style among increasing time –poor consumers, growing requirements for brand enhancement/differentiation in an increasing competitive environment; new packaging material development; the move towards smaller pack size as the incidence of families eating together at the dinner table become less common; and increasing awareness of environmental issues, and the adoption of new regulatory requirements on packaging recycling, -www.packworl.com an www.world-packaging.org/iad/doc.library/getfile.cfm?doc-id=7, x-rayed the attitude of the defined target of study to activities of creating customer value through packaging with particular interest in the communication, functional and perceptual benefits of packaging and the global trends in

packaging of environmental sensitivity, health and safety concerns and has these as discussion of findings.

9.1 Communication Benefits:

Packaging conveys information on product usage direction, composition, manufacturing and expiration dates etc. It highlights the seal and symbol of the manufacturers; and other information considered necessary to satisfy the legal requirements. Given the fact that 85% of the 60 million adults in the country Nigeria under the age 35 can neither read nor write –Onah (2007) and 70% of the country's population dwell in the rural area-Ukanga (2007) and World Bank Report (2012); emphasis on the information content of product package as means of securing market loyalty does not yield as much returns as expected. This accounts for why the demand for foreign products in the fact of their unique packaging and package value is low among rural dwellers in Nigeria.

9.2 Functional Benefits:

Conventionally, packaging is useful given its convenience, protection and storage functional values. Hence emphasis is on reducing as much as possible the tendencies to tempering with the packages of products on transit or in storage, as well as offering consumers convenience in course of usage of contents of packages. Many producers especially in the soft drink industry are designing easy to use and replaceable aluminum and plastic container corks-soft seals or pop-tops that also reveal previous opening. These designs in packages do not cause demand for such products to increase among rural dwellers especially where substitutes are available at affordable price. This is based on the fact that over 50% of Nigerians live below the poverty line-BBC News (2007), National Bureau for Statistic (2012) and World Development Report (2013). Functional benefits of packaging are more associated with marketing intermediaries, who often shift the costs of these functions to consumers based on increased price of market offer.

9.3 Perceptual Benefits:

Package denotes state, economy and product quality; hence creates acceptable perception in the minds of consumers. Product differentiation objectives are easier achieved based on features of packages especially in the competitive economies, hence the move towards smaller pack sizes as the incidence of families eating together at the dinner table become common in the urban areas. This is however not in vogue among rural dwellers in Nigeria. Families still maintain as many as 6-8 members in average, excluding parents, hence greater economy is gained based on larger size packages. Families also favour availability and affordability, (low priced products), thus cost incidence associated with package uniqueness is considered dis-service to most families in the rural communities of Nigeria, especially as the level of poverty is high.

Colour consideration in packaging is advocated for as it affects consumers perception-Advertising Age (1987) and Marketing News (1995). This is however relevant in

societies where consumers have choice based on ability to command purchasing power.

This work is of the opinion that the population profile of Nigeria characterized as follows: more than 50% of citizens living below the poverty line-BBC News (2007), with 70% of the population as rural dwellers-Ukanga (2007) and 85% of the 60 million adults population of under 35 years of age as illiterates does not favour firms in the bid to creating customer value in effective packaging in line with global modern trends.

9.4 Environmental Sensitivity:

Globally, firms, consumer groups, non- governmental and governmental organizations are sharing concern for good quality packaging and package disposal, based on the growth of solid waste and shortage of viable landfill sites, the volume, composition and disposal of packaging materials-Toyasaki, Boyae and Verter (2011), Souza (2013), Jacobs &Subramaniran (2012), Kotler and Armstrong (2010), Kwak (2013), Galbreth, BoyacVerter (2012), Fleischmann, Golbreth&Tegas (2010), Ferguson, Fleischmann & Souza (2011), Atasu& Van Wassenhore (2010) and Agrewal, Atasu and Van Ittersum (2012) and Oko and Nkamnebe (2013), hence advocate for re-use, recycling, waste reduction and reverse supply chain for commercial returns.

These policies are meaningful in societies where consumers are conscious of the impact of poor waste management on the environmental and health standard, thus advocates for proper waste management. In the rural areas of Nigeria, consumption behaviour is psychological variables influenced as people buy what they see others buy. Hence do not consider re-usable, recyclable nor are subject to any form of reverse logistic management. Provided products in packages are available and affordable, they command demand. This accounts for the huge dumps and heaps of wastes in major and minor streets and towns of Nigeria including rural areas-Okoko and Nkamnebe (2013). It is obvious, that rural dwellers in Nigeria are not environmental sensitive in their consumption behaviour.

Local producers like their foreign counter parts are not keen in analyzing the environmental effects of their packaging neither at the source nor end user stage of the exchange process, hence solid waste packaging is most likely not be reduced nor eliminated in the rural areas of Nigeria.

9.5 Health and Safety Concerns:

Generally both in developed and developing societies, consumers believe that companies should make sure products and their packages are safe, regardless of the cost, and companies are responding to this view in numerous ways-Mergerbagen (1995) and Mergerbagen (1994). These include child resistant safety tatch to prevent misuse and accidental fire, child proof caps on pharmaceutical products and service hold cleaners and sealed lids on food packages, new packaging technology and materials that extend products shelf life span and prevent spoilage-Berkontz, Kerin, Hartley and Rudelius (2000). These

health and safety devices are commendable but they make sense to those who understand their implications and applications. With the level and growth of quantitative rather than qualitative literacy in Nigeria especially among rural dwellers with high level of poverty, what counts most are availability and affordability of products not the augmented features.

The deficiencies in the Nigeria society especially among rural dwellers with special concern for packaging accounts for the high sales volume of made in Nigeria products compared to foreign products with better communication, functional and perceptual benefits on packaging and ability to create and sustain customer values.

9. RECOMMENDATIONS

Considering the peculiar nature of the Nigeria rural communities based on the citizens' socio-economic characteristics, vendors are expected to optimize the value of their market offer in characteristics and attributes especially in respect to packaging without sub optimizing corporate goals and marketing objectives-Okoro (2002). This is achievable based on the following recommendations.

- It is important for producers to be involved in quantitative and qualitative marketing research with the aim of determining the features, characteristics, desires, aspirations and needs of the different rural markets as guide for product package designs and formulations.
- Producers and vendors must be willing to learn marketing lessons as well be able to convert potential cause of product failure to success with a view to reducing the cost incidence associated with wrong market targeting and product (package) positioning.
- Vendors interested in the rural communities as target markets in Nigeria are expected to adopt differentiation product positioning strategy with bias for less competitive and smaller market niches (as thrust areas) based on consumers data obtained by evaluating the important attributes of product classes, judging existing brands with important attributes and rating of ideal brand attributes with special interest in packaging.
- It is important that corporate marketing activities be executed based on market segmentation study that aids the development of market product grid for analyzing future opportunities. This leads to the identification of three major segments in the customer market based on geographical variables –viz for product feature (packages) match, however with consideration of the economic, social, psychological benefits sought and demographic indices of the different sub markets.
- Foreign products vendors must rise to the challenges of product re-positioning especially with packaging as target, this should be based on re-acting to local product's (competitors) position, reaching for new markets, catching up with rising trends without sub optimizing the characteristics of the rural markets of Nigeria; and changing the value offered-Wall Street

Journal (1992), Wall Street Journal (1998) and Brand Week (1998).

- Package cost effectiveness should be given consideration based on the characteristics of the rural dwellers in Nigeria, however it must not relegate to the background the need to identify with high barrier materials that offer active packaging, based in intelligent assemblage of features and characteristics – nanotechnology inclusive and acceptable digital print impression that command favourable perception-www.worldpackaging.org/14a/declibrary/govtfile.cfm?.doc-id=7.

11. CONCLUSION

Packaging for the Nigeria rural dwellers is less conventional as well as less modern trend oriented, thus must be based on characteristics and features that are in consonance with the peculiarities of these communities without however sub-optimizing the goal and personalities of the vendors. This therefore requires good research efforts aimed at understanding qualitatively and quantitatively these special market segments.

12. LIMITATION

This work is limited to selected rural areas, thus may not be a holistic representation of rural characteristics in Nigeria, especially as the presence of state and or national political leaders in a community marks it different from other communities within the same class. Proximity to urban areas may also mark difference between rural communities; as awareness and income levels vary.

13. FURTHER STUDY

Further research work could be carried out on the impact of packaging on sales volume among female semi urban community consumers for household domestic appliances.

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