

Relatedness of qualities of industrial products and of products' package designs as hint for purchasing qualitative industrial products;

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ABSTRACT. *This research examined if the quality of an industrial product is the same as the quality of the design of the package of the product. The examination was targeted at a buyer purchasing a standard industrial product by using the product's package design standard as yardstick. The study was therefore a correlation-al one having a sample of 80 different industrial goods selected through Cluster Sampling from Nigerian shops. A valid and a reliable Rating Scale gave the study's data. The data were analyzed descriptively with Pearson's Product Moment Correlation-“r”. The coefficient of the, “r” was tested inferentially (for significance). This led to the non-acceptance of the study's Null Hypothesis and this indicated that there was significant relationship between ratings on the qualities of the goods and of the goods' package designs. This means the study found out that poor industrial products are indicated with poor package designs and that the good ones are indicated with good package designs. Upon these, the study proffered suggestions which included purchase of industrial goods only if their packages are well-designed.*

Keywords: Relatedness, Qualities, Industrial Products, Products' Package Designs, Hint, Purchasing Qualitative Industrial Products.

1 INTRODUCTION

1.0 Background to the study

The industrial products in reference in this work are goods produced by factories and displayed for sale. They have a wide and an elastic spectrum that embraces fittings, chemicals, clothes, tools, machines and more. These products come in high qualities but at times some of them are substandard.

The products are often released from the factories in packages. Wikipedia (2015) put it that such packages are designed to enclose or protect the products towards distribution, storage, sale and use.

Banjoko (2009) observed that the packages can be in the forms of wrappers and cartoons while Longman (2005) extended these with the fact that such packages exist in plastic containers, bags and more.

The quality of the design of the package of an industrial product finds expression in how well such a material as a cartoon that makes the package is constructed. The quality of the graphic design on the material also expresses the quality of the design of the package. If the design of the package of an industrial product is done per excellence, the material that forms the package must have been constructed with symmetry and tidiness. Also all elements of design must have been expressed in the graphic design on the material in a way that shows

the observance of all the laws of graphic designing. According to Osiberu (2008), the elements of design in reference above are colour, line, texture, value, form and space. So each of these elements of graphic design expressed on a well-designed package of an industrial product must be expressed there to obey such graphic design laws that Ogunmor (2007) referred to as “Balance, rythm, variety, proportion, dominance, harmony and simplicity”.

If a package design of an industrial product reflects a strict observance of the guidelines above, the package is colourful (if in colours) and attractive with its images and fonts having a high resolution. These mean the package design has a high quality.

Conversely, if the package design of an industrial product reflects a poor level of the demonstration of the guidelines, the package design would show ineptitude and would be drab. These then mean the package design is of poor quality.

This researcher has observed that often, the industrial products that are displayed for sale are of high quality only when the products’ package designs are also of high quality. Also the poor industrial products had been observed by this researcher as often coming to the shops in packages of poor quality. At times if such poor products were bulbs, they would not last. A research like this thus becomes an eye-opener for buyers who at times inadvertently purchase poor quality industrial products. Such victims would therefore be guarded against purchasing poor industrial products by the reason of the fact that this research professes that poor industrial products come to markets in poorly designed packages and that good industrial products come to such places in well-designed packages. This study therefore tested this phenomenon statistically.

1.1 Research question

Is there a relationship between the qualities of industrial products and the qualities of the products’ package designs?

1.2 Research hypothesis (Ho)

There is no significant relationship between the qualities of industrial products and the qualities of the products’ package designs.

2 RESEARCH METHODOLOGY

2.1 Research design

The study employed the Correlation-al Design of the Descriptive Research of Omirin (2008). This was the framework for the collection and the comparative analysis of the data of this study.

2.2 Population

The study used 2,892 types of accessible industrial goods. The goods were stocked in the thronged city centre shops in Ilesa, Osun State, Nigeria.

2.3 Sample and sampling techniques

The sum of 80 different goods made up the study’s sample. The Cluster Sampling technique of Ojo (2003) was used in drawing this sample size from the population in reference above. This sampling therefore involved drawing the said sample at the concentration centers of the study’s population.

2.4 Research instrument

The study's Instrument was a Rating Scale constructed by this researcher. The scale was titled, "Rating Scale for Determining Standards of Industrial Products" (RSDSIP). Section A of the scale had two cells, each containing each of ratings 1 and 2 relevant to determining the quality of each industrial product. Section B of the scale also had same cells and numbers useful in determining the quality of the design of the package of each product.

Rating 1 meant the standard was poor and 2 meant the standard was good. Each section of the Rating Scale contained a statement that caused the respondent to use the ratings to determine if the quality of an industrial product and of the design of its package was poor or good.

2.5 Validity of the instrument

The study's Instrument underwent the tests of Face, Content, Construct and Criterion-Related types of Validity. The instrument's Face Validity and Content Validity were verified by Educational Evaluation consultants.

The instrument's Construct Validity was determined by correlating the scores from the Instrument with the scores from another Instrument having an established Construct Validity. This other Instrument was comparable to the study's Instrument. The other Instrument was the Rating Scale of Richard (2014). The coefficient from this correlation was 0.82.

The Concurrent Validity of Kolawole (2011) involving simple correlation was employed in establishing the Criterion-Related Validity of the study's Instrument. The correlation gave a coefficient of 0.79 and this coefficient was arrived at with the Pearson's Product Moment Correlation. The coefficients here were significant at an Alpha less than 0.05.

2.6 Reliability of the instrument

The Test-Retest type of Reliability from Jekayinfa, Oke and Olosunde (2005) was used to determine the Reliability of this study's Instrument. This called for the use of the Spearman's Rank Order Correlation to treat the scores from this exercise. The correlation gave a coefficient of 0.85 that was significant at an Alpha less than .05.

2.7 Administration of the instrument

Section A of this study's Rating Scale was responded to by the consumers of the industrial products at the marts that stocked such products. These consumers were made to determine the qualities of the products as good or bad through section A of the study's Instrument because the consumers are the users of the products.

The qualities of the package designs of the products were determined by this researcher through Section B of the study's Instrument because the researcher is a Visual Artist. This determination of the products' package design qualities was also done in the marts for those goods whose qualities had already been determined as good or bad by the consumers of the goods.

2.8 Analysis of data

The Descriptive Analysis of the study's sample data was done with the Pearson's Product Moment Correlation – "r". This statistical tool was used to determine the coefficient of the

relationship between the data on the qualities of the products and the data on the qualities of the products' package designs. This Descriptive Analysis therefore answered the study's research question.

Further to these, the coefficient was tested for significance in the sense of Inferential Statistics. An Alpha, " α " of 0.05 was used in the inferential test. This test then gave a clue to the study's hypothesis.

3 RESULTS AND DISCUSSION

3.1 Results – descriptive analysis

Research question

Is there any relationship between the qualities of industrial products and the qualities of the products' package designs?

In answering this question, the study's, "r" data in table 1 were used.

Table 1. Summary data of Pearson's product moment correlation showing extent of relationship between qualities of industrial products and qualities of products' package designs

Notation	Industrial Products	N	R
Y	Qualities of Industrial Products	80	0.92
X	Qualities of Package Designs of Industrial Products	80	

Table 1 shows 0.92 as the coefficient of the relationship between the qualities of sampled products and the products' package design qualities. Because Oluwawole (2002) posited that such a sample coefficient shows a high relationship means there is a high relationship between the qualities of the sampled products and the products' package designs. The study's research question is thus answered.

3.2 Results – inferential analysis

Research hypothesis (Ho)

There is no significant relationship between the qualities of industrial products and the qualities of the products' package designs.

The data in table 2 of this study were useful in testing this Null Hypothesis.

Table 2. Summary data on test of significance of, “r” coefficient of relationship between qualities of industrial products and qualities of products’ package designs

Source of Variation	N	D.f.	r.cal.	r.table	Result
Qualities of Industrial Products	80	158	0.92	.195	Do Not Accept Ho.
Qualities of Package Designs of Industrial Products	80				
Total	160				

$P < 0.05$.

In table 2, the “r.cal.” value of 0.92 is greater than the, “r. table” value of .195. Therefore the study’s Null Hypothesis was not accepted. By this non-acceptance of the study’s Null Hypothesis, there was therefore a significant relationship between the qualities of industrial products and the qualities of the products’ package designs.

3.3 Discussion

That there was a significant relationship in this study between the qualities of industrial products and of the products’ package designs implied the fact that when industrial products are good, their packages have good designs and that when the products are substandard, the packages of the products have substandard designs. This inferential or population result gave credence to, and generalized the study’s sample result since the sample result revealed the same thing that the study’s inferential result revealed.

The finding of this study is in agreement with the submission of Coleman and Humm (2013). The submission was that the value of a product’s package represents the value of the product inside the package. It is imaginable that it is a producer that cares to produce a qualitative industrial product that would also care to produce a qualitative design of the package of the product.

4 CONCLUSION AND SUGGESTIONS

4.1 Conclusion

Quite observable through this research as said, was the fact that when industrial products are good, the packages in which they are put are designed well and that when the products are substandard, such packages in which they are put are also designed in a substandard way. However in isolated cases the claims here were not valid. This accounted for why the, “r” of this study was less than 1.

In such isolated cases, the industrial products would be declared as good while the package designs of the products would be seen as substandard. In such isolated cases also, the products would be seen as substandard while the products’ package designs would be seen as good.

However, these isolated cases have been found in this research not to be weighty enough to debunk the result of this study. The study’s finding therefore was that in the generic sense, industrial products are good if the products’ packages are designed well and that the products are substandard when the substandard products are in packages with substandard designs.

4.2 Suggestions

The suggestions below are advanced in consonance with the finding in this study:

- ❖ Prospective buyers of industrial products should first ascertain that the products to be bought are in well-designed packages in order for the buyers to buy good industrial products.
- ❖ Producers of good industrial products should employ Graphic Artists who would design good packages for their products.
- ❖ Industrialists should endeavour to produce standard industrial products for the survival of the products.
- ❖ Would-be buyers of industrial products should avoid buying industrial products whose packages are poorly designed because of the fact that the products in such packages are generally substandard.
- ❖ The bodies in charge of the control of the quality of industrial products e.g. The Standard Organisation of Nigeria (SON) should ascertain that the industrial products that such bodies see as good have standard package designs to make the goodness of such products absolute.
- ❖ Producers of qualitative industrial products should make sure that their industrial products come to shops in well-designed packages as such packages even advertise such industrial products.

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