

# Product Packaging Innovation and Consumer Buying Behavior in Rwanda

Mutambuka Deo and Niyompano Hosee

**Abstract**—Consumer market grows rapidly every year and the number of competitors among different types of products and goods increases steadily. The general objective of the study was to analyze the contribution of product packaging innovation on consumer buying behavior in Rwanda. This study was descriptive, comparative and correlational design. The total population was 2081 bars, the sample size of the study was 95 respondents. This study employed the stratified random sampling technique. The major sources of data in this study was primary source of information. This research used inferential statistics to establish relationship between variables under study, while descriptive statistics frequency and percentage were used to indicate how was the understanding of respondents in this study. This study used SPSS and found that the Pearson correlation coefficient ( $r$ ) equals to 0.977. This was confirming that there is a significant and positive relationship between product packing and consumer buying behavior in brewery industry. It is finally recommended that the marketers of the industry should not consider the packaging as the solely factor for the success of any product, therefore, they should also take up other important factors of the marketing while they are launching new products or revitalize old products.

**Index Terms**—Product packaging, consumer buying behavior, brewery industry.

## I. INTRODUCTION

Globally, packaging has become itself a sales promotion tool for the organizations. The consumer's buying behavior also stimulated by the packaging quality, color, wrapper, and other characteristics of packaging. Packaging is a whole package that becomes an ultimate selling proposition, which stimulates impulse buying behavior [1].

Many current organizations in East Africa are faced with difficulties in retaining the current consumers and satisfying their diverse needs. Organizations of all types consume products, services, industrial and technical supplies, and professional service and should therefore develop their marketing skills since they all use their scarce finite resources which should be organized efficiently in order to provide their consumers with acceptable products and services. However, fast improved modern technology has brought competitors near to each other and access to market [2].

Moreover, nowadays in competitive environment the role of package has changed due to increasing self-service and

changing consumers' lifestyle. Firms' interest in package as a tool of sales promotion is growing increasingly. Package becomes an ultimate selling proposition stimulating impulsive buying behavior, increasing market share and reducing promotional costs [3].

Consumer behavior is the study of the processes involved when individual or groups select, purchase, use, or dispose the product, service, ideas or experiences to satisfy needs and desires. The expand view of consumer embrace much more than the study of why and what consumer buy, but also focuses on how marketer influence consumers and how consumers use the products and services [4]. Individuals have exposed to different window of information and varieties of products; many great deal of choices and options available in the market place impulse their purchase decision. However the interpretation and decision making is different among individuals and also influenced by internal consumer behavior (perception, attitude, and motivation) and external factors (family roles, peer influence and group influence) [5].

According to [6], Rwanda progressed from 58th to 45th position in the ease of doing business rankings worldwide. This performance makes Rwanda the second most reformed economy in the world and the third easiest for doing business in Africa, as well as being the first in the East African Community (EAC).The continued reforms in the doing business environment has laid the foundations for Rwanda to develop into a top investment and trade destination within Africa. The prolonged period of peace and stability also provides a reassurance to investors.

Consumer market grows rapidly every year and the number of competitors among different types of products and goods increases steadily. To standout against competitors, every company tries to invent something new and to get the competitive advantage for providing the product to the end consumer. One of the marketing tools that have become popular and important is packaging which allows companies to be different from each other and to have more priorities among competitors [7]. According to [8] packaging is a large and complex global industry which meets the needs of other industries through the provision of packaging materials and related services. Furthermore, Rwanda is dependent on regional and international suppliers for nearly 100% of its packaging needs. Specifically, demand for packaging has continued unabated along with overall national consumption. Rwanda imports approximately around \$27.6 million United State Dollar (USD) in packaging products in every year, hence this should affect the cost of products packaging and price of the product on the competitive market.

The general objective of the study was to analyze the contribution of product packaging on consumer buying

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behavior in Rwanda. Specific objectives were : to analyze the determinants related to product packaging that influence consumer buying behavior in brewery industry; to determine the benefits related to consumer buying behavior brought by product packaging in brewery industry; to establish the relationship between product packaging and consumer buying behavior in brewery industry

This study was conducted on product packaging and consumer buying behavior in BRALIRWA Ltd, especially on Turbo King 50 Cl and 72 Cl. The researcher chose this field, because companies spend a lot of money in packaging, but few studies carried out before and after the investment in product packaging. This research focused on the period of 2010 up to 2015. This subsection also focuses on the major elements of product packaging such as packaging color, packaging shape and size, packaging material and packaging innovation.

The first color function is that of catching the attention of consumers, especially at the point of purchase, where it has been proven that particularly vibrant colors, such as red and yellow attract attention. According to [9], red makes people excited while blue calms people, and this is because each color has its own meaning. Warm colors suggests fire and sun (both very progressive) and cool colors imply air and water (giving a tranquil feeling).

Designers need to appreciate how visual elements communicate and create abstract perceptions in the consumer's mind. So within the design process, designers should convey various feelings according to the shapes of different objects. For instance, square shapes give a sense of stability while circular shapes are perceived more as complete or perfect [10]. Another thing to consider is that larger portions are often associated with higher social status and people may choose larger portions when they feel powerless and want to affirm themselves.

Material semantics of package design describes the communication of materials, texture and the fabric information of products and as the packaging market is a highly competitive place, the actual packaging has become as significant to success as the product it is wrapped around. Developing and selecting the right container that successfully markets a product, especially foods, requires an understanding of packaging materials. Packaging professionals need to understand the advantages and disadvantages of particular materials and how they can be used to differentiate the product [11].

Finally, glass is another favorite among producers as it also can form into various shapes. It is hard, transparent, and heat-resistant and can be easily cleaned. It is primarily used for oil, alcoholic drinks, beverages and cosmetics. What might be considered as a negative aspect of glass as a packaging material is that it is fragile, relatively heavy and the cost of transporting and storing the material is rather high. But going back to the semantics of materials; different materials can provide various feelings of quality and experience. Metal, for instance, gives a high-tech experience and can also be associated with pride. Also (referring to a material that we did not mention above) different kinds of wood such as bamboo, rattan and other natural materials give consumers a nature sensation [4].

If marketing has one goal, it's to reach consumers at the

moments that most influence their decisions the decision-making process is a more circular journey, with four primary phases representing potential battlegrounds where marketers can win or lose: initial consideration; active evaluation, or the process of researching potential purchases; closure, when consumers buy brands; and post purchase, when consumers experience them [11]. Consumers are targeted by mass media and they change the consumers' way of thinking through emotions, needs, wants and demands. Market researchers and organizations spent billions of dollars on consumer research to identify important factors that influence on consumer decisions. The analysis of consumer behavior is effective in detecting the orientation of consumers' behavior [12].

A lot of decision consumers exercised by purchasers can be different from one individual to another because consumers may use different approaches to make their choices rather only using mathematical modeling, however price is an important variable, but other variables such as product and service quality are important in the process of consumers' purchase decision [13]. There are differences factors that can affect consumer purchasing power among of them there is inflation, as it is the number-one enemy of economy-wide purchasing power. Inflation is the process whereby prices slowly rise throughout all sectors in an economy, effectively reducing the purchasing power of fixed assets and current income levels. Second is Employment levels and average salaries can have a tremendous effect on economy-wide purchasing power [2].

## II. RELATED STUDIES

Ref. [1] analyzed the impact of product packaging on consumer's buying behavior in Pakistan. The objective of the study was to determine role of packaging on consumer's buying behavior. The other objective was to examine the essential factors, which are driving the success of a brand. This research also identified the relationship between the dependent and independent variables. This was the primary research and data has been collected through questionnaire and for analysis purpose SPSS software has been used. In this study samples of 150 respondents has been collected and tested the reliability of the model. According to the finding of the research study, it has been observed that the packaging is the most important factor. It is further concluded that the packaging elements like its Colour, Packaging material, Design of Wrapper and innovation are more important factors when consumers making any buying decision. Finally it has also been concluded that the Packaging is one of the most important and powerful factor, which influences consumer's purchase decision.

Ref. [14] Discussed the need to understand consumer perceptions in order to correctly design product packaging and to achieve the desired position in the mind of consumers in Spain. Data collection was divided into two phases and 83 respondents were contacted, where multidimensional scaling was used. Four maps were obtained related to: alternative packaging colors; alternative packaging typography; alternative packaging graphical forms; alternative packaging images. The study found that each positioning strategy appears associated with particular

packaging dimensions.

Ref. [15] carried out the different roles of product appearance in consumer choice. The purpose of this study was to identify the different ways in which the appearance of a product plays a role in consumer product evaluation and hence, choice. In addition, they listed the implications for product design of each role, and gave managerial recommendations for optimizing the appearance of products. They discover six different roles of product appearance for consumers were identified: communication of aesthetic, symbolic, functional and ergonomic information, attention drawing and categorization. By using SPSS with the sample size (n) of 142 consumers through to the questionnaire and they found that the distinguishing these six appearance roles will help product development managers to better optimize the product appearance to market needs, as the roles have different and sometimes even conflicting implications for

the design of the product appearance.

Ref. [16] carried out on buying behavior and consumption: social class versus income case study Zagreb city and Split city in Croatia. The purpose and goal of this paper was to determine which of the two analyzed concepts social class or income had a greater influence on buyers' behavior in Croatian consumers, i.e. their consumption of certain products and services. The research was conducted on a sample of 270 respondents. The questions used were structured as multiple choice questions by keeping in mind the research goals, three hypotheses were set. The results confirmed two of them entirely and one partly, showing that both social class and incomes significantly influence buying behavior. A conceptual framework is an analytical tool with several variations and contexts. It is used to make conceptual distinctions and organize ideas.

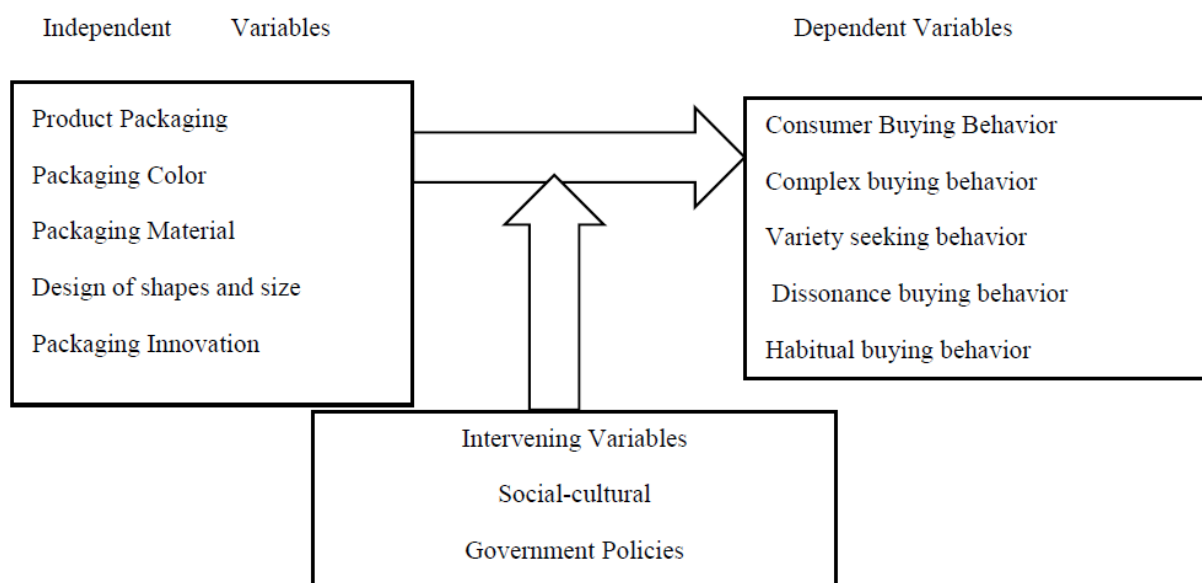


Fig. 1. Conceptual framework.  
Source: Researcher

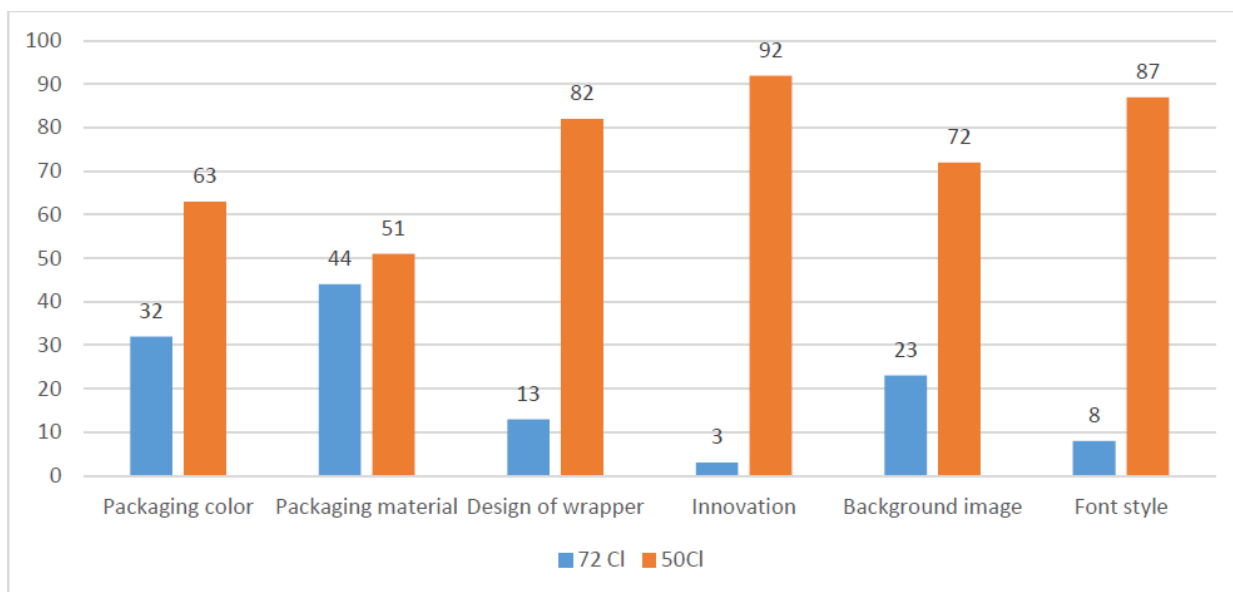


Fig. 2. Determinants related to product packaging.  
Source: Primary Data

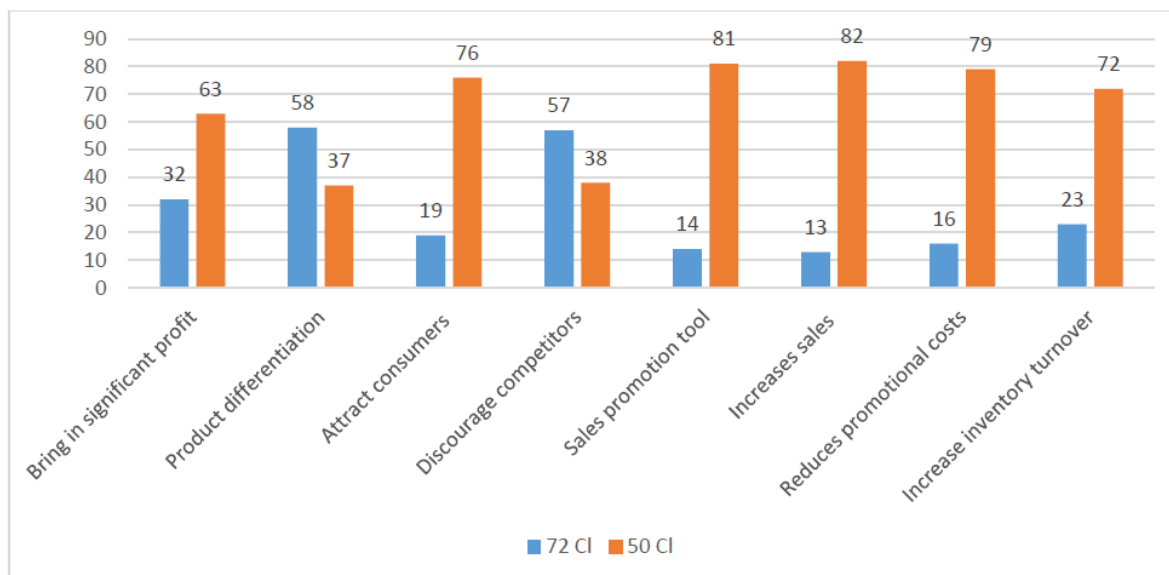


Fig. 3. Benefits of product packaging related to consumer buying behavior.  
Source: Primary Data

TABLE I: CORRELATIONS

		Product Packaging	consumer buying behavior
Product Packaging	Pearson Correlation	1	.977**
	Sig. (2-tailed)		.000
	N	95	95
consumer buying behavior	Pearson Correlation	.977**	1
	Sig. (2-tailed)	.000	
	N	95	95

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: Primary Data

### III. RESEARCH METHODOLOGY

This study was descriptive, comparative and correlational design. This study compared turbo king beer (turbo king 72 cl and turbo king 50 cl).The total population was 2081 included 920 bars from Gasabo, 568 bars from Kicukiro and 593 bars from Nyarugenge District.Although the whole population is appropriate to provide relevant information, it seems to be more complex because of limited finance and time. The researcher calculated sample size by using the formula of Yamane.

The sample is depicted from that population; the basic population is 2081.The researcher applies the appropriate formula given by Taro Yamane in order to obtain the corrected sample. A sampling error of 10% with confidence level of 90% is used.The said formula is the following by Yamane (1967).  $N = 2081$  bars are populationsize , $e=0.1$  : sampling error  $n = \frac{N}{1+N*e^2} = \frac{2081}{1+2081*0.1^2} = 95$  Consumers, where  $n= 95$  is sample size. This study employed the stratified random sampling technique because the study

population was not homogeneous.

Therefore, the researcher first classified population into three strata according to their characteristics such as, Kicukiro District, Nyarugenge District and Gasabo District. After grouping respondents, respondents were selected, such that everyone has the probability of being selected to be in the sample.The Simple random sampling method was given each bar an equal opportunity of being chosen.

The major sources of data were primary source of information. Primary data is considered to be the first hand data the researchers gather themself as result of thestudy. The data were collected by using both closed and open ended questionnaires. Five measurements of Lickert Scale were used in this study. In dealing with reliability, the researcher wanted to ensure the degree of consistency and stability of the instrument; hence the research examined several times by checking for reliability in relevance, clarity and ambiguity of items in the instrument. For achieving this, a pre-test was carried out. A total number of 10 respondents was used for the pretesting. The research instruments for

both independent and dependent variables was considered reliable where a Cronbach coefficient was 89.9%.

For this study, both qualitative and quantitative data analysis techniques were applied. Qualitative data attributes have labels or descriptive names rather than numbers assigned to their respective categories. With this study, the researcher classified the existing phenomenon to respondents. This research used inferential statistics (correlational statistics) to establish relationship between variables under study, while descriptive statistics (mean, standard deviation, frequency and percentage) used to indicate how is the understanding of respondents in this study. With regard to this study, the aim and objectives were conveyed to all the relevant authorities during the process of acquiring permission to do research, and to the employees and managers involved during the data collection stage. Respondent's participation was voluntary and they had the right to withdraw from the study at any time if they want, both confidentiality and community based participation was considered in this research.

#### IV. SUMMARY OF FINDINGS

This section focuses on the analysis and interpretation of research findings according to the research objectives, such as the determinants related to product packaging that influence consumer buying behavior in brewery industry; the benefits related to consumer buying behavior brought by product packaging in brewery industry and the relationship between product packaging and consumer buying behavior in brewery industry.

Fig. 2 indicates perceptions of respondents on packaging color, out of 95 respondents, 63 respondents selected 50 Cl while 32 respondents selected 72 Cl. This implies that packaging colors are one of the elements that should set the business apart from others and the choice of colors should set the product apart from the competitors' products. Aesthetically in relation to packaging material is also a great marketing choice as beautiful pictograms can be directly printed onto the package Fig. 2 also presents perceptions of respondents on design of wrapper, out of 95 respondents 82 respondents selected 50 Cl while 13 respondents selected 72 Cl. Therefore, a package designed wrapper could help the consumer to make decisions as it provide assurance regarding the authenticity of the product and its usefulness. Moreover, product from that of competitors. economic benefits largely from innovation.

Therefore, product innovation's contribution to company output can be measured by sales and profits contributed by new products/ services, change in market and share. Hence, successful innovation results in new products and services, gives rise to new markets, generates growth for enterprises, and creates consumer value. Innovation improves existing products and processes, thereby contributing to higher productivity, lower costs and increased profits. Consumers of innovative products gain benefits in terms of more choices, better services, lower prices and improved productivity. Finally the study analyzed background image, out of 95 respondents 72 respondents selected 50 Cl while 23 respondents selected 72Cl.

Figure3 indicates perceptions of respondents on benefits of

product packaging related to consumer buying behavior, in relation to significant profit, out of 95 respondents 63 respondents selected 50 Cl while 32 respondents selected 72 Cl. This implies that, packaging is a sales promotion tool for many companies, the consumers buying behavior influence by packaging wrapper, quality, color and other characteristic of packaging supplies. Fig. 3 also indicates perceptions of respondents on product differentiation, out of 95 respondents 37 respondents chose 50 Cl while 58 respondents chose 72 Cl.

Therefore, the product differentiation strategy also allows business to compete in areas other than price. According to attraction of consumers, out of 95 respondents 19 respondents selected 72 Cl while 76 respondents selected 50 Cl. Figure 3 continue to indicate perceptions of respondents on discourage competitors, out of 95 respondents 57 respondents chose 57 Cl while 38 respondents chose 50 Cl. This implies that, efficient and fair markets are essential for catalyzing manufacturing company's development and economic growth. Moreover, Fig. 3 presents perceptions of respondents on sales promotion tool purchase, out of 95 respondents 14 respondents selected 72 Cl while 81 respondents selected 50 Cl. Therefore, packaging is very important in the sales promotion of a product. Good packaging and interesting aesthetics should attract the attention of potential consumers. In relation to increases sales, out of 95 respondents 13 respondents chose 72 Cl while 82 respondents chose 50 Cl. In relation to reduction of promotional cost, 79 selected 50 cl while 16 selected 72 cl, finally, out of 95 respondents, in relation to increases in inventory turnover, 72 selected 50 cl while 23 selected 50 Cl. Therefore, a unique packaging approach can be a valuable weapon in the battle for consideration and recognition at the point-of-sale and market share, a new structure that provides functional benefits can lead to an improved usage experience, increased consumer satisfaction and ultimately to stronger brand preference and loyalty.

Table I indicates relationship between product packaging and the consumer buying behavior using Pearson correlation coefficient. This research used SPSS program and found that the coefficient  $r$  equal to 0.977. The variation of Pearson Coefficient correlation is between -1 and 1. According to Pearson, the correlation of 0.977 (97.7%) is categorized as positive correlation and this leads to confirm that there is significant relationship between product packaging and consumer buying behavior.

#### V. CONCLUSIONS AND RECOMMENDATIONS

According to the first research question, the study indicated that packaging color is one of the elements that set the business apart from others and the choice of colors should set product apart from the competitors' products. In relation to the second research question, the study concluded that product differentiation creates value because a manufacturing company uses a differentiation strategy that focuses on the cost value of the product versus other similar products on the market, it creates a perceived value among consumers and potential consumers. Moreover, Good packaging could be influential in the decision to purchase a product. Packaging in combination with an advertising

campaign and the right price, a product can be successful. Furthermore Packages that are easier to handle can cut costs by speeding price marking, improving handling and display, and saving space.

In relation to the third research question, even though Rwanda imports approximately around \$27.6 million United State Dollar (USD) in packaging products in every year as indicated in problem statement and this should affect the cost of products packaging and price of the product on the competitive market, the study concluded that most consumers like the product quality after they purchased their desired packaged product. Based on these facts, the study found that there a strong and positive relationship between good package and consumer behaviour as the study indicates that product packaging contributed positively to the consumer buying behaviour on the rate of 97.7%.

It is highly recommended to the marketing and business units that they should pay proper attention for good packaging. If they accept or introduce the poor packaging then it could be one of the causes of product failure in the market. It is necessary to set the packaging standard and to implement strategy accordingly for better protection and promotion of a product.

It is finally recommended that the marketers of the industry should not consider the packaging is the solely factor for the success of any product, therefore, they should also take up other important factors of the marketing while they are launching new products or revitalize old products.

It is also recommended to other researchers when they take up packaging then they should also consider other factors and dimensions of marketing as well. Future researchers should analyze the role of product packaging on consumer buying behavior for all manufacturing companies in Rwanda.

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