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Customers' Attitude towards Milk Packaging Designs in Kenya

Dr. Hannah Wanjiku Wambugu
School of Business and Economics, Kenya Methodist University P.O BOX 45240-00100, Nairobi, Kenya
*Email Address: Wambuguhannah@yahoo.com

Abstract

The purpose of this paper is to analyze consumers' attitudes towards milk packaging designs available in Kenya. Based on Fishbein Multi-attribute Attitude Model, the study employed a survey design and a primary data set of 1000 consumers of fresh processed milk. The results indicate that, durability of the material, availability of the package in different sizes, shape for grip, information on the pack including the expiry date, the logo and slogan and functional attributes are very important to consumers of processed milk regardless of their favorite milk packaging design. Apart from those shoppers who purchase milk packaged in tetra pak classic and plastic bottle milk packages, other shoppers of processed milk did not consider the ease of disposal of milk packages as very important. All shoppers of processed milk except those who bought milk packaged in nylon pouch packaging design did not rate low price as an important milk packaging characteristic. On the basis of overall customer attitude towards milk packaging designs, plastic bottle packaging has the most favorable multi-attribute attitude. For the first time**,** empirical evidence on consumers' attitudes towards milk-packaging designs has been provided. At the same time, Fishbein Multi-Attribute model has been tested when measuring attitude towards different packaging designs in Kenya. The findings could enable retailers and milk processing companies to have better understanding of Kenyans' attitude towards milk packaging designs. This understanding could guide their marketing strategies.

Keywords: Packaging, packaging, packaging attributes, design attitude

1.0 Introduction

In a very competitive retail environment experienced by business today, the role of packaging in influencing consumers' purchasing decision process is systematically increasing (Ragaert, Devlieghereand & Dbevere 2004; Rita, Aiste & Laura 2009; Estiri, Hasangholipour, Yazdani, Nejad & Rayej 2010). The ever changing consumers' lifestyle and increasing self-service at the point of sale has greatly contributed to this, and as a result, companies are using packaging as a tool for stimulating impulse buying behavior at the point of sale, increasing market share and reducing promotional costs (Rita et al, 2009). There is communication between the food packaging design and the consumer (Karin, Daleen, Hanli, Elizabeth & Magdalina 2010; Underwood, 2003), and effective communication about product advantages and quality through packaging characteristics do influence consumers' impression of the product (Schoorman, Robben & Henry 1997; Creusen & Schoormans, 2005). The argument is that, during shopping, consumers pay more attention to product packaging than to the product itself (Solomon, 2007). They prefer products that attract their attention (Peters-Texeira & Badrie, 2005). As a result, packaging must be attractive in regard to color, graphics, shapes, images, text, logo and illustrations (Karin et al, 2010). If packaging does not arouse shoppers' interest, they will not pay attention, and they will not choose the product (Underwood & Klein, 2002). Thus, food package should be designed in a way that, it stands out in display of other offerings at the point of sale (Ahmed & Salman, 2005). It should effectively differentiate a product from other product offerings in the category. Such benefits of packaging suggest a potential opportunity for food processors to develop their packaging as a way of increasing commercial value of their products (Lynsey, Laura, Gillian & Heather, 2013).

During product consumption, consumer interacts with a package through the powerful sense of touch when opening the package, when using the product and when disposing off the package (Ghoshal & Cagan, 2009). Depending on this experience a positive or negative feeling may be created- all based on the packaging attributes. This leads to either positive or negative attitude, which influences consumer buying behavior (Blackwell, Maniard & Engel, 2009). Hence, it is important for product packaging, including food package to be designed in a way that its functional attributes makes it easy for consumers to use and dispose off the package (Karin, Elizabeth, Hamli, & Daleen, 2010)..

Research on shoppers' behavior shows that two out of every three supermarket food purchases are decided at the point of purchase. This implies that food processors have an opportunity to utilize point of sale stimulus such as a mechanism for increasing commercial value (Lynsey et al, 2013). Packaging designs have been recognized as

important means for communicating and branding food products (Rettie & Brewer, 2002). Hence, manufacturers should always investigate which product packaging attributes are important to the consumers. They must understand what consumers' are looking for in packaging, and the current trend in packaging of a particular product. By so doing, the manufacturers can create the right perception of their products in the consumers' mind. Once the perception of the product is formed, it is converted into attitudes which influence the consumers' product choice (Karin et al, 2010). A lot of research on packaging has focused on the importance of packaging characteristics. Even a study by Lynsey et al, (2013) whose main purpose was to investigate the consumers' attitude towards milk packaging in Northern Ireland market, did not clearly show how consumers' attitude towards milk packaging designs available in that market was computed. It instead analyzed the importance of the form, function and appearance packaging characteristics, and why they are important.

The purpose of the study reported here is threefold. The first objective is to identify what milk package attributes shoppers of fresh processed milk in Kenya consider important. The second objective is to evaluate how strong the shoppers' belief in the presence of selected packaging characteristic in each milk package design. The final objective is to measure the multi-attribute attitude towards different package designs for fresh processed milk available in Kenya. From this point, the paper is organized as follows: section 2 provides a brief review of the pertinent literature, section 3 describes the methodology of the study, section 4 presents the results and discussion of the results, while the final section provides the conclusions based on the results.

2.0 Literature Review

Attitude has been defined as, '*the mental or neutral state of readiness, organized through experience, exerting a directive or dynamic influence on individual's response to all objects and situations to which it is related'* (Allport, 1935). On the other hand, Kibera & Waruingi (2007) defines attitude as, '*a predisposition or tendency to respond positively or negatively towards stimuli, which can be a certain idea, object or a person'*. According to Blackwell et al, (2009), attitude towards an object *is 'a general evaluation of product or service on the basis of the importance attached to some selected characteristics and the belief that the object has those characteristics'*. In this study, the definition of attitude by Blackwell et al, (2009) is considered as the most appropriate. This is because, attitude towards each milk package refers to the sum of the product of importance attached to the selected packaging attributes and belief that each package has the attributes.

Functional theory of attitude developed by a psychologist known as Katz (1937) explains how attitude facilitates behavior. According to this theory, attitude toward an object exists because of the functions it performs. Four functions can be performed by an object. They include: utilitarian function, which is related to the basic principles of reward and punishment. The main object of the consumer is tangible benefit, thus consumers develop attitude towards a product depending on its functional attributes. The other function is value-expressive function, where a person forms an attitude towards a product not because of objective benefits, but rather because of what using the product says about him. The third function is ego-defensive function, where attitudes proceeds from within the person and the product, and situations to which they are attached are merely convenient outlet for their expression. Attitudes formed based on this function are aimed at protecting the person from either external threats or internal feelings of insecurity. The fourth function is knowledge based. This is where some attitudes are formed as a result of a need for order, structure or meaning. The need is often present when a person is in an ambiguous situation or confronted with a new product. In this study, the product is milk packaging designs and functional attributes (ease to open and close) are some of characteristics of milk packaging considered in this study. Milk being a non-durable product whose purchase decision is easily made, attitude formed on the basis of value-expressive function was not worth to investigate. At the same time, milk packages are not new to consumers of processed milk in Kenya, thus attitude formed on the basis of knowledge function was not focused on in this study.

According to other psychologists, attitudes development is explained by ABC (affect, behavior and Cognitive) model (Kibera & Waruingi, 2007). The affective response is an emotional response that expresses an individual's degree of preference for an entity. The behavioral intention is a verbal indication or typical behavioral tendency of an individual. The cognitive response has to do with the cognitive evaluation of entity that constitutes an individual's feelings and beliefs about an object. This study is concerned with the cognitive

response; mainly attitude based on the evaluation of consumers' feelings and beliefs about milk packaging characteristics. Many studies have concentrated on importance of packaging attributes and the influence of socio-demographic factors on the same (Regaesart et al 2004; Nelson et al 2006; Agnieska 2008, Rita et al, 2009; Estiri et al, 2010; Karin et al, 2010). While those studies identified packaging characteristics that are important to consumers of different products, they did not measure consumer attitude towards the package designs available in the markets concerned. This would have been possible if they considered consumer's beliefs as to whether packages chosen have the selected characteristics. Thus, evidence of consumer attitude towards different food packaging designs is lacking. Moreover, the Kenyan context is unexplored in regard to food packaging. Food packaging is likely to become important as foreign and local firms are entering the food processing sector because demand for processed foods is increasing as consumers incomes improve in Kenya. The gap identified above provided an opportunity for this study, whose purpose is to measure the attitude towards milk packaging designs in Kenya. Insight into Kenyan consumers' attitudes towards milk packaging designs could help the milk processing firms to align their packaging designs to consumer attitudes based on the findings. This is very important given that consumer incomes in Kenya particularly in urban areas have improved over the past two decades (Africa Development Bank, 2013). Firms that will package milk in packages with the desired characteristics will succeed in the milk processing industry.

Packaging can be defined as the container for a product, which encompasses the physical appearance of the container. It includes the design, color, shape, labeling and materials used. Packaging serves both marketing and logistical functions (Saleemi, 2011). Those functions includes: containing the product, identification, describing, protecting, informing and keeping the product clean (Young, 2003). Aaker (1996) views packaging as an attribute that is not related to the product, while Paul & James (2007) consider packaging an integral element of the 4 Ps of the marketing mix: product, price, place and promotion. In this study, packaging is viewed as part of the product, and it is defined as the wrapping material around a consumer item that serves to contain, identify, describe, protect, display, promote and make the product marketable. Packaging attributes are characteristics or the considerations of packaging such as form, color, shape, size, functional attributes, informational attributes-logo, brand name and slogan.

Varied views have been given in regard to the definition of the term packaging design. Papanek (1972) defines packaging design as a goal-directed problem-solving activity relating product with situation to give satisfaction. But Odoch (1984) defines packaging in terms of technical and visual features of the package. Technical features of the package include materials, dimensions, measurements and construction while visual design refers to the promotional features of the package, such as printing and decorations, layout, shape and illustrations. The current study adopts Odoch (1984) definition and applies it to milk packaging designs. Hence, processed milk package refers to the technical and visual features of the five milk containers approved by Kenya Bureau of standards. These are: tetra pak aseptic, tetra pak classic, nylon pouch, plastic bottle and foil paper pouch *(fino)*.

In Kenya during the 1980's, the choice of packaging materials by the Kenya Co-operative creameries (KCC the only milk processor) had made marketing of milk unnecessarily foreign-exchange intensive (Coughlin & Ikiara, 1992). Despite the existence of well-developed and cheaper technologies which used fewer imported material, KCC continued to use the packaging technology supplied by Tetra Pak, a multinational corporation. Consequently, the only milk packaging design for processed milk available in Kenya was tetra pak classic and tetra pak aseptic which is made from hard foil paper (Muriuki, 2011). After liberalization of milk processing sub-sector in 1992, the variety of milk products, ways of packaging and size of content has increased tremendously. Various milk processing technologies exist in Kenya, and they dictate the method of packaging (Ynze, 2008). The processes include dehydration, pasteurization and sterilization where milk is subjected to utra-high temperatures (UHT) of between 135-150 degrees centigrade for about two seconds. UHT milk lasts longer and it requires aseptic packaging in sterile containers. However, most milk in Kenya is just pasteurized, and from the beginning of year 2000, this type of milk is being packaged in plastic bottles, tetra pak classic and sachets known as plastic pouch (Muriuki, 2011). Most recently 'Fino' package design which is made of sterilized foil paper lined with paperboard cartons has been introduced. For large quantities such as 1 litre and above, they are in plastic bottles while 200ml and 500ml quantity is packed in nylon packaging (Muriuki, 2011).

3.0 Methodology

This study was based on primary data collected from a sample of shoppers using a structured questionnaire developed for this study. The study population is all users of fresh processed milk produced in Kenya. The shoppers who participated in the study were selected using random sampling technique in three heavily populated towns within Nairobi metropolitan area. These are: Ruiru, Kiambu and Ongata Rongai. The questionnaire was administered to 1000 shoppers of fresh processed milk. To ensure reliability of this study, various precautions were taken. For instance despite the fact that the interviews were conducted in English, local language and Kiswahili were used in case the respondent does not understand English. Twelve attributes of milk packages were considered in the questionnaire used to collect data for this study. They included: firmness of the package material, durability of the material, color and graphics that impresses on taste, availability in a variety of sizes, shape for grip, functional attributes (ease to open and close after use), low price, additional features such as straws and twist and turn lids, ease for disposal, information including expiry date, the logo and slogan and lightness. Shoppers were asked to rate the importance of each packaging characteristic on a 5-point scale (where 1= not very important and 5 = very important) and the belief that the package they chose possessed a particular characteristic (where 1= weak belief of presence of a characteristic and 5 = very strong belief that a package has the characteristic). Attitude towards characteristics of an object is usually measured using Fishbein Multi Attributes Model developed by Martin A Fishbein in 1963 (Blackwell et al, 2009). According to this model, attitudes are formed based on two basic components. One is the belief about the specific attribute of an object and another is the evaluation of feelings of the attribute of an object. Several studies on attitude towards products characteristics have used this model. For instance; Renee (2010), used the multi-attribute Model when analyzing Japanese consumers' purchase decision for GM Foods. Monirul & Bulbul, (2011), used the same model when measuring customers' attitude towards wireless internet services in Bangladesh. The Fishbein Multi Attributes Model was formulated as follows:

$A_o = \sum_{i=1}^{n} b_i e_i$ where:

A_o = is the overall attitude towards package design

b_i = the strength of the belief that the design possesses a particular characteristic

e_i = is the importance of that characteristic

The scores were averaged for each packaging characteristic to obtain measures of consumer perceived importance and belief that the package had the characteristic. This was obtained by dividing the total responses for respondents who chose each package design by their total number of respondents. The sum of the product of strength of the belief that the design possesses a particular characteristic and is the importance of that characteristic is the overall attitude towards a given package design.

4.0 Results and Discussions

It is impossible to separate the results addressing the three objectives of the study. For this reason they are presented concurrently. But first, descriptive statistics are presented to show the profile of the respondents.

4.1. Descriptive statistics

Table 1: Descriptive Statistics

gender	Frequency	Percent (%)
Male	350	35
Female	650	65
Total	1,000	100
Age		
Over 50 years	240	24
41-50 years	260	26
32-40 years	290	29
21-30 years	160	16
Below 21 years	50	5
Total	1,000	100
Income		
Ksh 40,000 & above	190	19
Ksh 30,000-39,000	370	37
Ksh 20,000-29,000	210	21
Ksh 10-19,000	150	15
Below 10,000	80	8
Total	1,000	100
Family size		
1-3 members	230	23
4-6 members	430	43
Above 6 members	340	34
Total	1000	
education		
Above secondary	490	49
Secondary level	380	38
Primary level	60	6
Below primary	70	7
Total	1,000	100

Source: Author's Computations

Table 1 provides statistics for the sample of 1000 respondents required for the study. Out of 1000 respondents, 65 % are female and 35% are male. Majority (76%) of the respondents are below 50 years of age. 81% of the respondents earn less than Kenya Shillings 40,000 while most families (77%) have more than 4 persons. Most (87%) of the respondents have attained secondary school level of education. Table 2 indicates that majority (38%) of the respondents chose nylon pouch milk package, 20.5% of respondents chose tetra pak classic, while 20% of the respondents chose aseptic tetra pak. Plastic bottle design was chosen by 14% of the respondents while only 7.5% chose foil paper pak (locally known as *fino*).

Table 2: Customers' Choice of Packaging Design

Type of packaging	Frequency	Percent
Tetra pak classic	205	20.5%
Plastic Bottle design	140	14%
Foil paper Fino pak	75	7.5%
Aseptic tetra pak	200	20%
Nylon pouch	380	38%

4.2 Overall Attitude towards Milk Packaging Designs

4.2.1 Aseptic Packaging Design

Table 3: Results for Consumers' Attitude towards Aseptic Milk Packaging Design

Attribute	Importance for each attribute (e_i)	Belief for presence of each attribute (b_i)	Importance for attributes X Belief for presence of each attribute ($e_i\, b_i$)
1. Firmness of the package material	3.9	4.0	15.6
2.Durability of the material	4.9	4.0	19.6
3.Color and graphics that impresses on taste	2.5	3.5	8.75
4.Availability in a variety of sizes	4.5	5.0	22.5
5. shape for grip	4.0	5.0	20.0
6.Functional attributes (ease to open and close after use)	4.5	3.0	13.5
7.Low price	2.0	1.0	2.0
8. Additional features such as straws and twist and turn lids	4.5	4	18.0
9. Ease for disposal	3.0	3	9
10. information including expiry date	4.5	5	22.5
11.The logo and slogan	5.0	5	25.0
12.Lightness	3.0	3	9.0
Total (overall) Attitude= $\sum_{i=1}^{n} b_i e_i$			185.45

Results in Table 3 indicate that the least important milk package characteristic for the respondents who choose aseptic milk packaging design are: color and graphics that impresses on taste (mean score = 2.5) and low price (mean score = 2.0). For this group of shoppers, durability of the material (mean score = 4.9); availability in a variety of sizes (mean score = 4.5); shape for grip (mean score = 4.0) and firmness of the package material (mean score = 3.9); functional attributes (mean score = 4.5), additional features such as straws and twist lids (mean score of 4.5), information on the pack including expiry dates (mean score = 4.5) and the logo (mean score = 5.0) are the most important attributes of a milk package. Ease for disposal and lightness of the package are moderately important to the respondents (mean score = 3.0 each). The results further indicates that, shoppers had strong belief that aseptic milk package has firm packaging material (mean score of 4.0), durable material (mean score = 4.0), was available in a variety of sizes (mean score = 5.0), good shape for grip (mean score = 5.0), has additional features such as straws and twist and turn lids (mean score = 4.0), information including expiry date (mean score of 5.0) and the logo and slogan (mean score = 5.0). However, respondents belief that aseptic milk packaging had color and graphics that impresses on taste was weak (mean score = 3.0). They believed it was expensive (low price mean score = 1.0), and difficult to dispose the pack after use (mean score =

3.0). They also believed the pack is heavy (lightness of the package mean score = 3.0). The overall attitude towards aseptic milk packaging design is 185.45 out of maximum possible score of 300.

4.2.2 Nylon Pouch Milk Packaging Design

Table 4: Results for Attitude towards Nylon Pouch Milk Packaging Design

Attitude	Importance for each attribute e_i	Belief for presence of each attribute b_i	Importance for attributes X Belief for presence of each attribute $e_i b_i$
1. Firmness of the package material	2.3	2.3	5.29
2. Durability of the material	4.0	4.0	16.0
3.Color and graphics that impresses on taste	2.5	3.5	8.75
4.Availability in a variety of sizes	4.5	5.0	22.5
5. shape for grip	2.0	2.0	4.0
6.Functional attributes (ease to open and close after use)	2.0	1.0	2.0
7.Low price	4.0	4.0	16.0
8.Additional features such as straws and twist and turn lids	1.0	1.0	1.0
9. Ease for disposal	3.0	5.0	15.0
10. Information including expiry date	4.5	5.0	22.5
11.The logo and slogan	5.0	5.0	25.0
12.Lightness	4.0	4.0	16.0
Total (overall) Attitude= $\sum_{i=1}^{n} b_i e_i$			154.04

Table 4 shows that, for the respondents who chose nylon pouch packaging design; firmness of the package material (mean score = 2.3), color and graphics that impresses on taste (mean score = 2.5), shape for grip (mean score = 2.5), functional attributes (mean score = 2.0) and additional features such as straws and twist lids (mean score = 1.0) were the least important milk packaging characteristics. Durability of the material (mean score = 4.0), availability in a variety of sizes (mean score = 4.5), low price (mean score = 4.0), information on the pack including expiry dates (mean score = 4.5) and the logo (mean score = 5.0) and lightness of the pack (mean score = 4.0) are all very important attributes to the consumers of processed milk. Ease for disposal and lightness of the package are moderately important to the respondents (mean score = 3.0). The results further indicates that, nylon pouch milk packaging design is believed to have the following characteristics: durable material (mean score = 4.0), was available in a variety of sizes (mean score = 5.0), low price (mean score = 4.0), ease for disposal (mean score = 5.00), information including expiry date (mean score = 5.0), the logo and slogan (mean score = 5.0), lightness (mean score = 4.0). Respondents do not belief that nylon milk packaging from different processors had color and graphics that impresses on taste (mean score = 3.5). They believed its shape did not allow for grip (shape for grip mean score = 2.0) and it did not have good functional attributes (mean score = 1.0). The package did not have additional features such as straws and twist and turn lids (mean score = 1.0). The overall attitude towards nylon pouch type of packaging was 154.04 out of maximum possible score of 300

4.2.3 Tetra Pak Classic Milk Packaging Design

Table 5: Results for Attitude towards Tetra Pak Classic Milk Packaging Design

Attribute	Importance for each attribute (e_i)	Belief for presence of each attribute (b_i)	Importance for attributes X Belief for presence of each attribute ($e_i b_i$)
1. Firmness of the package material	3.0	4.0	12.0
2. Durability of the material	4.0	5.0	20.0
3.Color and graphics that impresses on taste	2.5	3.5	8.75
4.Availability in a variety of sizes	4.5	5.0	22.5
5. shape for grip	4.0	5.0	20.0
6.Functional attributes (ease to open and close after use)	4.5	3.0	13.5
7.Low price	1.0	1.0	1.0
8. Additional features such as straws and twist and turn lids	2.0	3	6.0
9.Ease for disposal	4.0	3	12.0
10. information including expiry date	4.5	5	22.5
101The logo and slogan	5.0	5	25.0
12.Lightness	3.0	3	9.0
Total (overall) Attitude= $\sum_{i=1}^{n} b_i e_i$			172.25

Results in table 5 indicates that, buyers of milk packaged in tetra pak classic design consider color and graphics that impresses on taste (mean score = 2.5), low price (mean score = 1.0) and additional features such as straws and twist and turn lids (mean score = 2.0) were the least important milk packaging characteristics (Table5). The most important milk package characteristics for this group of shoppers are: durability of the material (mean score = 4.0), availability in a variety of sizes (mean score = 4.5), shape for grip (mean score = 4.0) and functional attributes (mean score = 4.5). Other very important milk packaging characteristics are: ease for disposal (mean score = 4.0), information on the pack including expiry dates (mean score = 4.5) and the logo (mean score = 5.0). Firmness of the package material and lightness of the package are moderately important to the respondents (mean score = 3.0 each). The results further shows that, shoppers of milk packaged in tetra pak classic had strong belief that it has the following characteristics: firm packaging material (mean score= 4.0), durable material (mean score = 5.0), availability in a variety of sizes (mean score = 5.0), good shape for grip (mean score = 5.0), information including expiry date (mean score = 5.0) and the logo and slogan (mean score = 5.0). Respondents did not belief that tetra pak classic milk packaging from different processors was cheap (low price mean score = 1.0). Further, the respondents had weak belief of presence of other attributes in this type of milk packaging as follows: functional attributes (mean score = 3.0), ease for disposal (mean score = 3.0), additional features such as straws and twist and turn lids (mean score = 3.0), color and graphics that impresses on taste (mean score = 3.0) and lightness of the milk package (mean score = 3.0). The overall attitude towards tetra pak classic milk packaging design was 172.25 out of 300 maximum score.

4.2.4 Plastic Bottle Milk Packaging Design

Table 6: Results for Attitude towards Plastic Bottle Milk Packaging Design

Attribute	Importance for each attributes (e_i)	Belief for presence of each attribute (b_i)	Importance for attributes X Belief for presence of each attribute ($e_i b_i$)
1. Firmness of the package material	5.0	4.0	20.0
2. Durability of the material	5.0	4.0	20.0
3.Color and graphics that impresses on taste	2.5	3.5	8.75
4.Availability in a variety of sizes	2.0	5.0	10.0
5. shape for grip	4.0	5.0	20.0
6.Functional attributes (ease to open and close after use)	5.0	5.0	25.0
7.Low price	1.0	1.0	1.0
8.Additional features such as straws and twist and turn lids	3.0	3	9.0
9.Ease for disposal	5.0	5	25.00
10.Information including expiry date	4.5	5	22.5
11.The logo and slogan	5.0	5	25.0
12.Lightness	2.0	3	6.0
Total (overall) Attitude= $\sum_{i=1}^{n} b_i e_i$			192.75

Results in table 6 shows that, for the respondents who chose plastic bottle milk packaging design, the least important characteristics are: color and graphics that impresses on taste (mean score = 2.5), availability in variety of sizes (mean score = 2.0), low price (mean score = 1.5) and lightness of the package (mean score = 2.0). The most important milk package characteristics for this group of shoppers are: durability of the material (mean score = 5.0), availability in a variety of sizes (mean score = 5.0), shape for grip (mean score = 4.0), firmness of the package material (mean score = 5.0), functional attributes (mean score = 5.0), information on the pack including expiry dates (mean score = 4.5) and the logo (mean score = 5.0). Additional features such as straws and twist lids characteristic was viewed as moderately important to the respondents (mean score = 3.0). Plastic bottle milk packaging design was believed to have: a firm packaging material (mean score = 4.0), durable material (mean score = 4.0), was available in a variety of sizes (mean score = 5.0), good shape for grip (mean score = 5.0), good functional attributes (mean score = 5.0), information including expiry date (mean score = 5.0), has the logo and slogan (mean score = 5.0) and was easy to dispose (ease for disposal mean score = 5.0). However plastic bottle was not believed to be cheap (low price mean score = 1.0). It was moderately believed to have the following: additional features such as straws and twist and turn lids (mean score = 3.0), color and graphics that impresses on taste (average score = 3.5) and lightness (mean score = 3.0). The overall attitude towards plastic bottle milk packaging design was 192.75 out of 300 maximum score.

4.2.5 Foil Paper Pouch Milk Packaging Design

Table 7: Results for attitude toward Foil Paper Pouch Milk Packaging Design

Attribute	Importance for each attribute (e_i)	Belief for presence of each attribute (b_i)	Importance for attributes X Belief for presence of each attribute ($e_i b_i$)
1. Firmness of the package material	3.9	4.0	15.6
2. Durability of the material	3.9	4.0	15.6
3.Color and graphics that impresses on taste	2.5	3.5	8.75
4.Availability in a variety of sizes	4.5	5.0	22.5
5. shape for grip	2.0	2.0	4.0
6..Functional attributes (ease to open and close after use)	5.0	2.0	10.0
7..Low price	2.0	1.0	2.0
8..Additional features such as straws and twist and turn lids	3.5	3	10.5
9..Ease for disposal	3.0	5	15.5
10..Information including expiry date	4.5	5	22.5
11.The logo and slogan	5.0	5	25.0
12..Lightness	3.0	3	9.0
Total (overall) Attitude= $\sum_{i=1}^{n} b_i e_i$			160.95

Results in table 7 indicates that, buyers of milk packaged in foil pouch milk packaging design (*fino*)consider firmness of the package material (mean score = 2.3), color and graphics that impresses on taste (mean score = 2.5), and low price (mean score = 2.0) as the least important milk packaging characteristics. The most important milk package characteristics for this group of shoppers are: durability of the material (mean score = 3.9), availability in a variety of sizes (mean score = 3.9), firmness the material (mean score = 3.9), and functional attributes (mean score = 5.0), information on the pack including expiry dates (mean score = 4.5), shape for grip (mean score = 5.0) and the logo (mean score = 5.0). Ease for disposal and lightness of the package are moderately important to the respondents (average score = 3.0 each). Foil pouch milk packaging design is believed to have the following characteristics: Firmness of the package material (mean score = 4.0), durable material (mean score = 4.0), was available in a variety of sizes (mean score = 5.0), is easy to dispose (mean score = 5.00), information including expiry date (mean score = 5.0) and the logo and slogan (mean score = 5.0). On the other hand, these shoppers had weak belief that foil pouch (*fino*) milk packaging had: shape that allow for grip (mean score = 2.0), low price (mean score = 1.0) and functional attributes (mean score = 2.0). Belief for the presence of lightness of the package, colour and graphics that impresses on taste and additional features such as straws and twist and turn lids was moderate (mean score of 3.0, 3.5 and 3.0 respectively). The overall attitude towards foil pouch type of milk packaging was 154.04 out of 300 maximum score.

5.0 Conclusions

Packaging characteristics can influence consumer purchase decisions for food products. This study adds to the scarce literature on food packaging in Kenya by exploring consumer attitudes towards milk packaging characteristics. In overall, durability of package material, availability of the package in different sizes, shape for grip, information on the pack including the expiry date, the logo and slogan and functional attributes are very important to consumers of processed milk regardless their favorite packaging design**.** Therefore milk processors cannot afford to ignore those attributes when choosing the designs for their milk packages.

Apart from buyers of tetra pak classic and plastic bottle milk packages, the other consumers of processed milk do not rate ease of disposal of milk packages as important. This may indicate lack of environmental awareness among milk consumers. As a result, when communicating about their milk packaging, milk processors should educate consumers on what to do with packages after use. They should encourage users to read details regarding ways of disposal on milk packages. All the packaging designs have the information required by customers including the expiry date, the logo and slogan. Apart from those who uses the nylon pouch type of milk packaging design, all the other users of processed milk do not rate low price as important milk packaging characteristic. The major implication is that nylon milk packaging is good when the processors are targeting the price conscious group in the Kenyan society. The other designs (plastic bottle, aseptic, tetra pak classic and foil pouch) are good for consumers who do not consider low price packaging characteristic as important. From the results, it is concluded that plastic bottle packaging design has the most favorable attribute based attitude. However, relatively few milk shoppers choose this type of milk packaging design. On the other hand, nylon pouch design has the lowest multi-attribute attitude among the five packaging designs. Despite this, most shoppers chose nylon pouch design. This implies that, nylon milk packaging design is the most liked milk packaging design in Kenya despite not having most of the desirable characteristics. For example, it is the only milk package design for which consumers believe it has a low price. This implies that high attitude towards milk packaging might not translate to preference of milk packaging. This calls for further research to determine other factors other than milk packaging characteristics that influences preference of milk packaging designs in Kenya.

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