

Motivational Factors of Gender, Age, Income, Education and Family size and Preference of Milk Packaging Designs in Kenya

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Abstract: *The purpose of this study is to investigate the preference of milk packaging designs in Kenya according to motivational factors of gender, age, income, education and family size. From the accessible literature on the studies on consumer behavior of processed milk in Kenya, there is no study that has investigated the shoppers' preference of milk packaging in Kenya. Based on Chi-square tests, the study employed a survey design and primary data set of 1000 consumers of fresh processed milk. Face-to-face interviews were conducted with shoppers in seven supermarkets in three heavily populated towns within Nairobi metropolitan. These are: Kiambu, Ruiru and Ongata Rongai. The study found that significant difference in frequency of choice of milk packaging designs exists among shoppers of processed milk of different age, gender, income, education and family size. Based on those findings, in order for milk processors to succeed in Kenyan market, they must focus on the five individual characteristics when designing milk packaging strategies.*

Keywords: *Preference, Packaging, Motivational Factors, Milk processors, Processed milk.*

1. INTRODUCTION

According to Paul & Olson (2008 p.g 59), consumer shopping behavior is defined as 'the dynamic interaction of affect and cognition, behavior and the environment by which human beings conducts the exchange aspect of their lives'. It can also be defined as the selection, purchase and consumption of goods and services for the satisfaction of their wants. It manifests itself in regard to: amount bought, choice between available alternative goods/services and the distribution outlets chosen during purchase, time when purchases are made, and how consumers buy i.e in large quantities or in small quantities. Thus, firm's marketing strategies should address questions related to what products customers buy, when they buy and why they buy them (Saleemi, 2011). For this reason, Knowledge of the outcome of consumer shopping behavior assists firms when planning and implementing their marketing strategies. This is the only way a firm can succeed in increasing product adoption and repeat purchase (Saleemi, 2011, Wambugu, 2014). It involves thoughts and feelings that shoppers experience and the actions they perform in the buying process. Consumer shopping behavior therefore includes all the things in the environment that influences those thoughts, feelings and actions (Wambugu, 2014). For this reason, consumer shopping behavior is a fundamental issue in marketing that marketers should not ignore if they are to succeed in the competitive business environment.

The focus of this study is the external influences on the consumer behavior, and the objective of this study is to establish whether there is any significance difference in consumers' preference for milk packaging design given their different individual characteristics in terms of gender, age income, education, and family size.

Given the theory of external influences on the consumer behavior, the following are the objective of this study:

- To investigate whether there is any significant difference in the frequency of choice of type of milk packaging design among consumers of different gender
- To analyze the frequency of choice of type of milk packaging design among consumers of different age

- To investigate whether there is any significance difference in the frequency of choice of type of milk packaging design among consumers with different income levels
- To determine whether there is any significant difference in the frequency of choice of type of milk packaging design among consumers with different levels of education
- To analyze the frequency of choice of type of milk packaging design among families of different sizes

Based on the above objectives, the following hypotheses will be tested.

Ho 1: That there is no difference in the frequency of choice of type of milk packaging design among consumers of different gender

Ho 2: That there is no difference in the frequency of choice of type of milk packaging design among consumers of different age

Ho 3: That there is no difference in the frequency of choice of type of milk packaging design among consumers with different income levels

Ho4: That there is no difference in the frequency of choice of type of milk packaging design among consumers with different levels of education

Ho5: That there is no difference in the frequency of choice of type of milk packaging design among families of different sizes

2. LITERATURE REVIEW

Consumer Preference is an outcome of consumer behavior, which is concerned with an individual's attitude towards a set of objects as reflected in a decision making process (Hoyer & MacInnis & 2011). Other psychologists have interpreted the term to mean evaluative judgments in the sense of liking or disliking an object (Scherer, 2005). It permits the consumer to rank these bundles of goods according to the levels of utility they give to the consumer.

The packaging component of the product is traced to psychological thinking of personality and the persona (Karen, 1995). In Psychology, the notion that a person could hide his real personality behind a persona-or in a mask was first advanced by the Swiss psychiatrist, Carl Jung in the early part of the twentieth century (Karen, 1995).The argument was that the persona, is a false personality or a mask that individuals adopt to facilitate social interactions. However, the mask has a risk of making a person confuse it with his true personality.

Package has whole presentation of the product inside, and from it, consumers can get information without much interaction with sellers (Dhruv & Michael, 2008). This reduces time spent when doing shopping (Agnieszka & Mirosław, 2008). It makes shopping less emotional (Ahmend & Salman, 2005; Dhruv & Michael, 2008). This is the reason why consumers' confidence have developed in packaging attributes provides the foundation on which emotional marketing appeals is based (Aaker, 2005). Components of packaging include:

Logo/Labels and Slogans- This is include the brand name that is used to identify the brand. It is also used for making consumers remember; recognize the brand and for building brand loyalty (Nilsson & Tobias, 2005). A unique brand identity in form of logo and slogan creates a recognizable mark that creates recognition among consumers, which creates familiarity with the product which encourages purchase (Aaker, 2005). Product Labels are used not only for promotional and informational reasons, but also as a legal requirement. In all countries food and drug administration and consumer product safety bodies require products to be labeled or marked with warnings, instructions of how to use, certifications and manufacturers identifications (Blackwell et al (2009).

A slogan is a short, unforgettable grasp phrase Dhruv & Michael, (2008). They are used as punch line in advertisement to summarize the whole product quality and usage in one or a few words. The company and product information details are associated with tagline or motto of slogans. Companies often use slogans to catch the attention of consumers.

Structural Form of Packaging - This refer 'to size, color, shape and other features of a product' (Nelson, Barbara & Janis, 2006: Saroka, 2002). It communicates directly to the target consumer and therefore, it needs to stand out in a display of other product offerings. The form of package can

contribute to success of the product in different ways. First in a competitive market, the package design can attract the attention of the consumers (Ragaert et al, 2004). Secondly, consumer's decision on whether or not to buy a product is formed on the basis of product appearance. Structural form of packaging has attention drawing power and quality impression for it to perform selling function. Attention drawing power refers to the aesthetics (color) and obtrusiveness of the package design (Agnieszka & Miroslaw, 2008). Depending on the product and the goals of the marketers, the package may be made to appear attractive, exciting, pure, soft, sexy, scary, intriguing, or to evoke some other emotion (Saleemi, 2011).

The type of product influences the colors selected for its package, because certain colors when used in conjunction with a particular product can produce either positive or negative results. The effect of color has been studied widely and is known to influence consumer's perception (Agnieszka & Miroslaw, 2008). Consumer opinions of an adequate color are associated with discernments of other quality features, such as taste, aroma, satisfaction and nourishment levels. Positive effect of product packaging on consumer behavior can be gained by using one or more elements in the packaging design. For some products, transparent packaging is used to allow consumers to view food color (Nelson, et al 2006).

Graphics those are the visuals that decorate the surface of package and can encourage purchase of the product (Nelson, et al 2006). They are part of the aesthetics aimed at attracting consumers' attention. To achieve this goal, the packaging graphics should reflect a distinct positioning strategy for the product which should be effectively implemented.

The *size of package* part of structural form plays essential role in consumer's decision of purchase (Kibera & Waruingi, 2007). For example a family consisting of only two members is unlikely to buy a ten kilograms container of milk powder. Given the large variety of consumers, products should be packaged in different packaging sizes, so that every consumer can purchase the product according to their needs.

The *shape* part of structural form of the package can help in communicating a message concerning the strength of the product being sold (Vila & Ampuero, 2007). For example most detergents are packaged in broad-shoulder shaped containers to put up the message of power and strength. Such shapes are attractive to men, while women would go for rounded, curved shapes and fuzzy textures.

The ecological friendliness – Consumers are increasingly concerned about ecological friendliness of packaging (Agnieszka & Miroslaw, 2008). For example in developed countries like USA packages that do not deteriorate such as aluminum cans and bottles for beer and soft drinks were outlawed in 1980s. Awareness about growing danger from such packaging has increased and safety measures are taken especially the use of eco-friendly packaging materials. Furthermore, material of the package varies in firmness, texture and durability (Wells, Farley & Armstrong, 2007).

Functional attributes - The functional attributes of packaging has to do with ease to store, use and preserve the remainder (Agnieszka & Miroslaw, 2008). Some of the technical features of packages may result in harm to consumers. These include those with sharp edges, such as some pull-top canisters; glass containers; and heavy item boxes which might break when the consumer is carrying them or cause strain or injury to the consumer when picked up or set down. In all countries, there are laws to enforce functional packaging requirements.

In food industries, consumers prefer products which can easily be used and does not require large storage space before use and after use (Wambugu, 2014). For this reason, products are designed keeping in view of consumers' convenience. For example, all products designed for children such as chocolates, cookies and jellies are packed in the manner children can easily open. Most packages are designed in a way that enables individual carry them comfortably. To satisfy functional attributes of packaging, food manufacturers have had to think a head in the field of technology advancement and improved packaging (Silayoi and Speece, 2004).

Informational attributes – Product package usually carry a lot of information which include: product name, product description, flavor or variety of identification, attributes description, benefit statements, sell copy, promotional messages, usage directions, nutritional value, size, contents and warning or caution statements (Nelson, et al 2006).

Several studies have examined the influence of situational factors on importance of milk packaging characteristics in developed countries (Rita et al, 2009; Butkeviciene & Rutelione, 2008). Other studies have been limited to perceived importance of milk packaging (Agnieszka & Mirosław, 2008; Rita et al, 2009). A study by Wambugu, (2014) focused on the consumers' attitude towards milk packaging designs, while another study by Wambugu, (2015) focused on the perceived importance of milk packaging and the effect of situational factors on the amount of milk bought from supermarkets in Kenya. Although, a study by Agnieszka & Mirosław, 2008; Polyakova (2013) focused on consumer's preference for milk packages in Eastern European market, no study from the accessible literature has focused on milk preference of milk packaging designs in Kenya. Thus, knowledge on whether there is any difference in frequency of choice of milk packaging design among consumers with different individual characteristics is still lacking. This knowledge if made available could assist marketers of processed milk to predict how consumers will respond.

According to marketing theory, consumer buying process has inputs which are internal and others external to the consumer. Both work together on the psyche of the consumer to result in purchase decision outcomes, including what products/brands are selected, dealer choice, package choice, frequent of use and in what amount, (Paul & James, 2007). External influences according to Kibera & Waruingi, (2007) include role influences, cultural influences, role influences, reference groups and demographics factors such as, income, education, family size, gender and age. Paul & James (2007) included situational influences and marketing influences among the external influences outlined earlier by other marketers. Internal influences includes: personality, needs and motives, perception and learning (Kibera and Waruingi, 2007). This study focused on whether there is any difference in consumers' preference for milk packaging design given their characteristics individual characteristics in terms of gender, age income, education, and family size.

3. METHODOLOGY

Based on Chi-square tests, the study employed a survey design and primary data set of 1000 consumers of fresh processed milk. Face-to-face interviews were conducted with shoppers in seven supermarkets in three heavily populated towns within Nairobi metropolitan. These are: Kiambu, Ruiru and Ongata Rongai.

4. RESULTS

Table1. *Respondents' Profile*

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

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The highest number of the respondents was female 65%, while the largest number of the shoppers was aged between 32 and 40 years. 37% of the respondents earned between 30,000 and 39,000 Kenya Shillings. 43% of the respondents have families of between 4-6 members. Nearly a half (49%) of the respondents have attained above secondary school level of education.

Table2. Respondent's Choice of Milk Packaging Design

Type of Packaging	Frequency	Percent
Tetra Pak Classic	205	20.5%
Plastic Bottle design	140	14%
Foil Paper Pak(fino)	75	7.5%
Aseptic Tetra Pak	200	20%
Nylon pouch	380	38%

The highest number of the respondents choose nylon pouch (38%) while only 7.5% of the respondents choose Foil Paper Pak (fino).

Table3. Difference in Frequency of Choice of Milk Packaging Designs among Shoppers of different Age

Age	Tetra pak Classic	Tetra pak Aseptic	Nylon Pouch	Plastic Bottle	Foil Pouch (Fino)	Total
Below 21	2	10	30	5	3	50
	4%	20%	60%	10%	6%	100%
21-30 years	30	35	60	20	15	160
	18.8%	21.8	37.5%	12.5%	9.4%	100%
31-40%	26	50	150	40	24	290
	9%	17.2%	51.7%	13.8%	8.3%	100%
41-50 years	100	55	65	25	15	260
	38.5%	21.1%	25%	9.6%	5.8%	100%
Over 50 years	47	50	75	50	18	240
	19.6%	20.8%	31.3%	20.8%	7.5%	100%
Total	205	200	380	140	75	1,000
	20.5%	20%	38%	14%	7.5	100%
Pearson Chi2(16) 117.923 Pr= 0.000						

Results of Chi2 (16) 117.923, Pr = 0.000) is an indication that, null hypothesis that there is no difference in the frequency of choice of type of milk packaging design among consumers of different levels of income should be rejected. Alternative hypothesis that there is a difference in the frequency of choice of type of milk packaging design among shoppers of different levels of income was accepted.

Table4. Difference in Frequency of Choice of Milk Packaging Designs among Shoppers of different Income Levels

Shopper's Income	Tetra pak Classic	Tetra pak Aseptic	Nylon Pouch	Plastic Bottle	Foil Pouch (Fino)	Total
Ksh 40,000 & Above	15	32	50	70	23	190
	7.9%	16.84%	26.31%	36.84%	12.11%	100%
Ksh 30,000-39,000	105	75	150	30	10	370
	28.4%	20.3	40.5%	8.1%	2.7%	100%
Ksh 20,000-29,000	45	35	80	30	20	210
	21.5%	16.7%	38.1%	14.3%	9.5%	100%
Ksh 10,000-19,000	30	39	69	9	3	150
	20%	26%	46%	6%	2%	100%
Below 10,000 Ksh	10	19	31	1	19	80
	12.5%	23.8%	38.7%	1.2%	23.8%	100%
Total	205	200	380	140	75	1,000
	20.5%	20%	38%	14%	7.5	100%
Pearson Chi2(16) 245.6909 Pr= 0.000						

Chi2 (16) = 245.6909, Pr = 0.000 results required that the null hypothesis that there is no difference in the frequency of choice of type of milk packaging design among consumers of different levels of income be rejected. Therefore, alternative hypothesis that there is a difference in the frequency of choice of type of milk packaging design among shoppers of different levels of income was accepted.

Table5. *Difference in Frequency of Choice of Milk Packaging Designs due Shoppers Gender*

Respondent's Gender	Tetra pak Classic	Tetra pak Aseptic	Nylon Pouch	Plastic Bottle	Foil Pouch (Fino)	Total
Male	70	50	150	60	20	350
	20%	14.3%	42.9%	17.1%	5.7%	100%
Female	135	150	230	80	55	650
	20.8%	23%	35.4%	12.3%	8.5%	100%
Total	205	200	380	140	75	1,000
	20.5%	20%	38%	14%	7.5	100%
Pearson Chi2(4) 20.283 Pr= 0.000						

From the above results, null hypothesis that there is no difference in the frequency of choice of type of milk packaging design among consumers of different gender is rejected. Alternative hypothesis that there is a difference in the frequency of choice of type of milk packaging design among consumers of different gender is accepted.

Table6. *Difference in Frequency of Choice of Milk Packaging Designs among Shoppers of different Levels of Education*

Shopper's education level	Tetra pak Classic	Tetra pak Aseptic	Nylon Pouch	Plastic Bottle	Foil Pouch (Fino)	Total
Above Secondary	130	75	180	68	37	490
	26.5%	15.3%	36.7%	13.9%	7.6%	100%
Secondary level	50	100	130	70	30	380
	13.2%	26.3%	34.2%	18.4%	7.9%	100%
Primary Level	20	10	25	1	4	60
	33.3%	16.6%	41.7%	1.7%	6.7%	100%
Below Primary Level	5	15	45	1	4	70
	7.142%	21.42%	64.3%	1.428%	5.71%	100%
Total	205	200	380	140	75	1,000
	20.5%	20%	38%	14%	7.5	100%
Pearson Chi2(12) 108.323 Pr= 0.000						

From the results in the table above, the null hypothesis that there is no difference in the frequency of choice of type of milk packaging design among consumers of different levels of education is rejected. Alternative hypothesis that there is a difference in the frequency of choice of type of milk packaging design among shoppers of different levels of education is accepted.

Table7. *Difference in Frequency of Choice of Milk Packaging Designs among Shoppers with Families of Different Sizes*

Shoppers' Family Size	Tetra pak Classic	Tetra pak Aseptic	Nylon Pouch	Plastic Bottle	Foil Pouch (Fino)	Total
1-3 Members	64	46	70	36	14	230
	27.8%	20%	30.4%	15.7%	6.1%	100%
4-6 Members	90	96	180	24	40	430
	20.9%	22.3%	41.9%	5.6%	9.3%	100%
Above 7 Members	51	58	130	80	21	340
	15%	17.1%	38.2%	23.5%	6.2%	100%
Total	205	200	380	140	75	1,000
	20.5%	20%	38%	14%	7.5	100%
Pearson chi2(8) 66.405 Pr= 0.000						

From the results above, null hypothesis that there is no difference in the frequency of choice of type of milk packaging design among shoppers with families of different sizes is rejected. Alternative hypothesis that there is a difference in the frequency of choice of type of milk packaging design among shoppers with families of different sizes is accepted.

5. CONCLUSION AND IMPLICATIONS

Significant difference in frequency of choice of milk packaging designs do exist among shoppers of processed milk of different age, gender, income, education and family size. The implication of those results is that, milk processors must focus on the five individual characteristics when designing milk packaging. This is the only way they can ensure that all designs desired by milk consumers are available in the market.

However, nylon pouch milk package design has a higher frequency of choice among all other milk packaging designs available in Kenya. Therefore, milk processors should pack larger amount of their milk in this type of package. This should be marched with education on re-use of these packages since research done has shown that this type of package does not decompose easily.

REFERENCES

- Aaker, A. D. (2005), *Strategic Market Management*, 7th Edition, Wiley India (P) Ltd, New Delhi, India.
- Ahmed, A.N. & Salman, A. (2005), Critical Issues in Packaged food Business, *Brand Food Journal*, 107: 760-780.
- Butkeviciene, V. J. & Rutelione, A. (2008), Impact of Consumer Package Communication on Consumer Decision Making Process, *Inzinerine Ekonomika-Engineering Economics (1)*. Pp 57-65.
- Dhruv, G. & Michael, L. (2008), '*Marketing Tata*' Mc Graw-Hill Publishing Company Limited, New Delhi ISBN 978-0-07-066711-2: 290-294.
- Hoyer, W.D. & MacInnis, D.J. (2011), *Consumer Behavior, a Marketing Tool*, Cengage Learning, Patparganj, India.
- Karen, J. (1995), *Jigsaw*. Little Brown and CO. Boston ISBN 0316048216.
- Nelson, B., Barbara, A. A. & Janis, R. D. (2006), Motivational Factors of Gender, Income and Age on Selecting a bottle of Wine, *Association for Consumer Research Volume 1: P.g 447-448*.
- Paul, J.P & Olson, J.C. (2008), *Consumer Behavior and Marketing Strategy*, McGraw-Hill, Irwin 1221 Avenue of the Americans, New York, NY 10020.
- Ragaert, P. W., Verbeke, F. & Debevere J. (2004), Consumer perception and choice of minimally processed vegetables and packaged fruits. *Food Quality Preference Journal*, Vol.15: 259-270.
- Rita, K., Aiste D., & Laura, N. (2009), Impact of Package Elements on Consumer Purchase, *Journal of Economics and Management Vol.14:441-447*.
- Saleemi, N.A. (2011) *Marketing simplified*, Saleemi Publications Ltd, Nairobi, Kenya.
- Saroka, G. (2002), *Fundamentals of Packaging Technology*. Institute of Packaging Professionals ISBN 1-930, 269-25-4.
- Scherer, K.R. (2005), What are Emotions? And how can they be measured? *Social Science Information*, Vol. 44,695-729.
- Silayoi, P. & Speece, M., (2004), Packaging and Purchase Decisions: An Exploratory Study on involvement level and Time Pressure. *British Food Journal vol.106 (8):607-628*.
- Vila, N & Ampuero, O. (2007), 'The role of Packaging in Positioning an Orange Juice': *Journal of Food Products Marketing*, 13(3), 21-48.
- Wambugu H. W.(2014) Customers' Attitude towards milk Packaging Designs in Kenya, *European Journal of Business and Management*, Vol.6, No.19, pp 163-173.
- Wambugu H. W.(2014). Effects of Situational Factors and Packaging Characteristics on the Outcome of Shoppers' Behaviour in Kenyan Supermarkets (An Extract from a PhD Thesis, Kenya Methodist University) *European Journal of Business and Management* 7(5) 47-60.

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