CUSTOMER PREFERENCES WITH REGARD TO MILK PACKAGING

By

Ruben Herbst

(s210155191)

Submitted in partial fulfilment of the requirements for the degree MAGISTER OF ARTS: INDUSTRIAL AND ORGANISATIONAL PSYCHOLOGY (Course work and research) in the School for Industrial Psychology and Human Resources at the NELSON MANDELA METROPOLITAN UNIVERSITY

January 2017

Supervisor: Dr A. Werner

DECLARATION

I, Ruben Andreas Herbst (s210155191) hereby declare that this treatise research report for the degree of Master's in Industrial Organisational Psychology is my own work and that it has not previously been submitted for assessment or completion of any postgraduate qualification to another university or for another qualification.

Signature:

_____

Date: 1 January 2017

ACKNOWLEDGEMENTS

The completion of this treatise could not have been done without the support, guidance and help of the following people:

- Dr Amanda Werner, my supervisor for her effort, dedication, guidance and encouragement throughout the research process.
- Dr Coos Bosma for his patience, wisdom and guidance in assisting with the interpretation of my statistics.
- My family and friends for their continuous assistance and motivation throughout my master's course work.

ACRONYMS AND ABBREVIATIONS

CH: Convenience in handling

CL: Colour

DS: Design

MA: Materials

ml: Millilitre

NMMU: Nelson Mandela Metropolitan University

PI: Product information

SZ: Size

KEY TERMS

Advertising: Any paid form of non-personal presentation and promotion of ideas, goods or services by an identified sponsor (Kotler & Armstrong, 2008).

Brand: A name, term, sign, symbol, design or a combination of these that identify the products or services of one seller or a group of sellers and differentiates them from competitors (Kotler & Armstrong, 2008).

Colour: Colour refers to the importance of creative and colour schemes in milk packaging as well as preferences in terms of specific colours.

Convenience in handling: Refers to the importance of and preference for carrying comfort and the type of opening mechanism.

Customer decision-making: A problem solving activity in which customers decide whether to purchase or refrain from purchasing a particular product or service (Du Plessis & Rousseau, 2007).

Design: Refers to the importance of and aspects of design such as font, graphics, shape and layout and creative flair.

Materials: Materials refer to importance of and choice in terms of carton, plastic, bottle and the extent to which environmentally friendly materials are preferred.

Packaged milk: Packaged milk refers to fresh and long-life milk packaged and sold in bottles, plastic, carton or glass in a variety of quantities.

Packaging: Designing and producing wrappers and containers for a product (Keller, 2009; Adam & Ali 2014b).

Product information: Refers to the importance of and preferences for nutritional information, detail, quantity, expiry date and non-essential information such as games/competitions.

Size: Refers to the importance of and choices in terms of milk volumes.

ABSTRACT

The milk industry in the Eastern Cape is very competitive and milk suppliers must use all means, including packaging, to influence buying behaviour. The aim of the study was to investigate customer preferences with regard to milk packaging in the Nelson Mandela Bay (NMB) area. The purpose was to develop a better understanding of customer preferences so that packaging could be designed to satisfy customer expectations and needs. The research design was based on a quantitative approach (non-experimental) and the study was descriptive in nature. The measuring instrument was a self-developed questionnaire, which was developed based on the literature study and previous empirical studies conducted by Adam and Ali (2014a) and Ahmed, Pumar and Amin (2014). The sample consisted of 199 adult shoppers in the Nelson Mandela Bay area, selected through snowball and quota sampling. Data was collected with the help of fieldworkers, coded into Microsoft Excel and processed with statistical software. Descriptive statistics and canonical correlation analysis were used to identify customer preferences and relationships between the different dimensions of milk packaging. The results revealed that size, materials, convenience in handing and product information (expiry date) were important. Colour and design were not regarded as important by the target group.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1 INTRODUCTION

1.1 BACKGROUND AND MOTIVATION

In recent years, the dairy industry in South Africa has seen steady growth in market share regarding the value and consumption of milk. According to a report on the SA dairy market from the Department of Agriculture, Forestry and Fisheries (2012), the industry has seen a significant increase in the gross value of fresh milk indicating a simultaneous increase in the market for packaged milk. The production of milk and other dairy products, such as yogurt, plays a significant role in the economy and these products are a key source of export especially to neighbouring African countries. The favourable climatic conditions along South Africa's coast make it an ideal location for milk production. The Western Cape produces 27% of South Africa's total milk production and this production level is followed closely by the Eastern Cape and Kwazulu-Natal, each producing 24% of the total milk production in South Africa.

The researcher wanted to explore customer preferences with regards to milk packaging, as these preferences could influence customer buying behaviour in the Nelson Mandela Bay area in the Eastern Cape. Packaging is defined as designing and producing wrappers and containers for a product (Keller, 2009). Packaging in South Africa is regulated by laws such as the Foodstuffs Cosmetics and Disinfectants Act, the Agricultural Products and Standards Act, the Liquor Act and the Liquor Products Act but all products must comply with the South African Bureau of Standards, which has industry specific standards (Prem, 2016). The Eastern Cape is home to a variety of dairy producers, each producing their own brands and unique packaging. This study was pursued for a variety of reasons. Even though previous studies have been conducted on product packaging, only a few of these studies have been in a South African context. The dairy industry is highly competitive and producers must use all means at their disposal to find a competitive edge. This could include product quality, product distribution, availability, marketing and selling. Packaging plays an important role in both marketing and sales as it could potentially influence customer preferences and purchase choice. It is therefore important for producers to determine whether the packaging of their milk products is perceived favourably by customers.

1.2 PROBLEM STATEMENT

Packaging has a variety of dimensions and sub-dimensions, such as colour, design and handling features, which could influence customer behaviour. It is evident that packaging plays an important role in purchase motivations, yet many producers may be unaware of the preferences of South Africans with regard to different packaging dimensions. Designers, researchers and marketers dealing with packaged milk must have a good understanding of their customers' preferences and use this knowledge to their advantage.

1.3 RESEARCH QUESTIONS

The main aim of the study was to discover customer preferences with regard to milk packaging and specifically the dimensions of milk packaging in the Nelson Mandela Bay area.

To attain this aim, research questions with regards to the preferences of customers in the Nelson Mandela Bay area were formulated. These research questions were:

Research question 1: What are customer preferences for colour in milk packaging?

Research question 2: What are customer preferences for materials in milk packaging?

Research question 3: What are customer preferences for size in milk packaging?

Research question 4: What are customer preferences for design in milk packaging?

Research question 5: What are customer preferences for product information in milk packaging?

Research question 6: What are customer preferences for convenience in handling features in milk packaging?

Research question 7: To what extent does the target group perceive different dimensions of milk packaging as a coherent whole?

1.4 OBJECTIVES OF THE STUDY

The objective of this study was to conduct a theoretical study of the importance and the dimensions of product packaging, including colour, materials, size, design, product information and handling features.

A further objective was also to conduct an empirical study. This was in the form of a survey with a questionnaire as a data collection tool amongst adult shoppers (18 years and up) in the Nelson Mandela Bay area to identify their preferences in terms of milk packaging. The results were analysed and used as a basis to make recommendations for milk packaging in the Nelson Mandela Bay area.

1.5 RESEARCH DESIGN AND APPROACH

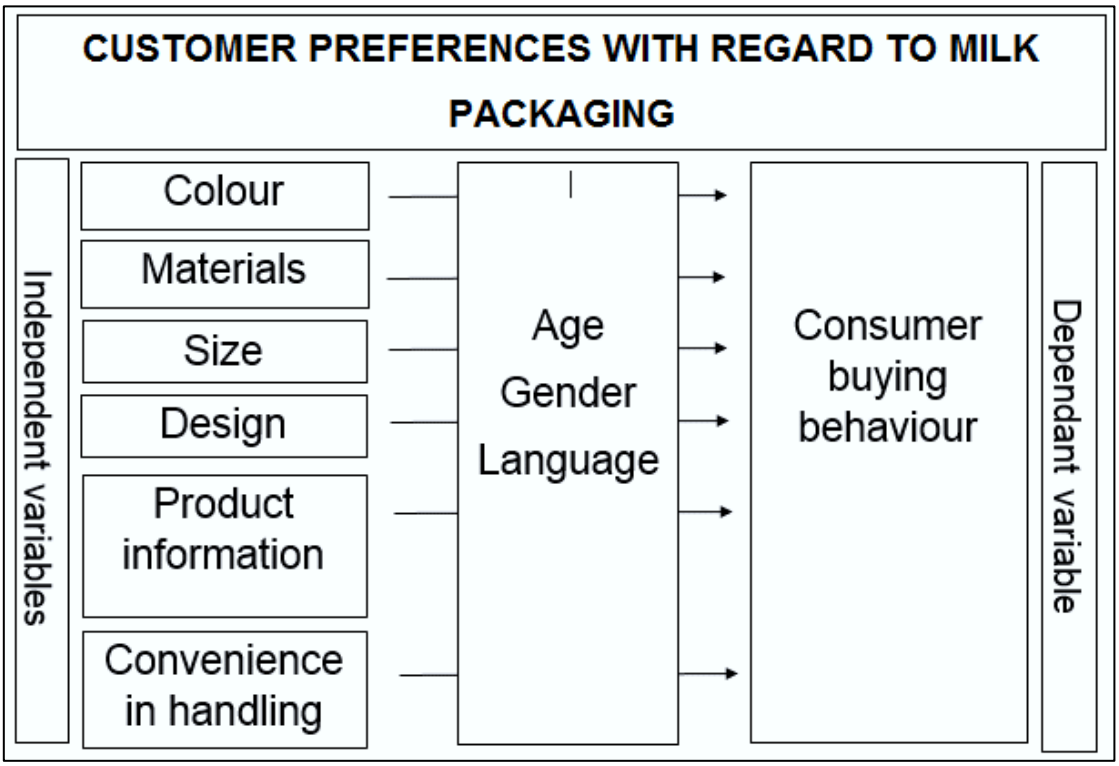
The theme of this study was customer psychology, with focus on customer preferences for milk packaging. A positivistic paradigm was used, based on the assumption that truth can be revealed through research (Welman, Kruger & Mitchell, 2005). In the case of this study, the truth that needed to be revealed was customer preferences in terms of milk packaging so that the information gained could be used in the design of milk packaging to satisfy customers. The research design for this study was primarily based on a descriptive, quantitative approach (non-experimental) (Mouton, 2014). Since emphasis was placed on investigating packaging dimensions and customer preferences, the study was classified as descriptive in nature.

A survey was used to gather data on the packaging preferences of customers when purchasing milk. In the case of this study, the dimensions of milk packaging were considered independent variables that could potentially influence customer buying behaviour, which was a dependent variable. Based on these parameters, descriptive statistics were presented and a correlation analysis conducted to determine relationships among the milk packaging dimensions identified in the study.

1.6 THEORETICAL FRAMEWORK

Figure 1.1 provides the theoretical framework for the study, illustrating the packaging dimensions that could potentially influence customer preferences and buying behaviour. It is therefore important that customer preferences for these dimensions be identified and their influence gauged. The actual buying behaviour of customers was not observed but the assumption was made that preferences will influence buying behaviour, as illustrated in the model.

Figure 1.1: Theoretical framework of the study



Source: Adapted from Adam and Ali (2014a) and Ahmed et al. (2014)

The framework indicated above was designed by the author with reference to similar frameworks conducted in the studies of Adam and Ali (2014a) and Ahmed et al. (2014). The framework shows the independent variables, which are the dimensions of product packaging and the dependent variable, which is buying behaviour. This study focused only on the independent variables and specifically on each of the packaging

dimensions with the view of gauging customer preferences. The assumption is that these preferences will potentially reflect in customer buying behaviour. As indicated, actual buying behaviour was not explored in this study. This was due to limited time allowed for conducting the empirical study and the magnitude of options available to customers when purchasing milk products.

Age, gender and language were considered as potential moderating factors that could influence customer preference in terms of packaging dimensions and therefore their buying behaviour. However, for purposes of this study it was meant to describe the population.

1.7 INDEPENDENT VARIABLES

As depicted in the theoretical framework, the study explored six independent variables that could potentially influence the independent variable. The different dimensions are briefly introduced in this section but are thoroughly discussed in the literature study in chapter two.

1.7.1 The colour dimension

The colour dimension in packaging is very important, as it readily draws attention (Adam & Ali, 2014b). Colour is also used to link products with brands and to create product associations and themes. This study focused on green, yellow, red, orange, blue and purple. During the preparation for this study, these colours were identified as popular colours used in the packaging of South African milk products.

1.7.2 The material dimension

Packaging materials are primarily used to protect the product but also have a function in influencing customer buying behaviour. According to Ahmed et al. (2014), higher quality packaging materials are more likely to attract customers than low quality materials and hence have a stronger influence. It is also important to consider the availability and recycle ability of the packaging materials. Commonly used materials

for milk packaging include glass bottles, carton, thick plastic bottles and thin plastic sachets. Customer preferences with regards to these materials were tested.

1.7.3 The size dimension

The size dimension is particularly important, especially with perishable products such as milk. Customers typically need to match their product need with the shelf expectancy of packaged milk. Therefore, for the customer it is important not to over buy or under buy. In this study, customer preferences for different sizes of milk containers were tested. The different volumes tested included 250ml, 500ml, 1 litre, 1.5 litre, 2 litre and bigger sizes.

1.7.4 The product information dimension

The product information dimension could include nutritional information of the product such as the protein and fat per ml. Another feature, the expiration date that indicates the freshness of the product, is arguably even more important in terms of milk as a product. According to a study done by Adam and Ali (2014a), people frequently refer to product information prior to a purchasing decision.

1.7.5 The packaging design dimension

Packaging design has a great impact on visual appeal as well as the practical use of the product. In South Africa, milk packaging comes in a variety of designs that include different shapes, graphics, fonts and other design elements. Product design also includes aspects on the label such as font and graphics that could appear either practical or aesthetic.

1.7.6 Convenience in handling dimension

Convenience in handling includes salient features or product components that impact on the use of the product such as a handle or different cap/lid designs. Handling features impact on the practical use and convenience of using the product. Since these

features vary quite a bit for this study, they were grouped into a sixth independent variable. Handling aspects that were investigated included handles and lids (plastic pull tops, screw tops, pull-off aluminium slips and corner cuts).

1.8 DEPENDENT VARIABLE

The study included one dependant variable as outlined below.

1.8.1 Customer buying behaviour

The dependant variable applicable to this study was the buying behaviour of customers. The independent variables were investigated to gauge the potential effect on customer buying behaviour. Actual customer behaviour was not observed but the assumption was made, based on the previous research, that customer preferences influence buying behaviour.

1.9 SIGNIFICANCE OF THE STUDY

This study provides insight into customer preferences for packaged milk that is useful to marketers focusing on the Nelson Mandela Bay area. The study provides a basis for understanding the role of packaging dimensions in buying behaviour and assists in a better understanding of the preferences of South Africans, and specifically the preferences of customers in the Nelson Mandela Bay area. The outcomes of this study may be useful to South African marketers and the dairy industry. This study also compares the findings of marketing literature with the South African culture.

1.10 CONCLUSION

Chapter 1 served as an introduction and outline of the treatise. The chapter provided a basic framework for the study and highlighted key areas illustrated throughout the treatise. The next chapter provides a review of existing literature related to product packaging.

CHAPTER 2 LITERATURE REVIEW

2.1 INTRODUCTION

The purpose of the study was to understand customer preferences for milk packaging with the assumption that such preferences will be linked to buying behaviour. This chapter provides an overview of literature related to packaging and specifically the importance of packaging as an inherent aspect of the product, packaging dimensions, how to evaluate a good packaging structure and the influences of packaging on customer choice. The stages of the customer buying behaviour process are also discussed.

2.2 THE IMPORTANCE OF PACKAGING

Packaging is an important aspect of most modern products. Keller (2009) defines packaging as designing and producing wrappers and containers for a product. This definition is also used in similar studies such as those conducted by Adam and Ali (2014b). Traditionally, the primary focus of packaging has been to provide protection and safe storage for the product. However, modern marketing practices are capitalising on the potential of packaging to provide or contribute to a competitive advantage (Gilaninia, Ganjina & Charmichi, 2013; Adam & Ali, 2014b). Packaging attributes (such as font and colour) convey strong brand attributes, provide ready information and distinguish the product from those of competitors (Adam & Ali, 2014b). Packaging is often one of the first attributes that a customer notices. Packaging assists in generating brand equity and significantly increases the product's sales drive (Ampuero & Vila, 2006; Adam & Ali, 2014b). In fact, Shimp (2010) refers to packaging as the *silent salesman* and argues that packaging is often a cheaper and a more effective way to increase sales than that of traditional advertising.

Other core functions of packaging include overshadowing competitive clutter at point of purchase sales (brand recognition), justifying the price/value of the product, signifying brand features and benefits, conveying emotionality and influencing brand choices (Keller 2009; Shimp, 2010). The packaging of a product can achieve the

benefits outlined above through specific elements or dimensions, which typically include colour, design, shape, size, physical materials and information labelling (Shimp, 2010). However, the dimensions of packaging are not universally agreed upon and researchers tend to focus on different dimensions depending on the nature of the product (Ahmed et al., 2014). For the purposes of this study, the focus was on colour, design, materials, size, product information and convenience in handling features.

2.2.1 The use of colour in packaging

Specific themes of colour used in a products packaging have a profound ability to invoke a range of emotions in customers affecting them both psychologically and emotionally (Shimp, 2010). According to Shimp (2010), the colour red is often related to attributes such as energy, vitality and excitement while yellow is effective for grabbing a customer's attention and promoting cheerfulness. Green is often associated with healthiness, eco friendliness, serenity and calmness while blue is associated with refreshment and coolness (Shimp, 2010). White is known to symbolise purity, peace and cleanliness while black and gold are often related to elegance and prestige (Shimp, 2010). It is important to note that cultural perceptions are important in colour associations and should always be considered when choosing a colour scheme for a product or product range (Shimp, 2010).

A study conducted by Matijevic and Mabic (2013) on the colours used in milk labels revealed that out of the 61 respondents who participated in the study, 31% reported that colour affected their moods. However, other results from their study seemed to challenge traditional literature findings related to purchasing behaviour. Only eight percent of the respondents indicated that colour affected their purchasing decisions and only 11% stated that product packaging was important to them (Matijevic & Mabic, 2013). It was also found that 37% of the respondents regarded the use of colour as a "marketing gimmick" (Matijevic & Mabic, 2013). These findings seem to challenge the usefulness of colour elements of packaging and therefore further investigation was deemed necessary.

Customers place less emphasis on packaging elements for low involvement products and therefore it is important to give attention to packaging colour and design as these

aspects become very important in the quest to grab customer attention (Silayoi & Speece, 2007). Purchase involvement refers to the relative importance of the purchase decision to the customer and the involvement of personal feelings, level of interest and quality/quantity of information needed to make a decision (Tanner & Raymond, 2012). In contrast with low involvement products, the effects of packaging colour and design play a more subtle role in high involvement products. Customers tend to form colour associations with certain products, brands and product categories. Using this information, marketers set up cues for customers to form strong brand associations with colour. However, as indicated, one important consideration in designing packaging is that the meaning of colour varies greatly across cultures and this leads to the development of different colour preferences (Silayoi & Speece, 2007).

2.2.2 The use of design in packaging

Design is a powerful dimension of packaging. Designing packaging involves effectively organising all the elements that make up the package while providing a good flow and enhancing the brand image and the brand identity of the product (Shimp, 2010). As with colour, different uses of design can convey different meanings. According to Shimp (2010), horizontal lines are associated with restfulness, quietness and tranquillity. In contrast, vertical lines are associated with strength, pride and confidence (Shimp, 2010). The use of shapes may also send subtle messages to customers. Round shapes are often associated with feminine products while products with sharp outlines are linked to masculinity (Shimp, 2010). A study conducted by Silayoi and Speece (2007), as referenced by Adam and Ali (2014b), revealed that customers often relate product design and shape to ease of use (the ability to easily move and manipulate the product). Design also incorporates graphics and fonts (Silayoi & Speece, 2007) that may be appealing to the buyer.

The use of graphics in packaging give the product a strong brand identity, setting it aside from competing brands and enhances its aesthetic qualities, grabbing customer attention (Smith & Taylor, 2004; Adam & Ali, 2014b). Recognisable brand graphics often allow customers to easily identify and find their brands in supermarkets (Wang and Chou, 2010; Adam & Ali, 2014b). According to Silayoi and Speece (2007), the power of packaging design is largely underestimated especially with the placement of

design attributes. Research in psychology has identified asymmetry as an important aspect in the perceptions that people have of ideal element placement (Rettie & Brewer, 2000). The implications of these are that the recall of a product in the mind of the customer is influenced by positioning and other product packaging design dimensions such as font, size and colour (Silayoi & Speece, 2007). Recall was found to be strongest when verbal elements are positioned on the right side of the package and nonverbal elements such as graphics are positioned on the left side of the package (Silayoi & Speece, 2007).

2.2.3 Convenience features

Convenience in handling outlines the attributes of the product packaging that enhances the ease of use for the user. Some researchers have included types of convenience features in their research but have typically grouped them under the design element (Adam & Ali, 2014a). In this study, type of convenience feature is included as a separate element of packaging due to its relevance in milk packaging. The convenience function of product packaging enhances the use of a product as well as its storage, workability/handling and preparation (Jinkarn & Suwannaporn, 2015). Convenience can be achieved by designing specific packaging elements such as easy opening, re-sealable and enclosable features or by specific design features allowing easier pouring, cooking in bags, ready to eat foods in plastic packaging and microwavable packaging (Jinkarn & Suwannaporn, 2015). Other common convenience features include peelable, easy to open and enclosable containers, which are typically used with ready-to-drink and pharmaceutical containers (Jinkarn & Suwannaporn, 2015). Structural convenience can also be integrated by designing packaging in such a way that it enhances carrying and holding (Silayoi & Speece, 2007). For designers or manufacturers, convenience designs are also an important consideration as they have an impact on manufacturing, storing and distribution processes and systems (Jinkarn & Suwannaporn, 2015).

According to Jinkarn and Suwannaporn (2015), many convenience features in packaging that incorporates highly innovative means and packaging structures are often under-used by customers, as the benefits and functionality of these designs are not understood. This results in the misuse of the product, especially among groupings

of elderly and low-income customers. A consequence of this is that many customers often show a preference for old fashioned or traditional packaging. There is also a perception that customers believe that packaging with highly innovative features is more expensive than traditionally packaged goods (Jinkarn & Suwannaporn, 2015). As indicated for the purpose of this study, convenience features were considered as a separate dimension and included handles and lids (plastic pull tops, screw tops, pull-off aluminium slips, corner cuts) of milk packaging.

2.2.4 Packaging size

Packaging size is typically determined by the nature of the product. According to Shimp (2010), manufacturers offer different sized containers to meet the unique needs of different market segments and provide sizes for different usage situations. According to Shimp (2010), customers often tend to buy larger sized packaged products because they believe they will get more value for the same price. It was also discovered that packages with awkward sizes and shapes are perceived as containing more product (Shimp, 2010). Silayoi and Speece (2007) further outline the importance of packaging size as customers use the process of visual heuristic (visual recalling) to make estimations of the volume of contents in the packaging. Customers, even if they have frequently purchased the product before, perceive packages with an elongated design as holding more volume even when in comparison to other packaging, it contained less volume. However, large gaps between expected and actual volume may lead to customers revaluating their judgements in future situations (Silayoi & Speece, 2007).

Size of packaging relates to both low and high involvement-purchasing decisions. Low involvement products are often marketed through a generic brand. Low involvement products are often sold at lower prices and require less promotional expenses in terms of packaging as these products are often presented in larger sizes that customers perceive as value for money, making the product more attractive especially for customers with large households (Silayoi & Speece, 2007). Another finding in the research of Silayoi and Speece (2007) is that when the quality of a product is difficult to identify, the size effect of the package plays a more prominent role.

2.2.5 Materials used in packaging

One major function of packaging is the protection of the product. In food products such as milk, packaging provides important protection from three external threats specifically chemical, physical and biological threats (Eldesouky, Pulido & Mesias, 2005; Marsh & Bugusu, 2007). These environmental considerations should always be taken into account when planning product packaging. Practical considerations should also be taken into account in product packaging such as the protection of packaging material from cold/hot/wet conditions, weight, expense and travelling/storage conditions (Adam & Ali, 2014a). Another aspect of packaging is the recyclability of the materials used in the product packaging especially in cultures or groups that value eco-friendliness and who actively recycle goods (Ahmed et al., 2014). A study conducted by Scott and Vigar-Ellis (2014) about the behaviours and perceptions of South Africans toward to environmentally friendly packaging in South Africa found that many South Africans cannot differentiate between environmentally friendly packaging and regular packaging materials and are unaware of the benefits of environmentally friendly materials.

2.2.6 Product information used in packaging

Product information is important in food products and high product involvement products (Ahmed et al., 2014). Product information and labelling provide the customer with valuable information to compare and select products (Shimp, 2010; Ahmed et al., 2014). In milk products specifically, it is important for customers to consider the nutritional information of the product as well as the expiration date (Ahmed et al., 2014). According to Karimi, Mahdieh and Rahmani (2013) as referenced in Adam and Ali (2014a), research has shown a significant relationship between packaging with effective and useful information and customer buying behaviour. According to Silayoi and Speece (2007), one of the most important functions of product labelling, is to provide the customer with the information needed to make good purchasing decisions. This is particularly important in the case of food products as labelling helps customers choose between healthy alternatives and make informed decisions about their purchases (Silayoi & Speece, 2007). Often packaging comes with a wide variety of

information that may create confusion. Inaccurate and misleading information can also be provided (Silayoi & Speece, 2007). Designers often use very small and dense fonts in an attempt to separate parts of the message for the customer to avoid confusion or to prevent over cluttering of the packaging design (Silayoi & Speece, 2007).

To reduce confusion because of information overload and selective perception, the informational attributes of the product are often reduced (Silayoi & Speece, 2007). An inherit danger of reducing information attributes is undermining a customer's right to safety and information. Hence, a good balance must be found between necessary information and design (Silayoi & Speece, 2007). Product involvement also plays a role in labelling. With low involvement products, customers are less likely to read the labelling. In contrast, customers are more likely to carefully consider the labelling of high involvement products and evaluate the information, based on their purchase intentions and attitudes (Silayoi & Speece, 2007).

The above outlined some key considerations regarding the different dimensions of packaging and its use. However, packaging design is not approached in isolation and must be approached in a holistic manner to create an effective packaging structure.

2.3 EVALUATING A GOOD PACKAGING STRUCTURE

Packaging structure refers to the combination of product packaging dimensions that are carefully decided upon to enhance the product and provide greater appeal to the customer. When it comes to evaluating the effectiveness of a packaging structure, there is no one size fits all approach. Good packaging is highly dependent on the nature and type of product. Generally, a good packaging structure has high levels of visibility, provides sound information, creates emotional appeal and promises workability (Shimp, 2010; Akabogu, 2013). These dimensions make up the "VIEW" model of packaging that provide a good evaluation standard for most typical packaging evaluations.

Figure 2.1: The VIEW Model of product packaging

PACKAGING ATTRIBUTE (VIEW)	FUNCTION	ELEMENTS
Visibility	Make the product stand out	Colours; novel shape; selected graphics
Information	Creating trust	Outstanding characteristics; effects of using the product; nutritional information; ingredients
Emotional appeal	Influencing attitude towards the product	Combination of material, colour and design; target group specific; fun aspects
Workability	Storage; protection; ease of use; recyclability	Convenient and reusable containers; variety of seals; smart packaging

Source: Self-constructed based on Shimp (2010) and Akabogu (2013)

The visibility of a product refers to the ability of the packaging to make the product stand out and catch a customer's eye. Visibility is typically achieved via bright colours, novel shapes/sizes and a careful selection of graphics (Shimp, 2010). Shimp (2010) further states that marketers should enhance packaging visibility in certain situations, for example, by tailoring packaging to seasonal periods to enhance sales. Examples include using heart shaped chocolate boxes for Valentine's Day or a seasonal colour scheme for Christmas.

As discussed in the preceding sections of this study, product information is a valuable dimension of packaging. The type of information included in packaging typically includes product ingredients, instructions on use, warnings, benefits/side effects and nutritional information (Shimp, 2010; Chitty, Barker, Valso & Shimp, 2011). Achieving the harmony of all necessary product information with product design (without cluttering the packaging) can be a difficult challenge. Overbearing information may

cheapen the look of the packaging and interfere with the primary message conveyed by the packaging (Shimp, 2010).

The effects of product information have been widely documented. According to Shimp (2010), a study conducted on the effects of low fat labels found that in some cases low fat labelled products actually had the adverse effect, thus increasing the consumption of low fat labelled foods by up to fifty percent compared to normally labelled foods. Products labelled with low fat labels lead customers to believe that the products they were buying (or consuming) had an actual lower calorie content and therefore reduced customer guilt of overeating (Shimp, 2010). The above outlines a practical example of the power of packaging information on both product framing and sales (Shimp, 2010). The use of slogans also enhances a product's sales performance when combined with a strong advertising campaign and/or brand image that increases the likelihood of information retrieval by customers (Shimp, 2010; Chitty et al., 2011).

The combination of the packaging attributes selected should invoke feelings or moods from customers and impact their attitude towards the product and brand. Packaging should therefore have emotional appeal for the customer (Shimp, 2010; Akabogu, 2013). Product designers should try to invoke a feeling or mood via packaging that enhances the attributes of their product. Typically, feelings of freshness, elegance, cheerfulness, fun and prestige are used by specifically combining product dimensions such as material, colour and graphics (Shimp, 2010; Akabogu, 2013).

The use of emotional appeal is highly dependent on the nature of the product as well as the customer market and customer buying behaviour. For example, products marketed towards children are often aimed at creating excitement and emotional appeal through creative, colourful and vibrant graphics (Shimp, 2010; Chitty et al., 2011).

Packaging was originally designed as a product receptacle focused on a practical function and packaging still plays an important role in this regard. The VIEW Model refers to this functionality as workability (Shimp, 2010). Workability focuses on functions of packaging rather than the message it conveys. The workability of packaging is aimed at protecting the product contents, enhancing storage for

customers and retailers and increasing the ease of use (convenience in handling) (Shimp, 2010; Akabogu, 2013).

The different avenues for adaptive and creative workability in product packaging is greatly intensified by changes in technology and design, for example, pourable spout containers (motor oil), easy-pour containers (condiments and sauces), microwavable packaging materials, resealing/zip lock packaging, single serving packaging, foods packages in tubes and sachets (Shimp, 2010). Innovations in technology have also lead to the introduction of “smart packaging” which includes packaging aspects such as electronic chips, bar codes and magnetic strips to help manage inventory and sales through the interaction and integration with other retailing technology (Shimp, 2010). A sub-component of workability, born from the green movement is that of environmental workability. Environmental workability entails a change of reliance on environmentally harmful packaging components such as plastics to more environmentally friendly and “green” packaging components such as recyclable cardboard (Shimp, 2010). These changes have had a staggering impact on packaging especially on certain industries such as the fast food industry. Jinkarn and Suwannaporn, (2015) argue that ultimately a good package should protect the contents of a product from mechanical hazards such as shocks, vibrations and compressive forces while preserving the contents and maintaining easy storage. It should also protect the product from external effects such as water, moisture, gasses, microorganisms and dust (Jinkarn & Suwannaporn, 2015).

The VIEW Model provides a good basis for evaluating packaging, but not all packaging needs to score high on all dimensions to be effective. Different weightings can be allocated to the dimensions depending on the nature of the product (Shimp, 2010; Chitty et al., 2011). Shimp (2010) gives a good example of the relative importance of product nature and how different types of products rely on different marketing and packaging cues to be effective. For example, perfume-packaging designs rely heavily on aspects of emotional appeal while food product packaging places a higher emphasis on product information for health reasons such as allergies and health warnings. The nature of the product should influence the way in which packaging is designed. When using the VIEW Model, numerical values and weights are assigned to each aspect of packaging according to the type of product, e.g. food, perfume, toys

and chemicals. The packaging dimensions are then scored accordingly to determine which packaging is best for the specific product (Shimp, 2010).

From a marketing perspective, the purpose of product design is to increase visibility and emotional appeal, and therefore influence buying behaviour and customer choices. To attain this purpose, the right combination of packaging dimensions must be decided on. The choice of different dimensions of packaging in this regard impact on the choices a customer makes through their buying behaviour that is conducted at various stages.

The above discussion focused on packaging and the dimensions of packaging based on the VIEW Model. However, it is also important to focus on the customer as the user of the product.

2.4 BUYING BEHAVIOUR AND CUSTOMER CHOICES

To understand the relationship between packaging and buyer behaviour, it is important to consider customer buying behaviour and the decision-making process (Tanner & Raymond, 2012). Hawkins et al. (2007, pg. 7) as cited by Du Plessis and Rousseau (2007) define consumer behaviour as:

> "The *study of individuals, groups, or other organisations, and the processes they use to select, secure, use and dispose of products, services or ideas to satisfy needs and the impacts that these processes have on the customer and society.*"

The study of consumer behaviour considers how both the customer and purchaser react to products and buying situations (Du Plessis & Rousseau, 2007). Often one person may be the consumer as well as the purchaser or in other situations, the purchaser may purchase a product on behalf of others, such as in a family unit (Du Plessis & Rousseau, 2007). A sound understanding of buyer behaviour allows organisations to enhance their delivery processes to achieve customer retention and enhance customer relationships (Du Plessis & Rousseau, 2007). It also enables organisations to adapt their business and marketing strategies by focusing on a host of customer related dimensions including the psychology of customers (such as how

customers think, reason and weigh up purchase alternatives), how customers are influenced by internal and external influences, how customer decision-making changes are based on purchase importance, and a host of other useful insights (Du Plessis & Rousseau, 2007).

Since it has been established that the customer is not always the consumer it is useful to look at the customer's role to understand buying behaviour. Some basic roles in purchasing include customers, users, initiators, influencers and decision makers (Du Plessis & Rousseau, 2007). In many cases, these roles overlap and some roles are clearly visible in certain buying units such as families. Knowing these roles when involved in target marketing strategies, will enhance the success of a campaign and ultimately influence product success or failure (Du Plessis & Rousseau, 2007; Tanner & Raymond, 2012).

Potential customers face an overwhelming amount of marketing messages in every shopping experience. Decisions regarding product selection are typical with a wide variety of products and brands. According to Du Plessis and Rousseau (2007), marketers believe customers typically make rational decisions and take into account alternative options before making a choice. According to these authors, as well as Adam and Ali (2014b), customers go through specific stages of the decision-making process, which range from problem recognition to response when selecting a product. Lamb, Hair and Mc Daniel (2007) caution that although these process guides serve as useful models for understanding decision-making, customers will often not progress through all the steps. In many cases, customers abandon the process and preceding steps and make no purchase at all. Typically, the suggested stages include problem recognition; overcoming blocking mechanisms; information search and processing; expected outcomes and intentions; response and post purchase response. These stages are briefly outlined below.

Stage 1: Problem recognition

The buyer decision-making process begins with the recognition of a problem in the form of a purchasing need (Solomon, Bamossy, Askegaard & Hogg, 2006; Du Plessis & Rousseau, 2007). This need fulfilment drives the decision-making process. Tanner and Raymond (2012) describe this step as simply recognising a need and this occurs

when the customer runs out of a product or realizes the need for a new product. Need recognition may surface through experiencing internal or external stimuli. Internal stimuli are the result of personal dimensions such as hunger or thirst while external influences are brought about by outside sources such as recommendations, packaging design and advertisements (Lamb et al., 2007).

Stage 2: Blocking mechanisms

The second stage of the purchase decision process involves considering blocking mechanisms. Blocking mechanisms refer to any internal or external factors that interfere with the decision to purchase a product (Solomon et al., 2006; Du Plessis & Rousseau, 2007). Therefore, even though a customer might have a strong need or a desire for a product, they may not necessarily purchase or even attempt to purchase the product. These blocking mechanisms are unique to each customer and can be either internal or external. Internal blocking mechanisms are things such as distorted perceptions, negative attitudes, product loyalty, indecisiveness and uncertainty that customers feel towards a product or brand (Du Plessis & Rousseau, 2007). Examples of external blocking mechanisms include lack of funds or unavailability of the desired products (Du Plessis & Rousseau, 2007). It is important to note that blocking mechanisms may surface throughout the decision-making process and these must be understood by marketers to be overcome (Du Plessis & Rousseau, 2007). Therefore, even though customers have a need and desire for milk products, they may only engage in the actual act of purchasing the product due to blocking mechanisms specific to their situations.

Stage 3: Information search and processing

The third step can be regarded as a learning process. This involves searching for information relative to the product from a variety of sources and processing the information (Solomon et al., 2006; Du Plessis & Rousseau, 2007). Once a need or want has been identified by a customer, the person will consider all the available alternatives to satisfy the need (Lamb et al., 2007). Information is frequently sourced from friends and family but information is also gathered from a wide variety of other sources such as books, magazines and websites (Lamb et al., 2007; Tanner & Raymond, 2012). The above indicates both internal and external sources of information (Du Plessis & Rousseau, 2007). Internal information is drawn from a

customer's experiences or memory of the product, the purchase process and aspects surrounding the purchase such as the price and shopping experience (Du Plessis & Rousseau, 2007; Lamb et al., 2007). In contrast, external sources relate to the consultation of sources outside of the customer's own personal experiences and include for example the experiences of friend and family (Du Plessis & Rousseau, 2007).

Stage 4: Expected outcomes and intentions

Once all of the relevant information has been gathered and processed, the information as a whole is analysed to predict (in the best way) the desired outcomes of the purchase choice. During this process, each alternative is weighed and considered based on the expected outcomes. At this stage, most customers use reason to come to the best-perceived decision but in many instances customers experience "uncritical blindness" and become obsessed with making a purchase (Solomon et al., 2006; Du Plessis & Rousseau, 2007). Some customers use a rule of thumb (heuristic or previously made decisions) based on their desire to fulfil their basic needs. However, a useful tool for evaluating alternatives as well as identifying expected outcomes is to create evaluation criteria (Lamb et al., 2007). Evaluation criteria could include a variety of product aspects such as quality, performance, value and durability. Quality, performance, value and durability are especially important when buying milk products that have a shorter lifespan. In terms of this study, the packaging of milk products can include the purchasing decision.

Stage 5: Response

In the fifth phase of the model, the customer chooses to respond with the most desirable option from the alternatives. A response could include purchasing the product, choosing to not purchase the product or put off purchasing until later (Solomon et al., 2006; Du Plessis & Rousseau, 2007). The customer typically reacts through verbal and behavioural means (Du Plessis & Rousseau, 2007). A verbal response is when the customer either commits himself or herself to the purchase or outlines reasons against purchase action. A behavioural response is when the customer pays for the merchandise or signs a contract depending on the nature of the purchase and product (Du Plessis & Rousseau, 2007).

Stage 6: Post purchase response

Once a purchase has been made, a customer moves into the final stage of the decision-making process, a stage in which the customer evaluates the product based on the expectations and desired outcomes (Du Plessis & Rousseau, 2007). Typically, a post purchase response can be positive (satisfaction with the product), negative (dissatisfaction with the product) or neutral (feelings of indifference about the product). If a customer is dissatisfied with their purchase based on prior expectations or performance, they will likely feel dissonance and experience feelings of buyer's remorse (Tanner & Raymond, 2012). According to Tanner and Raymond (2012), feelings of dissonance are more likely to occur in expensive purchases and in situations where a product is not often purchased. How customers feel during the post purchase phase greatly impacts on sellers and retailers. Poor purchasing experiences make it more likely that the product will be returned. This means also that the seller will lose future business from the disappointed customer (Tanner & Raymond, 2012). It is important to reduce the levels of remorse and keep products as consistent to advertisements as possible to ensure customer satisfaction (Lamb et al., 2007).

Understanding customer buying behaviour is essential in effectively marketing and designing packaging. Customers are faced with a constant barrage of marketing messages. However, the choice to buy a product or a specific brand is not only based on marketing messages (Armstrong & Kotter, 2008). As indicated, buying decisions are influenced by external and internal sources. Cultural and social spheres are the two biggest sources of external influences on buying behaviour (Armstrong & Kotter, 2008). This will be the focus of the next section. The buying behaviour stages a customer passes through do not happen in isolation but rather against the backdrop of a host of different cultural, social and external influences.

2.5 CULTURE AND SOCIAL SPHERES AS EXTERNAL INFLUENCES ON BUYING BEHAVIOUR

Culture is defined as the basic values, perceptions and behaviours learnt from important primary groups by members of a society (Armstrong & Kotter, 2008). Culture is shared, it is usually integrated through socialisation at an early age and it differs from country to country. Cultural influences have a great impact on buying behaviour and

usually manifest through aspects such as religion, music, work patterns, products and foods consumed (Solomon et al., 2006; Armstrong & Kotter, 2008).

Culture impacts on situational analysis, product evaluation and judgment calls. Culture is somewhat dynamic, and it adapts and evolves over time. The implication of this is an ever-changing source of needs. In South Africa, cultural influence on purchasing behaviour plays an even bigger role especially with the prevalence of high levels of prominent subcultures (groups with common values, life experiences and stations). Subcultures can be based on numerous constructs but are primarily segmented based on age, gender and race or a combination of these (Solomon et al., 2006; Armstrong & Kotter, 2008).

People from different generations grow up with different sets of values, desires and behaviours resulting in different demands for products and services (Armstrong & Kotter, 2008).

Age also impacts spending behaviour, disposable income and the potential for a long-term relationship between seller and customer. The most prominent age divisions are cited in terms of generations such as the Pre-depression Generation, the Baby Boomer Generation (1946-1964), the X Generation (1965-1976) and the Y Generation (1977-1995), each with different needs and wants (Armstrong & Kotter, 2008).

In South Africa, cultural differences are often linked to race. A significant portion of the population is made up of black South Africans with white, coloured and Asian groups being the primary minority groupings. There are many other minor population groups and eleven official languages are recognised, outlining the diversity of South Africa (Armstrong & Kotter, 2008).

The black population, also referred to as *black diamonds* in marketing terms are further divided into the Mzansi youth (18-24), the start me ups (25-29), young families (30-34) and the established (35-44). Each group has different wants and spending power (Du Plessis & Rousseau, 2007; Armstrong & Kotter, 2008).

Culture is also largely impacted by gender views. Traditionally, gender roles were very stereotypically viewed by marketers. Men were categorised as competitive and aggressive and women as emotional and gentle (Armstrong & Kotter, 2008). These views have largely changed as gender roles and working patterns have evolved.

In South Africa and other countries, social class impacts purchasing decisions and customers often purchase products that reflect their social standing. Social class outlines how much disposable income a group has and how they typically spend their money (Armstrong & Kotter, 2008). This results in different spending patterns based on occupation level, income, lifestyle and education (Armstrong & Kotter, 2008).

The above outline some of the most prominent aspects of culture as an influence on buying behaviour (external source). The second biggest external source influencing buying behaviour is social aspects. Customers often base their purchasing decisions on the actions of other people via observation or direct interaction (Armstrong & Kotter, 2008). The social groups that influence decision-making are referred to as reference groups (Armstrong & Kotter, 2008). Reference groups are important as they help attach meaning to different products/services while influencing attitudes, self-concepts and pressure to conform to the social norm (Solomon et al., 2006; Armstrong & Kotter, 2008).

The most common reference groups are basic primary and secondary groups such as family, friends and co-workers but many marketers also capitalise on aspirational reference groups made up of valued public figures or sport stars who endorse advertisements (Armstrong & Kotter, 2008; Shimp, 2010). Within the reference group are individuals known as opinion leaders, who hold great influence, as they are highly trusted and respected. The buy-in or endorsement of a brand or product by these reference groups or individuals enhances the product's reputation and sales performance. It is also important to note that varying social structures within families could impact buying behaviour (Solomon et al., 2006; Armstrong & Kotter, 2008).

It is therefore evident that it is not only the packaging of a product that influences buying behaviour, but also cultural values and habits as well as reference groups that a customer identifies with that influence buying behaviour. In terms of this study, one

could therefore reason that groups such as family or friends might have preferences for specific packaging features and therefore influence the buyer's behaviour. For example, the reference group might show a preference for a convenience feature such as reusable lids instead of having to cut open the corner of a plastic bag. Another reference group may insist on recyclable packaging materials.

2.6 INTERNAL INFLUENCES ON BUYING BEHAVIOUR

Buying behaviour is also influenced by a series of internal dimensions. As people age and develop, their needs for various products and services might change. Armstrong and Kotter (2008) provide various examples of how needs might change. For example, a person may switch from unhealthy food and drinks at a young age to healthy products in adulthood based on a changed lifestyle. How these changes develop are based on accumulated life experiences which include the trying of new foods/drinks, health problems, developing a new pallet for certain tastes, changes in income or a new social status (Armstrong & Kotter, 2008). Life stages can be segmented in a number of ways and according to Armstrong and Kotter (2008), the South African population is typically segmented as home singles (under 35, no children, at home), starting out singles (under 35, left home, no children), mature singles (35-39, left home, no children), young couples (up to 49, unmarried, no children), new parents (married, children under 12), mature parents (married, children older than 13), the gold nests (over 50, no dependent children anymore) and the left alones (over 50, unmarried, no children). Similar segmentations are offered in Du Plessis and Rousseau (2007). These classifications are useful as they often help explain purchasing patterns at different life stages. People at certain life stages are more likely to buy *big-ticket* items such as houses and cars while those with many children are more likely to buy household products, such as bread and milk in bulk. The life stage categories are used to determine buying power and disposable income (Solomon et al., 2006; Armstrong & Kotter, 2008).

Occupational trends also influence purchasing behaviour. The increasing number of women in the workforce has resulted in an increase in male shoppers for household products. As a result, marketing aimed at the traditional homemaker role is now directed at both genders (Armstrong & Kotter, 2008).

The economic environment also impacts on the levels of disposable income of households that in turn impact on a customer's lifestyle (Armstrong & Kotter, 2008; Solomon, 2009). Customer markets are often segmented and tailored according to specific lifestyles or lifestyle images as perceived by customers. Customers express their lifestyle through activities, interests and opinions. Armstrong and Kotter (2008) argue that the demographics of a population provide information of who the customer is, while lifestyle in contrast is a source of information on why customers spend their income on certain products and services. Certain products or brands are often associated with certain lifestyles, which help to identify purchasing patterns (Solomon et al., 2006). Another relevant internal source of customer buying behaviour is that of an individual's personality and self-concept. People are unique, with unique personalities and drives. An individual's personality plays a big role in his/her buying behaviour. Since most personality traits are stable, customers tend to respond consistently to their environment (Armstrong & Kotter, 2008). Customers tend to favour brands that provide a good fit between their personality and the brand personality of the product. Armstrong and Kotter (2008, pg. 157) define a brand personality as "a specific mix of human traits attributed to a particular brand". For example, outdoor products are associated with tough people, charming products with upper class people and wholesome products with cheerful people.

Numerous other psychological dimensions such as motives, learning, perceptions, beliefs and attitudes influence buying behaviour (Armstrong & Kotter, 2008). Typically, products and services aim to meet a customer's needs. Needs inspire purchasing motives or drives and depending on the specific need, customers may choose between various products or brands (Armstrong & Kotter, 2008). Many theorists have proposed theories of motivations and needs. A popular model of needs is Abraham Maslow's hierarchy of needs. This model proposes that people have physical needs (hunger, thirst), safety needs (security, protection), social needs (belonging, love), esteem needs (self-esteem, recognition, status) and self-actualization needs (self-development and realisation) (Cao, Jiang, Oh, Li, Liao & Chen, 2013). While this model is not important in the context of this study, it illustrates that purchasing motives are formed by the desire to fill a particular need (Armstrong & Kotter, 2008). How customers act on motives, depend largely on their perceptions of available products and services. As sight is the most dominant sense when evaluating products, it is

important that visual appeal be considered in packaging and advertising (Armstrong & Kotter, 2008; Solomon, 2009). While needs, life stages, occupational trends or life style impact on buying behaviour, it is also important to consider the relative importance of the purchase to the customer and whether this is a low or high involvement purchase.

2.7 LOW AND HIGH INVOLVEMENT DECISION-MAKING

Choosing between various alternatives is not easy and choices are often influenced by a person's relative experience or knowledge about product options (Schiffman, O'Crass, Paladino & Carlson, 2014). Some customers quickly make a purchase choice, while others may weigh up the alternatives more carefully and engage in an extended information search before settling on a decision (Tanner & Raymond, 2012). The concept of a low and high purchase involvement decision refers to the relative importance of the purchase decision to the customer and involves personal feelings, level of interest and quality/quantity of information needed to make a decision (Tanner & Raymond, 2012; Schiffman et al., 2014). Typically, the level of involvement in a purchase action depends on the customer rather than the product (Tanner & Raymond, 2012). First time customers typically are more involved in the purchase action than repeat customers are. However, expensive purchases such as motor vehicles or property are typically high involvement for all customers (Tanner & Raymond, 2012). How customers react to low and high involvement purchases, are of particular interest when trying to predict purchasing patterns. According to Tanner and Raymond (2012) and Schiffman et al. (2014), many low involvement purchases are based on regular purchases with a high reliance on experience and information. These types of purchase decisions are carried out relatively soon after the customer becomes aware of the need and often involve less information search and comparison. In this case, customers make use of heuristics for decision-making. Low involvement purchases often become routine purchases and customers automatically purchase a product or brand without considering further options unless their routine preference is not available (Schiffman et al., 2014). Low involvement purchases involve limited problem solving as customers have prior information, but seek out slightly more information before a choice is made (Tanner & Raymond, 2012). The concept of impulse buying when customers make purchase choices on premeditated thought is closely linked to low involvement purchases. Marketers capitalise on these types of purchase actions

by utilising point of purchase displays for low involvement products (Tanner & Raymond, 2012). High involvement purchase decisions are less frequent than low involvement purchases and require more extensive information search and price comparisons as these purchases tend to be expensive or complex and poor decisions might have negative consequences (Tanner & Raymond, 2012). Bad decision-making can create feelings of post purchase dissonance or regret (Tanner & Raymond, 2012; Schiffman et al., 2014).

One could reason that the purchasing of milk would typically involve a low involvement decision as it is considered a typical household product. However, this might not always be the case. It was indicated earlier that customers' preferences are influenced by lifestyle and lifespan changes and at same stage; a customer might apply more information search with regards to the purchasing of milk. This might be the case when the person's health changes and the person may require more product information, which is typically displayed on the packaging. In addition, a person might move into a gold nest situation (living alone without dependent children) and therefore be able to afford more expensive, convenient products for example buying long-life milk in re-sealable containers instead of cheaper plastic bags without a re-sealable option.

2.8 SUMMARY OF PREVIOUS RESEARCH

In a study of packaged milk conducted by Adam and Ali (2014b), an overall a positive correlation between package design and buying behaviour was found, especially in products with rectangular designs and convenience in handling. In contrast, a negative correlation was found between buying behaviour and easy to tear pouch packaging (plastic sachets). This indicates that packaging design and convenience in handling influence buying behaviour.

With regards to materials used, research showed that tetrapak (packaging material made with layers of raw paper, plastics and aluminium) and glass bottles had strong correlations with buying behaviour while plastic bottles were negatively correlated with buying behaviour, indicating that customers were adverse to plastics used in packaging (Adam & Ali, 2014b). Green, red and blue colours were also positively correlated with buyer behaviour. Products packaged from 500ml to 1.5 litre all

positively correlated with buying behaviour, while sizes under 500ml were negatively correlated with buying behaviour (Adam & Ali, 2014b). The use of graphics and fonts both indicated a significant correlation with customer buying behaviour. In this study, dimensions of packaging information included brand name and nutritional information and both correlated with buying behaviour (Adam & Ali, 2014b).

Another study, conducted by the researchers Adam and Ali (2014a) on the impact of verbal elements of packaging on buying behaviour had similar results. The manufacturer's name, nutritional information and expiration date on labelling had a strong correlation with buying behaviour (Adam & Ali, 2014a). A study conducted by Ahmed et al. (2014) indicated that the packaging elements of colour, materials, design and innovation were all positively correlated with buying behaviour. The study concluded that overall packaging played an important role in influencing buying behaviour (Ahmed et al., 2014). The study by van Biljon and van Rensburg (2011) on branding and packaging design conducted in the South African context, found that price sensitivity played an important role in purchasing decisions in South Africa, however most of the respondents were willing to pay premium prices for brand and package design elements. Gilaninia et al. (2013) found that product information in packaging design showed the strongest link with customer buying behaviour.

Many of the researchers sourced, such as van Biljon and van Rensburg (2011) and Adam and Ali (2014b) tended to focus on specific dimensions of packaging or introduced additional aspects of packaging such as innovation and product information related to country of origin. As stated in the literature review, researchers do not agree on the exact dimensions of packaging which makes absolute comparison between studies difficult. However, certain trends surfaced when the studies of van Biljon and van Rensburg (2011), and Adam and Ali (2014b) were compared. Firstly, package size and variety seemed to be weaker indicators and had less powerful impact on buying behaviour. In contrast, product information and colour seemed to have a much stronger influence on buying behaviour. Studies conducted in the west indicated a stronger preference for glass and eco-friendly/recyclable products. However, this trend could be culturally specific. In poorer and developing countries such as South Africa, plastics may be a more preferred option in packaging since it is cheaper, while in developed countries more expensive but recyclable packaging may be preferred. Overall most

researchers agreed that packaging has an influence on buying behaviour, but disagreed on which elements of packaging are most influential and which features should be given special consideration over others. The purpose of this study was to determine which dimensions in the packaging of milk are deemed important by customers.

2.9 GAPS IN PREVIOUS RESEARCH AND ANTICIPATED VALUE OF THE STUDY

Research in the field of customer psychology, specifically in the packaging of products has been quite extensive with a variety of different product packaging dimensions tested. External influences and specifically social aspects such as age, gender and language have not been considered. In the South African context, culture may play a decisive role in the outcome of the results. Many of the sourced studies did not take price sensitivity of customers into account and focused more on one dimension of packaging such a written information (verbal) or colour rather than focusing on all of the dimensions in a holistic manner. Overall, direct comparisons are difficult, based on the unique nature of different products and customer preferences. These weaknesses were considered in the research design of this study. The anticipated benefit of this study was to provide a valuable contribution to marketers in the Nelson Mandela Bay area. By considering the outcomes of this study, the packaging of milk products can be evaluated and improved.

2.10 CONCLUSION

This chapter outlined the various literature on packaging and its dimensions as well as the findings of authors who conducted similar studies. Chapter three will outline the research methodology of the treatise.

CHAPTER 3 METHODOLOGY

3.1 INTRODUCTION

The purpose of the study was to explore customer preferences in terms of the packaging of milk products. To achieve this aim, a theoretical study was conducted to identify the main components of packaging, the purposes of packaging and customer decision-making behaviour. The theoretical study was presented in Chapter 2. A survey, with a questionnaire as data collection tool was also undertaken to probe the preferences of adult customers in the Nelson Mandela Bay area.

The purpose of this chapter is to provide an overview of the research design and methodology adopted to address the research questions and attain the objectives of this study. The measuring instrument, reliability, sample, data collection and data analysis are also discussed, as well as the ethical considerations and ethical procedures followed.

3.2 RESEARCH PARADIGM AND APPROACH

The research paradigm used in this study was positivistic. A positivistic paradigm is defined as a type of research approach that is centred on the philosophy that truth and reality are free and independent from the observer (Welman et al., 2005; Aliyu, Bello, Kasmin & Martin, 2014). A positivistic paradigm was appropriate for this study as the 'truth' about customer preferences for milk packaging was explored. The focus of this research did not require in-depth exploration of personal needs, desires or experiences of individual customers, which would be typical of a phenomenological study and a qualitative approach. A quantitative approach was appropriate for this study because a large number of the respondents were targeted by means of a questionnaire and their responses were coded and statistically analysed. A quantitative study makes use of numerical representation and the manipulation of observations for the purposes of explaining and describing a phenomenon, while in contrast a qualitative approach focuses on non-numerical explanations for discovering underlying meaning and patterns of relationships (Babbie & Mouton, 2002).

3.3 MEASURING INSTRUMENT

There is no universal accredited measuring instrument for testing customer preferences with regard to product packaging and its dimensions. This may be due to the uniqueness and variety of available packaging and products. This makes it difficult for accredited instruments to be developed in this area and therefore there was a need for a self-developed questionnaire. The instrument developed for this study was informed by past research conducted primarily by Adam and Ali (2014a) and Ahmed et al. (2014).

The measuring instrument used in this study consisted of two sections.

Section A: Biographical data

Section B: Dimensions of product packaging

Section A comprised of biographical data and gauged the respondents' age, language and gender through a check box method.

Section B comprised of 46 statements related to the preferences of customers with regard to the dimensions of product packaging and was measured on a five point Likert scale, ranging from strongly disagree (1) to strongly agree (5).

Section B (dimensions of product packaging) of the questionnaire was structured in the following manner:

Items 1-3: Colour as a consideration in purchasing behaviour
Items 4-9: Colour preferences
Items 10-14: Materials as a consideration in purchasing behaviour
Items 15-18: Material preferences
Items 19-21: Size as a consideration in purchasing behaviour
Items 22-25: Size preferences
Items 26-29: Design as a consideration in purchasing behaviour
Items 30-31: Design preferences
Items 32-36: Product information as a consideration in purchasing behaviour
Items 37-38: Product information preferences
Items 39-42: Convenience in handling as a consideration in purchasing behaviour

Items 43-46: Preferences in terms of convenience features

The questionnaire is attached as Annexure A and Table 3.1 presents the operationalisation of the variables tested in this study.

Table 3.1: Operationalisation of the variables

Variable	Description
Colour	Colour refers to the importance of creative and colour schemes in milk packaging as well as preferences in terms of specific colours.
Materials	Materials refer to importance of and choice in terms of carton, plastic, bottle and the extent to which environmentally friendly materials are preferred.
Size	Size refers to the importance of and choices in terms of milk volumes.
Design	Design refers to the importance of and aspects of design such as font, graphics, shape and layout and creative flair.
Product information	Product information refers to the importance of and preferences for nutritional information, detail, quantity, expiry date and non-essential information such as games/competitions.
Convenience in handling	Convenience in handling refers to the importance of and preference for carrying comfort and type of opening mechanism.

The next section explains validity and reliability considerations during the development of the questionnaire.

3.4 VALIDITY AND RELIABILITY CONSIDERATIONS

A self-developed instrument, namely a questionnaire was used in this study, so therefore it was important that reliability and validity were established. Validity is

defined as the degree to which a measure assesses a specific construct and to what extent conclusions and predictions can be drawn based on related scores (Phillips & Gully, 2009). Various types of validity such as face, content, criterion and construct should be established in the development of a questionnaire (Welman et al., 2005; Phillips & Gully, 2009).

Since there is no absolute measure with which to measure validity, validity in this study was primarily based on face, content and criterion validity. The development of the measuring instrument was informed by past research conducted by Adam and Ali (2014a) and Ahmed et al. (2014). To ensure face validity, the instrument was examined by an IOP expert in customer psychology. The content validity of the research instrument was informed by the literature study. Criterion validity was achieved by comparing the instrument with other instruments from various research.

Reliability is defined as the dependency or consistency in which a measure assesses a characteristic (Phillips & Gully, 2009). Reliability is evident when a measuring instrument delivers the same results when it is applied to the same target group at different periods (Phillips & Gully, 2009; Maholtra, 2010). Reliability is a measurement of trust. The calculation of Cronbach alpha coefficients was used to measure reliability. Obtaining reliable Cronbach alpha coefficients for each dimension of product packaging was an essential prerequisite for proceeding with a canonical correlation analysis of the various packaging dimensions. The Cronbach alphas obtained for the various sub-scales ranged between 0.96 and 0.89, which implied reliability (Maholtra, 2010).

3.5 POPULATION

The population for this study consisted of adult shoppers in the Nelson Mandela Bay area. Adult shoppers, in the case of this study, referred to people over the age of 18 years and who typically visited shops or shopping malls with the intention of buying products, which could include milk products.

3.6 SAMPLING TECHNIQUE AND JUSTIFICATION

The sampling techniques used for this study consisted of snowball and quota sampling. A snowball sampling technique involves approaching individuals from the population group who then participate and act as informants to identify other members from the population for inclusion in the sample (Welman et al., 2005). Quota sampling involves striving for proportions in relation to specific strata related to the population (Welman et al., 2005). As indicated, the sample was drawn from adult shoppers in the Nelson Mandela Bay area who were 18 years and older. Respondents were dispersed over the Nelson Mandela Bay area to obtain a wide variety of respondents. Fieldworkers were used to assist with the administration of the questionnaire. These fieldworkers were carefully selected and trained in terms of how to approach potential participants. In addition, they were informed about how to explain the purpose of the study as well as provide instructions for completion of the questionnaire.

3.7 SAMPLING SIZE

A target of 200 questionnaires was set to provide sufficient data to perform statistical analysis and to increase the reliability of the findings of the study. A few more were collected. When the data was captured on Microsoft Excel®, it emerged that some questionnaires were not answered properly and therefore they were not included. The final number of respondents was 199.

3.8 PILOT STUDY

A pilot study was conducted at a supermarket in the Nelson Mandela Bay area with a four point Likert scale and 15 respondents. The outcomes indicated that the respondents felt the measuring instrument was straightforward and easy to understand, but too time consuming. It was also found that the respondents felt neutral on many items and expressed a need for a neutral response option. Based on these findings, the final measuring instrument was redesigned with fewer items and changed to a five point Likert scale with a neutral option.

3.9 DATA COLLECTION PROCEDURE

The researcher/fieldworkers approached the respondents at various locations in the Nelson Mandela Bay area, which included shopping malls and private residences based on the snowball sampling technique (referral by respondents) and requested them to participate in the study. After agreeing to be involved in the study, the respondents were provided with a copy of the questionnaire and an explanation was provided in terms of how to complete it. Once the questionnaire was completed, the respondents were asked to recommend other people who met the necessary criteria and who might be willing to participate in the study. The researcher/fieldworker collected the questionnaires once they were completed and ensured they were fully and correctly completed, before safely storing the data in a secure place.

3.10 DATA PROCESSING

Once the questionnaires were collected, the data was cleaned, coded and then transferred to a spreadsheet in Microsoft Excel®. A statistician from the NMMU used Statistical Package for the Social Science (SPPS) software to conduct the necessary statistics.

3.11 DATA ANALYSIS

A frequency distribution table was used to display the results to obtain a good understanding of the sample, based on the demographical data (age, language and gender) collected via the questionnaire. Descriptive statistics were used to indicate the means and standard deviations for each of the dimensions of packaging that formed an important part in answering the research objectives. A canonical correlation analysis was used to establish how strong or weak the relationships were between the various dimensions. According to Ahmed et al. (2014), correlation values range from 0 (no correlation) and 1 (perfect correlation).

As indicated, canonical correlation analysis was used on the product packaging dimensions to identify statistically significant relationships. The use of a canonical

correlation in relation to the descriptive statistical data obtained from the measuring instrument, gave an indication of how strongly these dimensions correlated with other dimensions of product packaging as a whole. A canonical correlation is a multivariate analysis of correlation and a canonical is the statistical term for analysing latent variables that represent multiple variables (statisticalsolutions, 2016). By considering the correlations between the dimensions, customers' preferences in terms of the overall packaging structure could be inferred. This method relies on reliable data. As indicated earlier, the Cronbach alpha scores for the various sub-scales (dimensions of milk packaging) indicated reliability. By considering and interpreting the data obtained from the survey as well as the mean scores, qualitative outcomes in terms of customer preferences could be inferred.

3.12 ETHICAL CONSIDERATIONS

The following ethical issues were considered. Respondents were informed about the purpose of the survey, what the survey was about and that the decision to participate in the study was voluntary. They were given the opportunity to opt out at any point. They were assured that their responses would remain confidential. Participation in the study was considered as informed consent. No personal or identifying information was used or revealed.

3.13 CONCLUSION

This chapter gave an overview of the methodology that was followed by the researcher. The purpose of the study was to identify customer preferences with regard to the packaging dimensions of milk to identify how these dimensions could potentially influence customer buying behaviour. A questionnaire was used as data collection tool and 199 people participated in the study. The next chapter outlines the results of the study, which are subsequently discussed. The main findings of the study are considered by way of data and statistical techniques.

CHAPTER 4

PRESENTATION AND INTERPRETATION OF THE EMPIRICAL RESULTS

4.1 INTRODUCTION

As stated in Chapter one, this treatise concerns customer preferences for milk packaging which could potentially impact buying behaviour. The objective of this study was to investigate the preferences of adult shoppers in the Nelson Mandela Bay area in terms of milk packaging. Specifically, customer preferences with regards to the dimensions of milk packaging namely colour, materials, size, design, product information and convenience in handling were considered.

4.2 REVIEW OF DEMOGRAPHICAL DATA

Table 4.1 outlines the demographics of the surveyed sample with reference to age, language and gender. These demographics provide a basis for generalising the results of the study.

Table 4.1: Demographical data: Age, gender and language

Age, Gender and Language		
Age	**Frequency**	**Percentage**
18-25	*110*	*55.3*
26-35	*42*	*21.1*
36-45	*25*	*12.6*
46+	*22*	*11.1*
Gender	**Frequency**	**Percentage**
Male	*68*	*34.2*
Female	*113*	*65.8*
Language	**Frequency**	**Percentage**
English	*93*	*46.7*

Afrikaans	*32*	*16.1*
isiXhosa	*55*	*27.6*
Other	*19*	*9.5*

Table 4.1 provides an overview of the demographics of the sample population in the study. A significant portion of the sourced sample population consisted of females (65.8%). Males comprised 34.2% of the sample. This may either be due to research bias or due to the fact that traditionally women are more likely to take on the role of household shopper. Fifty five point three percent (55.3%) of the sample consisted of respondents between the ages of 18 and 25 years, while 21.1 % of the sample was aged between 26 and 35. This indicated that the sample consisted mostly of a typically young group of respondents in early and young adulthood. Twelve point six percent (12.6%) of the respondents indicated that they were between 36 and 45 years of age, while only 11.1 % indicated they were over the age of 46. The skewed sample towards younger shoppers should be taken into consideration during the interpretation of results.

In terms of language, the majority of the respondents indicated their home language as English (47.6%), followed by isiXhosa (21.6%) and Afrikaans (16.1%). A small percentage (9.5%) of the respondents indicated that they their home languages were not listed in the questionnaire. One could therefore reason that this mix gives an appealing diversity to the sample.

4.3 REVIEW OF DESCRIPTIVE STATISTICS IN PROPOSED DIMENSION GROUPINGS

By analysing the response outcomes for each item, insight was gained as to the relevence and strength of each dimension. Cronbachs alphas were calculated to determine the reliability of each dimension. The first packaging dimension tested was colour.

4.3.1 Dimension 1: Colour

Items 1 to 3 tested the importance of the colour of milk packaging for the respondents. The rest of the items tested the preferences of the sample for specific colours. The results are presented in Table 4.2.

Table 4.2: Descriptive statistics for the dimension: Colour

Dimension: Colour		N	Mean	SD
1.	The creative use of colours in milk packaging influences my decision when buying milk	**199**	**2.98**	**1.33**
2.	I am more likely to buy milk packaged in certain colour schemes	**199**	**2.91**	**1.19**
3.	Colour on the packaging is important when I choose which milk to buy	**199**	**2.82**	**1.24**
4.	For me, green is the most suitable colour for packaging milk	**199**	**2.65**	**1.18**
5.	For me, yellow is the most suitable colour for packaging milk	**199**	**2.32**	**1.07**
6.	For me, red is the most suitable colour for packaging milk	**199**	**2.49**	**1.16**
7.	For me, blue is the most suitable colour for packaging milk	**199**	**3.20**	**1.18**
8.	For me, orange is the most suitable colour for packaging milk	**199**	**2.40**	**1.26**
9.	For me, purple is the most suitable colour for packaging milk	**199**	**2.34**	**1.29**

The results for items 1 to 3 indicate that the responses toward the colour dimension show a tendency toward neutral responses with mean scores ranging between 2.82 and 2.98. The standard deviations for these items range between 1.19 and 1.33, indicating differences and lack of conformity in terms of how the respondents responded to these items. These results indicate that the dimension colour used in the

packaging of milk did not emerge as a strong customer preference. Responses to the different colours were also varied, with blue emerging as the most preferecd colour (mean score 3.2) and yellow the least prefered colour (mean score 2.32).

4.3.2 Dimension 2: Materials

Items 10 to 14 tested the importance of materials used in milk packaging for the respondents. The rest of the items tested the preferences of the sample for specific materials. The results are presented in Table 4.3.

Table 4.3: Descriptive statistics for the dimension: Material

Dimension: Materials		N	Mean	SD
10.	The materials used to package milk e.g. carton, plastic or bottle, influence my choice of product	**199**	**3.66**	**1.26**
11.	When buying milk, I tend to stick to one type of packaging	**199**	**3.40**	**1.27**
12.	I am more likely to purchase milk packaged in environmentally friendly materials	**199**	**3.38**	**1.18**
13.	I am particular about the packaging material used when buying milk	**199**	**3.21**	**1.15**
14.	The materials used to package milk are an important aspect of the product	**199**	**3.44**	**1.10**
15.	Plastic bottles are the most suitable material for packaging milk	**199**	**2.91**	**1.14**
16.	Carton is the most suitable material for packaging milk	**199**	**3.60**	**1.23**
17.	Glass is the most suitable material for packaging milk	**199**	**2.81**	**1.27**
18.	Plastic (sachet bags) are the most suitable material for packaging milk	**199**	**2.32**	**1.22**

The sample group generally agreed that the materials used in the packaging of milk products influence their purchase choice with a mean score of 3.66. However, a

standard deviation of 1.26 indicated a lack of conformity in how the respondents answered this item. The responses in terms of type of material leaned a bit more toward neutral responses. The mean scores for items 10 to 14 varied between 3.21 and 3.66 and the standard deviation scores between 1.10 and 1.27 do not indicate conformity in the responses. Carton emerged as the most suitable or preferred packaging material for milk products with a mean score of 3.6, indicating agreement. Plastic were found to be least suitable with a low mean score of 2.32.

4.3.3 Dimension 3: Size

Items 19 to 21 tested the importance of size used in milk packaging for the respondents. The rest of the items tested the preferences of specific sizes. The results are presented in Table 4.4.

Table 4.4: Descriptive statistics for the dimension: Size

Dimension: Size		N	Mean	SD
19.	The size of the packaging impacts my purchase choice when buying milk	**199**	**3.43**	**1.20**
20.	I tend to buy milk in same size packaging	**199**	**3.63**	**1.21**
21.	The size of the packaging for milk is important to me	**199**	**3.45**	**1.20**
22.	I prefer to buy 500ml of milk	**199**	**2.28**	**1.19**
23.	I prefer to buy 1ℓ of milk	**199**	**3.17**	**1.30**
24.	I prefer to buy 2ℓ of milk	**199**	**3.16**	**1.30**
25.	I would prefer purchasing milk in quantities greater than 2 litres	**199**	**2.79**	**1.34**

Respondents indicated mostly neutral responses with regard to size as a dimension of packaging; although the responses could be described as high neutral towards agree responses with mean scores ranging from 3.43 to 3.63 for items 19 to 21. However, standard deviations of between 1.20 and 1.21 indicate a clear lack of conformity among the respondents of this sample. The respondents agreed that they tended to buy milk

in the same size packaging when they bought milk with a mean score of 3.36. The mean score of 3.36 indicates a high neutral outcome for item 20. These results indicate the sample generally felt neutral or agreed that they tended to purchase milk packaged in the same size.

In terms of volume, a lower preference emerged for milk packaged in smaller volumes (500ml) with a low mean score of 2.28. This indicates the sample did not show a preference for milk packaged in 500ml sizes. Milked packaged in larger sizes (1ℓ and 2ℓ) received mean scores between 3.17 and 3.16 indicating the majority of the sample felt neutral or indicated a preference for milk packaged in these sizes. Milk packed in sizes greater than 2 litres received a mean score of 2.79 indicating a neutral or slightly negative preference; however, a standard deviation score of 1.34 indicates the sample responded differently on this item and a market may exist for milk packaged in such volumes. Generally, the standard deviations indicate a lack of conformity in terms of how the respondents responded to size dimension.

4.3.4 Dimension 4: Design

Items 26 to 29 tested the importance of design used in milk packaging for the respondents. The rest of the items tested the preferences of the sample for specific aspects of design. The results are presented in Table 4.5.

Table 4.5: Descriptive statistics for the dimension: Design

Dimension: Design		N	Mean	SD
26.	The design on the packaging influences which milk I buy	**199**	**2.97**	**1.19**
27.	The font used in the packaging design influences which milk I buy	**199**	**2.89**	**1.13**
28.	The graphics used in the packaging design influences which milk I buy	**199**	**2.87**	**1.18**
29.	The shape and layout of the design used in the packaging influences which milk I buy	**199**	**3.04**	**1.13**

30.	I prefer milk packaged in a creative manner	**199**	**3.14**	**1.09**
31.	I prefer milk packaging designs that are bright and lively	**199**	**3.21**	**1.09**

Responses to the dimension design shows a tendency towards neutral responses with mean scores varying between 2.87 and 3.14 for items 26 to 29. The standard deviations varied between 1.13 and 1.19, which is indicative of a lack of conformity in terms of the responses. These results indicate that the sample generally responded in a neutral manner on this dimension and that design was not a especially strong dimension in terms of customer preference. Items 30 and 31 had means scores between 3.14 and 3.21 indicating the repondents had a neutral posotive preference for packaging designs that are bright and creative.

4.3.5 Dimension 5: Product information

The product information dimension was measured by items 32 to 36 and sought to investigate to what degree the product information printed on milk packaging was important to the respondents. The rest of the items tested the preferences of the sample for specific aspects of product information. The results are presented in Table 4.6.

Table 4.6: Descriptive statistics for the dimension: Product information

Dimension: Product information		N	Mean	SD
32.	Product information is an important component of packaged milk	**199**	**3.59**	**1.15**
33.	I always check the nutritional information before I choose what milk to purchase	**199**	**3.14**	**1.18**
34.	I am more likely to purchase milk with detailed product information	**199**	**3.28**	**1.19**
35.	I read in detail what is on the packaging before buying milk	**199**	**3.06**	**1.23**

36.	I check the expiry date before I decide what milk to purchase	**199**	**3.82**	**1.32**
37.	I enjoy having additional non-essential information on packaged milk, such as games/competitions and extra facts	**199**	**2.93**	**1.25**
38.	The more information that is provided on the packaging, the more trustworthy I consider the product to be	**199**	**3.32**	**1.20**

Even though the respondents indicated that they agreed product information was an important dimension of milk packaging (item 32 - mean score 3.59) they indicated that they did not give much attention to the information on milk packaging other than checking the expiry date (item 36 - mean score 3.82). The respondents gave neutral responses in terms of detailed information (items 34 and 35) as well as non-essential information such as games/competitions and extra facts (item 47). Mean scores for these items were between 2.93 and 3.32).

4.3.6 Dimension 6: Convenience in handling

Items 39 to 42 tested the importance of convenience in handling of milk packaging for the respondents. The rest of the items tested the preferences of the sample for specific handling mechanisms. The results are presented in Table 4.7.

Table 4.7: Descriptive statistics for the dimension: Convenience in handling

Dimension: Convenience in handling		N	Mean	SD
39.	I prefer to buy milk in packaging that can be handled easily	**199**	**3.84**	**1.10**
40.	The utility of a handle on milk packaging is important to me	**199**	**3.49**	**1.16**
41.	I choose milk products based on how the easily the packaging is opened, e.g. whether it has a pull top, screw top, aluminium strip or nothing	**199**	**3.64**	**1.18**

42.	Convenience in handling features such as handles and lid design influence my choice	**199**	**3.48**	**1.26**
43.	I prefer to buy products with plastic screw top lids	**199**	**3.42**	**1.33**
44.	I prefer to buy products with aluminium strip lids	**199**	**2.74**	**1.19**
45.	I prefer to buy products with plastic pull tops lids	**199**	**3.03**	**1.33**
46.	I prefer to buy products with corner cut openings	**199**	**2.65**	**1.34**

Packaging that can easily be handled was found to have a strong preference among the respondents with a mean score of 3.84 on item 39. Similarly, handle features as well as easy to open lid mechanisms were favoured by responders with mean scores ranging between 3.48 and 3.64. In terms of lids, plastic screw tops were the most preferred (item 43 - mean score 3.42) and corner cut openings (item 46 - means score 2.65) were the least preferred. Standard deviations varied between 1.10 and 1. 34 and this indicated a lack of conformity among the responses.

4.4 RELIABILITY

As already indicated in Chapter 3, acceptable Cronbach coefficient alpha scores were obtained for the various dimensions of the questionnaire. Cronbach alphas determine the reliability of the instrument. Reliability on all of the dimensions was required before a canonical correlation analysis could be conducted. If a dimension were found to be unreliable, it would be omitted from further statistical calculations. Table 4.8 outlines the Cronbach alphas obtained for the various packaging dimensions.

Table 4.8: Cronbach alphas for packaging dimensions

Dimension	Cronbach alpha
Colour (Items 1-3)	**0.8935**
Materials (Items 10-14)	**0.7573**
Size (Items 19-21)	**0.6929**
Design (Items 26-29)	**0.8257**
Product information (Items 32-36)	**0.7501**
Convenience in handling (Items 39-42)	**0.7328**

According to Maholtra (2010), a Cronbach's alpha of 0.60 or above is considered acceptable. All of the Coefficient alphas representing the various dimensions were above 0.60, so the measuring instrument could be considered reliable and therefore a canonical correlation analysis could be conducted.

4.5 CORRELATION ANALYSIS

A correlational analysis was conducted among all of the dimensions of packaging, as measured in the questionnaire, to determine the significance of these dimensions. This method was used to identify whether customers considered the dimensions of packaged milk related and in a holistic manner. This provided a basis to gauge which dimensions customers regarded as important and related.

Table 4.9 indicates the correlation coefficients obtained for the dimensions **Colour (CL), Material (MA), Size (SZ), Design (DS), Product Information (PI) and Convenience in Handling (CH)**. For the purposes of this study, statistically significant correlations are outlined in red.

Table 4.9: Canonical correlations

	CL	MA	SZ	DS	PI	CH
CL	1	0.32971	0.26396	0.534418	0.369509	0.231024
MA	x	1	0.561733	0.348414	0.420763	0.551553
SZ	x	x	1	0.29223	0.402265	0.456268
DS	x	x	x	1	0.351332	0.293031
PI	x	x	x	x	1	0.534269
CH	x	x	x	x	x	1
p-values associated with the above canonical correlations						
	CL	MA	SZ	DS	PI	CH
CL	1	0.002622	0.031647	<0.0000	0.000169	0.276534
MA	x	1	<0.0000	0.003316	0.000387	<0.0000
SZ	x	x	1	0.042986	0.000297	<0.0001

DS	**x**	**x**	**x**	**1**	**0.009976**	**0.016208**
PI	**x**	**x**	**x**	**x**	**1**	**<0.0001**
CH	**x**	**x**	**x**	**x**	**x**	**1**

Table 4.9 indicates that all of the dimensions correlated with each other except for colour (CL) and convenience in handling (CH), which did not correlate with each other. A correlation score of 0.231024 was obtained for the correlation between colour and convenience in handling with an associated p value of 0.27. These results indicate that colour and convenience in handling are not significantly related. The outcomes of the canonical correlations show that generally the dimensions of packaging are related to each other by the customer and are perceived in a holistic manner. This indicates that customers who value specific dimensions are also likely to evaluate the product on other dimensions and consider it holistically when making a purchase decision. These results indicate to marketers that they must consider the structure of packaging in a holistic manner.

4.6 REVIEW OF THE RESEARCH QUESTIONS AND THE RESEARCH OUTCOMES

The measuring instrument was designed to identify the preferences of customers in the Nelson Mandela Bay area in terms of the various dimensions of packaging. In this section, the research questions are restated to indicate the main findings with regards to each research question.

Research question 1: What are customer preferences for colour in milk packaging?

Colour in milk packaging did not emerge as important to the respondents in the survey and the responses were mostly neutral. Blue emerged as the most preferred colour and yellow and purple the least preferred colours. These results are therefore contradictory to the findings of Adam and Ali (2014b) and Ahmed et al. (2014) who indicated colour as an important dimension in packaging. Even though colour may be regarded as important as a packaging dimension, in terms of this study, which focused on the packaging of milk, colour was not deemed important.

Research question 2: What are customer preferences for materials in milk packaging?

The respondents indicated that the materials used in milk packaging were important to them. Carton emerged as the most preferred packaging material and plastic the least preferred material. Interestingly and but also concerning was that the respondents did not show a preference for environmentally friendly materials.

Research question 3: What are customer preferences for size in milk packaging?

The respondents indicated a preference for sticking to packaging of the same volume when purchasing milk. Bigger volumes (1 and 2 litre) were preferred rather than small volumes (500ml).

Research question 4: What are customer preferences for design in milk packaging?

Neutral responses were received for all of the items measuring design in milk packaging, which implied that the respondents were not concerned with design and design features of milk packaging such as font, graphics, shape, layout or other creative elements.

Research question 5: What are customer preferences for product information in milk packaging?

Although the respondents indicated that product information was important to them, they mostly focused on the expiry date of milk products and were less concerned with nutritional information or details about the product.

Research question 6: What are customer preferences for convenience in handling features in milk packaging?

Convenience in handling emerged as an important dimension of milk packaging. Handling and opening options were most important, with a preference for plastic screw tops and a low preference of corner cut openings.

Research question 7: To what extent does the target group perceive different dimensions of milk packaging as a coherent whole?

The results from the canonical analysis revealed that the packaging dimensions related significantly with each other, with the exception of colour and convenience in handling that correlated with all of the other dimensions but not with each other. Colour in general was not considered that important to the respondents while convenience in handling was an important factor. All and all, one could therefore conclude that the respondents did perceive milk packaging as a coherent whole and that all of the elements should be well combined to appeal to customer preferences.

CHAPTER 5 FINAL CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The purpose of the study was to explore the preferences of consumers with regards to milk packaging. To attain this purpose, research questions were formulated and a theoretical study was undertaken. An empirical study in the form of a survey with a questionnaire as data collecting tool was conducted amongst adult shoppers in the Nelson Mandela Bay area. The biographical data collected in the survey revealed that the respondents were mostly female (65.8%), between the ages of 18 and 35 (18-25 and 26-35 when combined made up 76.4% of the sample) and English speaking (46.7%). Other ages, genders and language speakers made up the minority of the sample.

In chapter four, the outcomes of the statistical analysis were presented in order to address the research questions. Chapter five provides a conclusion to this study and treatise by providing a summary of the key findings as well as a discussion regarding recommendations for South African marketers in terms of packaged milk. Limitations of the study are discussed and recommendations for future research are provided.

5.2 SUMMARY OF THE RESEARCH QUESTIONS

Table 5.1: Summary of the research questions

Research question 1: What are customer preferences for colour in milk packaging?	**The colour dimension was found to have weak influence. Blue appeared as the most preferred colour.**
Research question 2: What are customer preferences for materials in milk packaging?	**The materials dimension was found to be important. Carton was the most preferred material and plastic sachet bags were found to be the least preferred.**

Research question 3: What are customer preferences for size in milk packaging?	**The size dimension was found to be important. One and two litres were preferred to smaller quantities.**
Research question 4: What are customer preferences for design in milk packaging?	**The design dimension was found to have a weak influence with no clear preferences.**
Research question 5: What are customer preferences for product information in milk packaging?	**The information dimension of packaging was important, especially the expiration date. Customers preferred detailed information on milk packaging.**
Research question 6: What are customer preferences for convenience in handling features in milk packaging?	**The convenience in handling dimension emerged as important with special emphasis on a handle feature.** **Screw top lids were found to be the preferred choice followed by plastic pull top lids and aluminium strips. Corner cut openings were found to be the lid mechanism least preferred.**
Research question 7: To what extent does the target group perceive different dimensions of milk packaging as a coherent whole?	**Packaging dimensions related significantly with each other with the exception of colour and convenience in handling that correlated with all the other dimensions but not with each other.**

5.3 DISCUSSION OF EMPIRICAL FINDINGS IN COMPARISON TO THE MAIN THEORETICAL FINDINGS

The results of the study resonated with many aspects discussed in the literature review. However, it also contradicted many of these findings. A finding of Silayoi and Speece (2007) indicated that respondents might place a weaker emphasis on product packaging dimensions with low involvement purchases. However, certain dimensions of packaging were important to the respondents in this study. Silayoi and Speece

(2007) also indicated that the use of colour for low involvement purchases is particularly important as colour helps attract customer attention to the product. However, the outcomes of this study indicated that customers did not have strong colour preferences with regards to packaged milk. Vibrant colours that should be the most useful for attracting attention had the lowest preference among the respondents in this study. However, the use of colour to attract the attention of customers was not investigated and this may be an avenue for future research. Milk can be considered a necessity for many households and therefore customer needs might provide more impetus for buying behaviour than the colour of the packaging. Silayoi and Speece (2007) argue that low involvement products are often marketed through generic brands as packaging pricing can be lowered significantly. Large sized packaging was also perceived to have more value. Customer use of generic brands with few outstanding packaging elements may have had an influence on the high level of neutral responses obtained in the study. Generally, customers showed a preference for large packaging sizes but this result is difficult to relate to only packaging as it also affected the volume of the contents. Ahmed et al. (2014) outlined the importance of the use of eco-friendly materials. The results of the study showed a clear preference for carton but plastics still had a mean score of 2.91 that seemed to indicate that South Africa has a weaker eco-friendly culture.

Shimp (2010) and Ahmed et al. (2014) argued the importance of product information and labelling especially in the case of food and milk when nutritional information is used. The results of the study seemed to reinforce these findings as product information had a moderate to strong influence on buying behaviour for packaged milk. In the study on packaged milk conducted by Adam and Ali (2014b), it was found that there was a positive correlation between package design and buying behaviour, especially on products with rectangular designs and convenience in handling features. However, the findings of this study were contradictory as design was found to be a weak dimension with no clear preference.

Convenience in handling features as its own dimension emerged as a preference. The outcomes of this study mirrored the negative view of easy to tear corner cut packaging found in the study by Adam and Ali (2014b). Findings on the materials used in packaged milk seemed to contrast the study of Adam and Ali (2014b). In their study,

preference was shown for glass packaging with a low desire for plastics. The outcomes of this study revealed the complete opposite with a clear preference for carton followed by plastic materials. The sample generally regarded blue as a preferred colour scheme for milk packaging while little preference was shown for other colours such as red and green. This also contrasts to the findings of Adam and Ali (2014b) who regarded colour as an important dimension. The impact of product size and the use of nutritional information seemed be important aspects of packaged milk that supported the literature findings. The study conducted by Gilaninia et al. (2013) indicated that product information in packaging design had the strongest influence on customer buying behaviour. In this study, product information was also found to be a preference for customers, although the most important information turned out to be the expiry date of the milk product. The study by van Biljon and van Rensburg (2011) conducted in the South African context on branding and packaging design, found that price sensitivity played an important role in purchasing decisions in South Africa. This element was not included in this study but may have resulted in different outcomes and is included as both a limitation of this study as well as a recommendation for future research. While some dimensions or dimensions of packaging contradicted or supported the sourced literature, generally the outcomes of this study reinforced the literature findings on the importance of packaging for customers.

5.4 RECOMMENDATIONS

The study outlined key findings that can be incorporated into specific recommendations. Between various dimensions of packaging, the strongest preference for customers was product information, convenience in handling features, materials and size. Marketers should focus primarily on 1ℓ or 2ℓ volumes packaged in carton containers. However, there may be a market to be gained for milk packaged in sizes greater than 2ℓ. Based on the findings and literature, customers may be averse to milk packaged in plastic sachets. However, pricing elements should be included in future research. It is important to include convenience in handling features in the packaging design. Respondents found screw top lids or plastic pull rings to be the most appealing lid mechanisms. Aluminium pull strips and corner cut openings were regarded as poor lid mechanisms by the respondents and marketers should avoid these in designing products or they should consider alternative designs that are more

convenient. The design should also incorporate detailed product information with special emphasis on nutritional information. Expiration dates were found to be important and this should be displayed more prominently to grab customer's attention. Colour in terms of milk packaging was not found to be important. Vibrant colours were found to be least preferred by the sample. Blue was the more preferred colour scheme for packaged milk. It is recommended that marketers use blue as their primary colour theme. Colours and designs, including elements such as graphics and fonts were found to be less important, and it is therefore recommended that marketers focus primarily on practicality and convenience when designing packaged milk.

The study also revealed significant correlations between most of the dimensions of milk packaging and the design of such packaging should therefore be coherent. Even though buying milk could be considered a low involvement purchasing decision, the dairy industry is competitive and all attempts should be made to earn and maintain competitive edge.

5.5 LIMITATIONS OF THE STUDY

While this study did yield practical results and significant correlations, various limitations of this study need to be acknowledged. Although a pilot study was conducted, the results of the study indicated that many of the respondents wanted a neutral option instead of a forced choice scenario. The consequence of including a neutral option in the final data collection process is that a large portion of the respondent's sources indicated neutral responses across a large variety of dimensions. This made clear preferences difficult to identify but did aid in potentially gauging the importance of the dimensions to the respondents.

Another limitation was the use of a sampling technique. While the use of the snowball and quota sampling techniques were effective in terms of generating responses, it was found that many respondents referred people close to their own demographic that may have resulted in a large portion of the sample being female, younger and mostly English speaking.

Since this study was based on a self-developed instrument, there was no absolute measure with which to compare it and this meant that validity could not be proven by statistical means. It was found that some respondents skipped items in the measuring instrument and this resulted in a lot of scrapped data. In retrospect, one dimension that could have had a big impact on this study is the price dimension of products. The trade-off between packaging dimensions and product price may have led to very different results.

5.6 CONTRIBUTION OF THE STUDY AND CONCLUSION

This study contributes to the dairy and marketing industries in South Africa, as well as the field of customer psychology in better understanding South African customers. This study provides further insight into customer preferences in terms of milk packaging. The recommendations and limitations that have been proposed provide a basis for future research.

REFERENCE LIST

Adam, M.A. and Ali, K. (2014a). Impact of verbal elements of packaging of packaged milk on customer buying behaviour. *International Journal of Business and Social Science, 5*(1), pp. 94-106.

Adam, M.A. and Ali, K. (2014b). Impact of visual elements of packaging of packaged milk on customer buying behaviour. *Interdisciplinary Journal of Contemporary Research in Business*, *5*(11), pp. 118-160.

Ahmed, R.R., Parmar, V. and Amin, M.A. (2014). Impact of product packaging on customer's buying behaviour*. European Journal of Scientific Research, 120*(2), pp. 145-157.

Akabogu, C. (2013). Application of the "View" concept of packaging in evaluation of promotional effectiveness. *Business Management Dynamics, 3*(1), pp. 47-55.

Aliyu, A.A., Bello, M.U., Kasmin, R. and Martin, D. (2014). Positivist and non-positivist paradigm in social science research: conflicting paradigms or perfect partners? *Journal of Management and Sustainability, 4*(3), pp. 79-95.

Ampuero, O. and Vila, N. (2006). Customer perceptions of product packaging. *Journal of Customer Marketing*, *23*(2), pp. 100-112.

Babbie, E. and Mouton, J. (2002). *The practice of social research: South African edition.* Cape Town: Oxford University Press Southern Africa.

Cao, H., Jiang, J., Oh, L., Li, H., Liao, X. and Chen, Z. (2013). A Maslow's hierarchy of needs analysis of social networking services continuance. *Journal of Service Management*, *24*(2), pp. 170-190.

Chitty, W., Barker, N., Valso, M. and Shimp, T. (2011). *Integrated marketing communications* (3rd ed.). Melbourne: Cengage Learning.

Department of Agriculture, Forestry and Fisheries, Republic of South Africa. (2012). *A profile of the South African diary market value chain.* Arcadia, Pretoria: Directorate Marketing.

Du Plessis, P.J. and Rousseau, G.G. (2007). *Buying behaviour: understanding customer psychology and marketing.* Cape Town: Oxford University Press Southern Africa.

Eldesouky, A., Pulido, A.F. and Mesias, F.J. (2005). The role of packaging and presentation format in consumers' preferences for food: an application of projective techniques. *Journal of Sensory Studies*, (30), pp. 360-369.

Gilaninia, S., Ganjinia, H. and Charmchi, K. (2013). Affecting dimensions of packaged milk production on Guilan customer behaviour. *Arabian Journal of Business and Management Review, 1*(3), pp. 29-40.

Jinkarn, T. and Suwannaporn, P. (2015). Trade-off analysis of packaging attributes for foods and drinks. *British Food Journal*, *117*(1), pp. 139-156.

Karimi, P., Mahdieh, O., Rahmani, M. (2013). The study of relationship between packaging elements and purchase behaviour: customers of food, cosmetics and health products. *Interdisciplinary Journal of Contemporary Research in Business*, *5*(3), pp. 281-295.

Keller, K.L. (2009). Choosing brand elements to build brand equity. In S. Wall (ed.). *Strategic Brand Management.* (3rd ed.) (pp. 187-196). Delhi: Dorling Kindersley.

Kotler, P. and Armstrong, G. (2008). *Principals of marketing.* Cape Town: Pearson.

Lamb, C., Hair, J. and McDaniel, C. (2007). *Marketing* (9th ed.). Boulevard, Arlington: Cengage Learning.

Maholtra, N.K. (2010). *Marketing research: an applied orientation* (6th ed.). New Jersey: Pearson.

Marsh, K. and Bugusu, B. (2007). Food packaging - Roles, materials and environmental issues. J*ournal of Food Science, 72*(3), pp. 39-55.

Matijevic, B. and Mabic, M. (2013). The colours of milk labels: Do people know what they mean? *Journal of Hygienic Engineering and Design*, *7*, pp. 134-138.

Mouton, J. (2014). *How to succeed in your Master's and Doctoral studies. A South African guide and resource book.* Pretoria: Van Schaik Publishers.

Phillips, J. and Gully, S. (2009). *Strategic staffing* (2nd ed.). Cape Town: Prentice Hall.

Prem, M. (2016). *Legal requirements for product packaging and labelling: important advice for getting this important advertising and information device right.* [Online]. Available at: http://www.smesouthafrica.co.za/16487/Legal-requirements-for-product-packaging-and-labeling/ (Accessed 9 December 2016).

Rettie, R. and Brewer, C. (2000). The verbal and visual components of package design. *Journal of Product and Brand Management, 9*(1), pp. 56-70.

Schiffman, L., O'Crass, A., Paladino, A. and Carlson, J. (2014). *Consumer behaviour* (6th ed.). Australia: Pearson.

Scott, L. and Vigar-Ellis, D. (2014). Consumer understanding, perceptions and behaviours with regard to environmentally friendly packaging in a developing nation. *International Journal of Consumer Studies*, (38), pp. 642-649.

Shimp. T.A. (2010). *Integrated marketing communication in advertising and promotion* (8th ed.). South Carolina: South-Western Cengage Learning.

Silayoi, P. and Speece, M. (2007). The importance of packaging attributes: a conjoint analysis approach. *European Journal of Marketing*, *41*(11), pp. 1495-1517.

Smith, P.R. and Taylor, J. (2004). *Packaging in marketing communications.* London: Cengage Learning.

Solomon, M. (2009). *Consumer behaviour. Buying and having being* (8th ed.). New Jersey: Pearson Prentice Hall.

Solomon, M., Bamossy, G., Askegaard S. and Hogg, M. (2006). *Consumer behaviour: a European perspective* (3rd ed.). Harlow: Pearson Education.

Statisticalsolutions. (2016). *Conduct and interpret a canonical correlation: What is canonical correlation analysis?* [Online]. Available from: http://www.statisticssolutions.com/canonical-correlation/ (Accessed 10 December 2016).

Tanner, J. and Raymond, A. (2012). *Principles of marketing*. Boston: Flat World Education.

van Biljon, W. and van Rensburg, M.J. (2011). Branding and packaging design: key insights on marketing milk to low-income markets in South Africa. *African Journal of Business Management*, *5*(22), pp. 9548-9558.

Wang, R. and Chou, M. (2010). The comprehensive modes of visual elements: how people know about the contents by product packaging. *International Journal of Business Research and Management*, *1*(1), pp. 1-13.

Welman, C., Kruger, F. and Mitchell, B. (2005). *Research methodology* (3rd ed.). Cape Town: Oxford University Press.

ANNEXURE A: MEASURING INSTRUMENT

The influence of product packaging on consumer milk buying behaviour research instrument

A Master's Degree student in Industrial and Organizational Psychology student at the Nelson Mandela Metropolitan University is doing a study on customer preferences with regard to milk packaging in the Nelson Mandela Bay area. Please take a few minutes to complete this questionnaire. All information will be kept confidential and anonymous and used for the abovementioned study purposes only.

Section A: *Please note that the demographics will be utilized for research purposes only. Kindly tick where appropriate*

Age	**18-25**	**26-35**	**36-45**	**46+**
Gender	**Male**		**Female**	
Language	**English**	**Afrikaans**	**Xhosa**	**Other**

Section B: Instruction: The following questions relate to the importance of packaging for milk in your purchase decision. Use the following scale to indicate your level of agreement or disagreement with each statement.

Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1	2	3	4	5

1.	The creative use of colours in milk packaging influences my decision when buying milk	1	2	3	4	5
2.	I am more likely to buy milk packaged in certain colour schemes	1	2	3	4	5
3.	Colour on the packaging is important when I choose which milk to buy	1	2	3	4	5
4.	For me, green is the most suitable colour for packaging milk	1	2	3	4	5
5.	For me, yellow is the most suitable colour for packaging milk	1	2	3	4	5
6.	For me, red is the most suitable colour for packaging milk	1	2	3	4	5
7.	For me, blue is the most suitable colour for packaging milk	1	2	3	4	5
8.	For me, orange is the most suitable colour for packaging milk	1	2	3	4	5
9.	For me, purple is the most suitable colour for packaging milk	1	2	3	4	5
10.	The materials used to package milk e.g. carton, plastic or bottle, influence my choice of product	1	2	3	4	5
11.	When buying milk, I tend to stick to one type of packaging	1	2	3	4	5
12.	I am more likely to purchase milk packaged in environmentally friendly materials	1	2	3	4	5
13.	I am particular about the packaging material used when buying milk	1	2	3	4	5
14.	The materials used to package milk are an important aspect of the product	1	2	3	4	5
15.	Plastic bottles are the most suitable material for packaging milk	1	2	3	4	5
16.	Carton is the most suitable material for packaging milk	1	2	3	4	5
17.	Glass is the most suitable material for packaging milk	1	2	3	4	5
18.	Plastic (Sachet bags) are most suitable material for packaging	1	2	3	4	5

	milk					
19.	The size of the packaging impacts my purchase choice when buying milk	1	2	3	4	5
20.	I tend to buy milk in same size packaging	1	2	3	4	5
21.	The size of the packaging for milk is important to me	1	2	3	4	5
22.	I prefer to buy 500ml of milk	1	2	3	4	5
23.	I prefer to buy 1l of milk	1	2	3	4	5
24.	I prefer to buy 2l of milk	1	2	3	4	5
25.	I would prefer purchasing milk in quantities greater than 2liters	1	2	3	4	5
26.	The design on the packaging influences which milk I buy	1	2	3	4	5
27.	The font used in the packaging design influences which milk I buy	1	2	3	4	5
28.	The graphics used in the packaging design influences which milk I buy	1	2	3	4	5
29.	The shape and layout of the design used in the packaging influences which milk I buy	1	2	3	4	5
30.	I prefer milk packaged in a creative manner.	1	2	3	4	5
31.	I prefer milk packaging designs that are bright and lively	1	2	3	4	5
32.	Product information is an important component of packaged milk	1	2	3	4	5
33.	I always check the nutritional information before I choose what milk to purchase	1	2	3	4	5
34.	I am more likely to purchase milk with detailed product information	1	2	3	4	5
35.	I read in detail what is on the packaging before buying milk	1	2	3	4	5
36.	I check the expiry date before I decide what milk to purchase	1	2	3	4	5
37.	I enjoy having additional non-essential information on packaged milk, such as games/competitions and extra facts	1	2	3	4	5
38.	The more information that is provided on the packaging, the more trustworthy I consider the product to be.	1	2	3	4	5
39.	I prefer to buy milk in packaging that can be handled easily	1	2	3	4	5
40.	The utility of a handle on milk packaging is important to me	1	2	3	4	5
41.	I choose milk products based on how the easily the packaging is opened, e.g. whether it has a pull top, screw top, aluminium strip or nothing.	1	2	3	4	5
m42.	Convenience in handling features such as handles and lid design influence my choice	1	2	3	4	5
43.	I prefer to buy products with plastic screw top lids	1	2	3	4	5
44.	I prefer to buy products with aluminium strip lids	1	2	3	4	5
45.	I prefer to buy products with plastic pull tops lids	1	2	3	4	5
46	I prefer to buy products with corner cut openings	1	2	3	4	5

THANK YOU FOR YOUR PARTICIPATION!