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School of Business and management

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MASTER’S THESIS

The effects of packaging characteristics on consumer perception about liquid soaps in Ghana

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ABSTRACT

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The main objective of the research was to establish the characteristics of packaging that influences consumers’ perception concerning liquid soap. The characteristics of packaging that were researched upon were categorised into two, namely visual and informational elements. The visual elements include size, colour, graphics, shape, and material, whereas the informational elements include origin of product, manufacture and expiry date, ingredient, regulatory body, and environmental concern.

A quantitative research technique was used where six different hypotheses were designed with the aid of existing literature. Each of the hypotheses included independent and dependent variables. A multi-item questionnaire was designed and distributed to 500 respondents through email. 413 respondents answered the questionnaire. The statistical analytical tool SPSS was used to analyse the data.

The results of the empirical data analysis indicate that all six (6) hypotheses were accepted. The six (6) acceptable hypotheses included independent variables such as, size, colour, graphics, information, shape, and material. To answer the research question, the regression analysis revealed six (6) independent variables as the elements of packaging characteristics that influences consumers’ perception. These elements included information, size, colour, graphics, material, and shape in high-low order of influence. Again, the research revealed that size was identified as the most attractive visual element of packaging characteristics that influences consumers’ perception about liquid soap. Furthermore, the research revealed that manufacture/expiry date was the most important informational element of packaging characteristics that influences consumers’ perception about liquid soap. Clearly, these results relate to results of previous research in the same field. Most available literature in this field reveal that colour, shape, size, graphics and information attract consumers’ attention depending on the context and the culture in which the research was carried out.
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1 Introduction

This chapter is made up of the introduction to the research. It comprises of the research background; literature review; research objectives, questions and delimitation; definitions of key concepts; theoretical framework; research methodology and; thesis structure.

1.1 Background

In the past, packaging was solely regarded to performing technical functions such as protection and logistics. People mainly packaged goods for containing, protection and transportation purposes. Mass-media advertising was considered as the major tool for marketing communication purposes. However, the dynamics of marketing knowledge growth coupled with rapid consumer behaviour changes in recent time have affected the main and major role of mass-media advertising among the marketing communication platform. Researchers have unearthed the fact that despite the huge effort in mass-media advertising to influence consumer purchase, a large number of purchases are to a large extent influenced by the environment of the store (Solomon, 1996). Estimated 39% of purchases in stores are not planned and are mostly orchestrated by the advertising stimuli in the store (Weinberg & Gottwald, 1982). It has been established that about 66% of all supermarket decisions to buy are taken in the store. In the wake of this, it can be argued that apart from mass-media advertising role, there is an increase in desire for the role of the marketing stimuli in the store to persuade and influence consumer buying decision making. This revelation motivated researchers to investigate any potential in-store marketing tool that could stimulates consumers’ purchasing decision when faced with many products in their choice making. In the light of this, many researches has been done in this area that has identified packaging and its characteristics elements as a key element of marketing communication that is greatly influencing consumers’ choice of products.

Aside the technical function, packaging nowadays is recognised by marketers as also performing communication and attraction functions. This assertion is supported by the fact that businesses focus their resources on packaging more than on marketing advertising efforts and packaging is now recognised as the most unique marketing campaign (Dickson, 1994). In addition, there has been an increased in-store purchasing decision-making for non-
durable goods coupled with product differentiation effect caused by packaging (Underwood, Klein & Burke, 2001). In this regard, much academic research has been done that has revealed the effect elements of packaging characteristics have had on consumers’ buying decision making concerning different categories of products. In their work on impact of elements of packaging on buying decision of consumers economics and management (Kuvykaite, Dovaliene & Navickiene, 2009), the authors revealed that comparing the effectiveness of visual and informational elements, informational elements are more vital than visual elements, with reference to buying a milk product. On the other hand, Silayoi & Speece (2007) wrote about the role of packaging of food items on consumers in Thailand which revealed that technology of packaging that showed convenience and ease of use messages strongly affected consumers’ probability to buy. Furthermore, Clement (2007) wrote in his work about the visual attention effect on buying behaviour of consumers in the store. He revealed the pros of a model of the human behaviour to explain the buying in the store and established through an experiment using the eye-track to deduce how visual effect from the designs of the packaging affected purchasing behaviour. The above research results clearly show that different categories of packaging characteristics are considered important to affecting consumers’ buying decision making when research is done in different context.

Soap product can be regarded as one important non-durable product in our everyday life. The introduction of liquid soap has added to variety of soap forms such as solid and powder in the market today. In many business environments, the proliferation of liquid soaps is eminent due to its popularity among consumers nowadays. In the European market, it is believed that personal care product such as soap has gotten to its stage of maturity of the life cycle of the product, with the impression that brands can be great mostly through sales capture from the brands that are competitive. It is believed among major soap companies and multinationals that the soap market is at its growth stage of product life cycle in developing countries (Ferrer et al, 2012). In Ghana, the situation cannot be different. Industry players are now focusing much on liquid soap manufacturing which has created the proliferation of liquid soap in the market and competition has become fierce among liquid soap manufacturers. In the wake of this present market challenge, many players especially the local ones are looking for any effective marketing strategy that could help gain a competitive advantage to survive the competition. A distinguished marketing effort, which
is now popular among industry players, that is helping their business survive the competition is packaging. In the light of this, it is imperative to ascertain the key packaging characteristics elements that greatly influence consumers’ decision-making in the event of choosing between varieties of packaged liquid soaps. Findings of this research could help local soap industry players consider the appropriate and attractive packaging style for the liquid soap, which can ultimately boost sales. Theoretically, this could add to the abundance of knowledge in packaging and the effect it has on consumer buying decision but in different context, which is soap as a product and in developing country settings

1.2 Literature review

The discovery of the growing importance of packaging and its characteristics in recent times has attracted a lot of research in this field in diverse perspective. Today, there is a lot of literature on this subject and researchers continue to research and establish more findings that will be relevant to the academia and the business sector as well. In this research paper, previous literature that focuses on packaging and its characteristics as a tool for influencing consumer buying decision-making and attraction to products are reviewed.

Packaging is known to attract consumers to a brand. In reviewing this finding, Kuvykaite (2009) in his descriptive research method approach reveals that packaging elements influence the attraction of consumers to a brand, boost its image and affect consumers’ perceptions of a product. Orth (2009) in his research developed meaningful guidelines for designing a package for the construction of brand identity. Again, Rundh (2005) in his work confirmed this finding by establishing that packaging captures the attentiveness of consumers to some brand, raises its image and positively increase the perception of consumers about the product. Moreover, Louw (2006) researched on the packaging power and reveals that the correct packaging could enable a brand establishes a position which is special in the market environment and in consumers’ minds.

In other findings, packaging is regarded as influencing consumers’ buying behaviour and attracting their attention. The elements of Packaging, and their effects on the buying behaviour of consumers became and interested issue. Adelina & Morgan (2007), reveals that packaging could be regarded as one of the most important elements of marketing
communications in recent times; packaging has a significant effect on buying behaviour of consumers, indicating that the effect of elements of packaging can influence the buying decision of consumers. Packaging is considered as a differentiation tool, which is it aids consumers to make a choice among a wide range of similar products, and also incites consumers buying behaviour (Wells, Farley & Armstrong, 2007). Moreover, Renaud (2007) considers the influence of eco-labelling on consumer behaviour. He assessed the labelling relative importance in packaging to other attributes of products such as price, brand and others for purchasing decisions of consumers. The result that was important was the desire to purchase products that were packaged with energy efficient material. Again, Hysen & Mensur (2008) carried out a research on analysis of buying behaviour of consumers with regards to dairy products in Kosovo. The finding is that packaging has greater impact on the dairy product purchase by consumers in Kosovo.

Additionally, other researchers focused on distinct elements of packaging as influencing consumer buying behaviour. The importance of these elements of packaging is dependent on the context in which the research was carried out. The packaging effect and its elements on the decision of consumers when making purchase could be established through the analysis of the significance of its individual elements for consumers’ selection making. Upon thorough research for literature in this perspective, it was found out that food products were popularly used as the product of reference. Kuvykaite (2009) theoretically analysed packaging elements and the effect on consumers’ purchasing decision to practically show the elements that have significant influence on consumers’ selection of a product. She deduces from the research that there exist six key elements which must be given priority by designers of package to establish efficient packaging. These include material, flavour, colour, form, graphics and size. Additionally, Kotler (2003) in his research establishes similar result to that of Kuvykaite (2009). He distinguishes six elements that must be given attention when making packaging decisions. These include colour, size, form, material, text and brand. Dodson & Yadav (2012) posits that the visual characteristics elements of a package is significant in product recognition since they establish huge attention and are captured at a faster pace. McWilliam, (1997) asserts that consumers rely mostly on visual imagery for low involvement fast moving consumer goods (FMCG). In this regard, Grossman & Wisenbit (1999) argues that since the attributes evaluation is of low importance
in decision-making on low involvement product, highly visible elements such as colour and graphics become important on choice making among low involvement products. On the other side, highly involved consumers evaluate informational elements of package carefully, and therefore depend on this information to establish their attitudes and intention to buy (Vakratsas & Ambler, 1999). This signifies that when dealing with packaging of FMCGs, designers must give priority to the visual imagery characteristics of the package whereas informational elements must be given much priority when dealing with high involvement products. Visual imagery on the packaging is an important attribute, says (Underwood et al, 2001). They second the argument by establishing that pictures on packages could serve as a unique element to establish differentiation, and this will stimulate consumers’ consciousness access. Because in their opinion pictures are stimuli that are bold and clear to view compared to words. Silayoi & Speece (2004) in their research argue that in many countries, the influence of different elements of packaging on product brand selection is significant. A typical example is a focus group research organised in Thailand. The research established that both visual and informational elements are strongly taken into consideration regarding brand selection decision.

Kuvykaite, Dovaliene & Navickiene (2009) in their research work concerning the packaging elements’ impact on purchase decision of consumers, economics and management, they reveal that the most essential visual elements for influencing consumers’ purchase decision with reference to milk product and washing powder is material. They also identify that in this context, graphics forms, and colour could be regarded as not important to packaging of these products named above. Again, when they analysed the importance of verbal elements, they state that product information and country of origin for both milk and washing powder are the most important elements of a package. They finally conclude that in comparison, the impacts of verbal elements are valuable than visual elements when buying washing powder and milk.

Environment-friendly character of packaging has also become an issue that consumers are relying on to make product choice decisions. In his work, Gersen (2000) wrote on ethical consumer: Danish consumers’ preference for environmentally-friendly packaging. The research was carried out in Denmark. The findings of this research indicate that higher number of consumers in Denmark have grown personal affection for the choice of
environmentally-friendly packaging and their personal belief is an important identifier of their willingness for preferring environmentally-friendly packaging in the shopping outlets. Calves & Ricardo (2008) did a research on characteristics of a product and the perception quality. In his opinion when consumers make a choice among products that are competing, they are often challenged with the uncertainty of performance and quality of the product, therefore they often rely on cues such as the extrinsic attributes. He concludes by revealing that shapes and colours combination in labels is regarded as the extrinsic attributes used to perceive quality of a product by consumers. Prathiraja & Ariyawardana (2003) did a research on the effect of nutritional labelling of packaging on buying behaviour of consumers. In this research the authors revealed that nutritional labelling is used by consumers to choose a purchasing decision on food item mostly because of health concerns. They conclude that many consumers are willing to make extra payment even for the information on nutrition written on the package. Again, Imram (1999) in his research with reference to food product posits that the colour effect is the area well researched on. He argues that the perceptions of consumers of an acceptable colour relates to the perceptions of other elements of quality such as nutrition and flavour, and with levels of satisfaction. Positive impact can occur by the manipulation of one or more elements of packaging, including colour of the packaging, clear packs that aid the food colour viewing, nomenclature, brand name appearance and incident light. He further states that in the sale of food, the food items chosen for display to be sold by the food vendors are chosen based on their appearance and colour attributes.

Many studies also reveal that packaging attracts attention from consumers. Goldberg et al. (1999) asserts that when visual elements which include colour are omitted, the verbal element attention can be increased. Underwood et al. (2001) in his research states that pictures embedded on packages are known to stimulate attention, especially when consumers are not used to the brands. Moreover, packages are regarded to stimulate attraction when their looks are typically within a class of product (Garber et al., 2000; Schoormans & Robben 1997). By drawing from the above findings, it can be argued that packages that have deviated stimulate attention. However, other research also confirms that packaging shape and colour deviated stimulate attention.

In effect, the above literature demonstrates the abundance of literature in this area and shows clearly that packaging and its elements influence consumers buying decision-making and
attracts their attention to products. Many of the research reveal the importance each individual packaging element has on influencing consumers’ buying decisions and their attraction to a product. It can be noted that the importance of these individual elements of packaging depends on the context in which the research is carried out. It is arguable to state that there is no knowledge about the packaging and its characteristics elements’ effect on consumers decision to purchase when consumers are in the state to making a choice between varieties of liquid soap products in the market. Additionally, the abundance of literature in this area is mostly applicable to the developed countries context and little is known about this area among developing countries especially Africa. Therefore, the result of this research will fill this contextual gap and add to the abundant literature already available in this area.

1.3 Research objectives, questions and delimitation

In Ghana, poor packaging has been an existing problem among the local manufacturing industry. This situation has affected the industry negatively. Several authors argue that judgement of quality is to a large extent controlled by product characteristics exhibited by packaging, and this plays a key role in brand preference establishment. If the package is seen to be of high quality, consumers typically perceive the product to be of high quality. If the package is seen to be of low quality, consumers typically perceive the product to be of low quality, consumers therefore regard the product itself as having this “low quality” grade (Underwood et al., 2001; Silayoi & Speece, 2004). It is in this view that many multinational manufacturing firms’ products with attractive packaging have always attracted many consumers in the Ghanaian market. Additionally, liquid soap is much familiar in the Ghanaian market in recent time. A situation that has created huge competition among liquid soap industry players. It can be argued that to be sustainable, these industry players are proactive in discovering certain marketing strategies that will offer them a competitive edge. As revealed by Dickson (1994), packaging is seen as the most distinguished marketing effort in recent times. For the above reasons, the objectives and the questions of the research are stated below
1.3.1 Objectives

- To identify the elements of packaging characteristics that influence the perception of consumers about liquid soaps
- To identify visual and informational elements of packaging characteristics that are attractive and important to consumer perception about liquid soap

1.3.2 Main research question

- How does packaging influence consumers’ perception about liquid soaps?

Sub-questions

- What are the elements of packaging characteristics that influence consumers’ perception about liquid soaps?
- What visual elements of packaging characteristics do consumers perceive as the most attractive to selecting liquid soap?
- What informational elements of packaging characteristics do consumers perceive as the most important to selecting liquid soap?

1.3.3 Delimitation

The study is to ascertain the effects packaging characteristics have on the perceptions of consumers when selecting liquid soaps in a certain country. This clearly shows that the research is focused on liquid soaps, and therefore the findings may not be applicable to solid or bar soap. Furthermore, the study population is limited to a certain group of people in a chosen jurisdiction in the country where the research is conducted. With regards to this, the results of the research cannot be generalised for all different groups of people in the country of study.

1.4 Key concepts definitions

Under this part, relevant concepts that are central to the research paper are defined.
1.4.1 Packaging

In the past, packaging was traditionally defined as the process which includes preservation and drying, and materials which include plastic, paper cardboard, glass and metal used to contain and store, protect, handle and transport a product (Business dictionary 2006). At present, the discovery of other functions packaging serves has added to the definition of packaging. Hence the definition of packaging is the processes, material used for wrapping and its designs that are employed to contain and store, protect, handle, transport, identify, display, describe, promote, and otherwise attract attention of products on display (Dileep 2006). Other renowned writers also have varied definitions for packaging. Kotler & Armstrong (2005) defined packaging as every aspect that concern the designing and manufacturing of the container for a product or also the product wrapper. Saghir (2002) also defined packing as linked manner of managing goods for safe, efficient, secure and efficient handling, transportation, distribution, storage, retailing, usage and recovery, reuse or disposal in addition to increasing the value of the consumer, sales and therefore profit.

1.4.2 Packaging characteristics elements

Packaging characteristics elements can be defined as all the attributes, both visual and informational which are identified with a package. For example, some of the visual attributes are colour, size, shape, graphic design, images and pictures (Vyas, 2015), and some of the informational attributes are information about place of origin of the product, its usage instruction and all other vital information that help consumers to know more about the product.

1.4.3 Consumer perception

This is defined as the process of selection, organization, and interpretation processes that is formed into an acceptable whole by the consumer (Hanna & Wozniak, 2012). Consumer perception is again defined as selecting, organizing and interpreting stimuli into a whole and understanding view of the world (Shiffman & Kanuk, 2007).
1.5 Theoretical framework

The diagram below shows a causal relationship between the key elements in the research paper. The category of packaging characteristics is labelled the independent element and the consumer perception is labelled the dependent element.

In other words, the concept of the research paper proposes a direct relationship between key elements which includes the consumer perception which is dependent on the category of the packaging characteristics. The perception the consumer develops about the product relate to the interpretation the consumer gives about the packaging characteristics. This therefore plays an important role in the buying decision-making of the consumer. If consumers develop positive perception, they are likely to execute purchase, whereas if consumers develop a negative perception, they are likely not to execute purchase.

![Diagram](image-url)
1.6 Hypothesis design and research construct measures

This section designs the six hypothesis and discusses the construct measures associated with the hypothesis

1.6.1 Size

H1: The more consumers perceive the size of a liquid soap package as being convenience to carry, the higher their perceived preference for the product.

Independent variable: consumers perceived convenience to carry size of a liquid soap package.

Dependent variable: consumers perceived preference for liquid soap package in certain size.

The measure for consumers perceived convenience to carry is adapted from Yan et al. (2015) packaging perceived quality and size: the existing role of a perception of unit price. In their paper, respondents were made to give judgements of head and shoulder shampoo. They were shown pictures of small bottles (400ml) and large bottle (1000ml) of the shampoo. They were then asked to offer their ratings on how much they liked the sizes. A five-point likert scale was used starting from number 1 (not at all) to number 5 (very much). This research will modify this measure by using the 5-point likert scale to let respondents to offer their ratings on the convenience to carry of the sizes.

The measure for consumers perceived preference is adapted from Carpenter and Nakamoto (1989) product judgement scale, where respondents allocates 100 points among three different brands to indicates their product preference judgement.

Since the dependent variable will be measured on ordinal scale, the analysis will be carried out with the ordinal regression from the SPSS statistical tool.
1.6.2 Colour

**H2:** The more consumers perceive the colour of a liquid soap package as appropriate for the product category, the higher their perceived preference for the product.

Independent variable: consumers perceived appropriateness of colour for the liquid soap.

Dependent variable: Consumers perceived preference for liquid soap package in certain colours.

Measure for colour appropriateness is adapted from Schloss, B., Strauss, E. D., and Palmer, S. E. (2012) colour preference of object. In their experiment 1, preference for imagined object colours, participants were shown many colour squares and were asked to rate how appropriate they regard the colours of various objects using a 5-point likert scale starting from number 1 (not at all appropriate) to number 5 (very appropriate).

Measure for consumers perceived preference is adapted from Carpenter and Nakamoto (1989) product judgement scale, where respondents allocated 100 points among the three different brands to show their preference judgement.

Since regression is the tool used for exhibiting the strength of the independent variable’s effect on the dependent variable, and also used to forecast the impact of changes, in other words, regression shows how much the dependent variables changes with a change in the independent variables (Stastistics solution online). The unit of analysis for these variables will be regression analytical tool.

Since the dependent variable will be measured on an ordinal scale, the analysis will be carried out with an ordinal regression from SPSS stastical instrument

1.6.3 Graphics

**H3:** the more consumers perceive the graphics of a liquid soap package as appealing, the more their perceived preference for the liquid soap product.

Independent variable: consumers perceived appealing graphic of a liquid soap package
Dependent variables: consumers perceived preference for liquid soap package in certain graphics.

The measure for appealing graphics is adapted from Westerman et al. (2012) the consumer packaging design: the effects of altering the shapes, orientating, and aligning of graphical structure on consumer assessments. In their paper, respondents were asked to offer their ratings of graphical designs on two products, vodka and water, although these products have same physical form. A 5-point likert scale starting from number 1 (not at all appealing) and number 5 (very appealing) was used for the ratings.

The measure for consumers perceived preference is adapted from Carpenter and Nakamoto (1989) product judgement scale, where respondents allocate 100 points among three different brands to indicate their product preference judgement.

Since the dependent variable will be measured on ordinal scale, the analysis will be carried out with the ordinal regression from the SPSS statistical tool.

1.6.4 Information

H4: the more consumers perceive the product information of a liquid soap package as being important, the more the perceived preference for the liquid soap product.

Independent variable: consumers perceived importance of product information on a liquid soap package.

Dependent variable: consumers perceived preference for liquid soap package with certain product information.

The measure for product information importance is adapted from Kraus (2015) factors that impact the buying decisions and consumer food function. In his paper, respondents were instructed to evaluate the elements of product information such as the healthful properties information of a product, value of the nutrition, and guarantee of quality. The evaluation was performed with a 5-point likert scale with initial and ending being number 1 (not at all important) and number 5 (very important) respectively.
The measure for consumers perceived preference is adapted from Carpenter and Nakamoto (1989) product judgement scale, where respondents allocates 100 points among three different brands to indicates their product preference judgement.

Since the dependent variable will be measured on ordinal scale, the analysis will be carried out with the ordinal regression from the SPSS statistical tool.

1.6.5 Shape

**H5:** the more consumers perceive the shape of a liquid soap package as being appealing for the product category, the higher their perceived preference for the product.

Independent variable: consumers perceived appealing shape of the liquid soap package.

Dependent variable: consumers perceived preference for liquid soap in certain shapes.

The measure for appealing shape is adapted from Vladic et. al (2015) The shape influence on the perception of consumers about packaging attributes. In their paper, respondents were shown images of six (6) boxes with different shapes and were asked to offer their ratings. The ratings was done using the likert scale ranging from 3 to 3 (-3 representing a negative grade, 0 representing neutral, and 3 representing positive. This paper will modify this measure by using a 5-point likert scale, starting from number 1 (not at all appealing) to number 5 (very appealing).

The measure for consumers’ perceived preference is adapted from Carpenter and Nakamoto (1989) product judgement scale, where respondents allocated 100 points among the three different brand to indicate their product preference judgement.

Since the dependent variable will be measured on an ordinal scale, the analysis will be carried out with the ordinal regression from the SPSS statistical tool.

1.6.6 Material

**H6:** the more consumers perceive the material of a liquid soap package as being eco-friendly, the more their perceived preference for the liquid soap product.
Independent variable: consumers perceived eco-friendliness of the packaging material.

Dependent variable: consumers perceived preference for liquid soap package in certain materials.

Measure for material eco-friendliness is adapted from Sogari et al. (2015) attitude of consumer towards wine with a sustainable label. In their paper, respondents were instructed to state their level of agreements concerning the sustainability of the material used for wine packaging. Respondents used a 5-point likert scale starting from number 1 (not at all sustainable) to number 5 (very sustainable).

The measure for consumers perceived preference is adapted from Carpenter and Nakamoto (1989) product judgement scale, where respondents allocates 100 points among three different brands to indicates their product preference judgement.

Since the dependent variable will be measured on ordinal scale, the analysis will be carried out with the ordinal regression from the SPSS statistical tool.

1.7 methodology

The methodology of the research is defined as the method the researcher uses to conduct the research (Leedy & Ormrod, 2001). However, there are three approaches that are generally used to conducting different research. They are quantitative, qualitative, and mixed methods. For the study, a quantitative approach is suitable. This is because the study will utilize numerical values to validate or invalidate the effects of the independent elements on the dependent elements. In this regard, the result can establish whether the independent variables predict attitude or behaviour in a statistically high level which can be generalized across the group of people chosen as the research population.

Babbie (2010) argues that quantitative methods focus on objective measurements, analyzation of numerical, mathematical or statistical data that are collected by means of surveys, questionnaires, and polls, or through the manipulation of pre-existing statistical data by means of computational techniques. To further prove the right approach to this research, quantitative approach importantly answers the question of how many, how much, how often,
and to what extent, which matches the same way the research questions were designed. Again, Babbie (2010) argues that with quantitative research, one of the goals is to ascertain the relationship between the independent variable and the dependent variable in a population.

About the data collection, there exist two types of data available for carrying out research. These are primary and secondary data. Primary data are data collected from the original sources. They are from first hand sources namely direct interviews, observation, questionnaires and surveys. Secondary data are data that are readily available and can easily be obtained from secondary sources such as published piece of article, books, online, magazines and more (MBA-lectures, 2011). For the research, primary and secondary data will be used. Secondary data will be collected from multiple sources namely, published articles, relevant course materials, magazines, books, and online materials. Surveys involve questionnaires that are mostly designed and directed to the target group. This is done mostly through mail, telephone or through the internet (Grimsley, 2003). For the primary data, a survey approach will be utilized where structured questionnaires will be designed and distributed to the respondents through their emails. This data collection approach will be suitable because it is inexpensive, less time involved, large of population, and the interviewer is not directly involved which prevent bias. Nonetheless, there are a few setbacks with this approach of data collection but will not affect the result of the research outcome in the strongest. These include the identity of the respondents not known, delays in returning filled questionnaire and few other more.

Population can be described as every member of the group under investigation, that is each single member combined making up the entire group which is being researched on. Polit and Hunger (1999) assert that population is a combined whole of all the subjects, objects or members that fit to a specification set. Generally, the exercise of collecting data from every single member of the population under research will be too laborious and time consuming, therefore a population subset known as sample is utilized for the data collection. In this instance, a sizeable number of respondents from the population whose size can be used to generalize the research findings to the whole population are chosen for the collection of the research data. The process of choosing a portion within the population and using it to represent the population as a whole is termed sampling (Polit & Hungler 1999)
The population for the research will be students from the tertiary institutions in the Sekondi-Takoradi metropolitan area. Sekondi-Takoradi is the provincial capital of the western province of Ghana. The city has three tertiary institutions. The intention behind the chosen population is that this group of people are literates and are well informed about the daily lifestyle in the society. Their thoughts and perceptions about lifestyle also influence the other groups in the society because of their educational level. 500 students will be chosen as sample from the population. The intention is to randomly select a sample of 166 students from each of the three institutions for the survey. The questionnaire will be distributed to students via their emails from the institutions’ registry database. The data will be obtained from questionnaires drafted from standard questions from relevant literature.

Data analysis consist of a process where data is illustrated and described in a systematic manner using logical and or statistical technique. (Shamoo & Resnik, 2003). The research will utilize excel spreadsheet and SPSS statistical software to analyse the data that will be collected.

1.8 Structure of the thesis

The research comprises of two main parts, which include theoretical analysis and empirical analysis. The theoretical part comprises of three chapters and the empirical part comprises of three chapters.

The first chapter comprises of the research introduction, which includes the research background followed by the literature review and research gap, which is proceeded by the research objectives, questions and delimitation. In continuation, it is followed by the definition of key concepts; the theoretical framework; research methodology; and the research structure.

The second chapter writes on the first part of the theoretical part of the research. In this chapter, theoretical discussion on packaging relevant to the research is elaborated.
The third chapter continues with the theoretical discussion by presenting the second part of the theoretical aspect. This includes the discussion on the consumer perception.

The fourth chapter follows with the research methodology discussion. This is followed by the fifth chapter which comprises of the empirical analysis followed by the research results.

The sixth chapter follows with the final discussion and conclusion of the research.

2 Packaging

This chapter discusses the theories on packaging perspectives which comprises of: the theoretical definitions of packaging; the types of packaging; the packaging characteristics elements; the functions of packaging; the characteristics of a good packaging design; and the models of good packaging design.

In the past, packaging was traditionally defined as the processes which include preservation and drying, and materials which include plastic, paper cardboard, glass and metal used to contain and store, protect, handle and transport a product (Business dictionary 2006). Presently, the discovery of other functions packaging serves has added to the definition of packaging. Hence packaging, according to Dileep (2006), is now defined as the processes, wrapping material and its designs that are employed to contain and store, protect, handle, transport, identify, display, describe, promote, and otherwise attract attention of products on display. Kotler & Armstrong (2005) in their study also defined packaging as every aspect that concern the designing and manufacturing of the container for a product or also the product wrapper.

2.1 Types of packaging

Generally, a search of literature exhibit that there exist different categories and types of packaging that are used for holding and containing variety of different products. The types comprise of the primary, the secondary and the tertiary. However, for the sake of this research, the primary packaging will be focused on.
2.1.1 Primary packaging

Deufol (2002) argues that primary packaging is used to represent the packaging layer that is first in contact with the product. Normally, it represents the immediate layer the product is contained. Generally, the primary packaging is designed which includes the product and any other available packaging secondary layers in mind. The product properties (dimensions, consistency and form) provenly exhibit the primary packaging main priority. Some known common types of primary packing are clamshell packaging, blister packs, paperboard packaging, shrink-wrapping, dose packs unit, and many more.

There can be different functions and applications for primary packaging, and this depend on the product, and transit and storage aspect. The most key function consists of protecting and preserving the product against interference externally, damage or contamination, chemical imbalances and spoiling (Simms & Trott, 2010). Primary packaging also functions by keeping a product in storage, mostly for long time periods. In view of this, it is necessary that the product is kept sealed by the primary packaging from its surroundings. In other words, easy to shelve and handle is other function of primary packaging relevant in ensuring that the product can be easily handled by consumers (Juma, 2012)

In conclusion, primary packing is the design that cover the product initially, keep it in place and the layer that has immediate contact with the product. Furthermore, the primary objective of primary packing is offering protection for the product against damage during the storage and transportation system.
2.1.2 Secondary packaging

Secondary packaging is regarded as the package that holds together many pre-packed products together (Deufol, 2002). Since secondary packaging does not have immediate contact with the main product, it differs in its use and application, and exclusively varies from the use and application of primary packaging, although both type’s function could in certain instances be the same. Secondary packaging is seen to offer two key functions:

- Display and branding: Secondary packaging offers a key function during strategizing in the market for the product. This aspect is seen as relevant when it concerns display packaging.
- Logistics: Secondary packaging helps during grouping of many products into one entity to make transportation, handling and storage easier. This implies that secondary packaging must have the ability to:
  i. Hold together huge volumes of package primary products.
  ii. Move the product to the consumer reach safely.
  iii. Maintain the initial condition during the storage of the primary packaging.
Secondary packaging is purposed to offer protection not for the product alone, but also for the primary product, which is seen as offering visibility to consumers in the store outlet display. The most available examples of secondary packaging are cardboards formed into boxes, cartons and, plastic and cardboard crates.

Generally, secondary packaging is mostly outside the primary packaging and made up of pre-packaged entities that are grouped and enclosed in the primary packaging. This packing is mostly external and the visible face of the product. Just as primary packing protects the products from environmental situations, secondary packing offer protection to the primary packaging and may offer grouping of many items to aid easy handling. The secondary packaging offer safety and original shape retaining of the primary packaging when moving product to the consumer outreach locations.

Figure 2.2 A typical example of a secondary packaging of liquid soap

Source: packaging digest: www.google.com/images
2.1.3 Tertiary packaging

Tertiary or transport packaging consist of an entity used to carry together many secondary packaged products to help protect it from damage during handling and transportation (Deufol, 2002). According to Simms and Trott (2010), tertiary packaging major role relates to the distribution of the product while Deufol (2002), explained that this tertiary packaging is mostly in the form of stretch-wrap plastic film, pallets or shrink-wrapped plastic hoods. This type of packaging may also involve other items that includes layer pads, pallet caps or cardboard corner guard.

![Tertiary packaging example](bas.brilman: www.google.com/images)

Figure 2.3 A typical example of a tertiary packaging of liquid soap
Source: bas.brilman: www.google.com/images

2.2 Elements of packaging characteristics

In this current era where global competition is increasing, there is the necessity for effective and rapid promotion while product packaging has brought about brand communication of products. Currently all goods that are processed or manufactured require some kind of packaging in some stage of their manufacturing or distribution; decisions concerning Packaging are required during the initial marketing plans which becomes integral part of the overall decisions are to be considered in the overall marketing strategy (Panwar, 2004).
Silayoi and Speece (2007) indicate that there exist four core-packaging elements that impact buying decision of consumers. These elements are divided into two categories: visual and informational elements. The visual elements are made up of size, shape or graphics of packaging while the informational elements is made up of product the technologies used on the package and information about the product.

2.2.1 Visual elements

Underwood (2003) argues that visual elements exhibit emotional attachment to the consumers while building brand identity for the brand of the products. According to Dobson and Yadav (2012), the visual elements of a product package includes the colours, fonts, logo of the brand, packaging materials, pictures, descriptions of product, shapes and others establishing associations of rich brand. Generally, while there are differences in the marketing literature in relation to the classification of the elements of packaging, there is also a broadly common consensus on the element including:

Material

The material refers to the texture of the material for packaging commodity. It mostly impacts the commodity packaging visual effect. Materials according to Smith and Taylor (2004) symbolises the perceived quality of the product, meaning that the perception of consumers about some materials could be translated to the product’s perceived quality. Applying varied material surface changes or surface shape can produce commodity packaging at the best effect. The material for packaging, whether, plastic, paper, metal, glass, bamboo, ceramic and wood, and other materials combined, exhibit a different material texture quality effect (Adam & Kamran, 2014). In other words, using varied materials and proper combination can provide customers with cold, luxurious or novel feeling.

Adam and Kamran (2014) arguments explain why Shah, Ahmed, and Ahmad, (2013) argue that material of high quality has the tendency to offer attractions to customers much than a low quality material will do. Relating material packaging to consumer perception of product, Smith and Taylor (2004) argues that materials also interact while there is some association of some intrinsic values consumers perceive for the product material. For example, in relation to card board packaging material, Hollywood et al. (2013) argue that there exist
some disadvantage views in the consumers’ mind about it and packaging of such a type does not preserve the freshness of the product and also the product cannot be seen.

The material is an essential component of the packaging design, it has a direct relation to the packaging function and the economic cost burden, processing of production and recycling of waste packaging and other areas of problems (Package Technology Company Limited, 2013).

Product size and shape

There is a surge in the consumption of a product when there is the availability of redesigned packages or available of packages in larger sizes (Kotler & Keller, 2008). The features of a products and the market targeted determines the size of the packaging. High quality is associated with larger pack sizes (Smith & Taylor, 2004) while Keller (2009) argues that larger pack size increases impulse consumption among consumers. Contrarily to Smith & Taylor (2004), and Keller (2009), Ahmadi, Bahrami and Ahani (2013) argues that the willingness of consumers to purchase a product become high if products are contained in packages of smaller sizes other than larger sizes and length of the expiry is short.

The shape of a product package is associated with the differentiation of the product’s brand. This is because the design of a package has the tendency to influence consumers’ purchasing decision (Sherwood, 1999). This Finding has made companies devote much attention to shape design of a product package. Moreover, it is argued that some small changes in the shape of a product package can affect the sales and profitability of the product (Prince, 1994). Research reveals that angular shape is associated with properties that exhibit strength, toughness and energy, and rounded shape is associated with properties that exhibit approachability, harmony and friendliness (Berlyne, 1976). Furthermore, angular shapes relate with masculinity, whereas rounded shapes relate with femininity (Schmitt & Simonson, 1997).

Colour

According to Keller (2009), colour constitutes an important part of packaging visual elements to a level that number of designers view consumers possessing vocabulary of
colours and perceive certain colours for some products. Colours could provide a brand differentiation whereby a brand could be strongly associated with a certain colour to the extent of claiming ownership of that colour and competitors may not be able to possess that colour. (Keller, 2009). Thus, colour remains a vital visual design element of packaging and the meaning and information it represents should be seen repeatedly with what some marketing programs are representing. Gofman et al. (2010) further argues that the correct colour selection is a vital factor to create impression necessary to enhance the selection of product and brand.

However, Singh (2006) argues that consumers’ perception about colour differs among cultures and many religions are perceived to possess their own colours sacred to them. Consumers possesses colour memory, which they associate to some brands whereby when they remember a colour, they would remember a particular brand.

With regards to effect of package colour, Madden et al. (2000) argues brand identification is done by means of the package colour and those colours becomes the major element to attract consumers and affect product evaluation. However, there is a restriction to colours on packages accepted, meaning that few colours might be accepted by consumers on a package. Madden et al. (2000) notes that some international brands are strongly related to colours.

Graphics

Underwood, Klein & Burke (2001) argue that consumers are likely to anticipate the tastes, feel or smell of a product while they look at the graphics on a product package. In essence, graphics that produces attractive looks could highly attract consumers to a product and therefore influence consumers to buy the product. Furthermore, Rundh (2009) argues that an eye-catching graphics would make a product stand unique on the retail shelves, which will attract consumers’ attention. In a research work carried out by Rettie & Brewer (2000), they argue that the attractiveness of pictorial elements is likely influenced by the lateral position on the package of the product. Again, their research revealed that, consumers are highly attracted to visual stimuli when placed at the left side of the package. Therefore, this may imply that visual elements should be positioned at the left side of packages to produce higher attention.
2.2.2 Informational elements

Informational elements generate effect, which affect the cognitive orientation of consumers (Silayoi & Speece, 2004). Informational elements consist of all the product information on the package.

Product information

One of the main functions of packaging is the Communication of information. This aid customers during the buying process to make the correct decisions. Coulson (2000) reveals some examples of information importance through a research on food labelling: the emphasis placed on labelling importance has aided healthy food consumption trend, which provide the consumer the space to consider optional products and to make an informed choice of a product (Silayoi et al., 2007). Packaging information can misinform, leading to information that is incorrect and misleading because of small fonts size and plenty writings which are placed on the package. Pride & Ferrell (2013) further argues that people want to have idea of the purchase they make. They want to have idea about product origin and the ingredient included in it. Consumers with allergy and health issues would want to have idea concerning the nutritional information, warnings on side effects and other warnings. They also would want to have idea about the ethical sources and whether the product is made of natural ingredients.

2.3 Functions of packaging

Oostendorp et al (2006) pointed out that the packaging main functions include protecting the product inside, making it suitable for distribution of the product and also telling stakeholders within the packaging process about the product inside the package. Additionally, a vital function of packaging includes its fitness for use. The four major functions of packaging include containment and protection for the products, products promotion, and the storage facilitation, convenience and usage of products. Ryan (2004) further expanded on Oostendorp et al (2006) arguments of the packaging functions by summarising the major functions of packaging as follows:
• Protection of a product against contamination caused by air, moisture, toxins and micro-organisms.
• Containing and holding together of product so that it would not spill.
• To offer product identification.
• Protection for the easy transportation.
• Stacking products and Storing them
• Printed Information.

Additional vital function of packaging that is gaining popularity is recycle facilitation environmental damage reduction (Lamb et al., 2004).

2.3.1 Product differentiation

From the consumer purchasing perspective, Rundh (2005) reveals that packaging catches the attention of consumer to a brand, improves its image, and impact the perception of consumer about the product. Wells, Farley and Arsmtrong (2007) further supported the arguments of Rundh by indicating that packaging stimulates consumer buying behaviour. This meant that generally, packaging is a strategic marketing tool to enhancing product differentiation. Therefore, packaging plays a vital role in marketing communications and could be regarded as a major factor that affect consumers decision to make purchase. This is explained by Vila and Ampuero (2007) assertion that packaging is seen as a crucial variable in product position within the product differential matrix.

2.3.2 Protection against transportation damage

The traditional function of packaging is to offer protection to the product from possible damage while moving, keeping, selling and exploiting a product (Gonzalez & Twede, 2007; Wells et al., 2007; Kuvykaite, 2001) and to guarantee the convenience in the cause of these activities. In other words, packaging protects a product during transit from the manufacturing phase to the retailer as well as preventing damage while the product is put on the shelves. This is a more logistic function of packaging. According to Silayoi and Speece (2004), the
logistical role of packaging consists of protecting the product from possible damage, stealing, spoilage or wrong placement of goods during transportation among distribution channel. In summary, packing from a more logistical perspective has the following functions:

i. Protecting and conserving: Product better protection; consumers better protection and environment better protection; shelf life prolonging; risk of voluntary reduction accidental tampering; harmful materials reduction; quality certified materials usage.

ii. Handling, transportation, manipulation and storing: reduction of weight; supply enhancement; re-use enhancement and recycling; stacking together for space saving.

The traditional logistical functions of packaging are made up of protecting and conserving; handling, manipulating, transporting and storing. Regarding performance, these functions can work together same moment to create better efficiency, regarding the reduction of cost and saving time, and the quality of service improvement.

2.3.3 Attraction and promotion

Lorette (2015) argued that how a product is packaged may be a critical factor that could attract the consumer to first have a glance on the product as it is shelved. Furthermore, packaging could also serve as a source of promotion by communicating critical information about the product to the consumer. Similarly, to Lorette, Dobson and Yadav (2012) also noted that packaging produces a method that is attractive for communicating and conveying information concerning attributes of product to consumers. This Chen (2005) indicates that quality design of packaging rightly contains messages of a product, which brings understanding to consumers. Generally, product packaging is a crucial factor that impact the decision-making process involved in decision-making of customers as it can serve as a form of attraction through communication to consumers. According to Silayo and Speecce (2004), a good packaging should promote the product on the shelve of a supermarket to ensure that consumers respond favourably.

In conclusion, it can be stated that the basic functions of packaging can be argued both from the marketing and logistical perspective. The four marketing matrix can be the basis for packaging from a marketing perspective while the packaging logistical role is to protect the
product during transportation and movement to prevent damage and spoilage during movement from manufacturing to retailing in the supply chain. Thus, the literature on the functions of packaging suggests that effective product packaging protect, preserve and promote products from the manufacturer to the consumer. In other words, the major function of product packaging is to hold product and the information exhibition on what is it holds inside. However, generally, the most immediate importance of product packaging is to prevent the product from being damaged while maintaining its quality. Additionally, it is concluded that product packaging has become a productive tool for communication, differentiation and focus on consumers in a market that is highly competitive from marketing mix perspective. On the other hand, from a logistical perspective, while offering protection for goods being transported, packaging also maintains the product quality and increase the life of products.

2.4 Characteristics of a good packaging design

In today’s market, every product is packaged. As many products are competing in the market, what makes one product unique and stands out among packaged products is the adoption of characteristics a good packaging design. A good packaging design must make good use of imagery; insights action and emotion; have a clear branding and logo; easy to open and convenience of use; and be environment friendly.

2.4.1 Use of good imagery

Good imagery is inevitable in good packaging. According to Pankrantz (2012), consumers are passionate about images that help associate them to the product. An example can be seen in exercise making equipment purchase, whereby consumers see images of well-built person on the equipment, and consumers wish they were in such form. In addition, it is more likely to find pictures of cute babies on the package of baby products. Placing the correct images on a package to link up with the consumer is one of the most vital elements in a product packaging of a good standard (Court et al, 2009).
2.4.2 Insights action and emotion

The most important reason for packaging a product for marketing purposes is that the design of a package should influence the purchase of a product by the consumer. In addition, if the design is unique, the packaging brings an emotional feeling to the consumer. The emotional feelings such as passion, intrigue, desire excitement, intrigue, or maybe the consumer may desire to come back for more due to those feelings. (Silver, 2011).

2.4.3 Clear branding and logo

According to Harrington College of Design (2013), packaging that do not convey the message of its brand is not complete. The brand message Expression includes the brand language, its positioning and the placement of the logo. The language of the brand can be fun-loving or serious. The positioning, however, expresses how the product is advertised on the packaging. Know the positioning of your product before designing it because it's helpful for ensuring the packaging is in line with the positioning (Harrington College of Design, 2013).

2.4.4 Easy to open and convenience of use

Packaging developers must look for a good balance between secure packaging and easy to open packaging. To offer much better consumer experience, consumers must be able to find their package secured and also able to open the package easily. Packaging technologies are now being utilized to inculcate these features into a package.

2.4.5 Environmentally friendly

In recent times, the protection of the environment has seen greater attention from all stakeholders. Governments of many countries have given priority to conserving and preventing the environment from destruction. For example, the European Union has instituted a directive on packaging regarding the reduction of waste and instituted measures on the requirements concerning the amount of packaging material to be recycled (Dobson & Yadav, 2012). Most importantly consumers are keen on patronizing environmentally friendly products whiles keeping a distance from non-environmentally friendly products.
This situation has created a path where environmental concerns have become a major issue during packaging design.

2.5 Models of good packaging design

This section introduces and elaborates some of the relevant models that help in designing a good package.

2.5.1 Kano model

The Kano Model was discovered in the 1970s and 1980s by Kano when he was studying quality control and customer satisfaction. It is basically a theory on product development. Verduyn (2014) argues that the success of a product will depend on how effective it is able to solve consumers’ problems. Every problem of a customer can be regarded as a need. The Kano Model shows an in-depth representation of need’s three main categories that all product must exhibit to be able to bring satisfaction to consumers. Again, according to MacDonald et.al (2006), the Kano Model continues to be a critical element found in the front end of product and service development. The model classifies five categories of customer preference that have different effects on customer satisfaction. They include the following:

Must-be quality

The must-be quality features of Kano model are given recognition when fulfilled, however, when these features are absent, customers are not satisfied (Kano, 1984). A typical example would be the when there are leakages in a fruit juice package, consumers are not satisfied, however, if the package does not leak, consumers do not become highly satisfied. As indicated in the figure below, these are the expectations the customer requires to receive which are often taken for granted. Put into consideration these tasks as obvious expectations your customers possess in mind. When execution is poor, satisfaction is low, and when execution is perfect, satisfaction remains neutral. The likelihood of every one of your competitors providing this expectation is high. Typically, the sources to find these expectations include government regulations, industry standard, corporate experience and customer complaints.
Figure 2.4 Basic requirement

Source: www.kanomodel.com/discovering-the-kano-model/

One-dimensional quality

The attributes of one-dimensional quality bring about satisfaction when present, and exhibit dissatisfaction when not present (Kano, 1984). A typical example is seen in a juice new package that is perceived to hold five percent more juice being sold at the same price has the tendency to exhibit customer satisfaction, but in reality, if it holds two percent more juice, there is the tendency that consumers will feel deceived which can bring about dissatisfaction. Generally, customers have these requirements in mind during purchase decision making. Among the Kano requirements, these are the highly visible and are easier to get because customers make it known freely (Verduyn, 2014). As indicated in the figure below, when performed better, the satisfaction is high, but when performed poorly, the satisfaction is low. Kano call this “one-dimensional” because of its linear character, the better the execution, the higher the satisfaction the customers receive.
Figure 2.5 Performance requirements

Source: www.kanomodel.com/discovering-the-kano-model/

Attractive quality

The attributes of the attractive quality bring about satisfaction when they are achieved fully, but do not bring about dissatisfaction when not present (Kano, 1984). These attributes are mostly not expected. Popularly, these are among the most important of all the categories. They are the requirements customers do not expect, but often get to them as a surprise which delight and keep them in an excitement mode (Verduyn, 2014). These are known to be the unique innovation companies bring into their products. As indicated in the figure below, they cause excitement when present, but does not cause dissatisfaction when absent because the customer does not expect them.
Figure 2.6 Excitement requirement

Source: www.kanomodel.com/discovering-the-kano-model/

Indifferent quality

The attributes of the indifferent quality are regarded as not being good or not being bad and will not bring about satisfaction or dissatisfaction (Kano, 1984). As the name suggest, they do not cause any difference. For example, the amount of wax coatings applied to a juice package box will not cause any satisfaction or dissatisfaction among customers.
Regardless of their presence or absence, customers do not care about these requirements because on either circumstance, customers’ requirements are neutral (Verduyn, 2014). A typical example is the most advanced feature included in a handset where many people do not even desire to use them.

Reverse quality

The reverse quality attributes are regarded as the achievement to a higher level, which could cause dissatisfaction among customers because of preferential differences among consumers (Kano, 1984). For example, some products may have too many extra features which may not produce dissatisfaction among consumers who are not feature savvy. Some consumers have preference for high-tech products, whereas others have preference for the basic model of a product and will not be satisfied if a product possesses too many extra features. Interestingly regardless of requirements categories developed by Kano, customers’ preferences could be unpredictable in some cases. What some customers perceive as an excitement quality, some may perceive it as a basic quality, and a third group may even perceive it as a performance quality (Verduyn 2014). These differences are due to the segmentation of customers.
Figure 2.8 Reverse requirements

Source: www.kanomodel.com/discovering-the-kano-model/

Figure 2.9 Logical framework on Kano model, 1984
The horizontal axis involves how well the product package fulfils customer requirement while the vertical axis focuses on how the packaging of the product impacts on customer satisfaction. Generally, the Kano model deduce that joining together of the functional fulfilment level and emotional satisfaction that is received by a customer receives from a product have a relationship with the assessment of the product quality by the customer. According to Kano Model, the levels needed, both emotional and functional, differs across attributes of a product, and that product packing designers should look for the better combinations of functional fulfilment and emotional satisfaction during the design of attributes of product (MacDonald et al., 2006).

With the application of the Kano model in this study, market managers into product development and design would be able to:

i. Conceptualise the basic expectation that consumers of a product simply expect from the packaging design of the product.

ii. The model would also help to map the product and its associated features against meeting basic expectations.

iii. Focus on delighters that can be dependable and create a truly different product and continues to deliver customer satisfaction.

Generally, the basic role of the Kano model is to offer support to discussion and specification of product bringing about better packaging and development.

2.5.2 Haberma’s theory of communicative competence

The Habermas’ theory of communicative competence was propounded by Jürgen Habermas in the 1980s. The basic proponent of this theory is that it is from the communication activities that society operates and goes on. That is, Habermas emphasizes on communication among people, interaction by means of communication, and the results of this which brings about operation of the social world.
The theory of communicative competence according to Habermas (1976) is a move to make good this claim by means of reconstructing the speech normative basis as a form of universal and necessary validity assertion. The reason that lie in the need to look out for and reconstruct the conditions that are universal of probable understanding is that language cannot be disseminated unless an understanding is achieved in it. McCarthy (1978) argues that comprehension occurs when speech is made, nonetheless this does not indicate that all speech necessarily produces comprehension. However, when claims of validity are curtailed due to some kind of deceit, there comes a parasitic communication upon speech made towards understanding.

In relation to product packaging, Habermas communicative competence theory, perceive that a group of norms which include sincerity norm, truthfulness norm, legitimacy norm, and comprehensibility norm can serve as guide the complex assignment of producing good product packaging. By being guided by these effective directives, marketers can strongly carve a niche for their package to impress and promote, while at the same time preventing the communication of package that may be regarded as duplicitous. The theory establishes a prominent directive against which makers of public policy and producers can assess the distortion level in labelling and packaging. Consumers should enjoy some benefit when it comes to a clearer representation of the product that are available in the market-place (Underwood & Ozanne, 1998).

Habermas (1984) originally set a benchmark against which all communication forms can be compared to each other as indicated earlier. However, recently, Vernuccio et al. (2010) have further added an additional norm which is the norm completeness. Generally, to assist consumers develop an objective perception about a product package; the theory of communicative competence also specifies that the information produced through packaging would uniquely have the following five attributes and norms:

i. Honesty: Thus, the package represents the product by means of honestly representing the product value

ii. Truthful: the package does not leave out any necessary fact that is vital to the safe and proper use of the product
iii. Sincere: The level at which true intention of producers are communicated. Thus, the extent to which the package does not bring confusion to the issue in a deliberate manner

iv. Comprehensible: The avoidance of using words that are vague and specialised

v. Complete: This signifies all issues consumers would recognise as helpful to performance and evaluation of the product.

The application of Habermas’ theory of communicative competence is relevant in this study in studying how packaging influences consumers’ perception of liquid soap as adopting this theory should profit from a degree of package-produced consumer cynicism and a higher potential for enhanced customer relationships that will be long term.

3 consumer perception

This section reviews related literature on consumer perception by analysing and discussing the relevant concepts and theories related to consumer perception. The section is important in enhancing a unified conceptual, empirical and theoretical framework suitable for use in addressing the consumer perception aspect of the study. In other words, the literature on consumer perception is reviewed from the theoretical, conceptual and empirical perspectives. The following major themes are discussed in this chapter: the theoretical impetus; conceptualisation of consumer perception; elements of the perceptual process; factors that influence consumer perception; and product packaging and consumer perception

3.1 Theoretical impetus

This section reviews the analysis of the theories which are critical to addressing consumer perception. Thus, this section discusses the theoretical assumptions and proponents under which the consumer perception aspect of this study is being conducted. The section carefully reviews the basic ideas and assumptions of the theoretical foundations under which the consumer perception aspect of the study is conducted. The major conceptual and methodological limitations of these theories are also discussed in this section.
The theory of perceptual filters and the Gestalt theory of visual perception are the two main theories critical for understanding the concept of consumer perception in the study.

3.1.1 The theory of perceptual filters

The theory of perceptual filters was formulated by Broadbent in 1958 as one of the most known theories among the information processing framework of human for understanding the perceptual process. The basic principle of the theory of perceptual filters is that the perceptual process is a group of filters, that is deployed to sort and modify a stimulus. The set of filtering, sorting and modifying a stimulus according to Crane and Klarke (1994) leads to stored memory of consumers.

In understanding the theory of perceptual filters, it is necessary to explain what a perceptual filter is. Generally, the makeup of our mind occurs from information that has been filtered consciously or subconsciously. This goes through the process of a perceptual filter. Therefore, Pam (2009) argues that perceptual filtering is the process with regards to focusing attention upon a selected subset of many sensory stimulants which is present at any particular time. Perceptual filtering is important mainly because the physical and mental ability of a person to deal with many sources of data is restricted. Brignall (2012: p.4) defines a stimulus as anything that cause sense organs which include the eyes, nose, ears, tongue and skin to respond, function or become active.

In this regard, Starbuck and Millikens (1988) argues that perceptual filtering that is effective keep hold of relevant information and dismisses irrelevant information. This process is essential to ensure that the relevant information goes into the perceptual foreground while the irrelevant information moves into the background.

Fundamentally, the theory shows the relevance of recognition and evaluation of the perceptual process elements, wanting to affect and activate the consumer’s perception. According to the theory, every phase of the perceptual process enables the consumer feels differently as the strength of his/her response and the vital of external influence changes (Chibok, Msheliza & Ndubuisi, 2013).
Relating the theory to product packaging and consumer perception, the theory tries to explain why consumer attention to a product through its package is necessary. The basic idea is that attention to a product package is needed because the main mechanisms cannot stand the intensity of sensory stimulation available at any given time. This therefore meant that for a product package to attract positive attention, its design, features and characteristics are essential.

Despite the application of the theory of perceptual filters in understanding consumer perception, just like any other theory, the theory of perceptual filters has been critiqued on several grounds. As noted, the theory assumed that its assumptions occur among those who perceive, not their surroundings, and that the stimuli that are unfiltered are facts. However, Ittetson, Karen and Timothy (1976) argue that those who perceive are not separated from their environments because they are inter-dependent, while validation or invalidation of perceptions can occur when there are some activities on the environment.

3.1.2 Gestalt theory of visual perception

The people who discovered Gestalt theory include Wolfgang Kohler, Kurt Koffka and Max Wertheimer. For this study, the Gestalt principle is limited to the aspect of the Gestalt that explain human perception. Gestalt principles determines to bring to bear the regularities by which the input of the perception is arranged into single forms.

The key idea behind Gestalt theory of visual perception is the whole being other than the sum of the parts. Thus, when human beings see a group of objects, they perceive the objects in their entirely whole before they see the individual objects. This, Bradley (2014) argues that human being sees the whole as more than the sum of the parts. Philosophically, the Gestalt school of thought proposes that our perception is the result of the relationship between stimuli, rather than the existence of the stimuli themselves. Again Bradley (2014) argues that visual perception is a function of our eyes and brain and that we see things as a whole rather than in parts. The parts of things usually constitute visual images including line, shape, texture and colour.

Fundamentally, the Gestalt theory of visual perception put in effort to comprehend the laws of our ability to achieve and keep intact meaningful perceptions in an apparently dynamic
world (Carlson et al., 2010). In the perception environment, Gestalt psychologists posits that the products of complicated interactions among all stimuli is perception.

In relation to product packaging in marketing, the philosophical assumption of the Gestalt theory of visual perception implies that the all combined into one entity (a picture of a package) produces a varied and strong meaning than its individual components (colour, shape etc, respectively). Escher and Water (1938) argues that, in viewing the "whole," a process of cognition occurs where there is a leap of the mind from understanding the parts to seeing the whole. This study applies the Gestalts theory based on Schiffman & Kanuk (2000) argument that the theory is very essential in understanding the visual environment.

In concluding the ideas behind the Gestalt theory of visual perception, the theory presents how and why objects are grouped together. Fundamentally, the basic tenet of the theory is that humans can only perceive stimuli in groups rather than individual or isolated elements.

### 3.2 Conceptualization of consumer perception

This section explores the definition of consumer perception by drawing on the key contracts in operationalizing consumer perception. In defining consumer perception, the chapter tries to review what constitutes perception. According to Aspfors (2010, p.13), perception is viewed as the process whereby someone selects, arrange and eventually interpret stimuli, and these stimuli are manipulated and translated to be someone’s personal view of the world.

Aggarwal (2004) expanded the definition of perception by Aspfors (2010), by arguing that consumer perception is related to how information is collected and categorised by the consumer and that consumer perception is altered by the number of exposures to a stimulus and by the interpretation offered by the consumer.

Similarly, Schacter et al. (2011) supports that perception is the process of selecting, organising, and interpreting sensational information into a meaning that is whole in order to represent and understand the environment. However, Boundless (2015) argues that selecting, organizing and interpreting perceptions can vary among different consumers. Therefore, when consumers have varied behaviour in a situation, some of their behaviour can be
interpreted by assessing the process of their perceptions and how their perceptions are translating into their feedback.

Blank (2015) also defined consumer perception as the sensory perception concept to marketing and advertising. Fundamentally, consumer perception has a relationship with how consumers create opinions about the products and services offered by companies, which they are engaged in purchasing. Aspfor (2010) argues that the idea of consumer perception is generated by customer experiences, their perception about the service they receive and importantly by whether they receive satisfaction with their experiences or not.

Generally, the perceptual process is important in the marketing decision of marketers based on Chibok, Msheliza and Ndubuisi (2013) assertion that an understanding of perceptual processes is important. This could be explained by the assertion that the decision of consumer to buy a product is strongly motivated by the manner or way the consumer uses the information of the product to creates positive meaning.

From the definitions presented above, it can be deduced that perception is said to be the process by which a consumer develops an opinion about all the stimuli he or she gets from the sensory organs. Generally, perception is highly subjective and could easily be distorted hence the need to properly define it. In other words, the process of perception is primarily a conscious act as well as an approximation of reality. Fundamentally, whatever customers see, hears and experiences is connected and forms their overall perception.

### 3.3 Stages of developing a perception

Classically, the method of studying stimuli and measuring response has been limited to the five senses. However, in contemporary times, the view that merely hearing, sight, touch, smell, and taste to understand the environment according to Murphy and Kovach (1972) is inadequate.

Against this background, Connors (2012) indicates that the perceptual process as a whole consist of three stages; the stage of exposure, the stage of attention, and the stage of interpretation. In other words, these stages form the whole perceptual process. However, Cross (2015) and Branyte et al. (2007) argue on the stages to perception formation by adding
retention as the fourth stage in the perception formation process. According to Branyte et al. (2007), exposure, attention, interpretation and retention are the popular perceptual process. Therefore, the perceptual process can be defined as steps in sequential arrangement, which involves selection of stimuli, organization of that information, and interpretation of those stimuli. This process is mostly an unconscious occurrence and it occurs many times a day. For example, the brain does not need to interpret the object the eyes see when you open your eyes. Unconsciously, the eyes see the object when light falls on the retina of the eyes. The eyes then unconsciously identify the exposed object (Boundless, 2016). A review of each of these stages is discussed below:

3.3.1 Exposure

Exposure involves the extent to which humans interact with a stimulus of which the information from the stimulus is received through their senses and the immediate response by means of sensation. Therefore, sensation could be defined with reference to this study, as the immediate reaction of the sensory receptor (the eye) to basic stimuli such as light, colour, shape, size and texture (Solomon, 2011). Cross (2015) further explains by noting that sensation is realised when senses first receive external stimulus of a product and that the receptors of the sensory of a consumer are received by brand or product cues by means of sound, smell, sight, texture and taste. For this study, focus is placed much on perception through vision. Consumers concentrate on some stimuli, may not be aware of others and sometimes even may go as far as not pay attention to some messages (Solomon, 2011). Consumers should be capable of perceiving when being exposed to stimuli. This condition can be achieved through a mechanism called the sensory absolute threshold. Solomon (2011) argues that the sensory absolute threshold is the small amount of stimulation that can be seen on any available sensory receptors. For example, an advertisement post may contain persuasive and enticing messages, but this post may fail to achieve its marketing goal if the prints are too small or even too many to gain consumers attention.

However, Perner (2010) argues that exposure is inadequate to significantly impact the individual. This could be explained by the ideologies of selective exposure. According to Rooks and Willson (2000), stimulation includes selective exposure and that consumers can actively choose whether or not to expose themselves to information. This involves zipping
and zapping. Zipping refers to the fast forwarding or skipping of advertisements or commercials in a recorded tape, whereas zapping refers to using a remote control to change a channel just to avoid particular advertisements (Kitchen, 1986).

Relating exposure to packaging, Burke and Edell (1989: p.254) argues that when packaging is being exposed to, it triggers an action towards it (attitude towards packaging) which translate into specific judgements or perception and emotions or feelings (affective reactions) that produces an all-inclusive reaction towards the featured product (attitude towards product) which at the end cause effect on behaviour.

Chibok, Msheliza and Ndubuisi (2013) argues that consumers develop impressed perception of a brand through their packaging and grow preferences for a brand on the bases of their exposure or attraction to the package design. However, Crane and Klarke (1994) argues that it will be difficult for a consumer to perceive or anticipate aa stimuli through sensation. Sensation and perception are difficult to stay apart because they inclusively form one continuous process.

### 3.3.2 Attention

According to Devito (2009), the environment is full of stimuli that can attract attention through various senses. In consumer information processing, Cross (2015) argues that attention happens when an individual ponders and register the capacity of mental procession to the outer stimulus from a brand of a product. At this level, the brain accepts the attention stage stimuli and translates the stimuli, based on our desires and experiences in the past, which is in the interpretation stage. Solomon (2011) argues that in our society, we are exposed to too much of good and interesting information, which creates a situation where consumers are mostly in a sensory overload condition. In this situation, consumers are exposed to too many information than they can cope. This explains Crane and Klarke (1994) argument that not all attention stage stimuli cause consumers’ reaction. This means it is not every stimulus that a consumer allocates part of his or her mental activity to. The fact that the brain’s capacity to process information is limited, consumers are selective concerning the information they give attention to (Solomon, 2011). In their perceptual selection process, consumers pay attention to only a small part of the stimuli that is available to them. Solomon
(2011) further argues that consumers engage in a form of picking and choosing “psychic economy” among stimuli to desist from being overwhelmed. This practice of picking and choosing is carried out through personal and stimulus selection factors.

Personal selection factors

There are three factors under this section. They include experience, perceptual vigilance, and adaptation. Experience occurs as a result of acquiring and processing stimulation over time. Based on previous experience, consumers decide how much of a certain stimulus they can accept and process. Perceptual vigilance occurs when there is a probability for consumers to give attention to stimuli that has a relationship with their needs. For example, a consumer who is in need of a personal computer laptop will likely pay much attention to advertisements on computers. Lastly, adaptation occurs when consumers experience stimuli for quite too long and becomes familiar with it. In this situation, consumers no longer give much attention to those stimuli. However, consumers can become habitual and would require heavy dose of a stimuli before he or she can notice it. For example, traders may notice an advertisement poster in their market vicinity the very first time it was posted. But after some time, they become familiar with it and may not pay much attention to it again. Solomon (2011) argues that there are many factors that can create adaptation. They include duration, relevance, exposure, discrimination, and intensity. Intensity: less-intense stimuli such as low sound and dim colour create habituation simply due to the fact that they create less sensory impact.

Discrimination: Stimuli that are simple cause habituation in that they do not require attention to detail.

Exposure: Stimuli with frequent encounter cause habituation as the exposure rate increases.

Relevance: Stimuli that are not relevant or not important cause habituation simply because they are unable to attract attention.

Stimulus selection factors

Coupled with the mind-make-up of the receiver, certain stimulus characteristics also contribute to the determination of what receivers notice and what they ignore. Solomon
(2011) argues that these factors are relevant to marketers to develop messages and packages that will be meaningful to their marketing campaign. Generally, consumers are more likely to be attracted to stimuli that are different from the ones around them. Weber’s law supports this argument. It states that the degree of change that is essential to be seen is strongly related to intensity of the original stimulus. In other words, the strength of the initial stimulus influences greatly the change that needs to occur for it to be noticed. These stimulus characteristics include size, colour, position, and novelty (Solomon, 2011).

Size: the stimulus size different from the competition influences the determination of the attention to the stimulus itself.

Colour: it is arguable that colour is an essential character for drawing consumer’s attention to a product or even to give the product a unique appearance.

Positioning: generally, stimuli that are strategically positioned tend to be noticed by consumers. When a stimulus is placed in a position where consumers are most likely to look, then it has a better chance of attracting consumers. For example, consumers in a super market are more likely to get attracted to stimuli that are placed at eye level.

Novelty: stimuli that are placed in unusual places or ways tend to attract consumers attention. Placing stimuli in unconventional places such as walls of tunnel, street floors, swimming pools, and even tangled phone lines on the street influence consumers’ attention greatly because competition is less in such places.

The arguments raised support Brignall (2012) assertion that a change in stimuli will catch one’s attention. In relating sensation to the attention stage, Rooks and Willson (2000) argue that stimulation includes selective attention, which involves initial, involuntary and parallel processing of the physical characteristics of the stimuli. According to Benoni and Tsal (2013), the result of the initial analysis at the attention stage, attention can choose a stimulus for another processing to identify its meaning at the interpretation stage. However, Devito (2009) argues that since generally, consumers are unable to perceive everything that occurs around them concurrently, they tend to occupy in selective perception; thus, anticipate positive things only.
3.3.3 Interpretation

Interpretation in the perceptual process involves the attachment of meaning to the stimulus; thus, making sense out of the stimulus. At this stage, the perceiver forms the perception of whether the stimulus is an object like and of what value the object would be to the perceiver. However, Crane and Klarke (1994) argues that consumers are unable to comprehend the correct meaning of a stimulus during interpretation. Just as people have varied views about a particular issue, their perceptions about a particular stimulus differ as well. For example, after a class lecture, and some selected students are asked to give their opinion about the lecture topic, it could emerge that majority of them would give different opinion about the topic. Generally, consumers employ schema to establish their interpretation of a stimulus. Schema is a cognitive entity in memory that represents a person’s knowledge of a stimulus (Flaherty, K. E. and Mowen, J. C., 2010). In explaining further, consumers visit the stored memory of knowledge of previous stimuli encountered and relate them to the present stimuli to pass judgement.

Relating the interpretation stage to product packaging, advertisers recognize that consumers would many times relate an advert to already existing schema in order to interpret it (Solomon, 2011). This indicates that advertisers create marketing strategy by utilizing the identification and evocation of the right schema, which has become a vital criterion for evaluating a product via its package (Solomon, 2011).

Organization of stimulus

Solomon (2011) argues that a stimulus interpretation occurs with the assistance of the relationship consumers imagine it has with other events, sensations, or images in memory. Some basic organizational principles serve as the guidelines with which the brain associates incoming sensation to pre-existing ones in memory. These principles are the products of Gestalt theory. Gestalt theory from previous discussion, maintains that people’s interpretation of meaning is based on the whole stimuli rather than from any individual stimulus. Solomon (2011) supported this argument by noting that when each item of a stimulus is analysed separately, its total effect cannot be realized. The manner the brain organize stimuli is influenced by the many principles derived from Gestalt theory. Some of
the key principles relevant to this research include: the principle of closure; the principle of similarity; and the principle of figure-ground.

The closure principle establishes that individuals try to create their own complete picture from an incomplete picture. They tend to use previous experience to fill in the blanks. Marketers use the closure principle strategy to entice consumers to attend to their advertising messages because it invites consumer participation (Solomon, 2011)

The similarity principle is based on grouping elements with physical characteristics resemblance. The principle of figure-ground establishes that one element of the stimulus will become dominant while another element will retreat into the background. When marketers use the figure-ground principle, the establish advertising message deploying a stimulus as the point of focus, or may also deploy this stimulus as a mere context around the point of focus (Solomon, 2011)

Interpretational bias of the beholder’s eyes

People are different in all aspect of life including how they perceive and view issues, objects, and all other things around them. This makes it difficult to have distinct and single interpretation of any objects and issues. This assertion applies also to stimuli. The stimuli that consumers perceive are not susceptible to just one distinct and single interpretation. Consumers’ interpretation is subject to their past experience, needs and expectations. For example, expectations of football pundits would make them offer bias interpretations of a football match between rival teams A and B. Supporters of team A will interpret the playing performance to favour their team while supporters of team B will also interpret the playing performance to their team’s favour.

Semiotics

Semiotics involves the learning of symbols and signs correspondence and the meaning these elements signify. The use of products to show the social identity of consumers makes semiotics an important tool to consumer behaviour. Learned meanings are posited in products, and consumers mostly depend on marketers to figure out what these meaning are.
In the field of semiotic, there are three aspects of marketing messages which include a sign (symbol), an interpretant, and an object (Solomon, 2011). The object represents the product which is regarded as the main purpose for the message. The sign represents the sensory tool that indicates the intended meanings of the object. Finally, the interpretant represents the meaning our perception helps us to make out of the sign (Solomon, 2011). Below is a figure that shows this relationship.

Charles Sanders Peirce, a semiotician posits that there is a relationship between signs and objects in one of three ways. Signs can look like objects, have connection to them, or bonded to them in a conventional manner (Solomon, 2011).

![Semiotics of Charles Sanders Pierce perceptual positioning](source: Solomon (2011))
Solomon (2011) argues that Consumers by and large give interpretation to stimulus of a product based on the knowledge about the category of a product and the existing brand characteristics. In support of his argument, he posits that perception of consumers depends on both functional and symbolic attributes. Functional attributes comprise of features, package, price, colours and so forth, whereas symbolic attributes comprise of the class and value consumers place on themselves when they use such product. The meaning of a products rather than its function influences the product evaluation given by consumers. This meaning is made up of the market position of a product as being achieved by the performance of a product through its packaging, colour, or styling rather than anything with the product itself (Solomon, 2011).

3.3.4 Retention

Citeman (2006) argues that there will be failure by people to keep many information to which they are shown in memory, however, they tend to keep information that brings to bear their beliefs and attitudes. Generally, with retention, consumers are likely to remember nice experience on a product they like and forget the nice experience on a competing product. Figure 7 shows a typology of the steps involved in the perceptual process.

Figure 7 shows a typology of the steps involved in the perceptual process.

- **Attention**: An effort to recognize the nature of stimuli
- **Exposure**: Sensing stimuli
- **Perception**
- **Interpretation**: Assigning meaning to stimuli
- **Retention**: Selecting some stimuli and ignoring others
Figure 3.2 Typology of perceptual process

Source: Solomon (2011)

In effect, this section on the stages of perceptual development coupled with the theoretical insights, the perceptual filter’s presence indicates that being at the retention stage is not an easy achievement. Generally, bringing consumers close to a product can be very difficult due to huge competing product packages that also try to communicate and bring to bear the same objective. Therefore, designing product packages interest enough to capture consumers’ attention is essential although attending to the package is inadequate. Also, it is important that consumers accurately interpret the facts about the package to give positive meaning to the package. A positive interpretation could retain the consumers to the product.

Influence of packaging on consumer perception

According to Ampuero and Villa (2006), consumer perceptions are vital in order to produce the correct product packaging and gain the right position in consumers’ minds. Several empirical studies seem to exist on how packaging influence consumer purchasing perception.

Bertoluci et al. (2014) contend that food packaging is essential in enticing consumers’ attention and expectations. This Bertoluci et al. (2014) argues in turn affect consumer product perception. Similarly, Hess et al. (2014) concludes that packaging design has an influence on the perception of consumers about the product and the brand, which highly affect their purchasing behaviour.

According to Breetz (2013), most of these empirical findings have generally shown that the selection of word, images and colours on packaging of product engineer sensory and other expectations for the product.
In understanding how images in product packaging impact on consumer perception, Mizutani et al. (2010) empirically studied whether the imaging on orange juice cartons influence consumer perceptions. Their study affirms that the choice of images influenced the assessment of consumers’ sensory. Ultimately, the study affirms that package imagery can trigger consumer perceptions of the sensory experience of the product.

According to Becker et al. (2011), packaging can result in the differences in sensory perception, although these differences could be adjusted by individual’s sensitivity to design. Specifically, Becker and his colleagues studied the perception of ‘tough’ yogurt containers and its influence on perception of taste of the consumer. They identified that the bolder designs resulted in a difference in expectations of taste and consumers’ experience. Similarly, to Becker et al. (2011), Erlenkamp (2004) also indicates that when examining perception through vision, colour is an extremely important factor.

In effect, consumers develop perceptions about varied products through their understanding of the visual stimuli on packaging that trigger attention of the consumer. Generally, this study indicates that perception involves the process by which stimuli activate one of the five sense organs. However, consumer perception towards packaging is perceived through vision and that packaging imaginary including size, shape and colour influence consumer perceptions towards product packaging.

In relation to product packaging and consumer perception, conceptualisation of the tenets of perception is essential in analysing motivations for consumers buying behaviour towards some products. Thus, the concept of perception is essential for companies to determine how consumers perceived their products within the concept of packaging.

### 4 Research methodology

This chapter influences the empirical data analysis section of the research. In other words, the empirical analysis outcome depends on the research method and design used. Under this chapter, elements of the research onion designed by Saunders et al. was adapted as the main discussion elements. This includes the research design: (research strategies, research
choices, and time horizons); philosophies and approaches; and data collection and analysis. Below is a diagram demonstration of the research onion.

![Research Onion Diagram]

Figure 4.1 The research onion
Source: Saunders et al. (2009)

4.1 Research philosophies and approaches

There are four elements in the research philosophies layer of the research onion. This includes positivism, realism, interpretivism, and pragmatism. For the research, positivism was adapted because the research focused on generalization of the outcome. Also, the researcher is independent of the data collected, and the data collected was highly structured from large samples. Again, the research focused on the effect of independent variables on dependent variable. Furthermore, a quantitative approach was adapted with the development of a hypotheses and testing the hypotheses accepting it in part or whole, or rejecting it. These characteristics enumerated above are typical characteristics of positivism.
There are two elements of the research approaches which include the deductive and inductive approaches. The deductive approach concentrates on designing hypotheses from theory and creating a research strategy to test it whereas inductive approach focuses on collecting data and developing a theory from the data analysis. Again, the deductive is connected to positivism and the inductive connected to interpretivism (Saunders et al, 2009). For the research, deductive approach was adapted since the research focuses on those characteristics of deductive approach.

4.2 Research design

Research design is the map concerning how a researcher will strategize to answer the research question (Saunders et al, 2009). It includes some three layers of the research onion namely research choices, research strategies, and time horizons.

There are seven elements in the research strategies layer of the research onion. They include experiment, survey, action theory, grounded theory, ethnography theory, and archival theory. The research adapted the survey strategy since its strategy was same as the survey strategy. The survey strategy according to Saunders et al (2009), has a relationship with the deductive approach. Furthermore, survey makes it possible to collect large amount of data from a sizeable sample in an economical way. Survey also makes it possible to generate quantitative data which can be analysed in a quantitative path using inferential or descriptive statistics. In the research, deductive approach was adapted. Moreover, large quantitative data from a sizeable sample of population was collected and analysed with the descriptive statistical instrument of SPSS software.

Mono method choice was adapted among the three elements of the research choices since mono method focuses on a single data collection technique and analysis process in answering the research question. The research also focused on only quantitative research technique in the collection of data and its analysis.

The research focused on the cross-sectional studies of the time horizon as against the longitudinal studies of the time horizon. This is because the cross-sectional studies have a
relationship with the survey strategy (Easterby-Smith et al. 2008). Moreover, cross-sectional studies are organised over a limited time period. Also, the cross-sectional studies are done with a given time frame. These characteristics are associated with the research.

4.3 Sampling and Data collection

The sample was chosen from a population of tertiary institutions in a certain province in Ghana. This population was chosen because of their educational level, they have a better understanding of every action they take concerning their response to the questionnaire of the research. Moreover, because of their educational level, they have huge influence on other members of society. The duration of data distribution and collection was one month. Demographic balance of the sample was checked via the email database so that there were gender, age, and educational level balance among respondents. Furthermore, the questionnaire was delivered to the respondents through their emails by means of online google survey tool. Again, to analyse the data generated, a SPSS software tool was used.

4.4 Data analysis

First, the data was checked for any duplication which might have occurred possibly because of the online system failure. With the aid of the SPSS software, no duplicated data were found. Second, frequencies of demographic data were established. This established the number of male and female respondents as well as their age brackets and their educational levels. Second, Kaiser-Meyer-Olkin (KMO) measure and Bartlett’s test were carried out to ascertain whether it was appropriate to do a factor analysis test on the data. The factor analysis was carried out using principal axis factoring as the extraction method, and varimax as the rotation method. Six (6) factors were extracted for further analysis. A validity and reliability test were carried out on the six (6) factors extracted. These six (6) factors represent the independent variables. Third, an ordinal regression analysis was carried out using the six (6) independent variables generated from the factors and the dependent variable consumers’ perception. The results of the ordinal regression analysis were used to analyze and test the hypothesis.
5 Empirical analysis and Results

This chapter discusses the demographic statistics of the respondents. It further discusses the factor analysis, and the regression analysis of the data.

5.1 Demographic statistics

This section discusses the demographic distribution of the respondents which includes gender, age, and educational level.

5.1.1 Gender distribution

Questionnaire was distributed to a sample size of 500. However, 413 individuals responded representing 82.6% of the 500 sample size chosen. From the table 1 below, it can be observed that 209 were male representing 50.6% of all the 413 respondents whereas 204 were women representing 49.4% of all the 413 respondents. This indicates that gender was fairly distributed among respondents and will impact positively on result generalization.

Table 5.1 Gender distribution

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>Male</td>
<td>209</td>
<td>50.6</td>
<td>50.6</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>204</td>
<td>49.4</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>413</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Online survey (2018)

5.1.2 Age distribution

The ages of respondents were grouped into four brackets which includes 18-25 years, 26-33 years, 34-41 years and, 42 years and above. According to the generated data table 2 below, the largest number of respondents came from 18-25 years age bracket followed by the 26-
33 years age bracket. However, the lowest number of respondents were from 42 years and above bracket. This result indicates that majority of the respondents is made up of the youth. This is a true reflection of the population studied since the youth makes up the highest number of students in tertiary institutions in Ghana.

Table 5.2 Age distribution

<table>
<thead>
<tr>
<th>Age bracket</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25yrs</td>
<td>162</td>
<td>39.2</td>
<td>39.2</td>
<td>39.2</td>
</tr>
<tr>
<td>26-33yrs</td>
<td>144</td>
<td>34.9</td>
<td>34.9</td>
<td>74.1</td>
</tr>
<tr>
<td>34-41yrs</td>
<td>70</td>
<td>16.9</td>
<td>16.9</td>
<td>91.0</td>
</tr>
<tr>
<td>42yrs and more</td>
<td>37</td>
<td>9.0</td>
<td>9.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>413</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: online survey (2018)

5.1.3 Educational level distribution

There are three educational levels of the population studied. These include degree, diploma, and certificate programmes. Respondents were grouped into these categories. According to the generated data table 3 below, the highest number of respondents was 186 diploma respondents representing 45% of the total respondents followed by 129 degree respondents representing 31.2%. Certificate respondents was the lowest which was 98 representing 23.7%. The result indicates that majority of the programmes offered by the population studied includes diploma and degree programmes.

Table 5.3 Educational level distribution

<table>
<thead>
<tr>
<th>Programme</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>129</td>
<td>31.2</td>
<td>31.2</td>
<td>31.2</td>
</tr>
<tr>
<td>Degree</td>
<td>186</td>
<td>45.0</td>
<td>45.0</td>
<td>76.3</td>
</tr>
<tr>
<td>Diploma</td>
<td>98</td>
<td>23.7</td>
<td>23.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>413</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: online survey (2018)
5.2 Factor analysis

Factor analysis is carried out to reduce the large data to make analysis and interpretations of data easier, but before that, a reliability test is done to determine the appropriateness of carrying out the factor analysis on the data.

5.2.1 Kaiser-Meyer-Olkin (KMO) measure and Bartlett’s test

The accepted minimum KMO value for the appropriateness of the factor analysis is 0.6. Also, the Bartlett’s test must have a significance of p-value less than 0.001 (p<0.001). As shown in table 4 below, the KMO value generated from the analysis is 0.612 and the Bartlett’s test significance value p is 0.00. Therefore, these values which are within the acceptable range indicate that it is appropriate to carry out the factor analysis.

Table 5.4 Kaiser-Meyer-Olkin measure/Bart's test

<table>
<thead>
<tr>
<th>KMO and Bartlett's Test</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</td>
<td>.612</td>
</tr>
<tr>
<td>Bartlett's Test of Sphericity Approx. Chi-Square</td>
<td>1798.038</td>
</tr>
<tr>
<td>df</td>
<td>528</td>
</tr>
<tr>
<td>Sig.</td>
<td>.000</td>
</tr>
</tbody>
</table>

Source: Online survey (2018)

There are many outputs from running the factor analysis. This includes the descriptive statistics of the variables; correlation matrix of variables; communalities; total variance explained; scree plot; factor matrix; and rotated factor matrix. However, for interpretation purpose, the research considers only few of the outputs. This includes the total variance explained; scree plot; and rotated factor matrix.
5.2.2 The total variance explained

The total variance explained is made up of the variance explained by the primary solution (Eigenvalues), the extracted factor loading and the rotated factor loadings.

As shown in table 5 below, the initial eigenvalue cut off was twelve (12) factors, however after extraction, the final cut off was six (6) factors which represents 54.733% of the variance of the variables. This indicates that the number of factors for the research is 6 which represents all the six multi-item variables relevant to the research.

To check the dimensionality of the scale from table 5 below, the Eigenvalue of the first factor is larger than the second factor. This is reflected in their percentage variances. Factor 1 has a 29.451% and factor 2 has just 6.973%. This implies that factor 1 accounts for 29.451% of the total variance. This therefore implies that the scale items are unidimensional

Table 5.5 Total variance explained
### Total Variance Explained

<table>
<thead>
<tr>
<th>Factor</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
<th>Rotation Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance: Cumulative %</td>
<td>Total: % of Variance Cumulative %</td>
</tr>
<tr>
<td>1</td>
<td>3.031</td>
<td>29.451</td>
<td>2.579</td>
</tr>
<tr>
<td>2</td>
<td>2.084</td>
<td>6.973</td>
<td>1.497</td>
</tr>
<tr>
<td>3</td>
<td>1.608</td>
<td>5.393</td>
<td>.952</td>
</tr>
<tr>
<td>4</td>
<td>1.557</td>
<td>4.707</td>
<td>.869</td>
</tr>
<tr>
<td>5</td>
<td>1.422</td>
<td>4.326</td>
<td>.773</td>
</tr>
<tr>
<td>6</td>
<td>1.349</td>
<td>3.883</td>
<td>.726</td>
</tr>
<tr>
<td>7</td>
<td>1.322</td>
<td>3.679</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1.287</td>
<td>3.525</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1.178</td>
<td>3.380</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>1.154</td>
<td>3.273</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>1.063</td>
<td>3.041</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>1.012</td>
<td>2.786</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>.989</td>
<td>2.545</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>.942</td>
<td>2.339</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>.912</td>
<td>2.274</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>.885</td>
<td>2.141</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>.844</td>
<td>2.046</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>.808</td>
<td>1.999</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>.799</td>
<td>1.686</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>.775</td>
<td>1.653</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>.789</td>
<td>1.483</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>.713</td>
<td>1.430</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>.685</td>
<td>1.342</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>.604</td>
<td>1.237</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>.588</td>
<td>.928</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>.538</td>
<td>.726</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>.436</td>
<td>.631</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>.388</td>
<td>.482</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>.356</td>
<td>.443</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>.187</td>
<td>.298</td>
<td></td>
</tr>
</tbody>
</table>

Extraction Method: Principal Axis Factoring.

Source: online survey (2018)
The scree plot graph below also confirms a six (6) factor solution for the research.

![Scree Plot](image)

**Figure 5.1** The scree plot

Source: Field survey 2018

### 5.2.3 The rotated factor matrix

This is made up of the factor loadings showing how items are weighted on each factor and the correlation among the items and the factors. After initial running of the factor analysis model, item brand name loaded on a wrong factor. Item black colour also did not load on any factor. Again, item yellow colour double-loaded, in other words, it loaded on two different factors. First item black colour was eliminated, and the model was rerun, and the result interpreted. Second, item yellow colour was eliminated, and the model was rerun again. Last, item brand name was eliminated, and the model rerun for the third time. The result interpreted into a well acceptable outcome as can be seen in table 7 below. As shown in table 7 below, size items loaded on factor one (1). Colour items loaded on factor two (2). Furthermore, graphics items loaded on factor three (3). Also, information items loaded on factor four (4). Again, shape items loaded on factor five (5). Lastly, material items loaded on factor six (6). The SPSS tool was instructed to exclude any value less than 0.4 from the
rotated factor matrix table. The summary of the six factors with their loaded item values are as follows.

Factor 1 = size (500ml: 0.719, 400ml: 0.640, 300ml: 0.553, 200ml: 0.582, 100ml: 0.460)

Factor 2 = colour (red: 0.645, pink: 0.602, green: 0.554, blue: 0.512, purple: 0.497, white: 0.453, orange: 0.411)

Factor 3 = graphics (small text: 0.574, bold text: 0.491, multicolours: 0.465, uniform colours: 0.439)

Factor 4 = information (place of origin: 0.755, ingredient: 0.689, environmental concerns: 0.604, manufacture/expiry date: 0.577, regulatory body approval: 0.533)

Factor 5 = shape (rounded: 0.453, angular: 0.417).

Factor 6 = Material (plastic: 0.501, glass: 0.448, paper: 0.424, Metal: 0.413). The factor analysis result indicates that the items grouped to form constructs such as size, colour, graphics, information, shape and material. These constructs however, constitute the independent variables. The dependent variable, consumer perception is a multi-item variable which is made up of five items. This includes convenience, appropriateness, appealing, eco-friendliness, and importance.

Table 5.6 Factor correlation matrix

<table>
<thead>
<tr>
<th>Factor Correlation Matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Axis Factoring.
Rotation Method: Varimax with Kaiser Normalization.
Source: online survey (2018)
Table 5.7 Rotated factor matrix

Rotated Factor Matrix

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>500ml/8cm of liquid soap package</td>
<td>.719</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400ml/6cm of liquid soap package</td>
<td>.640</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>300ml/10cm of liquid soap package</td>
<td>.582</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>200ml/4cm of liquid soap package</td>
<td>.552</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100ml/2cm of liquid soap package</td>
<td>.460</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>red</td>
<td>.645</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pink</td>
<td>.602</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>green</td>
<td>.554</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>blue</td>
<td>.512</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>purple</td>
<td>.497</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>white</td>
<td>.453</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>orange</td>
<td>.411</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>small text</td>
<td>.574</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bold text</td>
<td>.491</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>multi-colours</td>
<td>.465</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>uniform colours</td>
<td>.439</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Place of origin</td>
<td>.755</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ingredient</td>
<td>.689</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental concerns</td>
<td>.604</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacture/expiry date</td>
<td>.577</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>regulatory body approval</td>
<td>.533</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rounded shape</td>
<td>.453</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angular shape</td>
<td>.417</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plastic material</td>
<td>.501</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glass material</td>
<td>.448</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>paper material</td>
<td>.424</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metal material</td>
<td>.413</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization.\(^a\)
\(^a\) Rotation converged in 12 iterations.
5.2.4 The internal consistency and reliability test

The Cronbach’s Alpha coefficient is used to determine the internal consistency and reliability in measurement. The coefficient is expressed as a number between 0.00 and 1.00. However, the rule of thumb is that the acceptable range for social science research is 0.7 to 0.9 (George & Mallery, 2003). The Cronbach’s alpha is calculated for each of the six identified constructs to determine their internal consistency and reliability. The results are tabulated below.

Table 5.8 Reliability statistics for independent variables

<table>
<thead>
<tr>
<th>Construct</th>
<th>Cronbach’s Alpha</th>
<th>N of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>.785</td>
<td>5</td>
</tr>
<tr>
<td>Colour</td>
<td>.763</td>
<td>7</td>
</tr>
<tr>
<td>Graphics</td>
<td>.724</td>
<td>4</td>
</tr>
<tr>
<td>Information</td>
<td>.801</td>
<td>5</td>
</tr>
<tr>
<td>Shape</td>
<td>.702</td>
<td>2</td>
</tr>
<tr>
<td>Material</td>
<td>.706</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 5.9 Reliability statistics for dependent variable, consumer perception

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>N of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.822</td>
<td>5</td>
</tr>
</tbody>
</table>
Table 5.10 Descriptive statistics of independent variables

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>.591</td>
<td>.0968</td>
<td>5</td>
</tr>
<tr>
<td>Colour</td>
<td>.525</td>
<td>.0835</td>
<td>7</td>
</tr>
<tr>
<td>Graphics</td>
<td>.492</td>
<td>.0585</td>
<td>7</td>
</tr>
<tr>
<td>Information</td>
<td>.632</td>
<td>.0888</td>
<td>5</td>
</tr>
<tr>
<td>Shape</td>
<td>.435</td>
<td>.0255</td>
<td>2</td>
</tr>
<tr>
<td>Material</td>
<td>.447</td>
<td>.0392</td>
<td>4</td>
</tr>
</tbody>
</table>

5.3 Ordinal regression analysis

Before the ordinal regression was carried out, certain assumption tests that are key to the validity of the ordinal regression analysis result were first carried out. These assumption tests include the model fitting information test, Goodness of fit test, Pseudo R-square test, and parallel lines test.

5.3.1 The assumption tests

Model fitting information

This test was carried out to determine how well the regression model fits the primary data. In this test, p value must be less or equal to 0.05 (p<=0.05), that is p must be statistically significant for the model to fit the data well. From table 11 below, the result shows that p = 0.001 which is statistically significant, therefore the regression model fits the primary data well.

Table 5.11 Model fitting information

<table>
<thead>
<tr>
<th>Model</th>
<th>-2 Log Likelihood</th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept Only</td>
<td>326.734</td>
<td>84.525</td>
<td>6</td>
<td>.001</td>
</tr>
<tr>
<td>Final</td>
<td>242.209</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Link function: Logit.

Source: online survey (2018)

Goodness-of-fit

For the Goodness-of-fit test result, it needs to fail so that the null hypothesis can be rejected, therefore p value must be greater or equal to 0.05 ($p \geq 0.05$) which shows that p is statistically insignificant. From table 12 below, the p value for Pearson is 0.172 which is greater than 0.05, therefore the null hypothesis is rejected.

Table 5.12 Goodness-of-fit

<table>
<thead>
<tr>
<th>Goodness-of-Fit</th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson</td>
<td>123.412</td>
<td>52</td>
<td>.172</td>
</tr>
<tr>
<td>Deviance</td>
<td>206.342</td>
<td>52</td>
<td>.001</td>
</tr>
</tbody>
</table>

Source: online survey (2018)

Pseudo R-square

The result from this test identifies the percentage of variance in the dependent variable. From table 13 below, the result shows that the model explains 57.4% of the variance in the dependent variable.

Table 5.13 Pseudo R-Square

<table>
<thead>
<tr>
<th>Pseudo R-Square</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cox and Snell</td>
<td>.286</td>
</tr>
<tr>
<td>Nagelkerke</td>
<td>.574</td>
</tr>
<tr>
<td>McFadden</td>
<td>.365</td>
</tr>
</tbody>
</table>

Source: online survey (2018)

Test of parallel lines

In order not to violate the assumption, the p value of this test must be greater or equal to 0.05. From table 14 below, p value is 0.079 which is greater than 0.05, therefore the assumption is not violated.
Table 5.14 Test of parallel lines

<table>
<thead>
<tr>
<th>Model</th>
<th>-2 Log Likelihood</th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Null hypothesis</td>
<td>242.209</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>207.324</td>
<td>34.885</td>
<td>6</td>
<td>.079</td>
</tr>
</tbody>
</table>

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.

Link function: logit.

5.3.2 Ordinal regression output

The ordinal regression output includes the model summary table, ANOVA table, and coefficient table. The six (6) constructs generated from the factor analysis were used as the independent variables and consumer perception as the dependent variable in the regression analysis. The six constructs which includes size, colour, graphics, information, shape, and material are represented by the mean of their items as shown in table 10 above.

Model summary

From table 15 below, the R value is the coefficient of correlation between the independent variables and the dependent variable, consumer perception. It can be deduced from $R = 0.765$ that there is a positive correlation between the independent variables in combination and the dependent variable. The coefficient of determination ($R^2$) shows that 58.5% of consumer perception was predicted for by the combination of all the independent variables.

Table 5.15 Model summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.765a</td>
<td>.585</td>
<td>.526</td>
<td>.702</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), size, colour, graphics, information, shape, material
b. Dependent Variable: Consumer perception
Source: online survey, 2018

Anova

From table 16 below, the p value 0.000 which is statistically significant (p<0.001) shows that the combination of the independent variables can significantly predict the dependent variable. The ANOVA is used to determine whether the model predicts the dependent variable significantly better than the alternative, the mean. The F value is the ratio of prediction improvement because of using independent variables that fit the model. Since the F value 26.713 is significant which shows that there is less than 0.1% probability that the F value will be larger. Therefore, it can be concluded that the regression model is better at predicting the dependent variable than the mean.

Table 5.16 ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>69.874</td>
<td>6</td>
<td>14.658</td>
<td>26.713</td>
<td>.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>121.308</td>
<td>208</td>
<td>.475</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>191.182</td>
<td>214</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), size, colour, graphics, information, shape, material
b. dependent variable: consumer perception

Coefficient table

The coefficient table determines the type of effect that the independent variables have on the dependent variable, and the strength of that effect. Furthermore, it also determines the significance of the effect the independent variables have on the dependent variable.

From table 17 below, all the six (6) independent variables namely size, colour, graphics, information, shape, and material have standardized and unstandardized coefficients that are positive at significant level less than 0.05. Size has a standardized coefficient of 0.282 which is significant at $p = 0.001$ and $t$-value = 3.574. Colour has a standardized coefficient of 0.243 which is significant at $p = 0.004$ and $t$-value = 2.877. Graphics has a standardized coefficient of 0.211 which is significant at $p = 0.021$ and $t$-value = 2.361. Information has a standardized
coefficient of 0.401 which is significant at $p = 0.000$ and $t$-value $= 5.886$. Shape has a standardized coefficient of 0.172 which is significant at $p = 0.062$ and $t$-value $= 1.686$. Material has a standardized coefficient of 0.186 which is significant at $p = 0.040$ and $t$-value $= 2.174$. These results clearly show that all the independent variables which include size, colour, graphics, information, shape, and material have positive effects on the dependent variable consumer perception at a significant level. The result further shows that packaging information has the highest effect on consumers’ perception with an unstandardized coefficient value (Beta) of 0.392, and packaging shape has the lowest effect on consumers’ perception with an unstandardized coefficient value (Beta) of 0.155.

Table 5.17 Standardized and unstandardized coefficient

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficients$^a$</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>size</td>
<td>1.925</td>
<td>.035</td>
<td>55.538</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.269</td>
<td>.034</td>
<td>3.574</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>colour</td>
<td>.248</td>
<td>.041</td>
<td>2.877</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td>graphics</td>
<td>.208</td>
<td>.026</td>
<td>2.361</td>
<td>.021</td>
</tr>
<tr>
<td></td>
<td>information</td>
<td>.392</td>
<td>.055</td>
<td>5.886</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Shape</td>
<td>.155</td>
<td>.048</td>
<td>1.686</td>
<td>.062</td>
</tr>
<tr>
<td></td>
<td>Material</td>
<td>.197</td>
<td>.053</td>
<td>2.174</td>
<td>.040</td>
</tr>
</tbody>
</table>

$^a$ Dependent variable: Consumer perception

Source: online survey (2018)
Packaging information

From table 16 below, manufacture/expiry date information has the highest mean value of 4.43. This result clearly shows that manufacture/expiry date information is the most important packaging information consumers perceive about liquid soap. However, place of origin of the product is the least important packaging information consumers perceive about liquid soap.

Table 5.18 Packaging information

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer perception</td>
<td>1.49</td>
<td>.501</td>
<td>413</td>
</tr>
<tr>
<td>place of origin</td>
<td>2.97</td>
<td>1.315</td>
<td>413</td>
</tr>
<tr>
<td>ingredient</td>
<td>3.08</td>
<td>1.237</td>
<td>413</td>
</tr>
<tr>
<td>brand name</td>
<td>3.47</td>
<td>1.257</td>
<td>413</td>
</tr>
<tr>
<td>environmental concern</td>
<td>4.19</td>
<td>.922</td>
<td>413</td>
</tr>
<tr>
<td>manufacture/expiry date</td>
<td>4.43</td>
<td>.626</td>
<td>413</td>
</tr>
<tr>
<td>regulatory body approval</td>
<td>3.60</td>
<td>1.154</td>
<td>413</td>
</tr>
</tbody>
</table>

Source: online survey (2018)

Hypothesis testing

Size

**H1:** The more consumers perceive the size of a liquid soap package as being convenience to carry, the higher their perceived preference for the product.

Packaging size has a positive standardized coefficient value (Beta) of 0.282 which is significant at \( p = 0.001 \). It shows that packaging size has a significant positive effect on consumers’ perception about liquid soap. Therefore, hypothesis 0ne (H1) is accepted.
Colour

**H2**: The more consumers perceive the colour of a liquid soap package as appropriate for the product category, the higher their perceived preference for the product.

Packaging colour has a positive standardized coefficient value (Beta) of 0.243 which is significant at \( p = 0.004 \). It shows that packaging colour has a significant positive effect on consumers’ perception about liquid soap. Therefore, hypothesis two (H2) is accepted.

Graphics

**H3**: The more consumers perceive the graphics of a liquid soap package as appealing, the more their perceived preference for the liquid soap product.

Packaging graphics has a positive standardized coefficient value (Beta) of 0.211 which is significant at \( p = 0.021 \). It shows that packaging graphics has a significant positive effect on consumers’ perception about liquid soap. Therefore, hypothesis three (H3) is accepted.

Product information

**H4**: The more consumers perceive the product information of a liquid soap package as being important, the more the perceived preference for the liquid soap product.

Packaging information has a positive standardized coefficient value (Beta) of 0.401 which is significant at \( p = 0.000 \). It shows that packaging information has a significant positive effect on consumers’ perception about liquid soap. Therefore, hypothesis four (H4) is accepted.

Shape

**H5**: The more consumers perceive the shape of a liquid soap package as being appealing for the product category, the higher their perceived preference for the product.
Packaging shape has a positive standardized coefficient value (Beta) of 0.172 which is significant at p = 0.062. It shows that packaging shape has a significant positive effect on consumers’ perception about liquid soap. Therefore, hypothesis five (H5) is accepted.

Material

**H6**: The more consumers perceive the material of a liquid soap package as being eco-friendly for the product category, the higher their perceived preference for the product.

Packaging material has a positive standardized coefficient value (Beta) of 0.186 which is significant at p = 0.040. Therefore, hypothesis six (H6) is accepted.

The hypothesis summary result

Table 5.19 Hypotheses result summary

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>The more consumers perceive the size of a liquid soap package as being convenience to carry, the higher their perceived preference for the product</td>
<td>H1 Accepted</td>
</tr>
<tr>
<td>The more consumers perceive the colour of a liquid soap package as appropriate, the higher their perceived preference for the product</td>
<td>H2 Accepted</td>
</tr>
<tr>
<td>The more consumers perceive the graphics of a liquid soap package as appealing, the more their perceived preference for the liquid soap product</td>
<td>H3 Accepted</td>
</tr>
<tr>
<td>The more consumers perceive the product information of a liquid soap package as being important, the more the perceived preference for the liquid soap product</td>
<td>H4 Accepted</td>
</tr>
<tr>
<td>The more consumers perceive the shape of a liquid soap package as being appealing, the higher their perceived preference for the product</td>
<td>H5 Accepted</td>
</tr>
</tbody>
</table>
The more consumers perceive the material of a liquid soap package as being eco-friendly, the more their perceived preference for the product

<table>
<thead>
<tr>
<th></th>
<th>H6</th>
<th>Accepted</th>
</tr>
</thead>
</table>

Source: online survey (2018)

6 Discussion and conclusion

This chapter discusses the results and theoretical contribution, the reliability and validity, the managerial implications, and limitation and further research.

6.1 Results and theoretical contribution

The objectives of the research were to find the packaging characteristics elements that have influence on consumers’ perception about liquid soap package. Furthermore, the research was to identify the most attractive visual and most important informational elements of packaging characteristics that influences consumers’ perception about liquid soap. To achieve these objectives, a research question was designed, and the research was carried out to find answers to the research question. The main research question was: how does packaging influences consumers’ perception about liquid soap? The sub-questions to the main question were: what are the elements of packaging characteristics that influences consumers’ perception about liquid soap? What visual elements of packaging characteristics do consumers perceive as most attractive to selecting liquid soap? And what informational elements of packaging characteristics do consumers perceive as most important to selecting liquid soap?

To find solution to the main research question, the sub questions were answered first in the research. Sub-question one (1): what are the elements of packaging characteristics that influences consumers’ perception about liquid soap?

Available literature in this research area reveal that numerous researches have been carried out in this area where many elements of packaging characteristics that influences consumers’ perception have been established. Nonetheless most of the research were carried out with
reference to food products. Kuvykaite (2009) resorted to the examination of packaging elements and their effects on consumers’ purchasing decision to bring out empirically the elements that have significant influence on consumers’ choice of product. She deduced from the research that there are six elements of packaging that must be given priority when designing a package to creating effective packaging. These elements include material, form, size, colour, and graphics. Similar to Kuvykaite (2009) result, Kotler (2003) reveals that six elements that must be given attention during decision making on packaging include brand, colour, material, form, text, and size. By using these literatures as a guide, the research established similar result to these literatures. The results of the research established that the elements of packaging characteristics that influences consumers’ perception about liquid soap include size, colour, graphics, information, shape, and material. This result implies that when designing a package for a liquid soap in a certain context, size, colour, graphics, information, shape, and material must be considered.

**Sub-question two (2):** what visual elements of packaging characteristics do consumers perceive as most attractive to selecting liquid soap?

Available literatures reveal visual elements of packaging that are most attractive to consumers depending on the research context and the research product. In their research, Kuvykaite, Dovaliene & Navickiene (2009) reveal that material is the most important visual element for influencing consumers’ purchase decision with reference to milk product and washing powder. On the contrary, Imram (1999) reveals that colour is the most attractive element of a package consumers look out for when choosing food product. He further reveals that with reference to food product, the effect of colour of a package on consumers’ perception is the obvious most studied. Furthermore, Underwood et al. (2001) in their research reveal that picture on a package influence the attention of consumers, especially when consumers are not used to the brand. In contrast to these findings, the research reveals that the most attractive visual element of packaging characteristics was the packaging size. From the results, packaging size has the highest unstandardized coefficient of 0.269 at a very high significant p-value of 0.001 among visual elements of packaging. This was followed by packaging colour with an unstandardized coefficient of 0.248 at a significant p-value of 0.004. However, packaging shape has the lowest unstandardized coefficient of 0.155 at a significant value of 0.062. It implies that packaging shape is the least attractive element of
packaging characteristics that influence consumers’ perception about liquid soap. Possibly, the differing of results among previous researches and this research is because researches were carried out in different context and on different products. So, it can be concluded that with reference to liquid soap product, the most attractive element of packaging characteristics that influence consumers’ perception is the packaging size.

**Sub-question three (3)** what informational elements of packaging characteristics do consumers perceive as the most important to selecting liquid soap?

Available literature reveals informational elements that are most important to consumers depending on the context and the research product. In their research, Prathiraja & Ariyawardana (2003) reveals that nutritional labelling impacted greatly on consumers’ purchase intension when buying food product because of health concern. They concluded that majority of consumers are even willing to offer extra amount for the provision of nutritional information on a package. In a different research, Gersen (2000) reveals that majority of consumers in Denmark are attracted by the environmentally-friendly information on a package in a shopping outlet. Furthermore, Kuvykaite, Dovaliene & Navickiene (2009) in their research work on the packaging elements’ impact on purchase decision of consumers economics and management, they analyse the importance of verbal elements of packaging and they reveal that product information and country of origin are the most important element when purchasing milk and washing powder. In this research, manufacture/expiry date and environmental concern are the most important packaging information elements that influence consumers’ perception about liquid soap. From the results obtained, manufacture/expiry date has the highest mean of 4.43 followed by environmental concern with a mean of 4.19. However, place of origin has the lowest mean of 2.97. This result shows that consumers consider manufacture/expiry date and environmental concern as the most important information elements of packaging that influence their perception about liquid soap. On the opposite, consumers consider country of origin as least important element that influence their perception about liquid soap. This contrasts with the results of the research carried out by Kuvykaite, Dovaliene & Navickiene (2009) where they reveal country of origin as the most important element.
Main research question: How does packaging influence consumers’ perception about liquid soap?

Available literature reveals that packaging influences consumers to purchase a product. Mostly, packaging influences consumers through its attractiveness caused by individual elements or the elements as a whole. Packaging elements are classified into visual and informal. In the research by Kuvykaite (2009), he reveals that packaging draws consumers towards a brand, enhances its reputation and influences perception of consumers about a product. In support of this result, Rundh (2005) reveals that packaging grabs the attention of consumers towards a brand, boost its reputation and heighten the perception of consumers about a product. Key visual elements of packaging in available literature that are known to influence consumers’ perception about products include size, shape, colour, material, graphics, flavour and technological design. On the other hand, key informational elements of packaging that are known to influence consumers’ perception about a product include country of origin, manufacture/expiry date, ingredient, regulatory body approval, environmental concern, and brand name. These assertions are supported by literatures stated in sub-question one (1). In effect, the research establishes results that are similar to these available literatures. The research results show that packaging influences consumers’ perception about liquid soap. Packaging does so through its visual and informational elements. The research shows that packaging visual elements that influences consumers’ perception about liquid soap include size, colour, graphics, information, shape, and material. Again, it shows that size is the most attractive visual element of packaging that influences consumers’ perception about liquid soap. On the other hand, the research shows that packaging informational elements that influence consumers’ perception about liquid soap include manufacture/expiry date, environmental concern, brand name, regulatory body approval, ingredients, and place of origin. It went on to reveal that manufacture/expiry date, and environmental concern are the most important informational elements of packaging that influences consumers’ perception about liquid soap.

Theoretically, the research results add to the numerous researches about the influence of packaging on consumers attraction to products. Available literatures show that many researches have been conducted in this area with reference to food products. However, little
is done in this area with reference to liquid soap and in a developing country context. Therefore, this result will fill this gap and add to the numerous literatures in this area.

6.2 The reliability and validity

For the quality of a research, its credibility must be tested. In an academic research, the popular and common instruments that are utilized to verify the credibility of the research include reliability and validity test. These tests are key to establishing the quality of the research and its results.

Reliability refers to how well the technique used for collecting data and analysis procedure will generate results that are consistent. Typical characteristics of Reliability are that the research measure generates the same result on different times; similar result is generated by different researchers; and transparency in the sense of raw data gathering and analysis (Easterby-Smith et al., 2008). Cronbach’s alpha test is the popular instrument used to measure the internal reliability of academic research. Its generated value is between 0 and 1. It shows a strong reliability when the value is close to 1 and a weak reliability when the value is close to 0. However, an acceptable reliable value is 0.7 to 0.9 (Goforth, 2015).

For the research, the reliability of the independent variables as well as the dependent variable were tested. From table 8 above, it shows that the independent variables have Cronbach’s alpha maximum and minimum value of 0.801 and 0.702 respectively. This result clearly indicates that the independent variable data is reliable. Again, from table 9 above, it shows that the dependent variable has a Cronbach’s alpha value of 0.822, which also indicates that the dependent variable data is reliable.

Validity refers to how well the research results establish what they intend to establish. There are three types of validity. They include content, predictive and construct validity (Sauro, 2014). Construct validity measure how well the designed questionnaire generates data that measure what the research intends to measure (Sauro, 2014). Construct validity is assessed by the correlation between the measures. This correlation indicates how well the measures correlate with one another which measure the same construct. As shown in table 6 above, the research indicates higher correlation between the factors with a minimum value of 0.607 and a maximum value of 1.000. Again, the questionnaire was developed from previous
research of similar subject and was carefully assessed for any possible measure errors and setback that could have affected the correct data generated for the analysis. These results indicate that the research is valid.

6.3 Managerial implications

For effective packaging and marketing of liquid soap products, managers must adhere to certain elements of packaging. According to the results from the research, managers must carefully consider certain key elements of packaging identified by the research which have significant influence on consumers’ perception about liquid soap. These elements are in two categories, which include visual and informational. The research reveals that visual elements that influence consumers’ perception include size, colour, graphics, shape, and material. This implies that during the design of a package for liquid soap, managers must carefully consider the size, colour, graphics, shape, and material of the package. As shown in the result, the size of the liquid soap package is the most attractive visual element that influences consumers' perception about liquid soap. This shows that managers must give a higher consideration to the size when designing the package for liquid soap. Obviously, the smaller sizes are convenient to carry, and consumers find them more convenient than the bigger sizes when selecting a liquid soap. Furthermore, colour is the second most attractive visual element of liquid soap packaging, therefore managers must consider the appropriate colour when designing a package for liquid soap. Again, certain shapes, graphics, and materials must carefully be considered for the design of liquid soap package in order that the package would appeal to and attract consumers, which in turn would translate into successful marketing campaign.

Again, managers must consider the informational elements of packaging during the design of a package for liquid soap. According to the research, information was the most considered element of packaging of liquid soap. This includes manufacture/expiry date, environmental concern, brand name, ingredients, regulatory body approval, and place of origin. Therefore, managers must place much emphasis on the informational element during package design for liquid soap. The research shows that the manufacture/expiry date, and the environmental
concern are the most important informational elements. Managers must place much emphasis on manufacture/expiry date, and environmental concern during the design of a liquid soap package to boost marketing campaign to improve sales.

6.4 Limitation and future research

Regardless of the outcome of the research, perception is one social behavioural attitude which is difficult to measure accurately. Due to social and attitudinal changes, perception may change with time. It is a dynamic phenomenon which is not permanent. This may affect how consumers may react to the packaging of the liquid soap in the future. However, in the midst of this setback, these packing elements have proven to impact positively on product purchase in the past and current times. Results of previous researches in this area have stood the test of time and have been relevant to both the academia and the business community. Therefore, the results of the research could still be relevant in a long time. Even though, the result for the research can be generalized among the population of the research, it may not be generalized to the culture of the population since some of the respondents may come from different parts of the country with different cultural background.

Since the result of the research is applicable to liquid soap, in the future, the research can be extended to both washing powder and solid soap. Furthermore, future research can also be done to include tertiary institutions in other regions in the country. Again, future research can be done to include the working class in different regions across the country.
References


of manipulations of shapes, orientation, and alignment of graphical forms on consumer assessments. UK.

Appendix: The questionnaire
demographic distribution
Please choose one

1. Gender
   Mark only one oval.
   - male
   - female

2. Age
   Mark only one oval.
   - 18-25
   - 26-33
   - 34-41
   - 42-

3. Education
   Mark only one oval.
   - degree
   - diploma
   - certificate

main questionnaire
Please evaluate the following

4. To what extent the following sizes of a liquid soap package is convenient to carry?

![Image of liquid soap bottles]

SY-A070
500ML  400ML  250ML  200ML  100ML

Mark only one oval per row.

<table>
<thead>
<tr>
<th>Size</th>
<th>not at all convenient to carry</th>
<th>not convenient to carry</th>
<th>neutral</th>
<th>convenient to carry</th>
<th>very convenient to carry</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 ml</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400 ml</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>300 ml</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>200 ml</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 ml</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5. To what extent do you consider the following colours as appropriate for liquid soap packaging?

<table>
<thead>
<tr>
<th>Colour</th>
<th>not at all appropriate</th>
<th>not appropriate</th>
<th>neutral</th>
<th>appropriate</th>
<th>very appropriate</th>
</tr>
</thead>
<tbody>
<tr>
<td>red</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>yellow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>green</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>blue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>white</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>purple</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>orange</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pink</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>black</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mark only one oval per row.

6. To what extent do you consider the following shapes being appealing for a liquid soap packaging?

Mark only one oval per row.

<table>
<thead>
<tr>
<th>Shape</th>
<th>not at all appealing</th>
<th>not appealing</th>
<th>neutral</th>
<th>appealing</th>
<th>very appealing</th>
</tr>
</thead>
<tbody>
<tr>
<td>angular</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rounded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7. To what extent do you consider the following materials of a liquid soap package as being eco-friendly?

Mark only one oval per row.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>glass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>metal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>paper</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plastic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. To what extent do you consider the following graphics of a liquid soap package being appealing?

Mark only one oval per row.

<table>
<thead>
<tr>
<th></th>
<th>not at all appealing</th>
<th>not appealing</th>
<th>neutral</th>
<th>appealing</th>
<th>very appealing</th>
</tr>
</thead>
<tbody>
<tr>
<td>bold text</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>small text</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>multi-colours</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>uniform-colours</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. To what extent do you consider the product information on a liquid soap packaging as being important?

Mark only one oval per row.

<table>
<thead>
<tr>
<th></th>
<th>not at all important</th>
<th>not important</th>
<th>neutral</th>
<th>important</th>
<th>very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>place of origin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ingredient</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>brand name</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>environmental concerns</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>manufacture/expiry date</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>regulatory body approval</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>