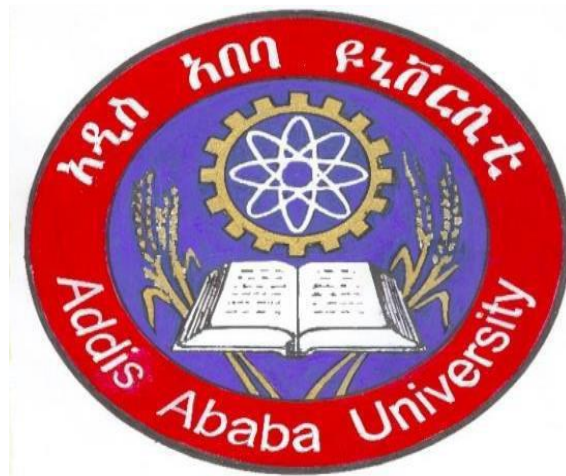




**Addis Ababa University**

**College of Business and Economics**

**School of Commerce**

**Graduate Studies**

**Marketing Management Program Unit**

**The Effect of Packaging on Consumer's Purchase Decision Behavior of Powder Milks in  
Ethiopia**

**By: Tesfalem Assefa**

**Advisor: Hailemariam Kebede(PhD)**

January, 2019

Addis Ababa, Ethiopia

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**Addis Ababa University**  
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**Graduate Studies**  
**Marketing Management Program Unit**

**The Effect of Packaging on Consumer's Purchase Decision Behavior of Powder Milks in Ethiopia**

**By: Tesfalem Assefa**

*A Research Project Submitted to School of Commerce  
In partial fulfillment of the Requirements for the Degree of Master of  
Arts in Marketing Management*

**Advisor: Hailemariam Kebede(PhD)**

**May, 2019**

**Addis Ababa, Ethiopia**

**Approval**

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Thesis title: The Effect of Packaging on Consumer's Purchase Decision Behavior of Powder Milks in Ethiopia

***Approved by Board of Examiners***

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External Examiner

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Signature

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Internal Examiner

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Signature

## Statement of Certification

This is to certify that Tesfalem Assefa had carried out this research work on the topic entitled The Effect of Packaging on Consumer's Purchase Decision Behavior of Powder Milks in Ethiopia. This is his original work and is suitable for submission for the award of Master of Arts Degree in Marketing Management.

---

Advisor: Hailemariam Kebede(PhD)

May, 2019

Addis Ababa, Ethiopia

## Statement of Declaration

I, Tesfalem Assefa, hereby declare that the thesis entitled The Effect of Packaging on Consumer's Purchase Decision Behavior of Powder Milks in Ethiopia is the outcome of my own effort and study and that all sources of materials used for the study have been duly acknowledged. This study has not been submitted for any degree in this or any other University. It is offered for the partial fulfillment of the degree of MA in Marketing Management.

Declared by:

Name            Tesfalem Assefa

Signature        -----

## Acknowledgements

Above all, I would like to thank the Almighty God for giving me the opportunity, strength, courage, wisdom and inspiration to join and complete this study. I would like to express my gratitude to my advisor Hailemariam Kebede(PhD), who was abundantly helpful and offered invaluable assistance, support and guidance. I would also like to express my sincere gratitude to all my precious friends who are involved in the data collection. I would also like to thank all those who agreed to participate as respondents in this study. Lastly, words cannot express enough my appreciation to my wife, big boy and golden parents for their patience, understanding and endless support during the entire period.

## ABSTRACT

Packaging is the method of enclosing or protecting products for its distribution, storage, sale and use. Packaging is capable of performing all these tasks through its elements namely packaging color, packaging design, quality of packaging materials, packaging size and packaging label or printed information. The objective of this study is to determine the effect of packaging on consumer's buying behavior of powder milks. The purpose of this research is to examine the packaging elements, which are components of the product's package and their effect on consumer's purchase decision of powder milks in supermarkets. Quantitative research approach was used in this research. This research had identified the relationship between the dependent and independent variables. This is the primary research and data has been collected through questionnaire and for analysis purpose SPSS software has been used. In this study samples of 384 respondents has been collected. According to the finding of the research study, it has been observed that the packaging is an important factor in influencing consumer's purchase decision of powder milks. It is further concluded that of the studied packaging elements like packaging color, packaging material, design, size and labeling, language used in the labelling, design and variety of package sizes are the most important factors which influences consumer's purchase decision.

**Key Words:** Packaging, Buying behavior, Purchase decision, independent & dependent variables

## **Chapter One**

### **Introduction**

This chapter gives a detailed introduction of the research starting with a brief background on the need to study the effect of packaging on consumer's purchase decision. Statement of the problem, research objectives, basic research questions, significance and scope of the study are also included in this chapter.

#### **1.1 Background of the study**

Packaging is the method of enclosing or protecting products for its distribution, storage, sale and use (Keller, 2009). There are three categories of packaging by their functions. These are primary packaging which is the material that first envelopes the product and holds it, secondary packaging which is the packaging outside of the primary packaging. The third one is tertiary packaging which is used for bulk handling, warehouse storage and transportation purpose (Kotler et al., 2009). There are also four categories of packaging which includes paper packaging, glass, metals, and plastic packaging. Paper can be categorized in to flexible, semi flexible and rigid packaging. Rigid packaging is formed and made of materials which can hold the product and its accessories or components in place. This kind of packaging are including boxes, glass bottles and metal cans. Most powder milks are packed in metal cans, plastic sachets and paper boxes and paper sachets (Koutsimanis. et al. 2014).

In today's world production, storage, distribution and marketing of consumer and non-consumer products is significantly impacted by their packaging. Packaging causes differentiation from competitors and it is used as a competitive advantage in the market. It also significantly influences the buying decision at the point of sale. Different brands of products use a various range of packaging features such as colors, designs, shapes, symbols and messages. These packaging elements will attract and strengthen customer attention and helps the product identification via the

image provided. Packaging is the last resort tool to reach the consumers has a prominent role to transfer any message to them (Deliya and Parmar. 2012).

Analysis of the impact of packaging on consumer's purchase decision indicate that packaging elements such as color, context image, packaging material, style of writing, cover design, printed information and innovation have positive and significant relationship with consumer buying behavior (Abdullah et al., 2013).

Packaging requires so much attention in the production processes of powder milks as it plays an important role in sustaining their quality throughout their shelf life. Packaging is appealing to the end user when done well in an elegant manner and it can also attract criticism when done unethically. In today's world there is a paradigm shift from the traditional point of sales service to self-service system. In this scenario, elegant packaging elicits impulsive buying and hence plays an important role in marketing communications, especially at the point of sale and could be treated as one of the most important factors in influencing consumer's purchase decision (Ahmad A. and Ahmad N. 2013).

Impulsive buying behavior initiated by a product's packaging features significantly increases its sales turnover and market share. In addition, packaging also plays an important role in reducing the security risk of shipment. It can be made with improved tamper resistance to prevent altering. Packaging also helps in defending the product once it is bought, recognition and encourage the consumer to buy the product. Due to all these benefits of packaging, many marketing people consider packaging as a fifth P next to the other four P's which are product, price, promotion and place (Vazifehdoust and Feyzabadi. 2018).

Packaging is understood to significantly impact the sales and the market share of a commercial organization through the positive or negative impression it leaves on the consumer. Hence, it is important to take into consideration the effect of the packaging of a product on the consumers' buying behavior. Through understanding how packaging affects the purchase decision, companies will be able to make the right decision when it comes to product packaging and presentation. The results of various researches in this regard show the importance of having good packaging

elements and quality in order to maintain a positive product image, and achieve a better market impact (Goodess et al. 2004).

Product labelling in packaging is a representative of the product's manufacturer and act as a method of advertising messages and company's slogan. Proper packaging creates distinctiveness amongst the various companies. Hence companies know about the needs of proper packaging and how a slight change in packaging results in their profitability. Therefore, now companies are completely focused on different aspects of packaging and thereby to obtain maximum productivity and profitability (Souček, M. et al, 2017).

The visual aspect of labelling and packaging has an important role in food's purchase process and it also has a direct relation with customer and an effect on customer's mind (Sultan. 2016). Packaging definitely has a strong impact on this purchase decision. During times of unplanned purchases, customers are attracted by the color, labelling and totally the appearance of the product. During purchasing food products there is an impact of functional and visual aspects of packaging (Ehsan. 2014). This indicates existence of direct relationship between packaging and customer's purchase decision. Packaging, brand loyalty and customer purchase intention are related to each other. There is an impact of packaging on brand loyalty and which in turn shows a positive effect on customers purchase intention (Abdullah et al 2013). Various studies in this regard showed a positive impact of packaging on customer's product purchasing decision.

Therefore, this research will examine the effect of packaging on consumer's buying behavior of powder milks. Five elements of packaging will be used to determine consumer's buying behavior. Relative impact of each packaging elements on consumer's buying behavior will be measured. Elements of the package which should be highlighted in designing such packages will be determined in this study.

The overall purpose of this study is that even though there are various studies that indicate the positive relationship between packaging and consumer's purchase decision, there is no such study conducted in the powder milk market in Ethiopia. This industry is one of the rising industries in Ethiopia and there are huge multinational operators even involved in re-packing bulk shipments

within the country. Through identifying the elements of packaging which must be highlighted in the design of these packages, implementing the same on further package designs will significantly help these companies and/or new entrants raise their market sales turnover and profitability.

## **1.2 Statement of the problem**

While the overwhelming number of studies have investigated the role of packaging in consumer's purchase decision and all have indicated there is a direct influence of product's package in consumer's purchase, use and repurchase decisions, there have not been many studies done regards to such topics in Ethiopia regards to powder milks in the trade.

Many industries spend millions of dollars trying to come up with package designs that have significant influence in consumer's purchase decisions made at the point of sales. There is paradigm shift from the traditional point of sales service to self-service system globally and also locally here in Ethiopia. This along with the ever-dynamic consumer lifestyle leads to place interest in packaging as an important tool of sales promotion.

Packaging is an important tool for marketing and can play an important role in creating a sustainable competitive advantage. Packaging decision consists of various elements that should be considered i.e. size, design, material, color, text and brand. The collective impact of all these elements plays a significant role in influencing consumer's decision to buy a product or not.

The quality of packaging materials provides an image about the quality of the product itself. This highlights the fact that packaging can be used as a strategic tool to achieve the business goals of commercial firms. In order to achieve your business goals, your products have to provide information and facilitate communication with customers that are becoming more and more demanding these days. This can easily be achieved by proper labelling of your products to enable them communicate with consumer's differently at the point of sales.

Packaging decisions have to also consider the economic status of consumers. Optimally packaged products tend to be picked more frequently from the store shelves as they are economically viable to most consumers and also help in facilitating maximum use of the products.

Currently there are various products available in the trade, most imported in final store keeping units while one is repacked within the country. There is a significant rise in the number of SKUs from 2500gram cans, 900gram cans, 400gram cans, 250gram cartoons to 26gram sachets. Two major market shareholders have also started printing information on the packages using local languages.

Though all these elements of packaging are important in the making packaging decisions, relative impact of each element in its influence to make consumer's make the buy decision varies. Thus, this study will examine which packaging elements play a significant role in impacting consumers' purchase behavior and why these elements need to be focused on in designing a package of powder milks in the market.

### **1.3 Basic Research Question**

This study intends to establish the existence or absence of a significant relationship between powder milk's packaging and consumer's buying behavior.

Thus, the following research questions are drawn:

The main research question of this research is:

Is there a significant relationship between packaging and consumer's buying decision of powder milks?

The specific research questions are:

RQ1: Is there a significant relationship between package color and consumer's buying behavior of powder milks?

RQ2: Is there a significant relationship between package quality and consumer's buying behavior of powder milks?

RQ3: Is there a significant relationship between package design and consumer's buying behavior of powder milks?

RQ4: Is there a significant relationship between package size and consumer's buying behavior of powder milks?

RQ5: Is there a significant relationship between package labeling/printed information and consumer's buying behavior of powder milks?

## **1.4 Objectives of the study**

### **1.4.1 General Objectives**

The main objective of this study is to determine the effect of packaging in consumer's buying decision of powder milks.

### **1.4.2 Specific Objectives**

To determine if there is significant relationship between,

- Package color and consumer's buying behavior of powder milks
- Package quality and consumer's buying behavior of powder milks?
- Package design and consumer's buying behavior of powder milks?
- Package size and consumer's buying behavior of powder milks?
- Package labeling/printed information and consumer's buying behavior of powder milks?

## **1.5 Significance of the study**

Packaging plays an essential role in marketing and distribution of products. At the point of sale, packaging of products is crucial issue in a consumer's purchase decision. Packaging impacts the consumer's mindset of product by its exposure. Even after the purchase, the package of the product will continue to impact the consumption experience.

Understanding impact of packaging on customers' purchase decision behavior is vital for any organization. In the present business scenario, it is even more important as customers' preferences are changing very fast and their demand is increasing rapidly. Hence it is imperative for an organization to find out the factors that influence customers' purchase decisions.

There are various elements of packaging which collectively determine its role in consumer's purchase decision of a product. In Ethiopia, there are various types of powder milks which are imported from other countries and few have started to be re-packed in the country. These products use different package colors, sizes, designs, materials and labelling methods.

Hence it is of paramount importance to investigate the role of packaging in consumer's purchase decision of powder milks in the market. This study was of significant importance to determine which packaging elements need to be highlighted in making packaging decision of powder milks marketed in the country.

## **1.6 Scope of the Study**

According to Rishi Kumar. (2018), packaging for fast moving consumer goods demands constant attention in order to stay competitive in modern dynamic markets. Consumers do not think about the purchasing product until they enter the place of purchase. This emphasizes importance of the communication in a place of purchase. Alongside promotional banners, displays and counters, packaging can be used for this purpose. Marketers, distributors and researchers as well must take into consideration the complexity of consumer behaviour to achieve desired results. Graphic design, material quality, color, size and practicality and package labeling/printed information are considered as important elements in designing a package for product's differentiation and promotion.

This research will be conducted to assess the impact of packaging on consumer's purchase decision behavior. Although there may be several factors which influence consumer's purchase decision of

powder milks, only the impact of packages will be examined in this study. The packaging elements measured in this research are package color, quality, design, size and innovation. The study was confined to these elements of packaging which are indicative of the effect of packaging has in consumer's purchase decision behavior of powder milks.

### **1.7 Limitations of the study**

The study is conducted only in Addis Ababa which may be a limitation in using the findings of the research to generalize and extend its applicability to other parts of the country. In addition, not all package elements are used to determine consumer's buying behavior decisions. It does not take into account all package elements nor does it take into consideration other internal and external factors that influence consumer's purchase decision of powder milks.

### **1.8 Definition of Terms**

**Packaging** – is a material used to contain a product, protect it from any sort of damages, contain information about the brand, its quality and ways of using the product.

**Consumer Buying Behavior** – is the study of individuals, groups or organizations and all the activities associated with the purchase, use and disposal of goods and services, including the consumer's emotional, mental and behavioral responses that follow these activities.

**Competitive Advantage** – is a condition or circumstance that puts a company in a favorable or superior business position than its competitors.

**Packaging Elements** – are components of a package such as its color, image, shape, material size and typography.

## **1.9 Organization of the Research paper**

This research paper has five chapters. The first chapter deals with Introduction including background of the study, statement of the problem, objectives of the study, significance of the study, scope and limitations of the study. The second chapter presents review of related literature. The third chapter presents the research design and methodology. Presentation, analysis and interpretation of data is discussed in Chapter 4. The final chapter presents the summary of findings, conclusions and recommendations.

## **Chapter Two**

### **Review of Related Literatures**

Packaging is one of the most important factors which plays a vital role in marketing communication, especially in point of sales. Hence it could be treated as one of the most important factors which influences consumer's purchase decision (Ahmed et al.2014). Packaging primarily causes differentiation of a product from its competitors and be considered as a competitive advantage. Packaging is also one of the most important factors that influence the buying decision at the point of sale as that is where it serves as an essential part of sales process (Ehsan 2014).

Packaging plays an essential role in marketing and distribution of products. At the point of sale, packaging of products is crucial issue in a consumer's purchase decision (Ghosh. 2017). Packaging impacts the consumer's mindset of product by its exposure. Even after the purchase, the package of the product will continue to impact the consumption experience (Mousavi. and Jahromi. 2014).

Packaging is used for several purposes. The first use of packaging is containing a product which determines the amount of the product consumers will purchase (Hussain, S. *et al.* 2015). The other use of packaging is to protect product from contamination, environmental damage and theft. Further use of packaging is its importance to facilitate transportation and storing of products. Carrying valuable information and its colorful design that makes attractive displays is also another vital use of packaging (Nasar A. et al. 2012).

In other words, packaging is the primary means of identifying a product and indicates the superiority of a product in a market. It is also an important component of the marketing system of products either at domestic or foreign level (Dhurup et al. 2010). It also has a very active role in increasing sales, inventory turnover in the company's warehouse and is also responsible for maximizing the revenue of producers (Hammad and Abouie 2015).

Therefore, that is why there are packaging manufacturers which have long had a special notice for the concept of packaging in order to increase their competitiveness in national and international markets and step in the course of increasing their market share by the aid of factors such as graphic

design, the use of quality raw material, unique color, innovative approaches and various ways of labelling in the product packages (Hamdar et al. 2018).

There has been extensive research in packaging's impact on consumer buying behavior over many years. These studies indicate that packaging allows to attract consumer's attention, transfer valuable product information, position the product in the consumer's mind and differentiate the product from others (Chukwu 2018). Therefore, understanding how packaging variables, such as color design, and graphics, impact consumer realization, evaluation, and behavior is of both theoretical and managerial importance (Rahmani et al 2013).

We are witnessing a paradigm shift from the traditional point of sales service to self-service system globally. This along with the ever-dynamic consumer lifestyle lead to place interest in packaging as an important tool of sales promotion. Therefore, packaging performs an important role in marketing communications, especially at the point of sale and should be treated as one of the most important factors in influencing consumer's purchase decision (Ahmed and Parmar. 2014).

Consumer decision making is defined as a psychological orientation that reflects consumer choice approach i.e. when viewing product package, consumers tend to unconsciously imagine the aspects of the product such as appearance, taste and smell. Correct understanding of customers and their buying behavior has numerous advantages (Budiardjo. 2016). Through this, managers and marketers of a company could make the best decisions that meets customer needs and achieve and/or exceed the company goals.

There are three models of analyzing consumer buying decisions. These are economic models, psychological models and consumer behavior models. Economic models are based on the assumptions of rationality and near perfect knowledge about the product. It is quantitative and the consumer is concerned on how to maximize their utility. Psychological models involve some psychological and cognitive processes such as motivation and need recognition. They are qualitative and built on sociological factors such as cultural influences and family values. Consumer behavior model is the practical model used by marketers which involves mixing of both economic and psychological models (Draskovic et al. 2014).

## **2.1 Consumer's buying decision process**

The buying decision process is the decision-making process used by consumers regarding market transactions before, during and after the purchase of goods or services. This can be based on a rational cost benefit analysis in the presence of multiple alternatives. The five stages of the consumer are Problem/Need Recognition where the consumer recognizes what the problems/needs are and identifies what product or product type that is appropriate in satisfying the identified need(s), Information search where the consumer searches for the product which he/she rationally thinks would satisfy the recognized needs, Evaluation of Alternatives where information search reveals multiple products and the consumer evaluates the available alternatives to understand and identify which products would be most appropriate, Purchase Decision when after due evaluation of the alternatives, an intention to buy a given product is established (this is subject to two variables – the decision of the consumer if buying the product could be influenced by his peer's impression of the product and other unforeseen circumstances such as financial limitations etc) and at last Post Purchase Behavior where a post purchase discord feeling could be felt by the consumer after buying a product making him feel that buying another product would have been better. Addressing such feelings creates goodwill for the product and also increases prospect of frequent repurchase of the product. These five stages merely form a framework to evaluate customer's buying decision process. It is however, not mandatory that consumers should go through each and every stage, nor is it necessary that they proceed in any particular order (Vieira. 2015).

Companies should pay attention to their consumer's buying behavior as it has a great impact on the companies' strategies and its success. The company should also create a relevant marketing mix which is valuable to achieve or exceed customer's satisfaction. This can be performed only through proper study of what, where, when and how consumers buy. Marketers with better prediction to the consumers buying behavior and implementation of the relevant marketing strategies will by far perform better than their competitors (Kumar. 2018).

## 2.2 Packaging attributes

Packaging elements that should be evaluated when employing packaging decisions are size, design, material, color, text and/or printed information. These packaging elements are factors that influence the buying behavior of consumers i.e. packaging color, packaging material, design of wrapper, and printed information (Drexler. 2016).

One essential component of packaging is color. Consumers expect certain type of colors for particular products. Color perceptions vary across cultures and colors symbolize different meanings to consumers (Adam. and Ali 2014). Graphics and colors play important roles in promoting product sales. When companies target customers with high incomes, they have to design a high-quality product which exhibits superior packaging elements. This is because these customers care more about their self-image in society, and tend to choose the better-looking product (Ahmed and Javed, 2015).

According to Mahdia. et al. 2011, consumers' buying behavior is also significantly affected by the labeling of the product. Consumers tend to buy more quantities of a well labeled product. Consumer's understanding and the information written on the product container definitely alters his/her will to buy the product after reading the label. This means that understanding the label information has a direct influence on sales. Therefore, labelling the product is a determining factor in the purchasing.

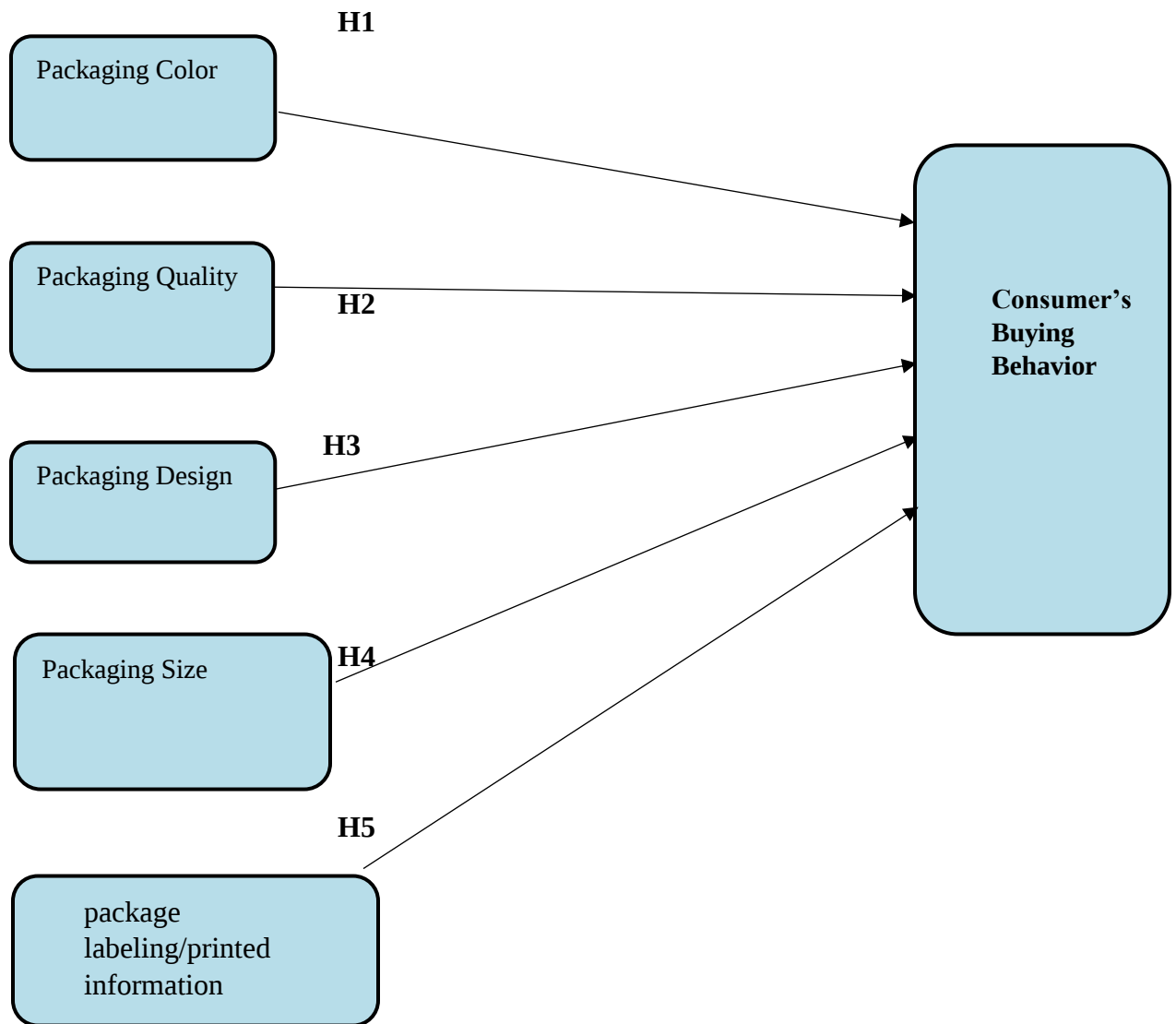
Packaging contains and protects the product. Therefore, it is also important to take into consideration the material used to package the product together with its design (Estiri et al. 2010). Packaging material has a strong impact on the buying behavior of consumers. Consumers link the packaging material with certain essential values of the product. High-quality material attracts customers more than low quality material. Perceptions by consumer's regards to certain materials could affect the perceived quality of a product. The quality of packaging materials provides an image about the quality of the product itself which highlights the fact that packaging can be used as a strategic tool to achieve the business goals of commercial firms (Farashbandi et al. 2013).

Packaging, these days, plays an important role in attracting customers' attention and therefore acts as a strategic tool that influences the recognition of the quality of a product. The functions of packaging seem to provide information and facilitate communication with customers that are becoming more and more demanding. Packaging is also utilized as a space for delivering messages to influence consumers and their buying decisions (Skytte and Jefting 2015).

Packaging size is also another determining factor which significantly influences the consumption pattern of products in the market. Packaging size optimization has come to be an important factor that determines consumer's choice of products to use at a relatively fair price in accordance with their economic status (Vladić et al. 2016).

This research tries to examine the effect of packaging on consumer's buying behavior of powder milks. Five elements of packaging will be used to determine consumer's buying behavior. Relative impact of each packaging elements on consumer's buying behavior will be measured. Elements of the package which should be highlighted in designing such packages will be determined in this study.

## 2.3 Conceptual Framework



Source - Drexler. 2016

### 2.3.1 Independent variable

**Packaging Color** – Color plays an important role in consumer's decision-making process, where certain colors set unique moods and help draw attention to a product.

**Packaging Material** – High quality packaging material attracts customer's easily than the low quality once and hence have a significant impact on consumer's buying decision behavior.

**Packaging Design** – Most companies try their best in creation of attractive design as it plays a vital role in attracting consumer's and impacting their purchase decision.

**Packaging Size** – This also adds value to a product when it meets consumer's needs in portion control and affordability.

**Printed Information** – Packaging as a primary vehicle of communication with the consumer, it provides details about the product at the POS. These details include the nutritional value, added ingredients, country of origin, the producer's name and best before date. These details have the potential to influence consumer's buying decision of one product over other competitors.

### **2.3.2 Dependent Variable**

**Consumer's Buying Behavior** – The behavior that consumers display in the searching for, purchasing, using, evaluating and disposing of products, services or ideas.

## **2.4 Research Hypothesis**

According to Rishi Kumar. (2018), packaging for fast moving consumer goods demands constant attention in order to stay competitive in modern dynamic markets. Consumers do not think about the purchasing product until they enter the place of purchase. This emphasizes importance of the communication in a place of purchase. Alongside promotional banners, displays and counters, packaging can be used for this purpose. Marketers, distributors and researchers as well must take into consideration the complexity of consumer behaviour to achieve desired results. Graphic design, material quality, color, size and practicality and package labeling/printed information are

considered as important elements in designing a package for product's differentiation and promotion.

Accordingly, the following research hypothesis were formulated regards to this research.

**H1:** Packaging color has impact on consumer's buying decision of powder milk products.

**H2:** Qualities of the packaging material have an impact on consumer's buying decision of powder milk products.

**H3:** The design in packages of powder milk products have impact on consumer's buying decisions.

**H4:** The size and practicality of powder milk packaging significantly influences consumer's buying decision.

**H5:** The printed information on powder milk package has an impact on consumer's buying decision of powder milks.

## **Chapter Three**

### **Research Methodology**

#### **3.1 Research Approach**

Quantitative research approach was used in this research. It is the numerical representation and manipulation of observations for the purpose of describing and explaining the phenomena that the observations reflect. A very concise definition of quantitative research is, it is a type of research that is explaining phenomena by collecting numerical data that are analyzed using mathematically based methods (in particular statistics). From the different types of quantitative research, a survey research was employed in this study to determine the influence of packaging on customer purchase decision behavior among customers of chain supermarkets in Addis Ababa.

#### **3.2 Research Design**

A combination of both descriptive and explanatory study designs was used for this research. Descriptive research is used to obtain information concerning the current status of the phenomena and to describe "what exists" with respect to variables in a situation. Descriptive research designs provide answers to the questions of who, what, when, where, and how are associated with a particular research problem. Descriptive study cannot conclusively ascertain answers to why questions. Therefore, explanatory design was employed to explain such causal relationships. The research variables were measured at a specific point in time and therefore a cross sectional survey was used.

#### **3.3 Sampling Design**

##### **3.3.1 Target Population**

The target population for this research were customers purchasing powder milk during the study period from five chain supermarkets in Addis Ababa. These chain supermarkets included in this study were Shoa Supermarket, Safeway supermarkets, Friendship Supermarket, Allmart

Supermarkets and Lomiyad Supermarkets. These five supermarkets have a total of 27 branches.

### 3.3.2 Sampling Technique

A two-stage sampling technique was used in this research. Purposive sampling was used to determine the supermarkets to be included in the study. The supermarkets to be included in this study were selected based on their sales volume of powder milks for a selected period of time from one of the suppliers of powder milks in the market. The supermarkets included in this study were those which purchase more than half a million-birr worth of powder milks quarterly from the supplier. Sampling technique that was used to determine a representative consumer sample is non- probability sampling technique. Non- probability sampling was used since the target population in the study were not well defined and there was no interest in drawing inferences from the sample of the population. This method of sampling was also less expensive and implemented quickly. Convenience sampling was the type of non-probability sampling technique to be employed. It is set of techniques in which respondents are selected by convenience due to their proximity, availability or accessibility.

### 3.3.3 Sample Size

The study population in this case was considered to be infinite. Thus, for sample size determination, the sampling calculation method suggested by (Kothari, 1990), inferring to the infinite number of population and confidence level at 95% is used.

$$n = \frac{z^2 \cdot p \cdot q}{e^2}$$

Where;

n= sample size

z= value on standardized normal distribution curve corresponding to the level of significance

p= level of variability, q=1-p

e= the level of precision

$$ss = \frac{1.96^2 * 0.5 * 0.5}{(0.05)^2} = 384$$

Using the formula, the sample size of the study with 95 confidence level and 0.5 level of variability is calculated to be 384.

Table 1 Total number of branches for each of the chain supermarkets

| S.N | Chain Supermarket Name       | Total number of branches |
|-----|------------------------------|--------------------------|
| 1   | Shoa supermarkets            | 17                       |
| 2   | Safeway supermarkets         | 5                        |
| 3   | Friendship Supermarkets      | 1                        |
| 4   | All mart supermarkets        | 2                        |
| 5   | Lomiyad supermarkets         | 2                        |
|     | Total number of Supermarkets | 27                       |

Table 2 Sample size for each chain supermarkets and number of respondents to be sampled.

| S. N | Chain Pharmacy Name     | Total number of branches | No of customers sampled |
|------|-------------------------|--------------------------|-------------------------|
| 1    | Shoa Supermarkets       | 17                       | 241                     |
| 2    | Safeway Supermarkets    | 5                        | 71                      |
| 3    | All mart Supermarkets   | 2                        | 29                      |
| 4    | Friendship Supermarkets | 1                        | 14                      |
| 5    | Lomiyad Supermarkets    | 2                        | 29                      |
|      | <b>Total</b>            | 27                       | 384                     |

### 3.4 Data collection methodology and Sources of Data

Structured questionnaires will be distributed to selected customers to collect primary data. Prior researches, books and journal articles are referred as secondary sources of information.

### 3.5 Data Analysis

Data collected using the questionnaire was coded and processed. Coding is the process of assigning a numerical score or other character symbol to previously edited data (Zikmund, et al., 2010). The coding procedure followed after the data was checked and adjusted. Therefore, the demographic characteristics of the respondents were coded first. They include male coded as 1 and female coded as 2; other demographic factors were coded from 1 to 5 in the case of age; and from 1 to 6 in the case of educational level and monthly income. The second part of the questionnaire, which dealt with the variables; pharmacist's opinion and recommendation, families' and friend's opinion and recommendation, past experience, country of origin and price were coded with a five-point Likert's scale. In this scale, strongly disagree was coded as 1 and strongly agree was coded as 5. The responses in between were coded as 2, 3 and 4.

Before the analysis of the primary data, which was collected through close ended questionnaires, it was coded and processed, analysis of the variables' reliability and validity of the constructs was verified. To ensure reliability of this research, the questionnaire was designed to measure the concepts in the theoretical model in a consistent manner. This implies that the study can be conducted by other researchers to arrive at the same findings.

The findings of the study were analyzed by using the Statistical Package for Social Sciences (SPSS) version 20 program. Descriptive data analysis tools were used to measure frequencies, percentages, means, standard deviation and graphic representation.

Descriptive statistics for quantitative data of both univariate analysis such as frequency and bivariate analysis such as correlation was analyzed. Finally, linear regression was analyzed to examine the interdependence between dependent and independent variables.

### **3.6 Validity and Reliability**

According to Adams, et al. (2007) Validity is the strength of conclusions, inferences or propositions. It involves the degree to which you are measuring what you are supposed to, more simply, the accuracy of your measurement.

Reliability concerns the extent to which an experiment, test or any measuring procedure yields the same result on repeated trials. The Cronbach's alpha coefficient is a statistical tool that evaluates the confidence through the inner consistency of a questionnaire

In order keep the validity and reliability of the questions, each question will be carefully selected from previous researches. In consideration of the background of respondent profile the questionnaire will be translated to Amharic. Prior to using the questionnaire for data collection, the survey instrument will be tested with consumers to check for possible problems with statement clarity and respondent understanding as well as ability to complete the survey instrument Cronbach's Alpha coefficient will be used to measure reliability of the study

### **3.7 Ethical considerations**

Ethical considerations are of paramount importance throughout the conduction of the research. Respondents will not be allowed to reveal identities on the questionnaires. Company names will also remain confidential. The purpose of the survey will be disclosed on the questionnaires and willingness of the respondents will utmost be respected.

## Chapter 4

### Data Analysis and Discussion

This chapter presents analysis, interpretation and findings of information collected through self-administered questionnaires with 384 randomly selected customers of chain supermarkets. In order to get representative data 384 questionnaires were prepared and distributed to customers of the chain supermarkets. Out of these 384 questionnaires distributed to customers, 375 questionnaires (97.66% response rate) were collected back properly filled. Thus, the analysis is based on the valid 375 questionnaires.

Table 3 Number of valid questionnaires collected from each supermarket

| S. N | Chain Pharmacy Name     | Total number of branches | No of customers sampled | No of valid questioners collected |
|------|-------------------------|--------------------------|-------------------------|-----------------------------------|
| 1    | Shoa Supermarkets       | 17                       | 241                     | 237                               |
| 2    | Safeway Supermarkets    | 5                        | 71                      | 70                                |
| 3    | All mart Supermarkets   | 2                        | 29                      | 29                                |
| 4    | Friendship Supermarkets | 1                        | 14                      | 12                                |
| 5    | Lomiyad Supermarkets    | 2                        | 29                      | 27                                |
|      | <b>Total</b>            | 27                       | 384                     | 375                               |

Source: Survey result, 2019

#### 4.1 Findings of Quantitative Analysis

The purpose of this study was to examine the effect of packaging color, package design, packaging quality, packaging size and practicality and printed information or package labeling on consumers'

purchase decision of powder milks in supermarkets found in Addis Ababa from March 1 to 28, 2019.

The research used quantitative approaches to data gathering and analysis. The research questions were answered through survey questionnaire. Consumers were intercepted from the supermarkets while purchasing powder milks at convenience. Out of 384 questionnaires distributed to targeted respondents, only 375 were complete, valid and appropriate for analysis, which represent 97.66 % valid response rate.

#### 4.1.1 Reliability Analysis

After coding and entry of data into SPSS, the first analysis conducted was to check the reliabilities of the scales used in the data collection instrument. This was done through Cronbach's coefficient alphas computation for each dimension to determine the internal consistency reliability of the instruments used in the study. Table 4.1 illustrates the Cronbach's Alpha values for the variables. According to Malhotra & Birks (2007), the value of 0.60 is considered as in the lower limit of acceptability for Cronbach's alpha. As depicted in Table 1, all variables in this study had the alpha values were all above 0.60 and the overall alpha value is 0.894 which is highly acceptable.

Table 4 Summary of Reliability Analysis

| <i>S.N.</i> | <i>Measurement Scales</i>       | <i>Cronbach's Alpha Values</i> | <i>Number of Items</i> |
|-------------|---------------------------------|--------------------------------|------------------------|
| 1           | Packaging color                 | .856                           | 5                      |
| 2           | Packaging quality               | .837                           | 5                      |
| 3           | Packaging design                | .904                           | 5                      |
| 4           | Packaging size and practicality | .796                           | 5                      |
| 5           | Labelling/printed information   | .863                           | 5                      |
| 6           | Purchase decision               | .710                           | 5                      |

Source: Survey result, 2019

#### 4.3 Demographic Characteristics of Sample Respondents

This descriptive analysis is used to look at the data collected and to describe data captured through the questionnaire. It was used to describe the demographic factors for more clarification. It is mainly important to make some general observations about the data gathered for general or demographic questions. The researcher collected demographic information on respondent's gender, age, marital status and academic qualification. The findings are presented in the following table.

## Gender of Respondents

Table 5 Gender of respondents

|       |        | Frequency | Percent |
|-------|--------|-----------|---------|
| Valid | Male   | 160       | 42.7    |
|       | Female | 215       | 57.3    |
|       | Total  | 375       | 100.0   |

Source: Survey result, 2019

The sample includes 375 respondents in five chain supermarkets in Addis Ababa. Table 4.2.1 presents the background information of the respondents for this study. The survey showed that there were more female as compared to males. Female respondents represented 57.3% (215) on the other hand 42.7% (160) were male.

## Age of Respondents

Table 6 Age of respondents

|       |                       | Frequency | Percent |
|-------|-----------------------|-----------|---------|
| Valid | Less than 18 years    | 25        | 6.7     |
|       | 18-35 years           | 77        | 20.5    |
|       | 36-50 years           | 170       | 45.3    |
|       | 51-65 years           | 83        | 22.2    |
|       | Greater than 65 years | 20        | 5.3     |
|       | Total                 | 375       | 100.0   |

Source: Survey result, 2019

As far as age of respondents is concerned, 170 (45.3%) of the respondents are in the range of 36 to 50 years, 83 (22.2%) of the respondents are in the range of 51-65 years, 77(20.5%) are in the range of 18 to 35 years, 25(6.7%) of the respondents are less than 18 years and 20(5.3%) of the

respondents are greater than 65 years. This shows that most of respondents are adults who are very and the lowest groups are both less than 18 and above 65 years.

### **Respondents' academic qualification**

Table 7 Respondents' academic qualification

|       |                                            | Frequency | Percent |
|-------|--------------------------------------------|-----------|---------|
| Valid | Highschool and below                       | 61        | 16.3    |
|       | Technical/vocational certificate (Diploma) | 108       | 28.8    |
|       | Bachelor's Degree                          | 134       | 35.7    |
|       | Master's Degree                            | 61        | 16.3    |
|       | Others                                     | 11        | 2.9     |
|       | Total                                      | 375       | 100     |

Source: Survey result, 2019

With regard to educational level of respondents, PhD and above holders of respondent represented 11(2.9%) of the respondents, Master's Degree holders represented 61(16.3%) of the respondents; First Degree holders represented 134(35.7%). Highschool and below represented and Technical/vocational certificate(Diploma) holders represented 61(16.3%) and 108(28.8%) of the respondents respectively. It can be said from the survey that, most of the respondents were degree holders. The lowest were PhD holders.

### Respondents' Marital Status

Table 8 Respondents' marital status

|       |          | Frequency | Percent |
|-------|----------|-----------|---------|
| Valid | Single   | 126       | 33.6    |
|       | Married  | 201       | 53.6    |
|       | Divorced | 48        | 12.8    |
|       | Total    | 375       | 100.0   |

Source: Survey result, 2019

Out of the 375 respondents, 33.6 percent of the respondents are single, 53.6 percent of the respondents are married and 12.8 percent of the respondents are divorced.

#### 4. 3 Descriptive Statistics of variables

Tables and figures below show the mean, standard deviation and standard error of respondents about the variables and related questions presented to responders that relate to the importance of purchase decision.

Table 4.3.1 Mean, standard deviation and VARIANCE of respondents about the variables and related questions presented to responders that relate to the importance of purchase decision.

Table 9 Descriptive Statistics of the variables

| <b>Descriptive Statistics</b>   |      |                   |     |
|---------------------------------|------|-------------------|-----|
|                                 | Mean | Std.<br>Deviation | N   |
| CO1_Packaging color             | 3.40 | .678              | 375 |
| CO2_Packaging Qualities         | 3.55 | .659              | 375 |
| CO3_Packaging Design            | 4.18 | .769              | 375 |
| CO4_Packaging Size              | 4.03 | .580              | 375 |
| CO5_Packaging Print Information | 4.41 | .626              | 375 |
| CO6_Purchase Decision           | 3.94 | .503              | 375 |

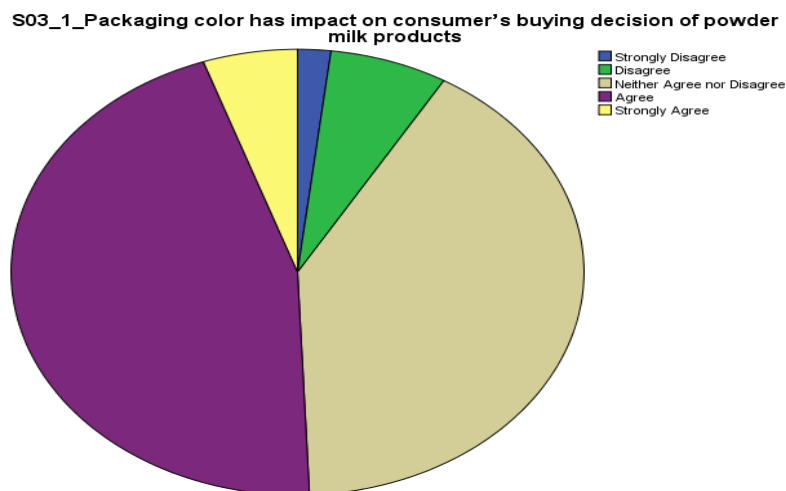
Source: Survey Result, 2019

The descriptive analysis is used to look at the data collected and describe that information. Mean value provides the idea about the central tendency of the values of a variable. Standard deviation gives the idea about the dispersion of the values of a variable from its mean value.

Tables and figures below show the frequencies, percentages of respondents about the variables that relate to the importance of motivation factors.

Figure 1. Packaging color descriptive analysis

|       |                   | Frequency | Percent |
|-------|-------------------|-----------|---------|
| Valid | Strongly Disagree | 7         | 1.9     |
|       | Disagree          | 25        | 6.7     |
|       | Neutral           | 153       | 40.8    |
|       | Agree             | 170       | 45.3    |
|       | Strongly Agree    | 20        | 5.3     |
|       | Total             | 375       | 100     |

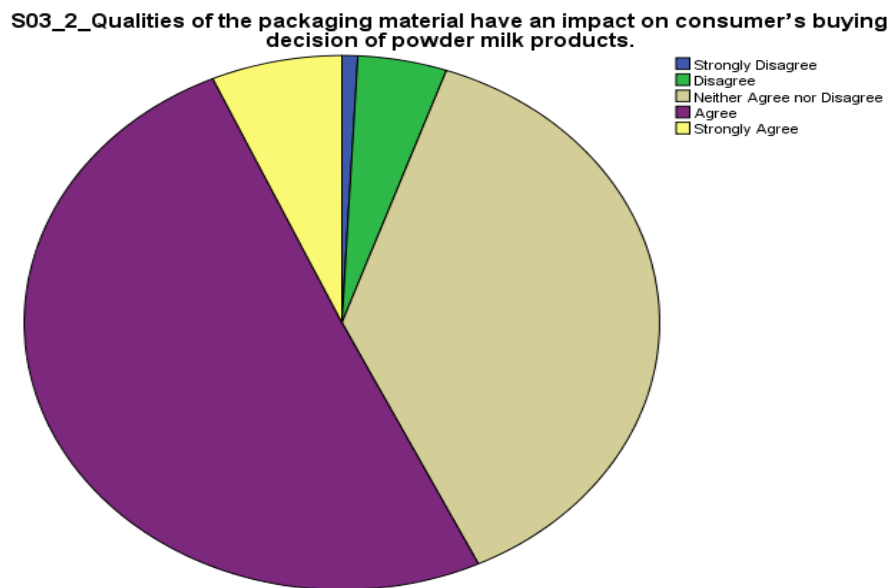


Source: Survey result, 2019

From the results obtained and presented in fig. 1 and the distribution of the respondents' responses, about 45.3 % agree that the color has an impact on buying behavior and 5.3% strongly agree with this statement. Only 1.9 % of respondents strongly disagree with this statement.

Figure 2 Qualities of the packaging material descriptive analysis

|       |                   | Frequency | Percent |
|-------|-------------------|-----------|---------|
| Valid | Strongly Disagree | 3         | 0.8     |
|       | Disagree          | 17        | 4.5     |
|       | Neutral           | 141       | 37.6    |
|       | Agree             | 189       | 50.4    |
|       | Strongly Agree    | 25        | 6.7     |
|       | Total             | 375       | 100     |

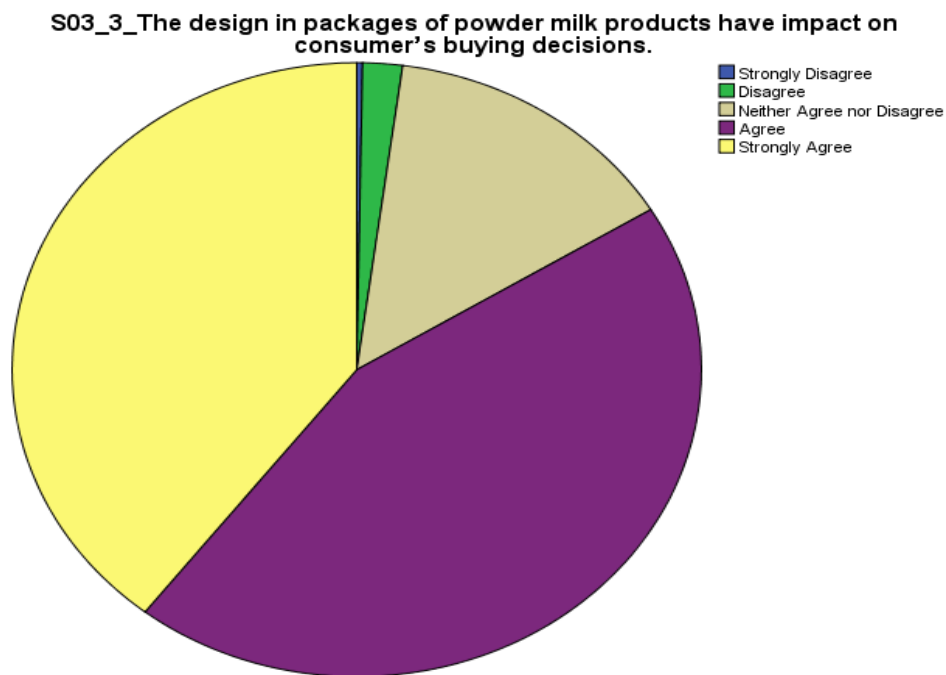


Source: Survey result, 2019

From the results obtained and presented in fig. 2 and the distribution of the respondents' responses, about 50.4 % agree that the packaging material is important on buying behavior and 6.7% strongly agree with this statement. Only 0.8% of respondents strongly disagree with this statement

Figure 3 The design in packages descriptive analysis

|       |                   | Frequency | Percent |
|-------|-------------------|-----------|---------|
| Valid | Strongly Disagree | 1         | 0.3     |
|       | Disagree          | 7         | 1.9     |
|       | Neutral           | 53        | 14.1    |
|       | Agree             | 166       | 44.3    |
|       | Strongly Agree    | 148       | 39.4    |
|       | Total             | 375       | 100     |

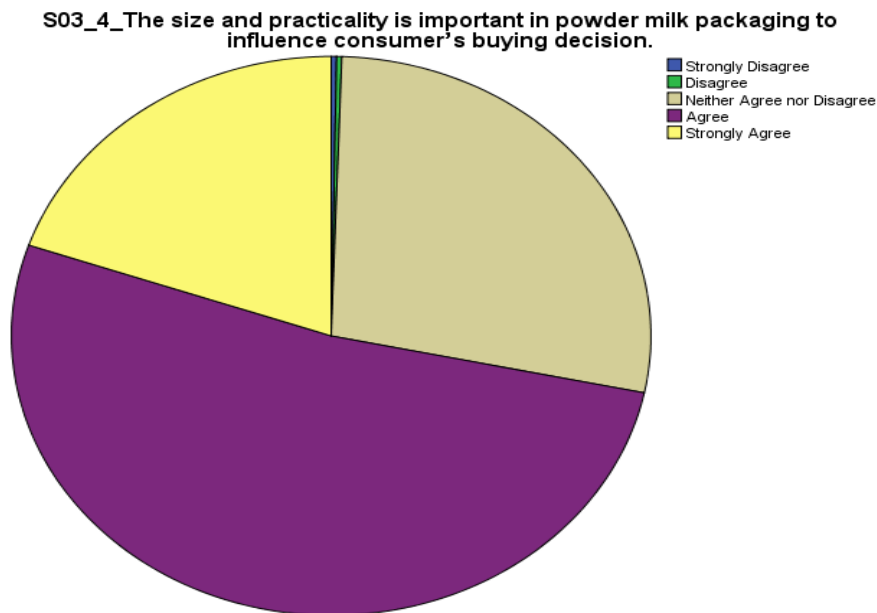


Source: Survey result, 2019

From the results obtained and presented in fig.3 and the distribution of the respondents' responses, about 44.3 % agree that the package design has an impact on buying behavior and 39.4% strongly agree with this statement. Only 0.3% of respondents strongly disagree with this statement

Table 4 Packaging size descriptive analysis

|       |                   | Frequency | Percent |
|-------|-------------------|-----------|---------|
| Valid | Strongly Disagree | 1         | 0.3     |
|       | Disagree          | 1         | 0.3     |
|       | Neutral           | 104       | 27.7    |
|       | Agree             | 195       | 52.0    |
|       | Strongly Agree    | 74        | 19.7    |
|       | Total             | 375       | 100     |

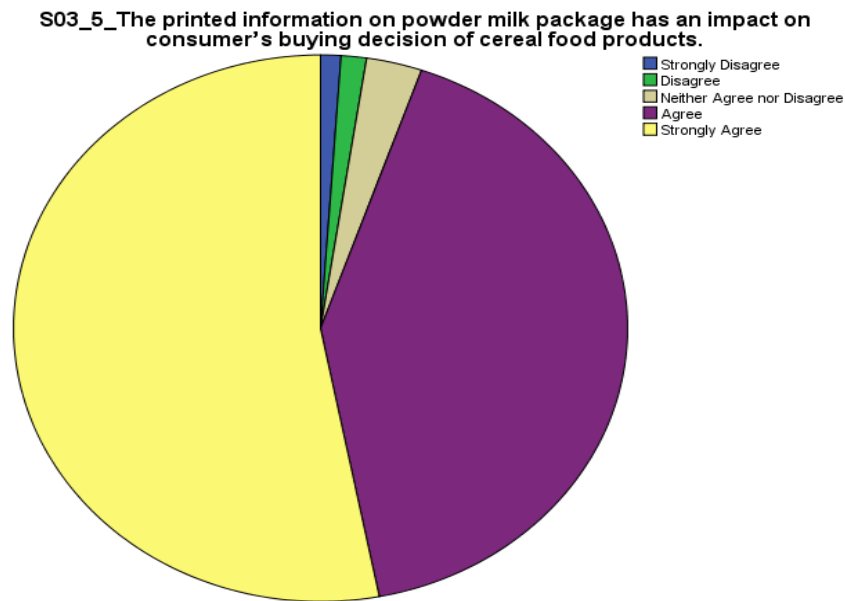


Source: Survey result, 2019

From the results obtained and presented in fig.4 and the distribution of the respondents' responses, about 52 % agree that the package size and practicality has an impact on buying behavior and 19.7 % strongly agree with this statement. Only 0.3% of respondents strongly disagree with this statement.

Table 5 Packaging Label descriptive analysis

|       |                   | Frequency | Percent |
|-------|-------------------|-----------|---------|
| Valid | Strongly Disagree | 4         | 1.1     |
|       | Disagree          | 5         | 1.3     |
|       | Neutral           | 11        | 2.9     |
|       | Agree             | 156       | 41.6    |
|       | Strongly Agree    | 199       | 53.1    |
|       | Total             | 375       | 100     |



Source: Survey result, 2019

From the results obtained and presented in fig.5 and the distribution of the respondents' responses, about 41.6 % agree that the printed information helps on buying behavior and 53.1 % strongly agree with this statement. Only 1.1 % of respondents strongly disagree with this statement.

#### 4.4. Inferential Analysis

##### 4.4.1 Pearson Correlation Analysis

In order to determine the association between the independent variables (packaging color, packaging design, packaging quality, packaging size and printed information/labelling) and the dependent variable (purchase decision), correlation analysis and Pearson correlation was computed. As the result in Table 10 shows that the independent variables are significantly and positively correlated with dependent variable: packaging color ( $r=0.530$ ,  $p<.001$ ), quality of packaging material ( $r=0.503$ ,  $p<.001$ ), packaging design ( $r=0.563$ ,  $p<.001$ ), packaging size ( $r=0.584$ ,  $p<.001$ ), and packaging label ( $r=0.440$ ,  $p<.001$ ).

All of the independent variables, packaging size ( $r=0.584$ ), packaging design ( $r=0.563$ ), packaging color ( $r=0.530$ ), packaging material ( $r=0.503$ ) and packaging label ( $r=0.440$ ) have positive and significant correlation with purchase decision of powder milks. This indicates that consumers were highly considerate of packaging color, quality of packaging material, packaging design, packaging size and printed information or packaging label when purchasing powder milks from the supermarkets.

Table 10 Correlation between the independent variables and the dependent variable

|                         |                     | CO1_Packaging color | CO2_Packaging Qualities | CO3_Packaging Design | CO4_Packaging Size | CO5_Printed Information | CO6_Purchase Decision |
|-------------------------|---------------------|---------------------|-------------------------|----------------------|--------------------|-------------------------|-----------------------|
| CO1_Packaging color     | Pearson Correlation | 1                   | .594**                  | .156**               | .279**             | -.059                   | .530**                |
|                         | Sig. (2-tailed)     |                     | .000                    | .002                 | .000               | .252                    | .000                  |
| CO2_Packaging Qualities | Pearson Correlation | .594**              | 1                       | .184**               | .381**             | .024                    | .503**                |
|                         | Sig. (2-tailed)     | .000                |                         | .000                 | .000               | .644                    | .000                  |
| CO3_Packaging Design    | Pearson Correlation | .156**              | .184**                  | 1                    | .355**             | .616**                  | .563**                |
|                         | Sig. (2-tailed)     | .002                | .000                    |                      | .000               | .000                    | .000                  |
| CO4_Packaging Size      | Pearson Correlation | .279**              | .381**                  | .355**               | 1                  | .412**                  | .584**                |
|                         | Sig. (2-tailed)     | .000                | .000                    | .000                 |                    | .000                    | .000                  |
| CO5_Printed Information | Pearson Correlation | -.059               | .024                    | .616**               | .412**             | 1                       | .440**                |
|                         | Sig. (2-tailed)     | .252                | .644                    | .000                 | .000               |                         | .000                  |
| CO6_Purchase Decision   | Pearson Correlation | .530**              | .503**                  | .563**               | .584**             | .440**                  | 1                     |
|                         | Sig. (2-tailed)     | .000                | .000                    | .000                 | .000               | .000                    |                       |

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

b. Listwise N=375

#### 4.4.2 Assumption Testing for Multiple Regressions

Assumptions of regression analysis must be met to confirm that the obtained data was truly represented by the sample and the researcher has obtained the best results (Haire, et al., 1998). Multi-collinearity, Linearity and Normality assumptions for regression analysis were used in this study and discussed for the individual variables.

#### 4.4.2.1 Multi-Collinearity

Two most important conditions to be fulfilled before conducting regression analysis are the adequacy of the sample size and non- existence of correlation among the independent variables (Ho, 2006). Size of the sample has a direct effect on the statistical power of the significance testing in multiple regressions, which refers to the probability of detecting statistically significant R-square or a regression coefficient at a specified significance level. Ho (2006) also suggested that the sample size (the number of cases) to be at least 20 times more than the number of independent variables, as a rule of thumb, in order to get the desired level of statistical power. Given this rule of thumb, the number of respondents used for this study (384) is over the required criteria.

One more important condition for regression analysis is that, there should also be no interrelationship between the independent variables. Such situation in which the independent/predictor variables are highly correlated is known as Multi- collinearity. When independent variables are multi- collinear, it means there exists an “overlap” or sharing of predictive power, which then leads to a situation where the regression model which fits the data well, though none of the predictor variables have a significant effect in predicting the dependent variable (Ho, 2006).

Existence of multi- collinearity can be checked using the “Tolerance” and “Variance Inflation Factor (VIF)” values for each predictor. Tolerance value is an indicator of the percentage of variance in one predictor that cannot be accounted for by the other predictors. The value of tolerance should be above 0.10 and any value lower than this indicates the existence of multi-collinearity. VIF is computed as “1/tolerance” and a VIF value greater than 10 indicates the existence of multi- collinearity (Saunders, Lewis, & Thornhill, 2009). As presented on Table 11 below, both the values of tolerance and VIF calculated for each independent variable on both regression analyses fulfill the criteria discussed above. Hence, non- existence of multi-collinearity in the variables is fulfilled.

Table 11 Multicollinearity problem test of VIF and tolerance

| Coefficients <sup>a</sup> |                                 |                         |       |
|---------------------------|---------------------------------|-------------------------|-------|
| Model                     |                                 | Collinearity Statistics |       |
|                           |                                 | Tolerance               | VIF   |
| 1                         | CO1_Packaging color             | .619                    | 1.617 |
|                           | CO2_Packaging Qualities         | .591                    | 1.691 |
|                           | CO3_Packaging Design            | .578                    | 1.731 |
|                           | CO4_Packaging Size              | .680                    | 1.470 |
|                           | CO5_Packaging Print Information | .527                    | 1.896 |
|                           |                                 |                         |       |

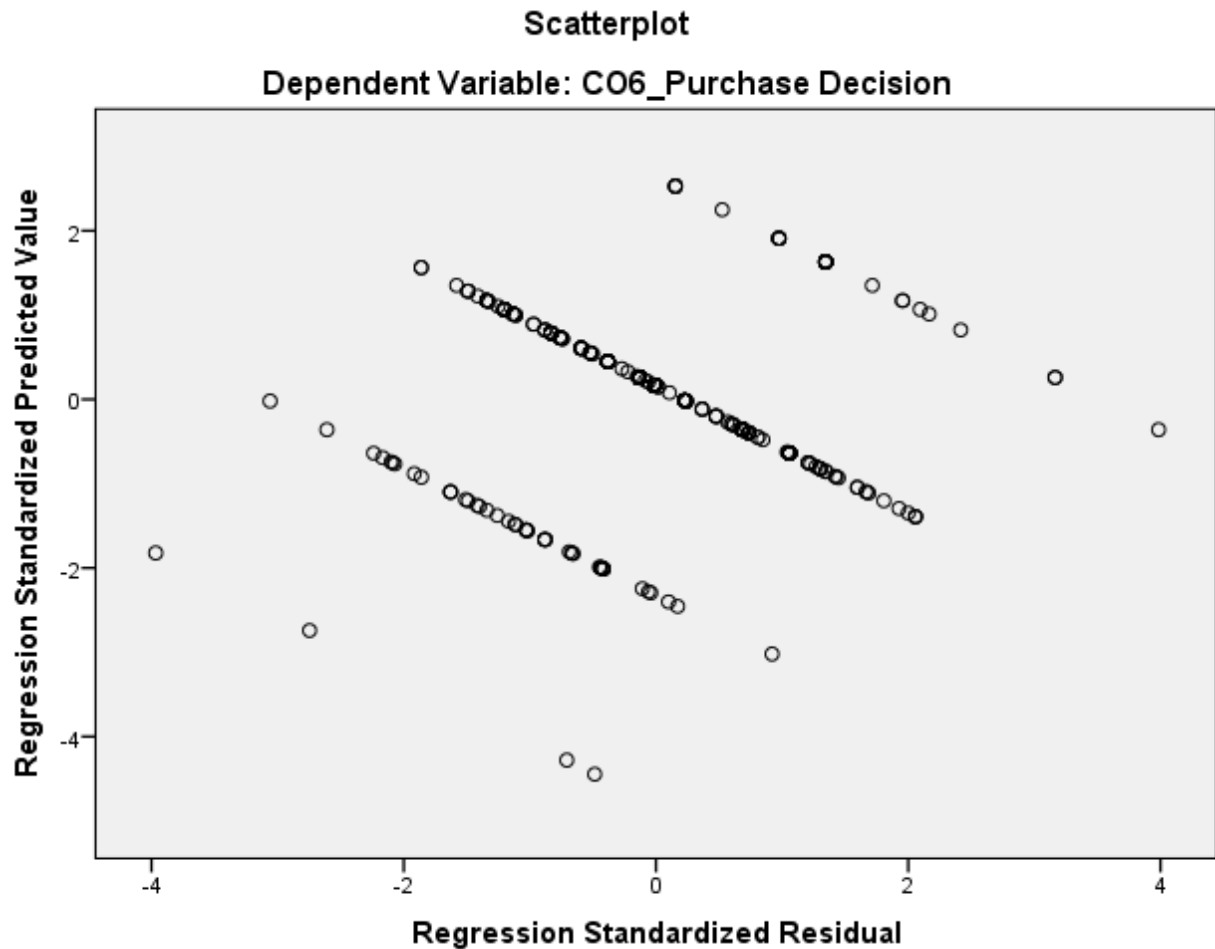
a. Dependent Variable: CO6\_Purchase Decision

Source: Survey Result, 2019

#### 4.4.2.2 Linearity

According to Haire, et al. (1998), the linearity of the relationship between the dependent and independent variable represent the degree to which the change in the dependent variable is associated with the independent variable. Linear models predict values falling in a straight line by having a constant unit change (\*slope) of the dependent variable for a constant unit change of the independent variable. Conventional regression analysis will underestimate the relationship when nonlinear relationships are present. R square underestimates the variance explained overall and the betas underestimate the importance of the variables involved in the non- linear relationship (Malhotra, et al., 2007). Scatter plot of standardized residuals versus the fitted values for the regression models is presented below.

Figure 6 Linearity scatter plot of regression standardized residual



Source: Survey Result 2019

#### 4.4.2.3 Normality of the Error Term Distribution

Normality refers to the shape of data distribution for an individual metric variable, and its correspondence to the normal distribution (Haire et al., 2003). When estimating normality, skewness and kurtosis information values were observed. Probability plots were also drawn. Skewness and Kurtosis provide information regarding the symmetry of the distribution and peaked-ness of the distribution respectively (Pallant, 2010). The acceptable value for (kurtosis/skewness) distribution is  $\pm 2.58$  (Hair, 2010). As presented on Table 12 below, all the values for skewness and kurtosis for the transformed and standardized values have been found to be within the acceptable range.

In addition, normal probability plots are often conducted as an informal means of assessing the non-normality of a set of data (Malhotra, et al., 2007). Haire et al. (1998) also explain that the plots are different from residuals plots in that the standardized residuals are compared with the normal distribution. Hence, normal distribution makes a straight diagonal line, and plotted residuals are compared with the diagonal. According to Haire, et al., (1998), if a distribution is normal, the residual line will closely follow the diagonal. Malhotra, et al. (2007) also explains that the correlation coefficient will be near unity if the data falls nearly on a straight line and the “correlation coefficient” will become smaller if the plot is curved. The table below shows that the P-P plots is moderately a straight line. This justifies the residuals was deemed to have a reasonably normal distribution.

Table 12 Skewness and Kurtosis

|                        | Statistics          |                         |                      |                    |                                 |                       |
|------------------------|---------------------|-------------------------|----------------------|--------------------|---------------------------------|-----------------------|
|                        | CO1_Packaging color | CO2_Packaging Qualities | CO3_Packaging Design | CO4_Packaging Size | CO5_Packaging Print Information | CO6_Purchase Decision |
| N Valid                | 375                 | 375                     | 375                  | 375                | 375                             | 375                   |
| N Missing              | 0                   | 0                       | 0                    | 0                  | 0                               | 0                     |
| Skewness               | -.529               | -.174                   | -.779                | -.166              | -.626                           | -.630                 |
| Std. Error of Skewness | .126                | .126                    | .126                 | .126               | .126                            | .126                  |
| Kurtosis               | .689                | -.156                   | .588                 | .600               | -.223                           | 2.685                 |
| Std. Error of Kurtosis | .251                | .251                    | .251                 | .251               | .251                            | .251                  |

Source: Survey Result, 2019

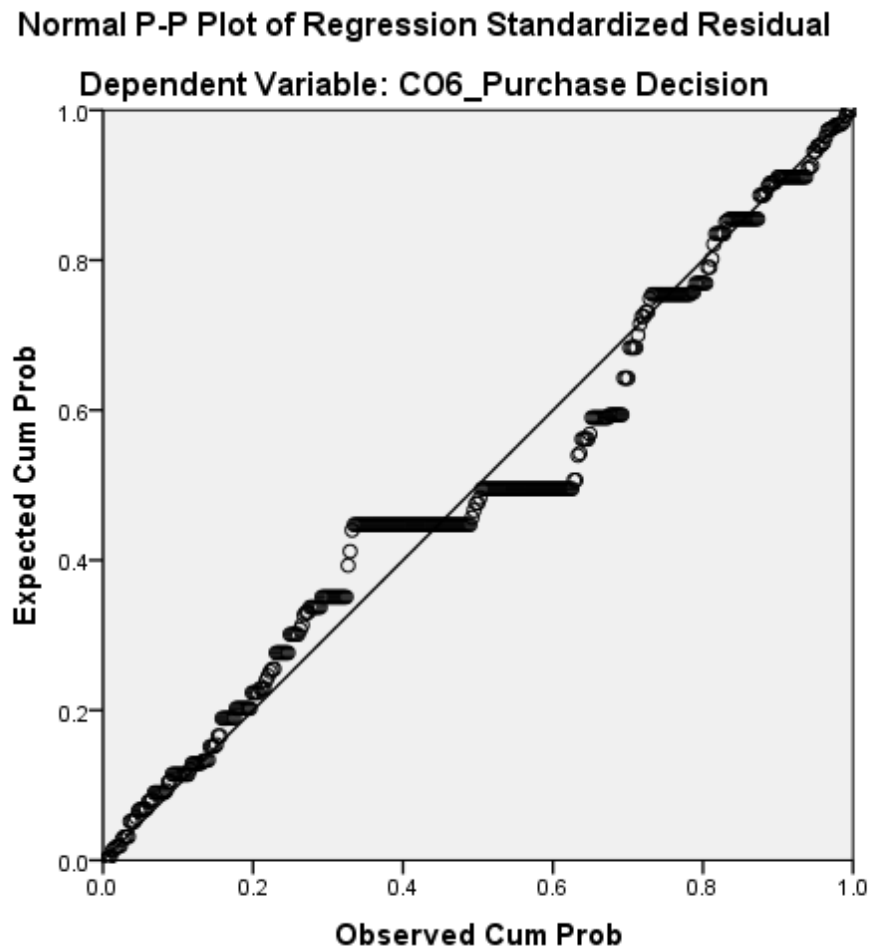


Figure 7 Normality plot of regression standardized residual

Source: Survey Result, 2019

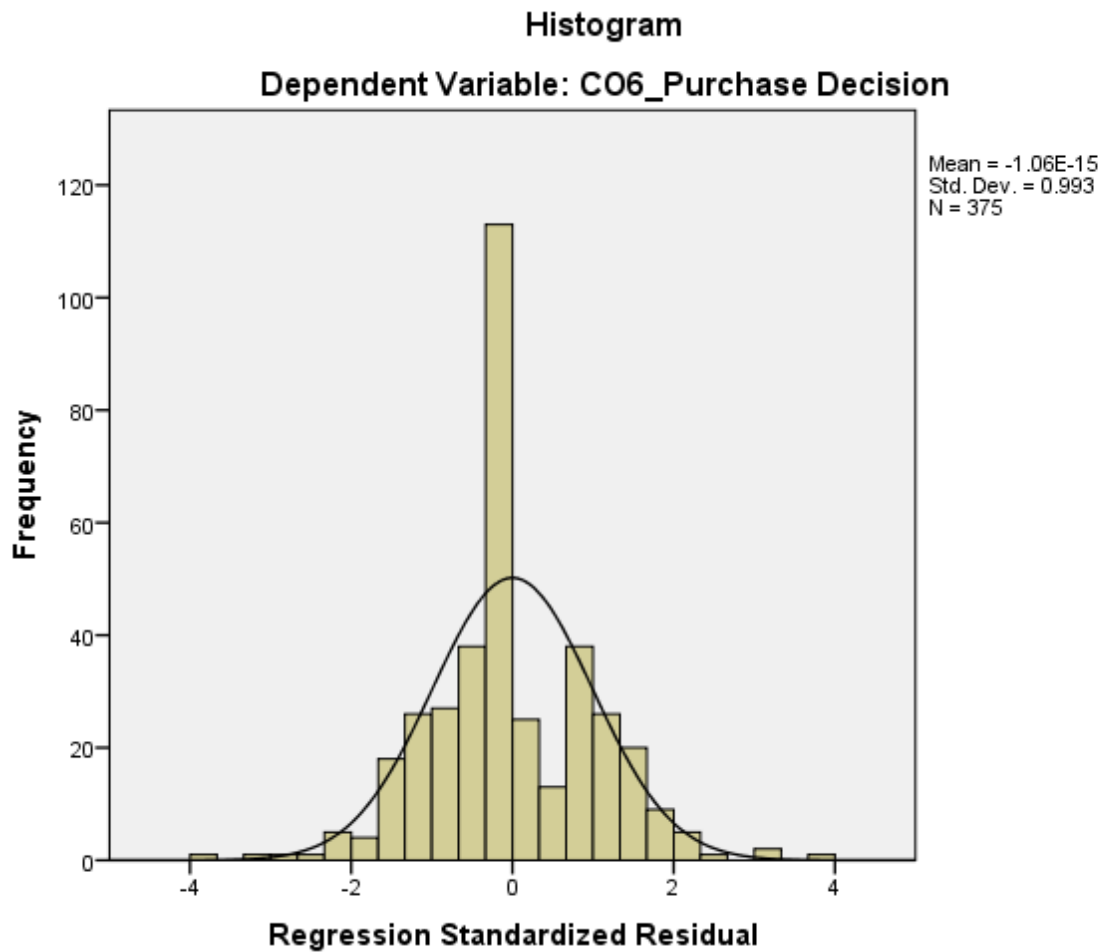


Figure 8 Histogram for regression standardized residual

Source: Survey Result, 2019

#### 4.5 Multiple Regression Analysis

Linear regression is a method of estimating or predicting a value on some dependent variables given the values of one or more independent variables. Statistical regression examines the association or relationship between variables. The primary purpose of regression is prediction unlike correlation (Marczyk, 2005).

Multiple R is a correlation between the observed values of Y, the values of Y are predicted by multiple regression models. Therefore, large values of the multiple R represent a large correlation between the predicted and observed values of the outcome.

Adjusted R square was also used to measure the percentage of variance in the dependent variable explained by the independent variables, packaging color, quality of packaging material, packaging design, packaging size and printed information or package label. From the multiple regression equation, the standard regression coefficient (beta weight) was determined to compare the effect of each independent variable had on the variability of the overall purchase decision.

The table below is a model summary that indicates strength of relationship between the independent and the dependent variable. Based on model summary result, when overall purchase decision was regressed on overall the five-independent variables (packaging color, quality of packaging material, package design, package size and printed information or package label), the independent variables contribute to statistically significant level P-value 0.000.

Table 13: Model Summary

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .800 <sup>a</sup> | .641     | .636              | .303                       |

Source: Survey Result, 2019

a. Predictors: (Constant), packaging color, packaging quality, packaging design, packaging size and packaging label or printed information

b. Dependent Variable: Purchase decision

The results of multiple regression displayed in the above model summary, shows a highly significant relationship ( $p < 0.01$ ) between the dependent variable; purchase decision and a linear combination of the predictor variables as can be estimated from the coefficient of multiple R (0.800). The coefficient of determination  $R^2$  (0.641) is a measure of how good a prediction of the criterion variable we can make by knowing the predictor variables. Accordingly, 64.1% of the

variation accounted for the dependent variable is due to the combined effect of the mentioned independent variables.  $R^2$  at times tends to over-estimate the success of the model when applied in the real world. To see the success of our model in the real world, adjusted  $R^2$  (0.636) is more preferable than  $R^2$ . According to the adjusted  $R^2$ , the variation explained by the regression of all the predictor variables on purchase decision is 63.6%.

The table below (Table 14), shows the B- values which indicate the relationships between customers purchase decision and each predictor variable. When the value is positive we can tell that there is positive relationship between predictor and the outcome and a negative coefficient depicts negative relationship. The standardize B- value indicate the number of standard deviations that the outcome will change as a result of one standard deviation change in predictor. The standard deviation units and so are directly comparable; hence, they provide a better insight in to the importance of a predictor in the model.

The standardize beta value for packaging color is 0.336. This indicate us, this variable has relatively strong degree of importance for consumers' purchase decision of powder milks than the others. Respectively, the standardized beta value for packaging quality, packaging design, packaging size and packaging label are 0.147, 0.283, 0.262, and 0.174.

This shows that the effect of packaging color and packaging design is greater than that of packaging size, quality and label. Effect of packaging size is greater than the effect of packaging label and packaging quality in explaining the variability of overall purchase decision of powder milks. The significance levels for all independent variables are within the recommendation which is less than 0.05. This indicates that there is a strong positive and significant relationship between the independent variables (packaging color, packaging design, quality of packaging material, packaging size and packaging label or printed information) and dependent variable (purchase decision of powder milks). Since, coefficient of the predictor variables was statistically at <5% level of significance, alternative hypotheses related with significance of impact of all independent variable on the dependent variable were accepted.

Table 14 Regression Analysis of Independent and Dependent Variable

| Model                           | Coefficients <sup>a</sup>   |            |                           | t     | Sig. |
|---------------------------------|-----------------------------|------------|---------------------------|-------|------|
|                                 | Unstandardized Coefficients |            | Standardized Coefficients |       |      |
|                                 | B                           | Std. Error | Beta                      |       |      |
| (Constant)                      | .389                        | .150       |                           | 2.598 | .010 |
| CO1_Packaging color             | .249                        | .029       | .336                      | 8.459 | .000 |
| CO2_Packaging Qualities         | .112                        | .031       | .147                      | 3.630 | .000 |
| CO3_Packaging Design            | .185                        | .027       | .283                      | 6.892 | .000 |
| CO4_Packaging Size              | .227                        | .033       | .262                      | 6.924 | .000 |
| CO5_Packaging Print Information | .140                        | .035       | .174                      | 4.045 | .000 |

a. Dependent Variable: Purchase Decision

#### 4.5.1 Analysis of Variance

The significant level in ANOVA table below shows that the combination of independent variables significantly predicts the dependent variable. ANOVA tests whether the model is significantly better at predicting the outcome than using the mean as a best guess. F-ratio, specifically, represents the ratio of the improvements in prediction that results from fitting the model, relative to the inaccuracy that still exists in the model.

For these data, F is 131.561, which is significant at  $p < 0.001$ . This result tells us there is less than a 0.1% chance that with an F-ratio is larger would happen by chance alone. Therefore, we can conclude that the regression model results in significantly better prediction of product purchase decision than the mean value of customers' product purchase decision.

Table 15 ANOVA

ANOVA<sup>a</sup>

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 60.517         | 5   | 12.103      | 131.561 | .000 <sup>b</sup> |
|       | Residual   | 33.947         | 369 | .092        |         |                   |
|       | Total      | 94.464         | 374 |             |         |                   |

a. Dependent Variable: CO6\_Purchase Decision

b. Predictors: (Constant), CO5\_Packaging Print Information, CO2\_Packaging Qualities, CO4\_Packaging Size, CO1\_Packaging color, CO3\_Packaging Design

Source: Survey Result 2019

The objective of the regression in this study is to find an equation that could be used to find the impact of predictors on dependent variable. The specified regression equation takes the following form:

$$\beta_0 + \beta_1 x$$

The specified regression equation for this study takes the following form;

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5$$

$$Y = .389 + .336X_1 + .147X_2 + .283X_3 + .262X_4 + .174X_5$$

In the above equation, predictor variables  $x_i$  may represent independent variables or covariates (control variables). Covariates are variables that are not of theoretical interest but may have some impact on the dependent variable  $y$  and should be controlled, so that the residual effect of the independent variables of interest are detected more precisely. Covariates capture systematic errors in a regression equation while the error term ( $E$ ) captures random errors (Bhattacharjee, 2012).

Equation;

$$Y = \alpha + \beta_1 (PC) + \beta_2 (PQ) + \beta_3 (PD) + \beta_4 (PS) + \beta_5 (PL)$$

Where:

Y = Purchase Decision (PD)

PC= Packaging color

PQ = Packaging Quality

PD = Packaging Design

PS = Packaging Size

PL = Packaging Label

#### **4.6 Discussion of Findings**

This study was carried out to identify the effect of packaging on consumer's purchase decision of powder milks in the country. The study revealed that packaging color has a positive and significant effect on consumers' purchase decision of powder milks with a beta value of 0.336. This result is supported by the finding of Ehsan.. (2014). The finding shows that consumers are significantly impacted by the color of powder milk packages when they face the product at the supermarket counters. For this consumer segment the packaging color influences the consumers' view on different products and affect their final purchase decision. The package design also influences the range of products that the consumer evaluates as an alternative in purchasing powder milks. If we now consider that many consumers take into consideration and also decide on their product choice based on packaging color and design, the packaging color is likely to have a great influence on consumers' purchase decision of powder milk

Packaging size also has an important correlation with purchase decision of powder milks, that is to say powder milk buyers usually checks the size for convenience in handling, portion control and affordability before buying it.

Packaging label also has a positive and significant effect on consumers' purchase decision powder milks. Various results also have similar results that explain the positive and significant effect of package label on consumers' purchase decision of powder milks. Furthermore, consumers

seriously consider the information on powder milk packages as an important factor when choosing which powder milk to purchase. It can be considered that packaging label or printed information on packages of powder milks guides the decision-making process of consumers, after they have taken into consideration of the package's color and design. Based on the finding, it can conclude that there is a segment whose product choice is influenced by the packaging label and not only by packaging color or packaging design.

Several related studies also explain that the quality of packaging material as one of the more important factors that help the consumer's purchase powder milks. Whereas the finding of this study shows there is a positive relationship between quality of packaging material of powder milks and consumer's purchase decision of the product, even if the relationship is statistically least significant than the other packaging elements studied in this research. This is in contrary to the previously studied related literatures. Since the industry is in its infancy stage in Ethiopia, the impact of quality of packaging material on the purchase decision of powder milks is low compared to other elements. However, as the economic status of the population improves and people become more concerned about quality of packaging materials and their eco friendliness, the factor will be of significant importance in impacting powder milks purchase decision of consumers. Therefore; the actual number of consumers that are influenced or take into consideration of quality of packaging materials will definitely be even higher than what the research result shows here.

It is important for powder milk companies that their product is the first product choice that the consumer makes in that specific product category as nearly all consumers say that they usually buy the same product again and again. The most common reason for this purchasing pattern is that they know that the product does work. Through previous experience they have learnt about the product and that it is a solution to their problem or need. Some customers do not have the time or energy to explore other options and buy the same product again. These purchase decisions are finally made by consumers on the supermarkets shelves where apart from all the marketing strategies, the fifth "P" i.e. packaging through its elements plays a vital role in marketing communication.

Table 10: Summary of the overall outcome of the research hypothesis

| Hypothesis                                                                                                             | Result    | Reason                      |
|------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------|
| <b>H1:</b> Packaging color has impact on consumer's buying decision of powder milk products                            | Confirmed | $\beta=0.336$ ,<br>$p<0.05$ |
| <b>H2:</b> Qualities of the packaging material have an impact on consumer's buying decision of powder milk products.   | Confirmed | $\beta=0.147$ ,<br>$p<0.05$ |
| <b>H3:</b> The design in packages of powder milk products have impact on consumer's buying decisions.                  | Confirmed | $\beta=0.283$ ,<br>$p<0.05$ |
| <b>H4:</b> The size and practicality of powder milk packaging significantly influences consumer's buying decision.     | Confirmed | $\beta=0.262$ ,<br>$p<0.05$ |
| <b>H5:</b> The printed information on powder milk package has an impact on consumer's buying decision of powder milks. | Confirmed | $\beta=0.174$ ,<br>$p<0.05$ |

Source: Survey Result 2019

## **Chapter Five**

### **Conclusion and Recommendation**

#### **5.1 Summary**

The study was conducted to investigate the effect of packaging on consumer's purchase decision behavior of powder milks. After reviewing previous researches and related literature, five elements of packaging were examined and the effect of each on consumer's purchase decision was investigated. Packaging color, quality of packaging material, packaging design, size and practicality of packages and printed information were the five packaging elements studied in this research. Accordingly, a conceptual framework was developed, hypothesis formulated and appropriate research design was implemented to reach at the conclusions.

The study was conducted in Addis Ababa on customers of the five chain supermarkets in the city with a total of 375 respondents participating with answering questionnaires distributed throughout the different branches of these supermarkets. The five chain supermarkets involved in this study were Shoa, Safeway, All mart, Friendship and Lomiyad supermarkets.

Among the respondents, 57.3% were female and 42.7% were male with 45.3 of respondents falling in the age range of 36 to 50 years. Out of these 384 questionnaires distributed to customers, 375 questionnaires (97.66% response rate) were collected back properly filled.

From the descriptive analysis, language used on the package, guideline for preparation of the powder milk used on the packages, printed information on the package, nutrition information and the micro packaging of powder milks were found to be more significant in influencing consumers to purchase powder milks.

From the inferential statistics , out of the packaging elements, relative impact of package color and packaging design on the package on the consumer's buying decision were higher when compared to the other package elements. Therefore, these two elements should be highlighted in designing the package of powder milks to the market.

## **5.2 Conclusion**

According to the research findings, all five of package elements had a positive and significant influence on consumer's purchase decision of powder milks at point of sales. Packaging color had the highest influence on consumer's purchase decision followed by design of the package, size and practicality of the package, packaging label and qualities of the packaging material. Therefore, it can be concluded from the research that packaging color on the package has the highest influence on consumers purchase decision of powder milks.

The results from this study were found to be consistent with previous research findings that all observed packaging elements are very important in influencing the purchase decision process of powder milks at point of sales.

## **5.3 Recommendation**

According to the research findings the researcher recommends that players in the powder milk market of Ethiopia should give great emphasis on the elements of their package most importantly on the packaging color, design and variety of package sizes. The study has demonstrated that color on the package of powder milks has a big influence in influencing consumer's purchase decision.

The following recommendations are drawn from this research:

- The conclusions from this study imply that package color, design and package size of powder milks play a significant role in influencing purchase decision of powder milks. Therefore, companies must come up with convenient sizes of packages with attractive designs to increase their turnover of powder milks from the supermarket's shelves.
- Since the information on packaging represents an important component in support marketing communication strategies of companies, they must focus on languages to be used on the packages to attract majority of the purchasers and influence in their purchase decision of powder milks.

- Various literatures reviewed in this study suggest all packaging elements play significant role in influencing purchase decision of fast moving consumer goods and enhance their turnover from point of sales. Improving package designs and printed information in the packages are therefore likely to significantly influence consumer's purchase decision of powder milks in the market.
- Currently, Ethiopia's FMCG market is moving to the direction of modern trade (supermarkets and counter stores) from the traditional kiosks. The influence of sellers in the former category is declining from time to time and consumers face bigger challenges in making purchase decisions when exposed to ample choices from the shelves. Packaging influence in this purchase decision at the point of sales is significant and its impact will significantly grow over time. Therefore, identifying the package elements which relatively influence purchase decisions better than others is extremely important to win the wallet share of consumers in the trade.

### **Future Research**

The findings from this research can be extended into further research on how package elements can influence purchase decision of powder milks and other fast-moving consumer goods from the point of sales. Advertisement and point of sales marketing activities when augmented by suitable packaging elements, significant improvement in market share of products can be realized.

## Chapter Six

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**Annex**  
**Questionnaire**  
**Addis Ababa University**  
**School of Commerce**  
**Department of Marketing Management Post-Graduate Program**

**Dear Respondent,**

This questionnaire is prepared to collect primary data from customers of chain supermarkets in Addis Ababa to measure **the effect of packaging on consumer's purchase decision behavior of powder milks**, for the partial fulfillment of MA in Marketing Management from Addis Ababa University School of Commerce.

The information you provide in this survey will be used for the stated purpose only and will be held confidential. There will be no need to mention your name. Your voluntary participation in this survey is highly appreciated and I would like to thank you in advance for taking your time to respond to this questionnaire.

Thank you for your time and cooperation.

## Section 1: General Information

The following question lists different general questions, please kindly tick (✓) on your answer in the appropriate box.

### 1. Gender

☐

Male

☐

Female

### 2. Age

☐

< 18

☐

18-35

☐

36-50

☐

51-65

☐

>65

### 3. Academic Qualification

☐

Diploma and below

☐

Bachelors

☐

Masters

☐

PhD and Above

### 4. Do you buy powder milk products from here?

☐

Yes

☐

No

## Section 2: Determinants of Buying Decisions

The following table lists different packaging characteristics and the attributes of each characteristic, please kindly tick (✓) your answer in the appropriate boxes or respond by writing if requested.

|                                       |
|---------------------------------------|
| <b>SD = Strongly Disagree</b>         |
| <b>D = Disagree</b>                   |
| <b>N = Neither Agree nor Disagree</b> |
| <b>A = Agree</b>                      |
| <b>SA = Strongly Agree</b>            |

|    |                                                                                                   | SD | D | N | A | SA |
|----|---------------------------------------------------------------------------------------------------|----|---|---|---|----|
| I  | Packaging Color                                                                                   |    |   |   |   |    |
| 1  | Changing color of a packaging of a powder milk could lead to change in consumer's buying decision |    |   |   |   |    |
| 2  | Full colors on powder milks packaging have an impact on consumer's buying decision.               |    |   |   |   |    |
| 3  | Light colors on powder milks packaging have an impact on consumer's buying decision.              |    |   |   |   |    |
| 4  | Warm colors on powder milk packaging have an impact on consumer's buying decision.                |    |   |   |   |    |
| 5  | Cold colors on powder milk packaging have an impact on consumer's buying decision.                |    |   |   |   |    |
|    |                                                                                                   | SD | D | N | A | SA |
| II | Packaging Quality                                                                                 |    |   |   |   |    |
| 1  | The quality of packaging in powder milk products is related with the price of the product.        |    |   |   |   |    |
| 2  | The packaging material in powder milk products shows the products are enriched with quality.      |    |   |   |   |    |

|     |                                                                                                                                 |    |   |   |   |    |
|-----|---------------------------------------------------------------------------------------------------------------------------------|----|---|---|---|----|
| 3   | The packaging material in powder milk products show the products are environmentally friendly.                                  |    |   |   |   |    |
| 4   | The packaging material in powder milk products show the products are easy to open.                                              |    |   |   |   |    |
| 5   | The packaging material in powder milk products show the products are protected.                                                 |    |   |   |   |    |
|     |                                                                                                                                 | SD | D | N | A | SA |
| III | Packaging Design                                                                                                                |    |   |   |   |    |
| 1   | The picture qualities of powder milk package have impact in drawing attention on buying decision.                               |    |   |   |   |    |
| 2   | Appealing graphics on powder milk packaging have an impact on consumer buying decision.                                         |    |   |   |   |    |
| 3   | Photographs image on powder milk packaging have an impact on consumer buying decision.                                          |    |   |   |   |    |
| 4   | The font used in writing the name and ingredient composition of the powder milk product influences behavior on buying decision. |    |   |   |   |    |
| 5   | Images of people on powder milk packaging have an impact on consumer buying decision.                                           |    |   |   |   |    |
|     |                                                                                                                                 | SD | D | N | A | SA |
| IV  | Packaging Size                                                                                                                  |    |   |   |   |    |
| 1   | The new sachet products increase the preference of buying packed powder milks.                                                  |    |   |   |   |    |
| 2   | Packed powder milk products in a unique and variety manner influences consumer's buying decision of a product.                  |    |   |   |   |    |
| 3   | Tamper-proofing on powder milk packaging have an impact on consumer's buying decision.                                          |    |   |   |   |    |
| 4   | Easy-store on powder milk packaging has an impact on consumer's buying decision                                                 |    |   |   |   |    |
| 5   | Easy-carry on powder milk packaging has an impact on consumer's buying decision.                                                |    |   |   |   |    |

|   |                                                                                                         | SD | D | N | A | SA |
|---|---------------------------------------------------------------------------------------------------------|----|---|---|---|----|
| V | Package Labeling/Printed Information                                                                    |    |   |   |   |    |
| 1 | Language used on powder milk package influence consumer's buying decision.                              |    |   |   |   |    |
| 2 | The printed information of powder milk package increase confidence in consumer's buying decision.       |    |   |   |   |    |
| 3 | Nutrition information on powder milk packaging have an impact on consumer's buying decision.            |    |   |   |   |    |
| 4 | Country of origin on powder milk packaging has an impact on consumer's buying decision.                 |    |   |   |   |    |
| 5 | Guideline of preparation process on powder milk packaging have an impact on consumer's buying decision. |    |   |   |   |    |

### Section 3- Consumer Buying Decision

The following question lists questions on consumer behavior, please kindly tick (✓) your answer in the appropriate numbers or circle the appropriate answer.

|   |                                                                                                            | SD | D | N | A | SA |
|---|------------------------------------------------------------------------------------------------------------|----|---|---|---|----|
| I | Consumer's Buying Decision                                                                                 |    |   |   |   |    |
| 1 | Packaging color has impact on consumer's buying decision of powder milk products.                          |    |   |   |   |    |
| 2 | Qualities of the packaging material have an impact on consumer's buying decision of powder milk products.  |    |   |   |   |    |
| 3 | The design in packages of powder milk products have impact on consumer's buying decisions.                 |    |   |   |   |    |
| 4 | The size and practicality is important in powder milk packaging to influence consumer's buying decision.   |    |   |   |   |    |
| 5 | The printed information on powder milk package has an impact on consumer's buying decision of powder milk. |    |   |   |   |    |