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**FMCG PACKAGING MODEL: CHARACTERISTICS AND
RELATIONSHIP BETWEEN PACKAGING FUNCTIONS**

Master's thesis

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ABSTRACT

This study advances marketing communication through product packaging work by combining critical key functions and attributes of FMCG packaging to develop a descriptive model and to study relationships between packaging functions of FMCG. For developing the packaging model, systematic review method is adapted to synthesize the existing knowledge; Relations between packaging functions are studied through qualitative meta-analysis of the synthesized research studies.

A step by step product packaging model is established for developing a competitive product packaging suitable for target market needs and firm's (manufacturer or seller) goals. Development of packaging comprise of primary functions, secondary functions and tertiary functions. In addition to a product packaging model, these functions possess directly proportional relations with each other.

This study is useful for developing a product packaging from scratch, or it can play an essential role in improving the existing packaging. This study focuses on FMCG because industrial goods may or may not require packaging and packaging is limited to the primary functions only.

Packaging model and understanding of relations between the packaging functions can help marketers to achieve the goals of the organization by optimizing the product packaging to market needs, wants and demand.

Keywords: Product packaging, Fast moving consumer goods (FMCG), attributes of product packaging, characteristics of packaging.

INTRODUCTION

Packaging is an essential determinant for customers to make a purchase decision, although product packaging makes up a fraction of the overall product cost in most cases, yet it has numerous functions to aid sales volumes and competitiveness of a product (Prendergast & Pitt, 1996). There has been a lot of work done by the researchers in the past, and there are numerous researches done on product packaging regarding its utility aspects of being a useful tool for logistics and sales functions. Information and knowledge about all these aspects of product packaging is much more scattered and dispersed which makes it difficult for the people related to the Marketing field and small business (SMEs) owners, to enhance their knowledge and understanding about the fundamental characteristics of a successful packaging and relations between them, its innovative uses to meet the need want and demand of target market.

To develop an adequate packaging, it is important to account the effect of product's functions on each other. Apart from defining the functions of product packaging, there has not been much work done to study the relationships between all key functions of packaging and it is essential to study the effect of packaging functions on each other because it can affect the ultimate goal of packaging. Hence, this research study focuses on key functions and attributes of fast moving consumer goods (FMCG) packaging in depth, analyze the relationships between each function qualitatively and provides a synthesis.

The central research question of this study is **“What should be taken into account for developing a product packaging in fast moving consumer goods (FMCGs) industry, and what is the nature of the relationship between each function on each other?”** As there are numerous research available focusing a single or few multiple functions of product packaging of FMCGs and the available information is scattered to different sources, following research questions can be derived to answer the main research question of this study :

RQ1: What are the key functions of product packaging?

RQ2: What are the key characteristics of packaging? And how these characteristics should be practically applied to yield quick interaction with the customer?

RQ3: What is the nature of the relationship between packaging functions? How they affect each other?

To study the functions and attributes of product packaging, this Master's thesis is directed to investigate key functions of product packaging particularly household items (FMCGs) and studies carried out by researchers in the past from multiple sources. Qualitative systematic analysis approach is adapted for synthesizing key functions and attributes of packaging being used in traditional marketing for decades and new era innovative packaging attributes. A descriptive model is developed in (section 3.1) of this thesis, by using qualitative synthesis research approach which will assist to develop an effective packaging for FMCGs and other household goods as well. After development of packaging descriptive model, research task is conducted to measure the correctness and effectiveness of the model in (Section 3.3) which proves the packaging model an effective tool for developing and designing a effective packaging.

Through analyzing the literature, the study found that product functions do have an influence on each other and it is important to keep a balance between each function as they have a direct proportion relation. Typically this information is useful for Brand managers and marketers for developing a new product or improvising the existing product packaging to meet the market expectations.

1. AIMS, RESEARCH PROBLEMS, AND METHODS

This research study aims to theoretically contribute to the scientific literature by combining previously done research studies on product packaging and analyze the key functions and characteristics of product packaging. As there has been a lot of work done on product packaging, but the information is very scattered. This dissertation aims to combine the available knowledge to a one source through which managers and SMEs owners would be able to get assistance for developing a new packaging and this study will develop a model of customer preferences for making a purchase decision, which can ensure to achieve the set goals and targets of companies offering their FMCG products in consumer market and it may also help the researchers as well to gain knowledge about product packaging. This study aims to answer the following questions.

“What should be taken into account for developing a product packaging in fast moving consumer goods (FMCGs) industry, and what is the nature of the relationship between each function on each other?” To answer the central research question, it is necessary to study and identify functions of product packaging and its characteristics.

To answer the research questions as described in introduction, theoretical methodology approach is adopted to analyze the literature by systematic review method. A systematic review is an explicit method to identify, select, and critically appraise relevant research, to collect and analyse the data from the studies and researchers previously done which are included in the literature review, after collecting the data it may or may not include meta-analysis to summarise and conclude the clearly formulated research questions of the study (Cochrane Collaboration, 2014). This study will develop a descriptive model for product packaging development and studies relationships, which can ensure to achieve the set goals and targets of companies offering their FMCG products in the consumer market.

1.1 Research Approach/Design

To answer the research questions, deductive approach is adapted and mixed research methods are applied in this thesis work. Initially, to gather knowledge about product packaging functions, exploratory study is executed, and knowledge is gathered from the scientific journals, research papers, books, marketing researchers, and websites. This is a qualitative study as it aims to provide a theoretical contribution to the existing scientific knowledge, relevant literature is required to review to form a preliminary basis of the research. The knowledge gathered from the sources is then screened on the basis of their relevance to this research topic, correctness, and usefulness of the information; then Literature is obtained from the selected sources to form literature review.

Literature review assists to identify the possible functions of the product packaging which are directly or indirectly serving as a function of the product. deductive approach is adopted to further simplify the knowledge (Babbie, 2010), through this it is possible to priorities the enlisted functions defined by the researchers and authors of the previously conducted studies.

Literature is then synthesized to develop a product packaging model which includes key functions of packaging. Through literature review, it is also possible to study the relationships between these key functions of the products. By using the product packaging descriptive model, two prototype packagings are used with different customer target groups and respondents responses are gathered.

To test the synthesized product packaging model according to the true experimental design (Gribbons & Herman, 1997), two prototype packagings are developed. One prototype packaging is designed to give impression of an affordable/economic product where as second prototype packaging is designed to give impression of a prestigious/ highquality product. These prototype packagings will be called namely “Packaging 1” and “Packaging 2” respectively in this research thesis.

1.2 Research Methodology

As this study is a theoretical contribution to the scientific literature and adopts systematic review methodology as defined by (Akers, 2009) to synthesize the previously studied knowledge and survey is conducted to record participants responses, to answer the research questions. In the initial section (Section 2) literature related to the research questions was gathered from multiple databases in terms of scientific research articles and journals, then the collected data is screened out by carefully analyzing the quality and relevance to the research questions through critical appraisal of the studies. After carefully analyzing the quality of the literature a primary basis is developed by deductive method constructing a clear and descriptive summary of findings of included studies, exploring relationships between and within studies.

As this study is of qualitative nature, hence qualitative synthesis analysis is carried out to identify the functions and attributes of packaging. Through critically analyzing the information gathered from literature review, a model for developing and improving product's packaging is derived, as well as the relationship between packaging functions and their dependency on each other is also narrated from the results drawn out from the findings of the synthesis.

After synthesising the findings and descriptive product packaging model, in (section 4) True experiment is performed where two prototype packagings are designed. One prototype packaging is aimed to target customers who are looking for prestigious products and second prototype packaging to target customer who are looking for affordable/economic products to execute true experiment with single group post test design.. Respondents data is collected by a questionnaire and conclusion is generated.

A flowchart describing the process of refining literature to develop literature review is shown in (figure 2).

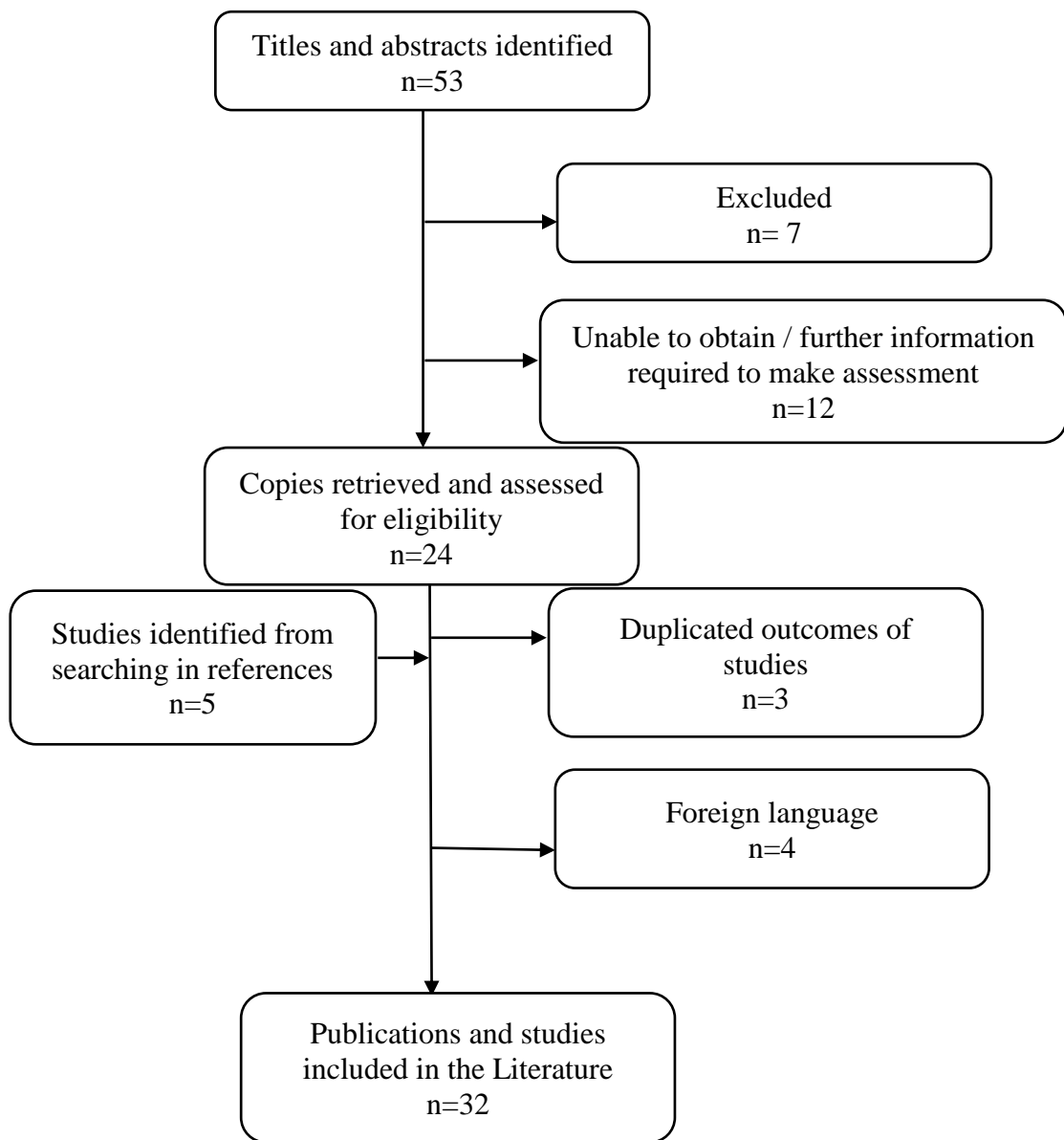


Figure 1: Data collection for Literature review

Source: Compiled by Author

1.2.1. Procedure and Participants

The market test design is based on the true experiment research methodology principles as defined by (Gibbons & Herman, 1997). This market experiment is single group posttest only experiment as it consist of two different packaging.

Objective of the test is to measure the impact of customer preception about the product by visually seeing the packaging as it was place on the shelf in a store. Basic approach of this experiment is that 60 people were asked to fill out the questionare as a experiment group. Two different product prototype packaging were shown to participants and their responses were recorded. Profile of the prototype packagings can be seen below



Figure 1: Packaging 1
Source:

“Packaging 1” is designed to exert impression of a economic/ affordable product. It is cuboid shaped packaging with very less details on it about the product. This packaging have no pictorial/graphical representation, typography is very basic and similar to calibri or times new roman, brand logo was changed to avoide any association or affiliation of the respondants with the brand. Blue colour is used as a packaging background color and there is no presentation of the actual product on the packaging.



Figure 2: Packaging 2
Source:

This Second prototype packaging “Packaging 2” is a design by Nick Chung which complies to the product packaging model in this master’s thesis. It have a unique hexagonal prism shape to it with a moderately longer container than “Packaging 1” to give an impression of higher volume than “Packaging 1”. It have pictorial representation of product before cooked and after cooked, multiple bright colors have been used to make it more apealing to customers. Typography used is a combination of *Brodley hand* and *browallia new* font.

Both packaging are for spaghetti pasta comodity which is easily available in aproximately any country. Both these sample packagings are of the same brand and have the same comodity in it. for the experiment puropses the brand name have been removed and on “packaging 1” some modifications are made with pictorial and graphical representations.

Experiment have only single experimental group and participants were selected randomly via author’s personal social media channel. Questionare was build on google forums and distributed via a web link. Appendix 1 and Appendix 2 shows the list of questions in the questionare and profile of the participants respectively.

2. LITERATURE REVIEW: PRODUCT PACKAGING CORE FUNCTIONS AND KEY CHARACTERISTICS

This chapter will shed light on key functions of product packaging, its characteristics, and attributes of packaging in details. Provides a constructive knowledge on the basis of existing knowledge to understand packaging importance and practical implementation of product packaging strategies to achieve intended goals of an organization. It is important to seek knowledge about why product packaging is an important characteristic of product? Does it influence the customer purchase decision? If product packaging does affect the customer's purchase decision then what attributes and characteristics of product packaging influence the purchase decision? To answer these questions, it is essential to study the available literature to identify the key aspects of product packaging.

Majority of the products are purposefully targeted to the specific consumer groups by brand positioning and hence communicating a product through media, i.e., print media, that is traditionally been considered more effective by its nature of permanence. After the purchase of the product, it is proved that as the product stays at customer's home, it keeps on communicating the brand (Ampuero and Vila, 2006). One extrinsic indication can be when the customer is shopping in a relatively unfamiliar product segment about which he/she do not have much knowledge or very less knowledge, in this case, product packaging comes in handy to evaluate the quality and goodwill of the product and brand (Klein; Robert & Noreen, 2002).

(Richardson, 1994) the study found that customer relies more on product packaging as an extrinsic factor to support building an alleged perception of less familiar products, i.e., private brands. As compared to well-known national brands about which customer already had knowledge and experience. In addition to this (Lutz & Lutz, 1978), carried out a Research study and found that pictorial representation of the product also aid customer to build an extrinsic perception of the less

familiar or unfamiliar products. This study will also shed light on different characteristics of product packaging and attributes being used for brand communication.

A study by Prendergast and Pitt (1996) have studied and defined the different aspect of product packaging depending on the role of packaging either Logistics or marketing. As mentioned earlier in this study, that typical use of the packaging is to ensure the product safety and to increase the efficiency of distribution channels during movement of goods from one point to another. The packaging does add up to the cost, but it reduces the chances of accidental spoilage, damage, theft or misplaced goods (Silayoi & Speece, 2007).

2.1 Concept of Product Packaging

There is sufficient literature available to justify consumer behaviour towards goods with more materialistic and symbolic values as a preference. It would not be wrong to say that customers not only buy products for its utility purpose but also for its potential of exhibiting a superior product preception and symbolic meaning (Dittmar & Pepper, 1992). In 1998, association of symbolism with products was studied by (Elliott & Wattanasuwan, 1998) suggesting that product symbolism works in dual dimentions, one is inward which is more about building self-identity and second is in outward direction which has more to do with building symbolism in the society. Perhaps this study focused only on advertising as a marketing instrument, never the less product packaging has overlooked for a very vast time period to be considered as a marketing tool.

Not only for the total understanding of the brand or a corporation's symbolic factor product packaging plays an essential role in communicating the brand's symbolism, as shown by several managerial trends that product packaging is an effective brand comunication vehicle specifically in the FMCG industry (Vartan & Rosenfeld, 1987). It also resulted in a reduction of spendings on traditional mass media used for advertising (Semenik & McCollough, 2002), enabeling the managers to realise the ability to create variability as well as to create identity for comparatively homogenous periciable goods consumers market.

2.2 Packaging as Brand Communication's Essential Vehicle

Brand personality and its identification can be achieved with multiple visual and structural elements of packaging which may include a combination of color, typography, package material, brand logo, product line logo, pictorial representations, text description and container shape. Similarly to brand personality, symbolism can be generated and/or communicated with a combinations of characteristics including ease of acces to the content (actual product), environmental and health consciousness factor, ethnicity, nostalgia and/or prestige factor, variations in propotions to quality and precieved value. Furthermore packaging not only provides a traditional singular symbolic source base namely “mediated experience” which is achieved by advertising alone but it also provides a “lived experience” which makes it a dual symbolic source (Underwood, 2003).

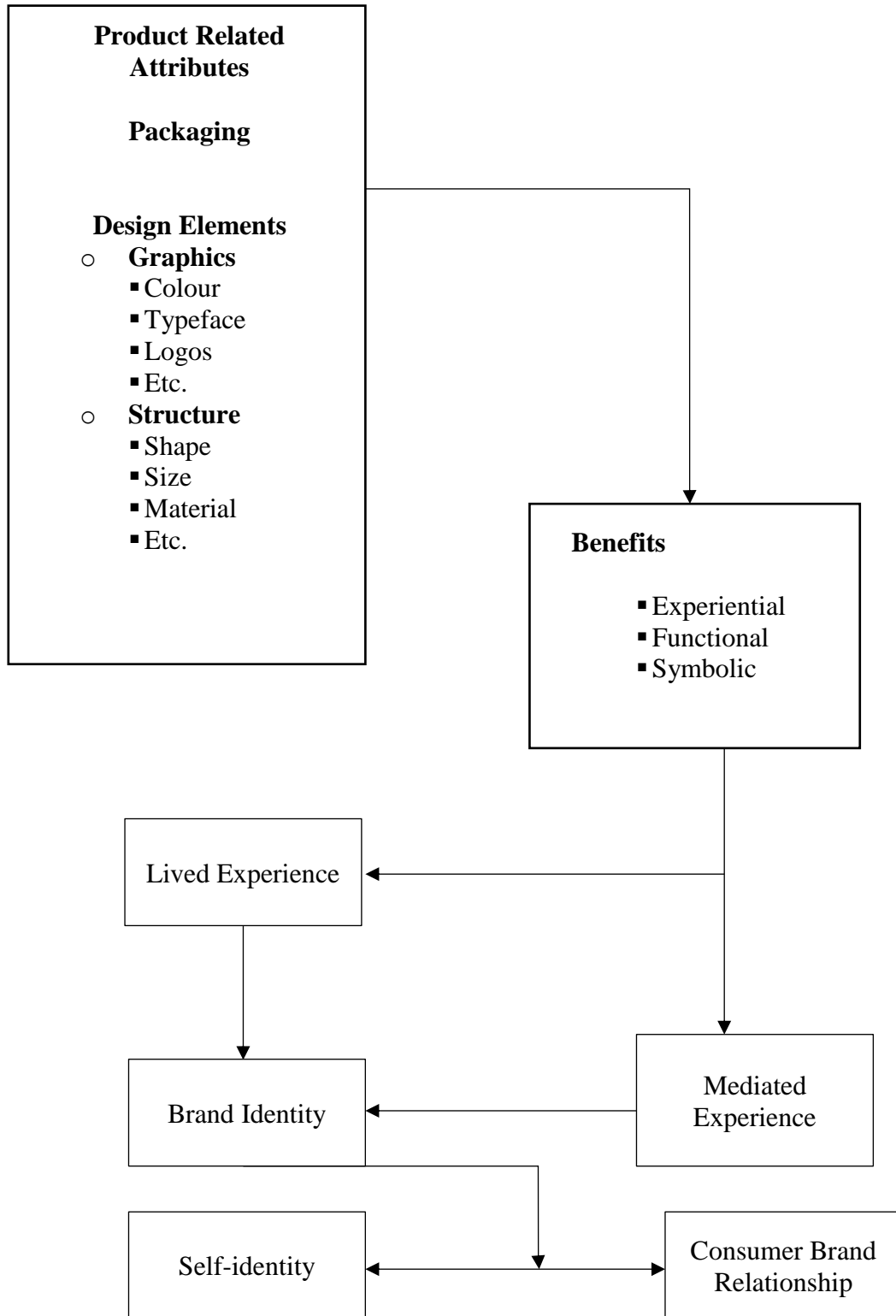


Figure 2: Alternative conceptualization of product packaging and its role in the brand communication process.

Source: (Underwood, 2003)

It is important to understand that what is product packaging associated with and if it is considered as a part of actual product or a standalone tool for marketing communication, however this is a controversial topic as there are different understandings and reasonings in the literature. (Evans & Berman, 1992) considered product packaging as a part or property of the product whereas, in some studies authors have adopted a middle approach to describe packaging as extrinsic attribute of a product e.g; product price and/or brand name which is related to a product but not a part of the product itself, for instance in the work of (Jacoby, 1972). Other authors have classified product packaging as a dependent of a product which cannot be changed without modifying the nature of a product, consisting of both extrinsic as well as intrinsic property (Zeithaml, 1988). (Keller, Heckler, & Houston, 1998) work shows that packaging is not product related attribute but one of a brand's element like brand name, slogan, symbol, brand character and logo. Hence relates the purchasing and consumption process inclusive of packaging but not relating it to the ingredient dependent mostly.

2.3 Functions of Product Packaging

2.3.1. Primary Functions

Protective and Storage function - Protective function is one of the main reasons and needs of the market due to which product packaging was developed. It essentially ensures the protection of its contents from the environment and atmosphere. The utility and value of the packaged good are fully ensured to be retained by the packaging internal protective layers and as well as external layers and to also protect from the theft, damage, and loss. A packaging should withstand the many different static and dynamic forces it encounters during transportation, handling, and storage operations. Protection from climate conditions such as humidity, temperature, precipitation level and solar radiation is frequently required by the product packaging, which may require internal packaging measures in addition to external packaging measures (Scharnow, 1993). Environmental degradation of the product should be prevented by the external protection, this particular significance in the transport of hazardous materials, by mainly keeping human being protection in mind as primary importance. the product packaging furthermore prevent and contamination, damage or another negative impact on the environment and other (Transport Information Service, 2002-2018)

When packaging fails to perform its protective function, it can result in the undesirably unsafe product, especially when there is intervention of undesirable organisms into the packaging (Silliker, 1980). In recent era packaging have been evolved and there are the vast majority of packaging material options developed to fulfill the packaging need beyond inherent level, these technologies have also enhanced the shelf life of a product while keeping the packaging compatible with the environment for disposing purposes (Sacharow & Griffin, 1970).

A study by Prendergast and Pitt (1996) have studied and defined the different aspect of product packaging depending on the role of packaging either Logistics or marketing. As mentioned earlier in this study, that typical use of the packaging is to ensure the product safety and to increase the efficiency of distribution channels during movement of goods from one point to another. The packaging does add up to the cost, but it reduces the chances of accidental spoilage, damage, theft or misplaced goods (Silayoi & Mark, Speece, 2007).

According to TIS packaging materials and packaging containers required for producing packages must be stored in many different locations both before packaging of the goods and once the package contents have been used, Packaging must thus also fulfill a storage function. as well as protective function, may also include enhancement of product shelf life or it should detect changes in packaging and product over time (Cutter, 2002).

Loading and Transportation functions - refer to the tendency of the product packaging to hold the product safe and undamaged by the external factors as well as results in efficient, safe and convenient handling when it may hold, moved, set down, lifted and stowed easily (Hohnberg). The redoubtable efficiency of transport, storage, and handling of goods crucially depends on product packaging. Therefore packaging should be designed while considering the fact that it should be designed to be easily handled along with stowage and storage space saving during transportation. In order to fully benefit the transportation function, packaging must be convenient to not only stowed side by side resulting no empty spaces but also be convenient to be stowed safely one above another (Scharnow, 1993)

Making cargo units is the most efficient method of handling and transporting general cargo thus packaging should always aid the realization of cargo units by tailoring the packaging in comparison with the masses and dimensions of the product to make it compatible with the load carrying capacity of standard pallets and containers. If handling is to be completely or partially manual, product packages should be easy to pick up and should be of a suitably low mass (Transport Information Service, 2002-2018).

Products with heavy mass should be packed in packagings which are designed for mechanical handling. These product packaging in shipment must be liftable by forklift and provide convenient lifting points to bear the load for the lifting equipment, along with the forkliftable points being specifically marked (handling marks) necessarily where ever possible. The close relationship between transportation and protective function can be concluded as both require the strength of packaging for stowing goods on top of each other yet preventing damage to the containing product during transportation and handling. (Scharnow R. , 1989).

2.3.2. Secondary Functions

Sales and Promotional Function - Another function of packaging is to communicate brand and product by itself, by having the possibility to be in different shapes colors and materials which provides an inventive method for conveying messages about product characteristics to the customer. Even if the packaging is used for the sole purpose of logistic, the customer will perceive packaging as a characteristic of the product. It cannot forgo its function to market a product even if the company explicitly ignores the marketing aspect of packaging. Hence a well-developed packaging communicates product and brand positively whereas a packaging having no marketing aspect to it communicates the brand and product negatively (Silayoi & Speece, 2007).

To have a positive impact on prospective customer's purchase decision and to gain customer's attention promotional material is placed on product packaging in intention to assist the sales process. It enables a product packaging to serve as sales function to promote the sales and make it more efficient, as promotional material on packaging directly addresses consumer hence it plays

an important role in sales. This function has subsidiary importance in transportation function of packaging. Excessive promotion of packaging may also result in greater risk of product theft because it generates awareness along with the transport chain (Scharnow, 1993).

Service Function - Service function is referred to be the ability of the product to guide the user or consumer about the use of operation of the packaging. The printed information and details on different sections of the product packaging provide an instructor service in details to the consumer about the contents and use of the product and its packaging itself. for instance, nutrition values, calories count, the opening of packaging, access to the product, reuse of packaging or product, dosage information in case of medicinal products and about further functions once the product has been used (Vorratsschädlinge, 1995).

Guarantee Function – Manufacturers ensure and guarantees by supplying undamaged and immaculate product to the customer that content of the product packaging corresponds to the details mentioned on the product packaging. It is also vastly required by the governmental bodies of the countries, and there are legislative requirements that the goods must be clearly marked with essential details indicating the composition of product content, nature of the product, weight, quantity, and product's storage life in order to ensure consumer protection and product liability. As packaging is the basis of a brand and is also a basic requirement for the branded goods.that the details on the packaging correspond to the contents. The packaging is, therefore, is the basis for branded goods. (Transport Information Service, 2002-2018)

2.3.3. Tertiary Functions

Security function - Among many innovative functions of product packaging depending on the nature,type and category of product, one of the widely used functions of packaging is to ensure the security of the product. RFID chip invented by Bertrand Teplitxky *et al.* (2006), is a product security system which includes an RFID chip with an antenna polymerized together onto a separable part of a product packaging. It uses a unique serial number which can be read by a wireless reader device, it is being used in many serial production products and it can store information about different details of product, for example: production date, expiry date, Product price, product identification code, product serial numbers, etc. in addition to this RFID can also

help in distinguishing and identifying counter fitted products. If RFID is removed from a product it leaves a mark on the product which is easily identifiable to the inspector and with the complete setup of RFID system in the supply chain, theft, loss, and misplacement of products can be avoided. (United States of America Patent No. US 7,034,689 B2, 2006).

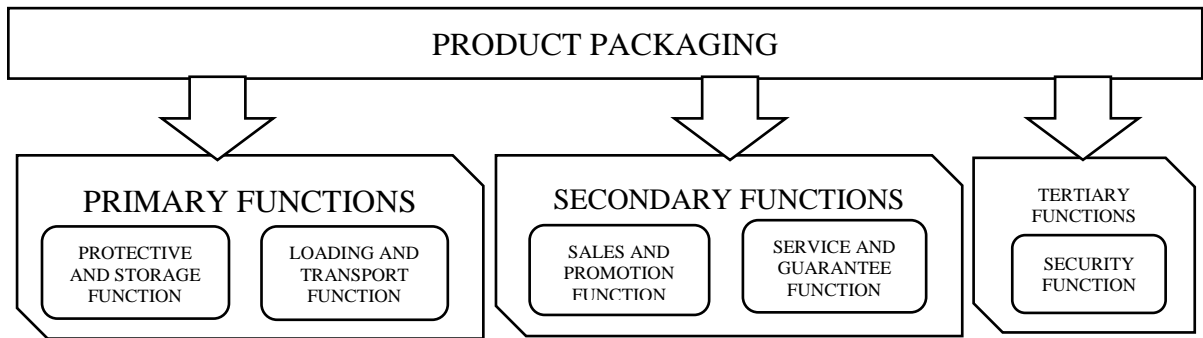


Figure 3: Key functions of products Compiled by Author

Source: (Transport Information Service, 2002-2018; Scharnow, 1993; Silayoi & Speece, 2007; Scharnow R. , 1989; Cutter, 2002; United States of America Patent No. US 7,034,689 B2, 2006)

Recycle function – One of the rising trends in demand of the customers is green packaging (Min & Galle, 1997). Although, recyclability of the packaging is not currently being a key factor which is emphasized by the customer when making a purchase decision. Improving environmental conditions in terms of the performance of supply chain has been recognized in environmental standards on Environmental management systems and the parallel European Union (EU) regulation on eco-management and auditing (Bhat, 1993). Packaging makes up the 30 percent of the annual waste but studies indicate that purchase decision mostly relies on the functional properties of the product but not on environmental properties of a packaging (Rokka & Uusitalo, 2008). Hence recycle function of packaging cannot be defined as a determinant factor for a purchase decision and cannot be a part of product packaging model.

As discussed above in the first section of this chapter 2, product packaging functions can be divided into three main categories with respect to their utility nature and level of importance where the most important primary function of packaging includes protective function and storage function by which it ensures the safety and blight free product to the consumers.

The second primary function is the level of ease and convenience in handling and transporting the product throughout the supply chain. All primary functions highly rely on each other, and if one of these functions of packaging fails it affects other function as well. Secondary functions are more marketing focused and used as tactics to communicate and promote the product namely sales and promotional function. Through branding the packaging by modifying and applying strategies to packaging shape, color, size and labeling to attract customers attention. Another secondary function of product packaging concluded from the literature is service function and guaranty function. Printed instructions about the usability of product and packaging is referred to be its service function because it results in convenient use of product for the consumer, as discussed in above literature it may include instructions to use the packaging and product, instructions for reusing and storing the product and may also include product's ingredients or calories count. Similarly, as primary functions, these secondary functions are closely linked together and affects each other if one function is overlooked. Thirdly the tertiary function may include other innovative functions depending on the need and product nature, but the product security from theft, the probability of misplacing the product is found to be most important through the study. Hence keeping all the above knowledge, first research question can be answered.

2.4 Characteristics and Attributes of Packaging

By thoroughly studying the literature and previous researchers, it can be determined that there are four main packaging elements which potentially affects the purchase decision of the customer. These four attributes can be categorised into two separate categories, one consisting of visual and informational elements which mainly includes Graphics, size and shape and makes up the visual part whereas the second category is informational aspect which relates to the product information and information about the technologies used in the packaging or use of packaging (Silayoi & Speece, 2007).

2.4.1. Visual Elements

Graphics, Image, Typology, and Colour: Different people respond contrarily to different products depending on how much involvement they require to make the purchase decision (Vakratsas and Ambler, 1999). Factors such as graphics and pictorial representation becomes more appealing and informative where less involvement is required in making the decision to purchase the product (Grossman and Wisenblit, 1999). On the other hand, images and graphical representation does do not play a much vital role when it's about making a purchase decision of high involvement products. In case of low involvement product, there is a huge impact on market development by brand communication through product packaging which includes imagery and graphical representation (Kupiec and Revell, 2001).

Imagery on the product helps to communicate the product instantly to the customer regardless of the pictures have been purposely used or unintentionally, it always communicates with the customer about the product in a good way or bad way. Graphics may include color combinations, image layout, typography and product photography or any combination of these two or more than two; when combined together it communicates the whole image of the product. Surprisingly for many customer packaging is the product in low involvement cases particularly, where first impact or impression develops the long-lasting impact on the customer. This requires one of the product attributes that most vividly communicates such message to the target consumer, the design attributes of the packaging need to stand out among the other competitive products that others are offering (Nancarrow et al., 1998).

Majority consumers tend to purchase fewer products than intended due to perceived time pressure (Herrington and Capella, 1995; Silayoi and Speece, 2004). Shopping excursions quite often tend to result in impulse buying if done without prior planning (Husman, 2000). Different new packages can be noticed by the consumers as their eyes are constantly tracking across a display which helps them to make purchase decision at the point of sale, even at the counter while scanning the products the colour and packaging can be helpful to identify the difference in products and can also identify the missing product (Herrington and Capella, 1995).

Colour associations have been very common among consumers, and it has resulted in them to prefer specific colors for certain product categories (Grossman and Wisenblit, 1999). When a color is unique to a specific brand, it fosters a strong affiliation and a strong cue to a product. However, people associated with different cultures tend to perceive different association with different colors and can have different preferences based on their culture. Therefore, marketers must consider color as characteristic of their marketing strategy. Perceived meaning of colors and colors combinations in the brand name and logo should be thoroughly studied and looked after before implementing the same color combination and colors to a different region (Madden et al., 2000).

A research was done by (Ampuero and Vila, (2006) show the importance of product graphic design aspect and how the customer perceives the meaning and information from it. They further divided the graphical aspect into color, Typography, Graphics shapes, and images on the product, these four elements were related to the studies of positioning strategies to develop a hypothesis that the perception of customer varies according to the product packaging positioning strategies defined for the product.

Namely the seven product positioning strategies taken into account were (1) Positioning based on status, for the upper class; (2) Positioning based on economic price / accessibility; (3) Positioning based on safety; (4) Positioning based on elegance / sobriety; (5) Positioning based on country of origin/ Patriotism; (6) Positioning based on excellence/ high price; and (7) Positioning based on Nobel principles/ for the middle classes. As a result, the product with the high price point and dedicated to the upper class, this product are highly associated with the cold and dark shades colors mainly black but not to yellow, orange and red color. Light colors like White color product packaging is mainly associated with the reasonably priced, accessible products. Ampuero and Vila, (2006) found that product based on guarantees and patriotic produces were not specifically associated with any graphic design variables. However, there was some association to the color red. For the non-selective products, its association appeared to be for both saturated and unsaturated, any of the yellow orange and red shades any of the green and blue shade and any of the black and white color tones. See Appendix 1.

As a second dimension Ampuero and Vila, (2006) analyzed Product packaging typographies which show different four groups of product positioning strategies with different characteristics as shown in *Table 2*. Results have shown that elegant products type is associated with bold letters, roman

letters, and expanded characters, large and uppercase. For the product directed to upper class and high price. The product packaging of both product positioning strategies are highly associated with any weight, any width, any shape or any product type or group hence both categories are any typography associated. Accessible products turn out to have font type Serif and Sans Serif. Lastly, the products based on guarantees, patriotic and non-selective products packaging were not associated with weight, width, shape, and type of family hence these strategies do not have defined typography (Ampuero and Vila, 2006). See appendix 2.

As per the third dimension analyzed by Ampuero and Vila, (2006) “Packaging graphic form” results of the four quadrant map (Table 3). Elegant and upper-class products, mainly packaging was associated with none preferences in a straight line, line shape, elements, type of figures and its composition. Whereas packaging of accessible products results to be associated with any graphic form, any straight line it could be vertical, horizontal or oblique can contain any shape like straight, curved or broken any type of figures, any amount of element and any composition. Thirdly the products based on guarantees, patriotic products, and high price products, the packaging for these product placement strategies turns out to be associated with the straight line, vertical line, straight outlines, symmetrical compositions and single elements. Whereas the Non-selective products oppositely, product packaging of this positioning strategy is associated with horizontal lines and oblique lines it may include curved lines, wavy outlines with circles, it may contain asymmetrical compositions and several elements (Ampuero and Vila, 2006). See appendix 3.

The fourth dimension that Ampuero and Vila, (2006) discussed in their study is packing image as a graphical representation of this dimension shown in (Table 4). It shows four type of different product positioning strategies with different characteristics. High price, patriotic and elegant products. The packaging of these positioning strategies does not have a compulsion of imagery, i.e., photographs, illustrations, a photo of people or product itself. Positioning strategy of Non-selective products is associated with both illustrations and photographs. Products which are based on guarantees and upper-class products, packaging associated with this positioning strategy have been associated with photographs as well as with the images of the product. In contrast to the previous positioning strategy, Accessible products packaging is associated with illustrations and with people. See Appendix 4.

In conclusion to what Ampuero and Vila, (2006) have provided are very useful key points categorized by seven product positioning strategies which can be very useful for marketing managers for developing a new product packaging or improving the existing packaging to yield more sales and can result in effective brand communication. The key points as a conclusion to their research are as follows:

Placement of Visual Elements: It has been proved in human psychology that products are perceived by the brain in an asymmetry order to literate itself (Rettie and Brewer, 2000). Font style, size, and color are amongst the very important factors including its lateral position on the package that human brain uses to recall a product. It has also indicated that the verbal stimuli are better on the right-hand side of the product to recall better and pictorial elements are better to be placed on the left-hand side of the product to maximize the recall ability of the customer.

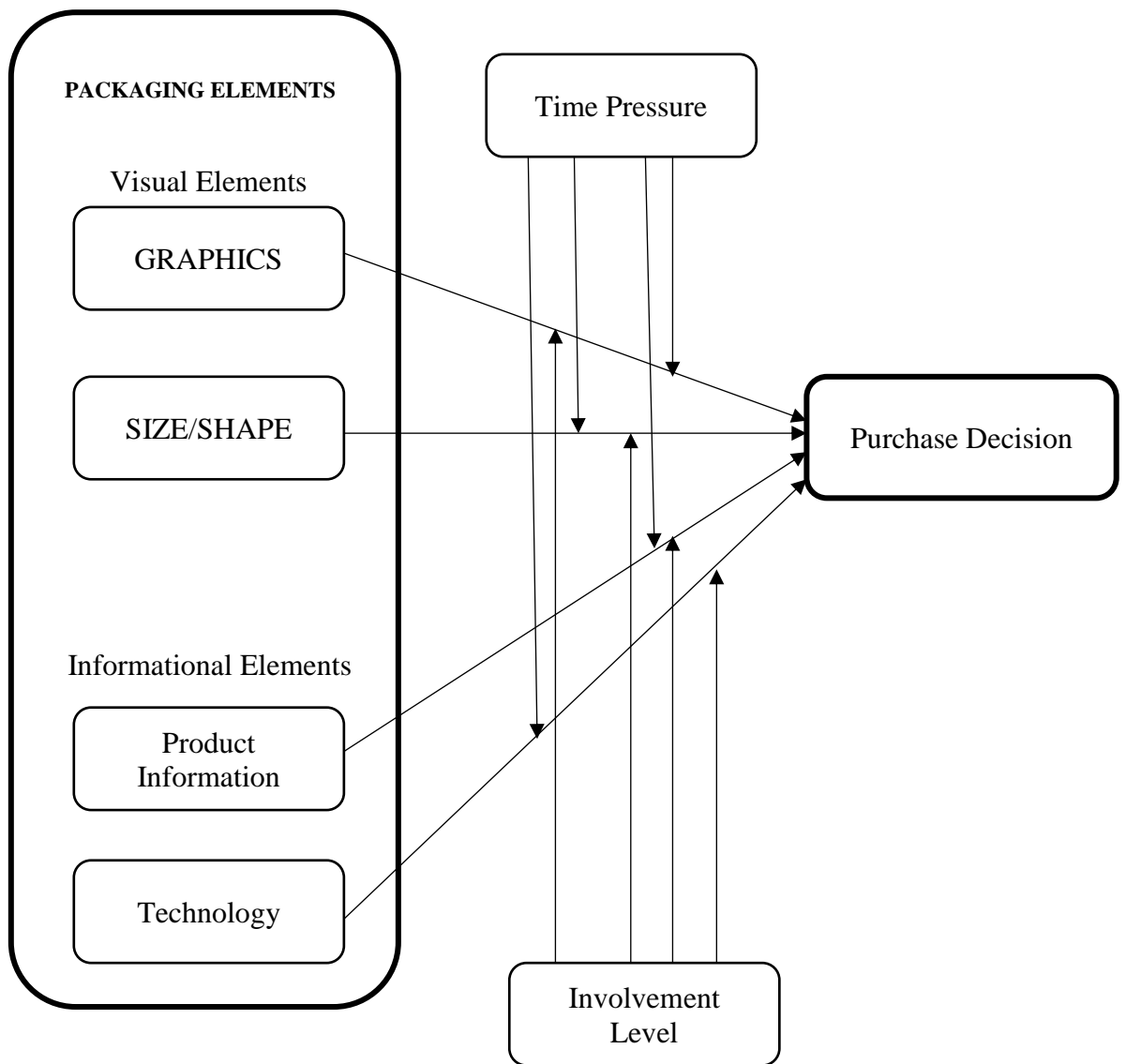


Figure 4: Conceptual model of packaging elements and product choice
 Source: (Salayoi & Speece, 2004)

2.4.2. Physical Elements

Packaging Size, Shape and Material : Packaging shape, size and material impacts intensely when it comes to buy a product because mostly due to high competition consumers compare prices with other rival companies and naturally consumer try to judge volume of the product by its shape and size which mostly leads to a buying decision, this way consumer uses these things to simplify visual heuristic. Usually, elongated shapes are perceived larger in size by the consumers even when the regularly purchase it hence the disconfirmation of the package size should not lead the customer to reconfirm the product volume judgment in the long term (Raghubir and Krishna, 1999).

Involvement of consumer in a product differs potentially due to the difference in packaging size. For example, some low involvement products like generics are low priced which is made possible by reducing the cost through advertising, packaging and other promotional expenses. Generics are usually packed in larger packages to appeal consumers who are looking for a lower price deals on larger quantities specifically in household goods, it gives an impression of being good value for money due to larger quantity (Prendergast and Marr,1997).in addition it could also be implied that the effect of packaging size is stronger when product quality is difficult to determine, thus increase in sales can be achieved by elongating the shape of product packaging to the acceptable boundaries.

Ragubir and Krishna (1999) found in their study that customer uses packaging dimensions to estimate the product volume mainly by height or elongation of the packaging and some models also includes packaging width or depth measurements as determinants taken into account for determining the volume of a product. When packaging is elongated or has more width or depth, they are perceived to have a more product in volume comparatively the product packaging which is shorter or smaller in size. (Krider et al., 2001; Ragubir and Krishna, 1999) have agreed that customer uses only one dimension at a time which is mainly height but this conclusion is not consistent throughout the researchers and rather suggests that customer have more holistic approach to access the volume of the product by using all three dimensions of the product because

visual attention to the objects is derived as a whole rather than by focusing on a single dimension (Baylis and Driver 1993).

Although there are the vast majority of the researchers conducted for product packaging shapes which are uniform and have simple structures, (designs and shapes) and previous researchers do not seem to provide adequate information on the decision making the process of the customer if the product packaging is same in size. Research conducted by Folkes and Matta (2004) focuses on irregular container shapes, i.e., Tapered beverage bottles as a comparison with more regular canned products packaging. Customers judge a product more holistically, and whichever product is more appealing and attracts more attention is considered to be the larger in volume, this is mainly because people encounter a number of different stimuli and have learned to holistically and logically access the size difference between two product packaging (Folkes and Matta, 2004). Large shapes generally gain more attention on the shelves than small shapes is a perceptual sensation that varies with size assessment is differential attention, for example, if larger the advertisement then it is more likely to be seen by the (Finn, 1988; Gronmo, 1991).

External factors and irrelevant factors also interfere very frequently in misjudgment of an object and these factors are left unrecognized because these factors are not identified while making a decision (Wilson and Brekke, 1994). An individual may not be able to identify the interfering factor to perceptual judgment among the objects because when making a judgment regarding size, people are habituated to rely on their senses to make quick decisions without investigating that why the one product looks bigger than the other. Attention can be a major influencing factor when making size judgment, and it can result in the wrong judgment because attention can be directed to objects automatically without knowing or deliberate over it. (Folks and Matta, 2004).

An individual might unknowingly compare packages due to their attention-attracting abilities because comparative analyzing between different options have become so ingrained and spontaneous. Hence Folks and Matta (2004) concluded that consumer usually judges a product packaging bigger than the other one without even knowing why. But in the case of two similar sized packaging judgment is contaminated by the factor typically co-varies with the size difference that the one product packaging is attractive than the other and consumer subjectively perceives that the difference has been paid without consciously knowing it as they do not recognize it. Hence

it can be hypostasized that a product packaging shape which attracts more attention by the customer is perceived to have a greater volume of a product compared to the same sized product having a less attractive shape (Folks and Matta, 2004).

In addition to this customer generally build their perception about the product mainly on the basis of three dependent variables which is the attitude towards the packaging, belief about the brand attributes and measure of overall brand evaluation (Underwood, 1993).

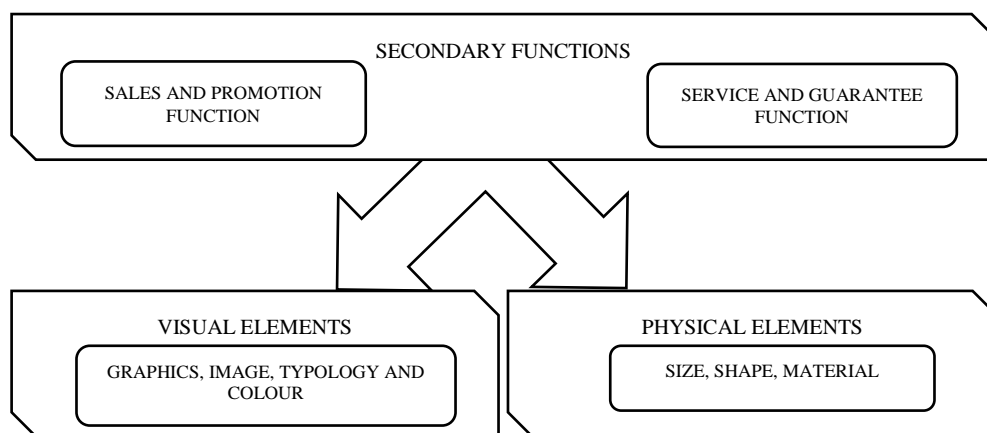


Figure 5: Functions of Packaging Compiled by author

Source: (Folks and Matta, 2004; Underwood, 1993; Krider et al., 2001; Ragubir and Krishna, 1999; Rettie and Brewer, 2000; Ampuero and Vila, 2006; Herrington and Capella, 1995; Silayoi and Speece, 2004)

Product packaging with more perceived attraction is considered to be higher in volume or higher in value. In other words, even if the later packaging which attracts less attraction is slightly bigger in size. But the effect decreased when the packaging attention attracting characteristics are diminished by habituation as demonstrated in the second experiment. Respectively in the third experiment, the perceived volume discrepancy increased when the packaging contains the desired product in comparison with the packaging consisting of undesirable product. The biased decision is also proved in the fourth experiment which shows that the customers perceive more value in products which have better attractive packaging even if the volume of the packaging is same as the product with the less attractive packaging size and shape (Folks and Matta, 2004).

3. SYNTHESIS AND RESULTS

This chapter will describe key functions of product packaging which are considered to be the most important functions for product packaging to achieve the organizational goal. This chapter develops a detailed synthesis of important functions and key characteristics of product packaging. It is important to analyze key characteristics of product packaging as they influence customer perceived perception of a product directly and as well as customer purchase decision (Silayoi & Speece, 2007; Vakratsas and Ambler, 1999; Grossman and Wisenblit, 1999; Nancarrow et al., 1998). These functions also optimize the packaging to be more efficient and economical.

3.1 Product Packaging Descriptive Model

From the reviewed literature it is possible to develop a product packaging functions and attributes model by rectifying the functions and characteristics which are not a part of packaging or packaging can function properly in the absence of those properties or characteristics. Model shown in this chapter is a step by step process to ensure the development of effective product packaging; as shown in figure 6 and explained in details in sub-sections 3.1.1 and 3.1.2. In (section 3.2) relationship between packaging functions and characteristics have been discussed.

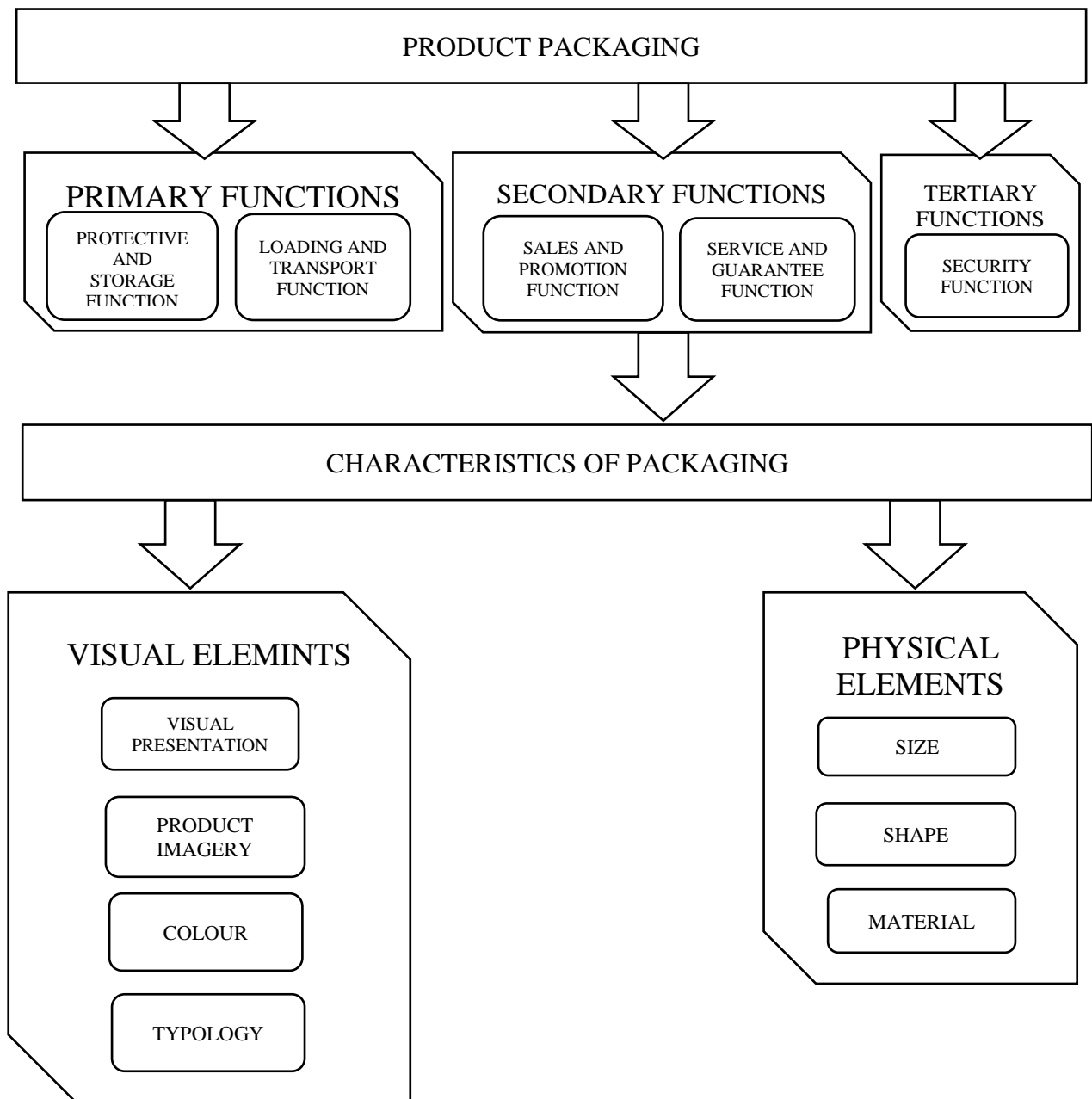


Figure 6: Functions and characteristics of product packaging (Model), compiled by author

Source: (Transport Information Service, 2002-2018; Silayoi and Speece, 2007; Folks and Matta, 2004; Underwood, 1993; Krider et al., 2001; Ragubir and Krishna, 1999; Rettie and Brewer, 2000; Ampuero and Vila, 2006; Herrington and Capella, 1995; Silayoi and Speece, 2004; Scharnow, 1993; Scharnow R. , 1989; Cutter, 2002; United States of America Patent No. US 7,034,689 B2, 2006)

3.1.1. Packaging Functions

As described by Transport Information Service of German Marine Insurers, (2002-2018), product packaging functions are divided into three main categories which are Primary functions, Secondary functions, and Tertiary functions. Where Primary functions include the protective function, storage function, loading, and transport function. Protective and storage functions are closely linked together and have directly proportional effect on each other, as packaging should be capable of resisting any foreign substances to enter into product packaging and prevent from harsh environment as well as climate changes like heat, abnormal humidity levels for product, precipitation and solar radiations which may affect product shelf life are frequently required specifically in FMCG sector. It should also withstand the dynamic forces and static forces it encounters during transportation throughout the supply chain (Scharnow, 1993). Packaging should withstand and sustain from outside as well as from inside, because if the packaging fails to perform its protective function, then it may cause contamination in the product and product may result in to be dangerous for consumers to consume (Silliker, 1980). The packaging material is stored at both stages, before the filling of the product and after filling of the product hence it should sustain in both phases and keep the product protected (Cutter, 2002).

Another primary function of product packaging is loading and transportation (Hohnberg; Transport Information Service, 2002-2018). A product should be designed in a way that it should provide ease during the transportation and loading of products to move it one place to another. In their study they suggested that a product packaging should be space efficient, which means it should not leave empty spaces between each other when stacked onto a pallet or container side by side and over each other, the stack should not be loose or unstable. It should provide ease while lifting, stowing, holding and setting down (Scharnow, 1993).

In logistics cargo is formed and stacked in a standard unit or different types of standard pallets stacked over each other, hence product packaging should be designed by keeping in mind that the dimensions of a product packaging should be optimised so it could be stackable in terms of physical shape and size, and it should be strong enough so that it could sustain the weight of the

stackable layers on top of it. As a general rule and best practice according to Transport Information Service, (2002-2018) product packaging should be as light as possible, but it should also proportionate to the product mass, products with heavy mass should be strong enough to hold the weight of the product when they are stacked side by side or upon each other for transportation. Products with heavy mass which requires mechanical assistance like forklift should have handling marks and handling spaces options in them so it could be easier to move and transport them during dispatching or transit operations. Transportation function and protective function of product packaging have a close relationship with each other as one fails it can cause damage to the goods during handling. These primary functions are considered to be the essentials of the product packaging which applies to the consumer good specifically to FMCGs and industrial goods as well (Scharnow R. , 1989).

(Transport Information Service, 2002-2018) Secondary functions are namely Sales function, Promotional function, service function and Guarantee function. These functions have a direct influence on customer purchase decision making and are widely used by the marketers to promote the products to yield greater sales volumes (Silayoi & Speece, 2007). This study will deeply explore secondary functions of packaging in the next section, but for answering the first research question at first, only the general overview will be discussed.

Product packaging has enabled marketers to discover and invent innovative methods to communicate the brand with the customer, as product packaging directly interacts with prospective customers, it has more clear and close interactions (Venter, D. Merwe et al., 2011). By using different characteristics of packaging namely shape, size, colors and material enables marketers to convey controlled and targeted communication to the customer. As people have become so inherited to the product packaging, they unknowingly access the product from its packaging even if the companies do not develop packaging for sales and marketing aim. By taking this into consideration, according to Silayoi & Speece, (2007) a product always market itself through its packaging, the only difference is that if the packaging has not been designed to market it, then it will market by itself negatively instead of developing a positive influence.

Hence it is important to develop a packaging intentionally for the purpose to build positive impact on prospective customers' buying decision by placing promotional material on product packaging in serving as a sales function (Scharnow, 1993).

The third secondary function of product packaging is Service function which refers to the listed ingredients; calories count details and instructions which guide consumers to use or operate product and product packaging. For some specific products, it may provide the dosage instruction or application instructions in case of medicinal products. If the product and its packaging is reusable and have the capability to store it for reuse purpose in future, service function of the product creates a positive impact on consumer perception (Vorratsschädlinge, 1995).

Guarantee function is the fourth secondary function which ensures a customer that the product is safe and in immaculate condition. Manufacturers also guarantee consumers by labeling the content of the product onto the packaging that the product a customer is buying has the same product or ingredients in the packaging content. This being an ethical obligation for the brands with huge brand loyalty and goodwill, it is also a requirement for many of the states government policies. As a legislative requirement in the vast majority of countries, it is compulsory for the companies to clearly mark their products with essential details about the composition details of the products, nature of the product, its net or gross weight and product's shelf life (Transport Information Service, 2002-2018).

Third function category Tertiary functions of a product packaging include security function of packaging; these functions are gaining importance in the emerging marketing as traditional retail stores have evolved to self-service stores and with the evolution of retail industry the threat of theft has also increased (Verma, 1992). An RFID chip is invented by Bertrand Teplitxky *et al.* (2006) which consist of a small chip and an antenna. RFID can be applied to the product packaging with the help of adhesive tape, and the chip has the capacity to contain product information such as production date, expiry date, product code and product price. With the complete system installed into a retail chain store this chip can also work as a security tag if in case of theft. If this chip is forcefully removed from the product packaging, it leaves a residue mark on product packaging which can be easily identified by the inspector (United States of America Patent No. US 7,034,689

B2, 2006). Considering all the synthesized knowledge from multiple journals and studies first research question can be answered.

By systematically reviewing the literature it can be found that Secondary function of Packaging has the potential to influence customer perception and perceived attraction which can result in a customer purchase decision. As the secondary functions of the product packaging have direct interaction with the prospective customer and these functions are controllable and changeable this study will further discuss the secondary functions in details to have a better understanding and to develop different strategies based on different characteristics and attributes of packaging. There are eight key attributes of product packaging (Silayoi & Speece, 2007). These eight key attributes can be divided into three different elements groups, Visual, Physical and Technological. Visual attributes consist of Graphics, Image, Typology, and color. On the other hand, physical elements include Size, Shape, and material of packaging. Thirdly Technology is a standalone element as it can be physical as well as visual.

3.1.2. Characteristics and Attributes of the Product

Visual elements: Level of involvement differs person to person in the same product when it comes to buying a product, factors like graphical representations, product imagery, colour, and typology may have different effects on different people, and it may become more appealing where purchase decisions are impulse, and less involvement is involved (Vakratsas and Ambler, 1999), On the other than graphical and pictorial representations become less appealing when high involvement is involved in purchase decision. Although there is a huge development in market development by brand communication through product imagery, color and other visual elements where fewer involvement decisions are made specifically in FMCG sector (Kupiec and Revell, 2001).

As discussed earlier in the previous section of this chapter, product visual elements always interact and communicate brand image and product perceived value in positive or negative perspective depending on, whether the product packaging imagery was developed and used purposefully to communicate with a customer or not (Grossman and Wisenblit, 1999). On the other hand, graphics may include color combination, image layout, typography, and product photography or any

combination of these. In cases where first interaction with the product creates long-lasting effect usually in low involvement cases. This requires one of the attributes of product packaging to vividly communicate the product to the customer; this requires a product packaging to stand out amount its competitors (Nancarrow et al., 1998).

Majority of the customers tends to buy impulsively as they are having time pressure and these shopping trips are usually unplanned which may cause some new packaging unnoticed (Herrington and Capella, 1995; Silayoi and Speece, 2004). A study was done by Ampuero and Vila, (2006), they created seven product positioning strategies and conducted series of experiments and surveys to analyze that what characteristics are associated with each positioning Strategy.

These visual attributes suggested by Ampuero and Vila, (2006) according to product placement strategies are essential for developing a product packaging, as their research suggested to include images of the product packaging, then it is necessary to know that where these pictures should be placed and in what order pictures or images should be placed on packaging. (See Table 1)

To answer this question Rettie and Brewer, (2000) conducted research where they suggested that pictorial representations are better to be aligned to the left-hand side because human brain perceives and observe objects in an asymmetric way. Font size, color, graphics, pictures, and typography are essential parts including its lateral positions on the packaging. So the verbal part should be on the right-hand side of the product, and the pictorial part should be aligned to the left.

Physical elements:Product packaging shape, size and packaging material makes up the physical part of the product. As people are inherited to judge a product's value just by seeing it and abundance of available options in competition to each product, customers tend to judge a product majorly by its size and shape which normally leads to a buying decision (Prendergast and Marr, 1997; Raghubir and Krishna, 1999).

Ragubir and Krishna (1999) suggested in their research that packaging dimensions are influencing customer's judgment about product volume mainly by height or elongation of the packaging, but some models also include width and depth as a determinant for judging volume as explained by

Krider et al. (2001). When packaging is elongated and has more width and depth, it is perceived to have more volume than the one with relatively smaller packaging (Ragubir and Krishna, 1999). While making a purchase decision to customers have a more holistic approach to judge the volume of the product by using all three dimensions because visual attention is derived as a whole (Baylis and Driver 1993).

(Folkes and Matta, 2004) conducted an experiment on the perceived value of different packaging shapes and actual product value. They suggested that the large shape generally attracts more attention while considering it to larger in volume and greater in values when placed on shelves in a shop. Just like a bigger advertisement on a billboard is perceived to gain more attention and more likely to be seen than the small advertisements (Finn, 1988 Gronmo, 1991).

Table 1. Product Placement Strategies and Packaging Characteristics, compiled by the author.

<i>VISUAL ELEMENT PLACEMENT STRATEGIES</i>				
<i>TOP CATEGORY POSITIONING, PRESTIGE STATUS, DIRECTED TO THE UPPER CLASSES</i>	<i>Color</i>	<i>TYPOGRAPHY</i>	<i>GRAPHIC FORM</i>	<i>IMAGE</i>
	Cold, Dark, Black	Any	None	Product
<i>ACCESSIBLE PRODUCT, REASONABLE PRICE POSITIONING</i>	Light, White	Serif, Sans Serif	Any	Illustration And/Or Person
<i>POSITIONING BASED ON DURABILITY, GUARANTEE, AND SAFETY</i>	Red	None	Straight Line, Vertical, Straight Outline, Symmetrical, One Element	Picture, Product
<i>POSITIONING BASED ON REFINED, SOBER AND ELEGANT AESTHETICS</i>	Cold, Dark, Black	Bold, Expanded, Upper Case, Large, Roman	None.	None.
<i>POSITIONING BASED ON COUNTRY OF ORIGIN, PATRIOTISM</i>	Red	None	Straight Line, Vertical, Straight Outline, Symmetrical, One Element	None

<i>POSITIONING BASED ON EXCELLENCE, HIGH PRICE, VARIETY</i>	Cold, Dark, Black.	Any	Straight Line, Vertical, Straight Outline, Symmetrical, One Element.	None
NON-SELECTIVE POSITIONING, FOR THE MIDDLE CLASSES, BASED ON NOBLE PRINCIPLES	Any	None	Horizontal, Oblique, Circle, Curve, Wavy Outline, Asymmetrical, Several Elements.	Any

Source: (Ampuero and Vila, 2006).

If the size of the products is same, then the shape of the product packaging plays an important role in customer decision making. Between a usual shape and unusual shape at the same price point while having the same volume and both product packaging containing the same product then customer perceives more value in an unusual shape. Unusually shaped packaging attracted more and considered to be of higher value when compared with usually shaped packaging (Folks and Matta, 2004). Hence the above knowledge collected from scientific studies and experiments is sufficient to answer the second research question. The above table 1. Shows the categorization of Visual elements according to the product placement strategy which can be very useful to achieve a desired goal through developing an effective product packaging.

3.2 The Relationship Between Packaging Functions and Attributes

Primary functions of the packaging are directly related to the logistical processes of the product as packaging protects the product during the transportation throughout supply chain it should also provide ease in the loading process, as well as a result in optimal storage. Packaging functions cannot be separated from each other as primary and secondary functions make up the packaging collectively. Hence failure in one function may result in failure in all functions (Leigh, 1978).

Packaging should protect the product from internal and external factors which are subject to contaminate the contained product (Scharnow, 1993), a damaged packaging may result in a deficiency inability to stack the product on a pallet or container for transportation and storage purpose. It can also cause inability to handle the product as it may cause leakage or further damage to the product. vice versa deficiency of a packaging inability to store, load or transport function (Transport Information Service, 2002-2018) due to irregular shape and size may result in reduced

protection capability of the packaging as it causes fairly increased probability to get damaged during handling and transportation. Hence, it can be concluded that primary functions of product packaging are closely connected to each other and influence one another.

Although secondary functions are mainly related to the marketing functions of the product, it is not unexpected that secondary functions cause the most influence when making primary functions decisions for packaging (Prendergast & Pitt, 1996). Through secondary functions, customers are able to distinctively recognize and identify the product, which aids the ultimate goal of the organization to sell the product in self-service retail shops. Although attributes of packaging shape and size directly affect primary functions because it determines the stackability of product on the pallet or container and potentially influences handling function. Size and shape attributes of a product also determine the designation of the space available to accommodate secondary functions itself as it may cause an increased risk of reduction in gaining customer attention (Prendergast & Pitt, 1996).

3.3 Marketing Experiment Results

After the descriptive synthesis of the product packaging model, next phase is to test the packaging model by conducting true experiment. This marketing experiment is based on a single experiment group of respondents and experiment is of post test design as it already consists of a comparison between two subjects by the same respondents which helped to record the difference between perceived value of both subjects. The experiment was conducted between 23 December to 29 December, 2018. Questionnaires were distributed via a weblink and authors personal contacts on social media were asked to participate in this experiment. In total 60 participants were asked to fill the survey and only 18 survey answers were received. Sample size is rather small due to the limited availability of time, hence the significant response trend can be observed for the responses. Respondents consisted of mixed nationalities and belongs to different countries of residence, 95% of the respondents were already experienced by grocery shopping. The results of the experiment group for “Packaging 1” and “Packaging 2” are described below.

Table 2. Considering the Product packaging overall, which of the following describes your feeling about the product Packaging?

	Dislike it very much	Dislike it somewhat	Feel neutral	Like it somewhat	Like it verymuch
Packaging 1	6%	22%	28%	28%	16%
Packaging 2	0%	0%	11%	45%	44%

Source: Created by author

For the “Packaging 1” design respondents didn’t liked the packaging very much as can be seen in the (Figure 1) that 22.2% of the respondents disliked it somewhat, 27.8% felt neutral about it and 27.8% like the “Packaging 1” a little bit. Whereas in (Figure 2) responses for the “Packaging 2” are positive.

For “Packaging 2” 44.4% respondents liked it very much and 44.4% of respondents liked the packaging overall. It shows that just by seeing the “Packaging 2” at one glance respondents have liked the Packaging 2 the most in terms of their wants.

Table 3. How visually appealing are the packaging?

	Not at all appealing	Not so appealing	Somewhat appealing	Very Appealing	Extreamly appealing
Packaging 1	0%	50%	34%	11%	6%
Packaging 2	6%	6%	17%	44%	27%

Source: Created by author

For Packaging 1 respondents did not think that it is an appealing packaging and 50% respondents responded by selecting not so appealing and 33.3% respondents find it somewhat appealing. 27.8% of the respondents find the “Packaging 2” extremely appealing and 44.4% responded with very appealing packaging. Only 16.7% thought that “Packaging 2” is somewhat appealing.

Table 4. How would you rate the product overall with this packaging?

	Very low quality	Low quality	Neither high nor low quality	High quality	Very high quality
Packaging 1	0%	17%	68%	11%	6%
Packaging 2	0%	0%	22%	61%	17%

Source: Created by author

For question number 3 in the questionnaire for “Packaging 1” 66.7% respondents think that the packaging 1 is neither of a high quality and nor very low quality, although 16.7% of respondents believed that the “Packaging 1” is of low quality. on the other hand 61.1% respondents agrees that the “Packaging 2” is of high quality and 16.7% people believed that its very high quality product comparatively to “Packaging 1”.

Table 5. How Unique are the packaging in your Opinion?

	Not at all unique	Not unique	Somewhat unique	Very unique	Extreamly unique
Packaging 1	28%	39%	28%	6	0
Packaging 2	0%	0%	39%	50%	11%

Source: Created by author

For uniqueness of the “Packaging 1” 38.9% respondents thinks that it is not unique and 27.8% respondents think that “Packaging 1” is not unique at all where as 27.8% have an opinion that it is somewhat unique. For the uniqueness of “Packaging 2” 50% of the respondents believed that it is unique and 38.9% respondents believed that “Packaging 2” is somewhat unique and 11.1% believed that the packaging 2 is extreamly unique.

Table 6. How conveniently you can find this product with the same packaging in your nearby retail shop?

	Not at all easily	Not easily	Somewhat easily	Very easily	Extremely easily
Packaging 1	0%	6%	50%	33%	12%
Packaging 2	0%	39%	28%	28%	6%

Source: Created by author

Regarding “Packaging 1” 50% respondents agreed that this product with this packaging can be found relatively easily where as 33.3% believe that its very easy to find in the market and 11.1% think that its extremely easy to find this product with the same packaging.

For “Packaging 2” 38.9% respondent agreed that this packaging is not easily available in the market.27.8% believed that its somewhat easy to find the product with this packaging.

Table 7. How different are the Packagings do you think compared to same commodity available the market?

	Not at all different	Not so different	Somewhat different	Very different	Extremely different
Packaging 1	17%	56%	23%	6%	0%
Packaging 2	0%	6%	28%	56%	11%

Source: Created by author

Comparing the already available product packaging in the respondent;s markets 55.6% respondents agreed that “Packaging 1” is not so different than the products already available in the market. 22.2% only think that this product is somewhat different and 16.7% respondents responded that it is not at all different.

About “Packaging 2” 56.6% respondents believed that the packaging is very different comparatively to the products available in the market, 27% believed that it is somewhat different and 11.1% believed that it is extremely different.

Table 8. What is the magnitude of product information on packagings?

	Very little information	Somewhat little information	The right amount of information	More than needed information	Too much information
Packaging 1	22%	17%	61%	0%	0%
Packaging 2	0%	17%	67%	11%	6%

Source: Created by author

Regarding product information on “Packaging 1” 61.1% respondents believed that it has right amount of information. 22.2% respondents responded that it has very little information and only 16.7% believed that it has somewhat little informations.

For the “Packaging 2” 66.7% respondents responded that it has the sufficient amount of product details, whereas 16.7% thinks that it has some little information and 11.1% thinks that it has slightly more information than needed.

Table 9. How relevant is the packagings to your wants and need?

	Not at all relevant	Not so relevant	Somewhat relevant	Very relevant	Extremely relevant
Packaging 1	0%	39%	45%	0%	0%
Packaging 2	0%	11%	22%	56%	11%

Source: Created by author

44.4% believed that “Packaging 1” is somewhat relevant to their need and want, whereas 38.9% believes that its not so relevant to what they want. For “Packaging 2” 56.6% respondents believed that it very relevant to what they want and 22.2% suggested that it is somewhat relevant whereas, 11.1 believed that its very relevant.

Table 10. Comparing the packaging size of each sample packaging, suppose if the price of both products is the same. How much do you think “Packaging 1” offer best value for money in terms of product volume?

	Very Less value	Somewhat less value	Enough value	Somewhat high value	Very high value
Packaging 1	0%	22%	67%	6%	6%
Packaging 2	0%	17%	39%	28%	17%

Source: Created by author

In comparison with the “Packaging 2” with “Packaging 1” 66.7% respondents thought that “Packaging 1” has the enough value for the money. Only 22.2% suggested that it is somewhat less value. for the “Packaging 2” 16.7% respondent thinks that it have very high value offering as compare to “Packaging 1”. 27.8% respondent think tht it has somewhat high value and 38.9% respondents think it has enough value.

Table 11. In what price category would you put “Packaging 1” by accessing its packaging.

	Very cheap	Moderately cheap	Nether expensive nor cheap	Moderately expensive	Very expensive
Packaging 1	6%	56%	34%	6%	0%
Packaging 2	0%	6%	28%	56%	11%

Source: Created by author

For the price range estimation, 55.65 respondents perceived that “Packaging 1” is moderately cheap and 33.3% respondents perceived that it is neither expensive nor cheap. Price estimation for “Packaging 2” 55.6% respondents estimated that it is moderately expensive, 11.1% estimated that it is very expensive and 27.8% estimated that it is neither cheap nor expensive.

CONCLUSION

The main objective of this study was to determine the key characteristics which should be taken into account for developing the FMCG product packaging, to and identify the key characteristics and elements of the packaging which potentially influence product performance. As the knowledge in the previous chapters is considered to be sufficient to answer research questions of this study, it is possible to draw conclusions one by one. The first research question of this study was as follows.

RQ1: What are the key functions of product packaging?

The key functions of the product are mainly divided into three categories described as, Primary functions, Secondary functions, and Tertiary. Protective function, Storage function, Loading function and Transport function are primary functions of a product packaging, as these are the essential requirement of a packaging, it should protect the product from climate changes, change in atmospheric pressure, humidity change and solar radiations as well . A product packaging should provide convenience in handling and transportation throughout supply chain, it can be made possible by marking the handling marks on the packaging, it should also enable efficient stacking ability onto the pallet or container for efficient storage purposes. Primary functions are interlinked with each other as a deficiency in one function may affect the other ad the product packaging might fail to serve its core purpose.

Secondary functions are related directly to the customer interaction and consist of the sales function, Promotional function, service function and guarantee function. Secondary functions refer to as the ability of the packaging to communicate the product and brand to the customer, often used by marketers to influence customer decision making and develop a strong brand image. A well-developed packaging communicated brand's goodwill and image positively . A packaging should enable the customer to educate themselves to operate the packaging to access the product, and it should also provide information to the customer for using the product which is a service function of packaging. Lastly, the guarantee function refers to ensuring the supply of undamaged and immaculate product to the customer, and packaging should have an enlisted content what

product is composed of, product weight, shelf life, expiry and manufacturing date, and it should correspond to the product.

Lastly, Tertiary functions consist of the security function, as it has become an important factor for the retail chains. In compliance with the primary and secondary functions, a packaging should also ensure the security of the product. With the evolution of retail markets, technology has also advanced. An RFID is developed by Bertrand Teplitxky *et al.* (2006) for packaging to secure itself from theft. It consists of a chip and an antenna which can be pasted or embedded into a packaging; it can store product information and details and capable of checking if the product unit has been sold or not so it can be easily moved out from the retail store. In case of IRFI applied onto the packaging by an adhesive, if it is removed, it can leave a mark which is easily visible on the packaging and can be identified.

The second research question was about the key characteristics of the product packaging and how these characteristics should be used to efficiently interact with the customer.

RQ2: What are the key characteristics of packaging? And how these characteristics should be practically applied to yield quick interaction with the customer?

Key characteristics of product packaging are derived from secondary functions of packaging; these characteristics are divided into two categories, visual elements, and physical elements. Through reviewed literature visual elements can be stated to consist Graphics, image, typography, and color. People interact with product packaging differently and perceive the attention differently depending on their level of involvement. Graphical and pictorial information becomes more appealing and attracts more attention where less involvement is involved, and the customer has time pressure for making a purchase decision . The market has become highly developed in brand communication through packaging graphics, color and imagery where less involvement is involved.

Colour associations to brands and products are widely used by companies which result in a stronger brand image and provides ease for a customer in product or brand identification. When a color is unique to a brand or product, it fosters a strong affiliation or an effective cue to the brand and

product . Hence prior to implementing color and typology strategy combining with brand logo and brand name in different markets having different cultures, colors should be thoroughly studied.

As suggested by (Ampuero & Vila, 2006) for developing a brand communication strategy for product packaging, seven product placement strategies should be taken into account. As shown in (Table 1).

As the brand communication strategies for product packaging are suggested to have imagery. It is important to strategically place the image on the packaging as human brain literate itself in asymmetrical order, so it is important to place the picture on the right side of the packaging and verbal stimuli on the left side.

In the marketing experiment two prototype packagings were developed based on the packaging model formulised in this Master's thesis namely Packaging 1 and Packaging 2. Prototype "Packaging 1" was developed as a affordable and economic placement strategy, where as "Packaging 2" is developed with placement strategy of prestige product. Strategies applied on "Packaging 2" were exponentially effective, 56% of the respondents precieved "Packaging 2" as an prestige product and 71% higher value to "Product 1". Experiment results clearly shows that "Packaging 2" is the most preferable product in comparison with "Packaging 1" because respondents precieved more value in it and preffered to buy a prestigous product if the price of both products kept constant. Differences like innovative shape, graphical representations and pictorial representtions increases the precieved value of the product.

Lastly, by reviewing the synthesis, third research question can be answered **RQ3: What is the nature of the relationship between packaging functions? How they affect each other?**

After thoroughly synthesizing the information about the relationship between packaging functions it is possible to conclude that packaging primary functions which makes up the first part of the product packaging model are strongly connected with each other and as well as with secondary and tertiary functions directly proportion to each other. As the increase in strength of one function may result in increased strength of others collectively.

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Appendix 1. Questionare

Tallinn University of Technology

School of Business and Government

Department of Business Administration

Master's Thesis project

MARKETING EXPERIMENT

This Following marketing study is conducted to gather information about customer's preception about product by its packaging.

Topic: FMCG packaging model: characteristics and relationship between packaging functions.

Objective: To measure the influence of product packaging attributes on customer's decision-making process according to the developed packaging model.

Instructions:

1. This questionnaire includes Two sample packaging of a Pasta Brand. Please not that brand name is not realistic as well as not important in this research. Details on the packaging about product and its packaging shape, size, colour, typology, pictures and graphics, etc. are important and should be considered.
2. Please see the attached pictures of two different product packaging namely "Packaging 1" and "Packaging 2" and assess the packaging in detail as you usually do at a retail shop if the product is placed on shelf.
3. To answer the enlisted questions please place an "x" in the designated box for the specific answer.

PACKAGING 1:

1. Considering the product packaging overall, which of the following describes your feeling about the product packaging?

Dislike it very much	Dislike it somewhat	Feel neutral about it	Like it some what	Like it very much

2. How Visually appealing is the packaging?

Not at all appealing	Not so appealing	Somewhat appealing	Very appealing	Extremely appealing

3. How would you rate the product overall with this packaging?

Very low quality	Low quality	Nether high nor low quality	High quality	Very high quality

4. How unique is the packaging in your opinion?

Not at all unique	Not unique	Somewhat unique	Very Unique	Extremely unique

5. How conveniently you can find this product with the same packaging in your nearby retail shop?

Not at all easily	Not easily	Somewhat easily	Very Easily	Extremely Easily

6. How different is the packaging do you think compared to the products available the market?

Not at all different	Not so different	Somewhat different	Very Different	Extremely different

7. What is the magnitude of product information on packaging?

very little information	Somewhat little information	The right amount of information	Somewhat sufficient information	Too much information

8. How relevant is the “Packaging 1” to your wants and need?

Not at all relevant	Not so relevant	Somewhat relevant	Very relevant	Extremely relevant

9. Comparing the packaging size of each sample packaging, suppose if the price of both products is the same. How much do you think “Packaging 1” offer best value for money in terms of product volume?

Very less value	Somewhat less value	Enough value	Somewhat high value	Very high value

10. In what price category would you put “Product 1” by accessing its packaging.

Very cheap	Moderately cheap	Nether expensive nor cheap	Moderately expensive	Very expensive

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PACKAGING 2:

1. Considering the product packaging overall, which of the following describes you're feeling about the product "Packaging 2"?

Dislike it very much	Dislike it somewhat	Feel neutral about it	Like it some what	Like it very much

2. How Visually appealing is the packaging?

Not at all appealing	Not so appealing	Somewhat appealing	Very appealing	Extremely appealing

3. How would you rate the product overall with this packaging?

Very low quality	Low quality	Nether high nor low quality	High quality	Very high quality

4. How unique is the packaging in your opinion?

Not at unique	Not unique	Somewhat unique	Very Unique	Extremely unique

5. How conveniently you can find this product with the same packaging in your nearby retail shop?

Not at all easily	Not easily	Somewhat easily	Very Easily	Extremely Easily

6. How different is the packaging do you think compared to the products available the market?

Not at all different	Not so different	Somewhat different	Very Different	Extremely different

7. What is the magnitude of product information on packaging?

very little information	Somewhat little information	The right amount of information	Somewhat sufficient information	Too much information

8. How relevant is the “Packaging 2” to your wants and need?

Not at all relevant	Not so relevant	Somewhat relevant	Very relevant	Extremely relevant

9. Comparing the packaging size of each sample packaging, suppose if the price of both products is the same. How much do you think “Packaging 2” offer value for money in terms of product volume?

Very less value	Somewhat less value	Enough value	Somewhat high value	Very high value

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10. In what price category would you put “Product 2” by accessing its packaging.

Very cheap	Moderately cheap	Nether expensive nor cheap	Moderately expensive	Very expensive



SAMPLE: A (Packaging 1)



SAMPLE: B (Packaging 2)

Appendix 2. Marketing Experiment, Experimental Group respondant's profiles

Respondents	Profiles
R1	Your Nationality: Elsalvador ,Country of residence: Talinn, Occupation: Job ,Language: English & Spanish ,Have you ever had an experience to do grocery shopping? ,Yes
R2	Your Nationality: Ghanian ,Country of residence: Tallinn, Occupation: employee ,Language: ghanian and english ,Have you ever had an experience to do grocery shopping? ,Yes
R3	Your Nationality: Salvadoran ,Country of residence: Estonia, Occupation: Employee ,Language: English ,Have you ever had an experience to do grocery shopping? ,Yes
R4	Your Nationality: Pakistani ,Country of residence: Estonia, Occupation: Supply & Delivery Manager ,Language: English, Urdu, Punjabi ,Have you ever had an experience to do grocery shopping? ,Yes
R5	Your Nationality: Bangladeshi ,Country of residence: Bangladesh, Occupation: Accountant ,Language: Bangla ,Have you ever had an experience to do grocery shopping? ,Yes
R6	Your Nationality: Nepali ,Country of residence: Tallinn, Occupation: IT ,Language: English ,Have you ever had an experience to do grocery shopping? ,No
R7	Your Nationality: Pakistani ,Country of residence: Pakistan, Occupation: Self employed loyed ,Language: English ,Have you ever had an experience to do grocery shopping? ,Yes
R8	Your Nationality: Pakistan ,Country of residence: Hungary, Occupation: Student ,Language: English ,Have you ever had an experience to do grocery shopping? ,Yes
R9	Your Nationality: Bangladeshi ,Country of residence: Estonia, Occupation: Business ,Language: English ,Have you ever had an experience to do grocery shopping? ,Yes

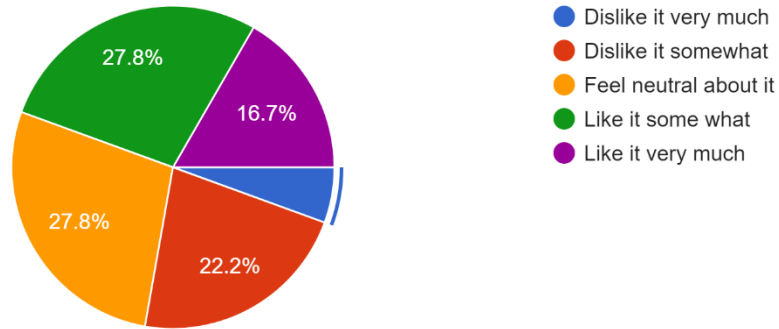
R10	Your Nationality: Turkish ,Country of residence: Estonia, Occupation: Customer Support Specialist ,Language: English ,Have you ever had an experience to do grocery shopping? ,Yes
R11	Your Nationality: Pakistani ,Country of residence: United kingdom, Occupation: Student ,Language: English, Urdu, Punjabi ,Have you ever had an experience to do grocery shopping? ,Yes
R12	Your Nationality: Pakistani ,Country of residence: Estonia, Occupation: Student ,Language: English, Urdu, Punjabi, Hindi ,Have you ever had an experience to do grocery shopping? ,Yes
R13	Your Nationality: Pakistan ,Country of residence: Pakistan, Occupation: Real Estate ,Language: English ,Have you ever had an experience to do grocery shopping? ,Yes
R14	Your Nationality: Pakistan ,Country of residence: Pakistan, Occupation: Enterpenure ,Language: Urdu ,Have you ever had an experience to do grocery shopping? ,Yes
R15	Your Nationality: Pakistan ,Country of residence: Estonia, Occupation: Software Engineer ,Language: English ,Have you ever had an experience to do grocery shopping? ,Yes
R16	Your Nationality: Indian ,Country of residence: Estonia, Occupation: Restaurateur ,Language: English ,Have you ever had an experience to do grocery shopping? ,Yes
R17	Your Nationality: Nepali ,Country of residence: Estonia, Occupation: Accountant ,Language: Nepali and English ,Have you ever had an experience to do grocery shopping? ,Yes
R18	Your Nationality: Pakistani ,Country of residence: Pakistan, Occupation: Jouranlist ,Language: Urdu ,Have you ever had an experience to do grocery shopping? ,Yes

Source: Created by the author based on the social media and personal contacts.

Appendix 3. Marketing Experiment, Results, Packaging 1

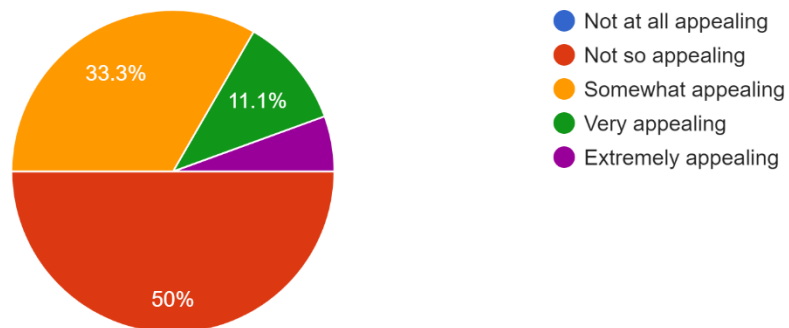
Considering the product packaging overall, which of the following describes your feeling about the product "packaging 1"?

18 responses



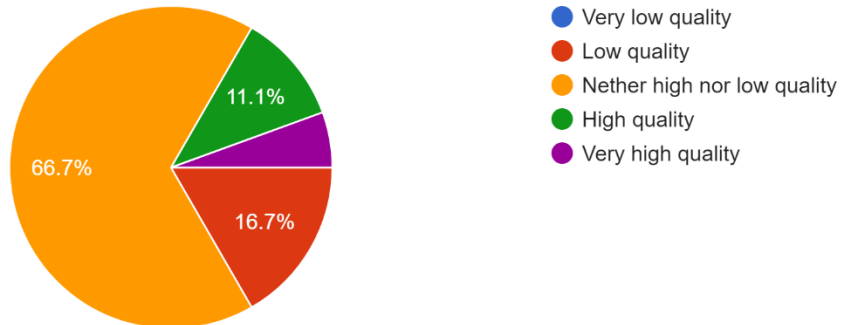
How Visually appealing is the "Packaging 1"?

18 responses



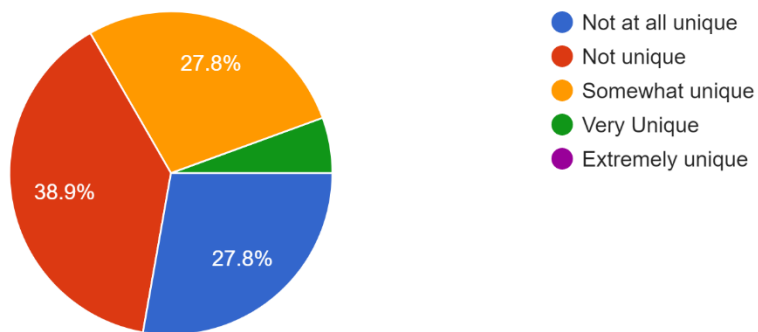
How would you rate the product overall with this packaging?

18 responses



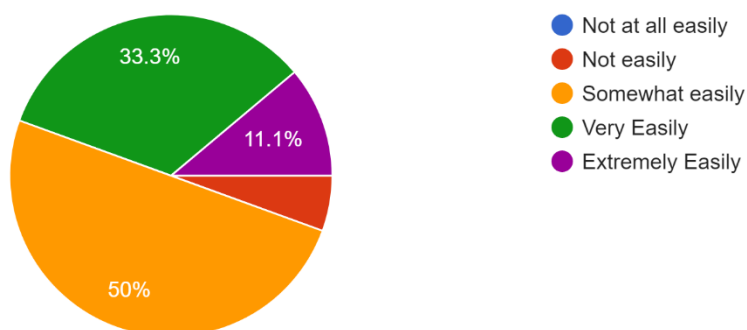
How unique is the "Packaging 1" in your opinion?

18 responses



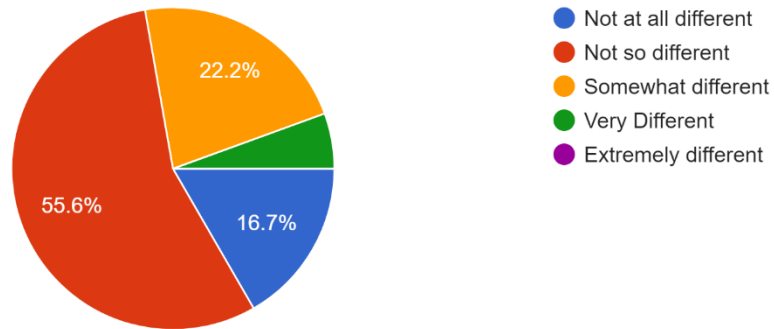
How conveniently you can find this product with the same packaging in your nearby retail shop?

18 responses



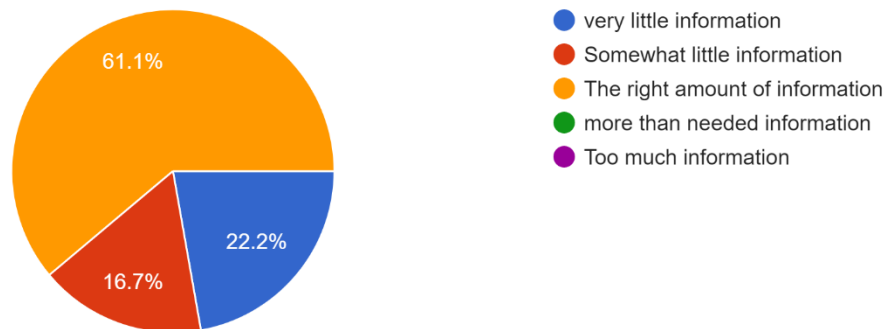
How different is the "Packaging 1" do you think compared to same commodity available the market?

18 responses



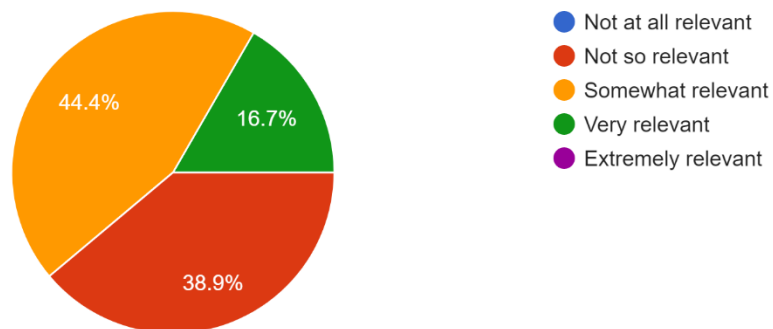
What is the magnitude of product information on "packaging 1"?

18 responses



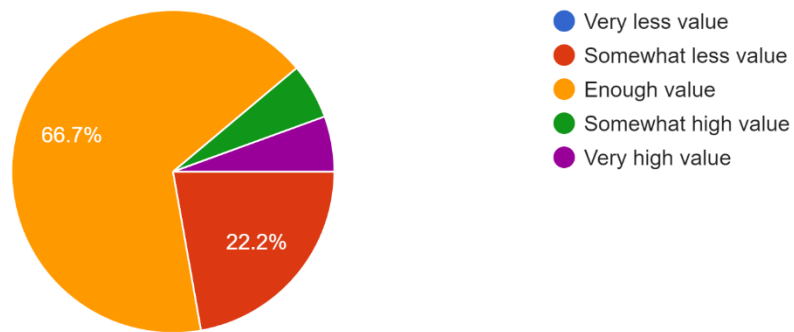
How relevant is the "packaging 1" to your wants and need?

18 responses



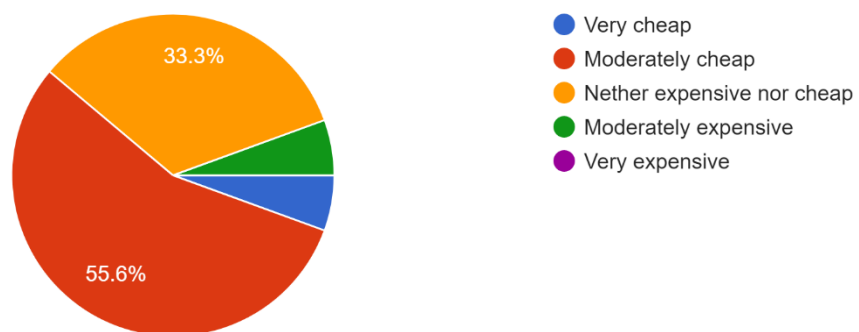
Comparing the packaging size of each sample packaging, suppose if the price of both products is the same. H...for money in terms of product volume?

18 responses



In what price category would you put "Packaging 1" by accessing its packaging.

18 responses

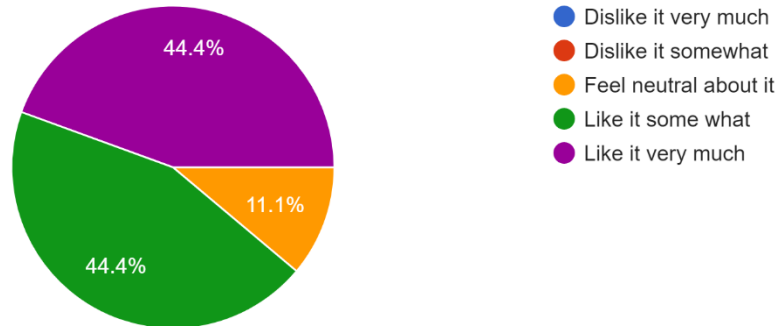


Source: Compiled by Author

Appendix 4. Marketing Experiment, Results, Packaging 2

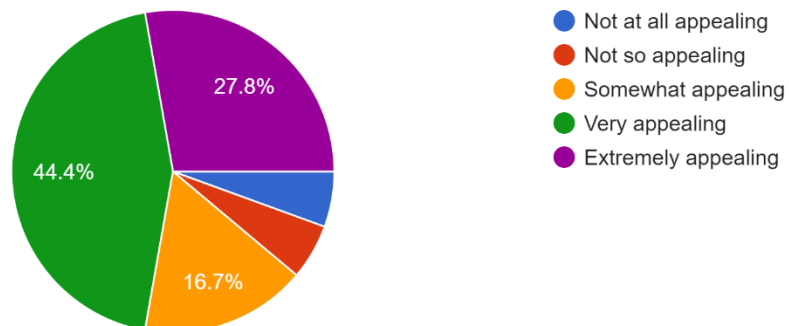
Considering the product "Packaging 2" overall, which of the following describes your feeling about the product packaging?

18 responses



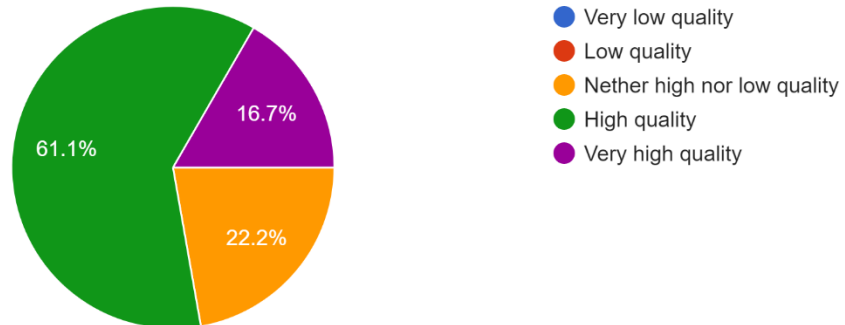
How Visually appealing is the "Packaging 2"?

18 responses



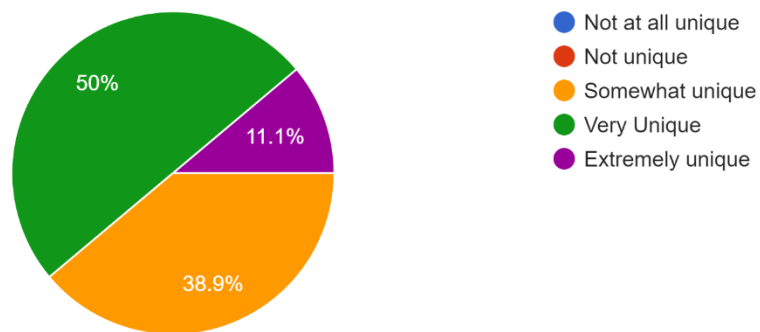
How would you rate the product overall with this "Packaging 2"?

18 responses



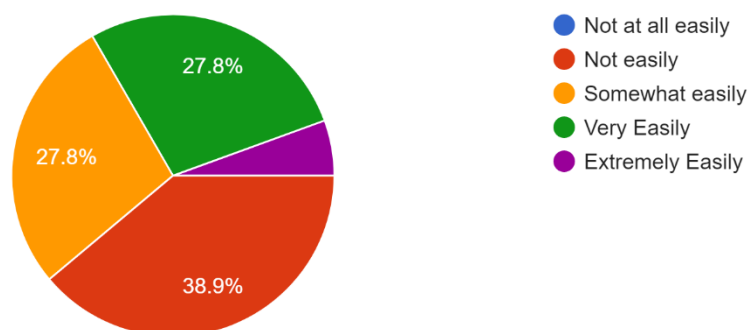
How unique is the "Packaging 2" in your opinion?

18 responses



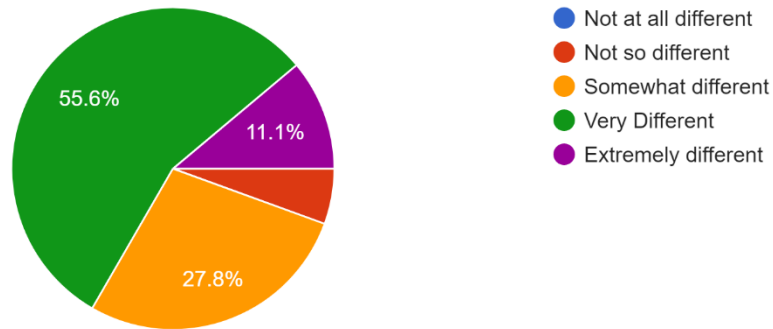
How conveniently you can find this commodity with the same packaging in your nearby retail shop?

18 responses



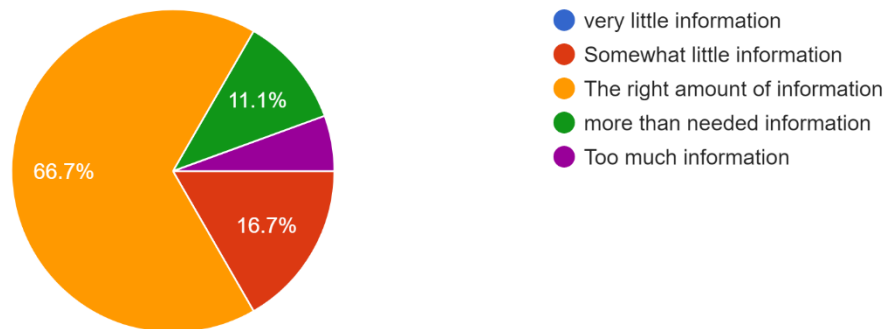
How different is the "Packaging 2" do you think compared to the products available the market?

18 responses



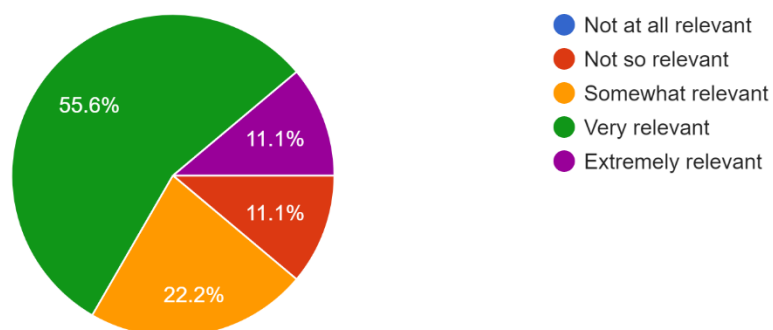
What is the magnitude of product information on "Packaging 2"?

18 responses



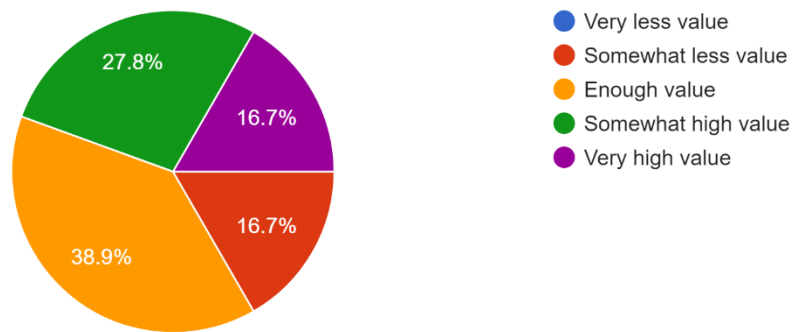
How relevant is the "packaging 2" to your wants and need?

18 responses



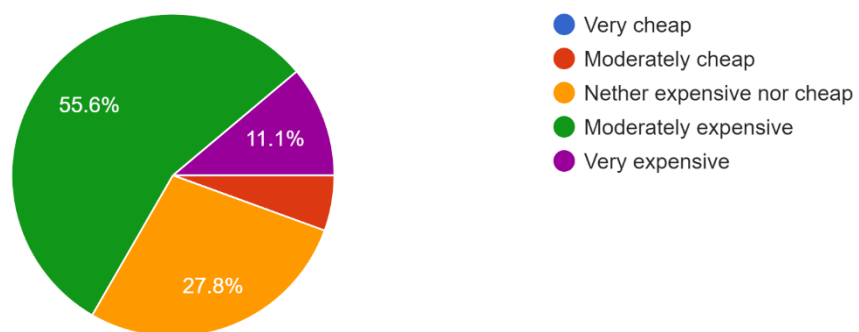
Comparing the packaging size of each sample packaging, suppose if the price of both products is the same. H...for money in terms of product volume?

18 responses



In what price category would you put "Packaging 2" by accessing its packaging.

18 responses



Source: Compiled by Author