

An Analysis upon Importance of Packaging Functionality and Designing of Product

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Abstract – The choice of one package or the other can be an economic decision or can be influenced by cultural acceptance or perception of individual convenience. Product package systems can be designed for onetime use or multiple-use purposes. Package perceptions in different countries typically develop from a variety of factors, including climate, lifestyle, and cultural acceptance with regard to particular products.

In an increasingly global economy with multinational firms marketing products worldwide, it is important to understand the differences between consumer needs and consumer responses to product-package systems. The importance of packaging design and the role of packaging as a vehicle for consumer communication and branding are necessarily growing. To achieve communication goals effectively, knowledge about consumer psychology is important so that manufacturers understand consumer response to their packages.

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INTRODUCTION

Packaging is one of the most important processes without which nowadays products would not be finished. When the competition is high, like it is today, the products of rivaling companies become very similar in their functions. More often than ever before, customers pick the product not by their characteristics but by the characteristics of their package. Regulations on national and international levels determine the ways of usage of packaging. For example, supermarkets are not allowed to sell unpacked products, which used to be sold loose, e.g. frozen vegetables, frozen fish and its sub-products, etc. Lithuanian supermarkets implemented this regulation four years ago. Other extremes go to brands such as Colgate, which advertised widely on TV that consumers pay up to 20% of the price of a product for packaging. Therefore, Colgate was promoting its plastic tubes of tooth-paste without paper box packaging, demonstrating how they care for customer needs by offering a lower price and adopting green technologies in their packaging policies. From the branding perspective, packing works as a brand enhancer and identifier to attract consumers' attention on the store shelves and fulfils the function of brand positioning and competitive advantage.

Traditionally the primary function of a package has been to protect the product from whatever might happen to it or whatever it might be exposed to during transit and handling. At the most basic level, packaging in the consumer product market household

serves the dual purpose of storage and preservation. In addition to that, packaging now offers additional functionalities, including dispensing, sub-unit division, aesthetic appreciation, and secondary use. This applies to a wide range of products, including food, drugs, healthcare items, hardware, and more. The functionalities of package systems have been developing along with the technological sophistication that has grown to meet the demand for convenience. One prime example is the dispensing and dosing mechanisms that have been designed into health care products and beverage containers.

Product package systems can be designed for one-time use or multiple-use purposes. The choice of one or the other can be a function of perception of individual convenience or cultural acceptance. Package design has been determined to be one of the main factors in the consumer purchase decision.

In the retail environment, packaging represents one of the first points of contact between the product and consumer. The consumer develops an impression of the product based on the package's presentation, which may or may not lead to a sale. Packaging can act as a voiceless salesperson that projects an image, purpose, and functionality of the product.

Because of the significant differences between cultures, it is natural to wonder whether and how a particular package design would be perceived differently in various cultural contexts. The increasing globalization of the world economy has created both

increasing opportunities and challenges for companies to market their products internationally. With this in mind, it becomes increasingly important for companies to understand how to package their products for different markets to maximize the product offering.

This package design fit is especially important when launching new brands and introducing entirely new package designs or materials. A package system can be defined as a container with closure features that hold one or more components. Any nature of material can be used to create a package. The package can function as protection, containment, handling, delivery system and preservation of goods from the producer to the consumer. Packaging also serves as an informational and marketing tool in retail. The package can function as a display on retail shelves and provide transparency features in its design to allow consumers to view the product's quality. Attractive graphic design on packaging labels can attract consumer's attention in shopping aisles. Packaging labels also communicate information to the consumer, such as quantity, instructions for use, or ingredients. The package label can provide traceability identifiers for manufacturers, retail stores, and consumers.

The package may also provide a service function for the product. Re-sealable caps may be featured on package systems to offer food storage and portability features. Dosage control can be designed into pharmaceutical and commercial use packages to offer convenience to consumers.

Safety features in packaging, such as child resistant packaging helps prevent the occurrence of harmful accidental poisoning in children. The amount of packaging in a society reflects the society's needs, cultural patterns, material availability, and technology. In order for packaging to meet the needs of different constantly changing markets, packaging must continue to adapt as well. Packaging plays an important role at various stages of product transport and consumption. These roles can be grouped into four categories: Protection, Transportation, Mechanical Handling, and Informing/selling.

Consumer intention to purchase depends on the degree to which consumers expect that the product can satisfy their expectations about its use (Kupiec and Revell, 2001). But when they have not even thought about the product much before entering the store, this intention to purchase is determined by what is communicated at the point of purchase. The package becomes a critical factor in the consumer decision-making process because it communicates to consumers at the time they are actually deciding in the store. How they perceive the subjective entity of products, as presented through communication elements in the package, influences choice and is the key to success for many food products marketing strategies.

To achieve the communication goals effectively and to optimize the potential of packaging, fast moving consumer goods (FMCG) manufacturers must understand consumer response to their packages, and integrate the perceptual processes of the consumer into design. In the design process, marketers and package designers must take account of consumers' past experiences, needs and wants; understand how packaging design elements get consumers to notice the package and notice messages on the package; and, broadly, evaluate packaging design and labeling for their effectiveness in the communications effort.

In doing this, it is particularly important to remember that not all consumers evaluate packaging the same way. Just as in consumer response to other elements of marketing, segmentation is an important factor (e.g., Orth et al., 2004). However, some observers believe that standard segmentation schema, often based on demographics, are inadequate. Al-Khatib et al. (2005), for example, note that often the standard ways of segmenting fail to yield very useful results in developing countries. They call for more sophisticated segmentation analysis in developing countries, focusing on psychological and situational issues.

In addition, there is quite a lot of debate about whether consumer behavior is consistent across cultures. Many industry observers, e.g. AC Nielsen, a leading international consumer research company, believe that consumers worldwide are likely to have roughly similar response to many FMCG, despite cultural differences. Not all observers, however, believe that consumer behaviors will converge – rising incomes and extensive competition give consumers more ability, not less desire, to consume according to their own particular cultural preferences. Some believe that many basic issues are likely to be similar across cultures, while specific details such as response to particular colors or themes may be interpreted differently in different cultures.

Certainly, for FMCG, which consumers do not really think about much, basic trends (such as, for food products, desire for convenience, or health/nutrition information on packages) may be similar. But consumers are unlikely to change their culturally conditioned response to details of the product, or, for food products, the package, which represents the product during the purchase process. However, more research on this issue is needed, as there is only limited empirical research on consumer response to packaging, and very little of it is in Asian markets. Many cross-cultural researchers assert that knowledge developed in one culture should be confirmed before use in new cultural contexts.

We examine consumer response to packaging using a conjoint study among consumers for packaged food products in Bangkok, Thailand. Thailand provides a good context for examining this issue. Asian food markets in general are large and growing

very rapidly, and consumers are becoming more sophisticated (Coyle et al., 2004), as is the case in Thailand. The expansion of modern retailing helps drive this growth, so that packaging plays an increasingly critical role in merchandising and communication for FMCG.

THE FUNCTION OF PACKAGING

Packaging serves as a material-handling tool containing the desired unit amount of food within a single container and may facilitate the assembly several such units into aggregates. For example, some fluids are packaged in bottles, which may be placed in boxes, and these boxes in turn can be assembled into easily handled pallets. The container must enclose the produce in convenient units for handling and distribution. The produce should fit well inside the container, with little wasted space. Small produce items that are spherical or oblong (such as potatoes, onions, and apples) may be packaged efficiently utilizing a variety of different package shapes and sizes.

The package may also serve as a processing aid. For instance, the metal can be used in heat sterilization of many food items serves not only a protective function but, by its dimensional stability, assures that when fully packed the food maintains a certain shape and location for which heat penetrations can be calculated.

The package is a convenience item for the consumer. The examples one could choose here are very numerous. A beer can, for instance, serves as the drinking utensil as well as a process, storage, and distribution container.

The package is a marketing tool. The sales appeal and product identification aspects of packaging are particularly important to sales and marketing branches of companies, and since these branches often have a dominant role in business decisions it is these aspects that dominate package design. The package must identify and provide useful information about the produce. It is customary (and may be required in some cases) to provide information such as the produce name, brand, size, grade, variety, net weight, count, grower, shipper, and country of origin. It is also becoming more common to find included on the package, nutritional information, recipes, and other useful information directed specifically at the consumer. In consumer marketing, package appearance has also become an important part of point of sale displays. Universal Product Codes (UPC or bar codes) may be included as part of the labelling. The UPCs used in the food industry consist of a ten-digit machine-readable code. The first five digits are a number assigned to the specific producer (packer or shipper) and the second five digits represent specific

product information such as type of produce and size of package. Although no price information is included, UPCs are used more and more by packers, shippers, buyers, and retailers as a fast and convenient method of inventory control and cost accounting.

Efficient use of UPCs requires coordination with everyone who handles the package. Packaging, when properly used, can be a cost saving device. Certain packages have obvious economic benefits, such as prevention of spills, ease of transporting, prevention of contamination, reduction of labour cost.

Protection of the product is the most important aspect of packaging. The package must protect the produce from mechanical damage and poor environmental conditions during handling and distribution. To produce buyers, torn, dented, or collapsed produce packages usually indicate lack of care in handling the contents. Produce containers must be sturdy enough to resist damage during packaging, storage, and transportation to market. Because almost all produce packages are palletized, produce containers should have sufficient stacking strength to resist crushing in a low temperature, high humidity environment.

Although the cost of packaging materials has escalated sharply in recent years, packers or buyers no longer tolerate poor quality, lightweight containers that are easily damaged by handling or moisture.

Packaging can be categorized as follows:

1. Primary: The package in contact with food material (e.g. cereal mix inside plastic bag)
2. Secondary: The package that is sold as a unit (e.g. cereal mix box). Package provides consumers with legally required information about the food product
3. Tertiary: The carton of secondary packages (e.g. case of cereal mix boxes)

Packaging Functions -

Protection: Packaging protects products by providing a barrier to maintain quality in foods, sterility of medical devices/pharmaceuticals; and a shield from various manual, mechanical, and microbiological hazards. Packaging can act as a barrier to protect food products from deterioration and contamination.

The container can also provide a suitable environment for its product, so as to preserve color, smell or taste of a food product. The package system can provide a barrier to restrict movement of gases or water vapor coming in or out of the package, as gas

exchange in certain food items can result in spoilage to certain foods or drugs, and the gain or loss of moisture can dramatically affect a product. Overall the package system helps extend the shelf life of many foods, as well as insuring the sterility of a food or medical device, and maintaining product quality by acting as a barrier to slow down or eliminate degenerative reactions.

Transportation: A package system not only protects the quality of its product on retail shelves or in consumers' homes, it also helps protect the product from the stresses inherent in the distribution system, allowing the product to reach its destination undamaged.

The package may encounter various atmospheric conditions, storage conditions or stresses during warehouse and vehicle stacking in delivery trucks. The stresses of shock from vibration produced during transport and handling, and compression during vehicle stacking, are just a few examples of the hazards that the package system may encounter during distribution. Because of these stresses, technical packaging functions are designed into packaging, so as to facilitate safe distribution of the product.

Mechanical Handling: Distribution packaging can be described as the movement of individual units combined into a unit load that can be moved around mechanically using a forklift or pallet jack through a warehouse and distribution systems. A palletized unit load provides shipment of package systems consisting of many subsystems through the physical distribution environment, such as transporting, mechanical handling, and warehousing. Forklifts can help mechanically move large loads on pallets from the manufacturer's site to a warehouse for storage, then onto a truck, for shipping to a retail shop. Through all of these events the palletized load must be secure and strong enough to be lifted and moved by a lift truck, and this can be done using stretch film, which helps unitize the pallet load and provides protection to the packages against moisture, dirt and abrasion. Not only does the package provide multiple levels of protection for the product, it also helps market the product inside to potential consumers.

Informing/selling: Just as conserving and protecting the product's quality are important functions of a package system, so is the marketing role that packaging plays in informing and selling. The package communicates to the customer product information, and creates feelings and associations at a psychological level by branding and positioning the product in the mind of the consumer. The communication can be direct with text describing product attributes or subtle by using colors. Package design and material choices can help express ideas and concepts of the product.

Barber and Alamanza (2006) reported that many consumers based their purchase on the information and description that was provided on the wine bottle's label rather than seeking guidance through journals or specialized shops. Indirect communication, such as visual aesthetics in a package's color, shape and size are a few attributes that catch a consumer's attention in a crowded retail aisle. The type of material the product is packaged in may increase or decrease the consumer's perception of the product's value and relative status on the ladder of its product category. A bottle of water packaged in a plastic container may be perceived as an economical choice, because plastic is commonly seen as an inexpensive material, as opposed to water packaged in a glass container which is perceived as higher quality. The physical characteristics of a package, such as color and shape, on store shelves can serve to attract consumer attention. Company and product information, relating to level of trust and credibility, can be communicated through package labels and brand identity, which may increase the chances of a sale. The more familiar consumers are with a product and package, the more comfortable and accepting they may be in making the purchase.

LITERATURE OVERVIEW

Packaging is the process of designing and producing the container or wrapper which stores, protects, identifies and promotes a product. It can include three types of packaging (Kotler, 2002): a) primary, b) secondary and c) distribution (shipping) package. Some authors also determine other types of packaging: d) convenience packaging, e) wasteful packaging (Copley, 2004). Another element could be identified as package type – protective packaging. When talking about the protection function of the package, it is important that the package would protect the product from the environmental effects that could damage the product.

The primary package is the primary container of the product (e.g. tube of toothpaste). Secondary package is that which is thrown away when the product is just to be used (e.g. cardboard box containing toothpaste tube). Distribution packages are all the packages needed to distribute the product from the manufacturer to a retailer or end user in big quantities.

Traditionally packaging functions were to store and protect the product, thus mostly only primary package was used. The package was also used to count products that could not be counted when unpacked and their package was used as a measure (e.g. bottles, boxes, bags). Increased competition made packaging an important marketing tool and so secondary package became important by helping to promote the product even more than only with primary package. The primary package of products that have no need for secondary package also became more important to maintain the competitive

advantage while attracting customers. Earlier, when the sales were lower, shipping packages were not so important, but today they also play an important role in the distribution process. Marketers have to find ways to mark shipping packages that it would be easy to organize the growing amounts of products being transported.

Marketers found that more and more often people choose a product not by its features but by the attractiveness and comfort of the package and packages are used to perform sales tasks like attracting attention, describing the product and selling it. The price of the package often makes up a significant part of the product price. If the package gives additional features to the customer, he will pay the higher price because of that. When creating a new product any company must establish the packaging concept which defines how the package of the product should look like and what it should do for the product. They have to decide whether the package only protects the product or it will be used as a promotion tool. All the elements of the package (i.e. size, shape, materials, colour, brand mark) should work together to support the product's position and marketing strategy and must be discussed (Kotler et al., 2008). The product package is important when talking about product's advertising, pricing and distribution. "A package has to be attractive, recognizable and different". Packaging and package labelling have several objectives as identified by Louw and Kimber (2007):

- **Physical protection** – Protection of the objects enclosed in the package from shock, vibration, compression, temperature, etc.
- **Barrier protection** - A barrier from oxygen, water vapour, dust, etc.
- **Containment or agglomeration** - Small objects are typically grouped together in one package for transport and handling efficiency. Alternatively, bulk commodities (such as salt) can be divided into packages that are a more suitable size for individual households.
- **Information transmission** - Information on how to use, transport, recycle, or dispose of the package or product is often contained on the package or label.
- **Reducing theft** - Packaging that cannot be re-closed or gets physically damaged (shows signs of opening) is helpful in the prevention of theft. Packages also provide opportunities to include anti-theft devices.

- **Convenience** - features which add convenience in distribution, handling, display, sale, opening, re-closing, use, and re-use.
- **Marketing** - The packaging and labels can be used by marketers to encourage potential buyers to purchase the product".

Also the products should be packed to take as little place as possible in order to transport as compact and cost-effective as possible. The protection of the environment has become important to consumers in recent years, so much packaging is either green, recyclable or biodegradable (Peattie, 2008), therefore, this packaging function is also included into the proposed functions by the author of this paper.

Historically brand management primarily focused on consumers. This was based on the assumption that efficient production processes could be managed to guarantee the brand's functional values and that creative use of promotions resources, such as advertising and packaging, could promise emotional values. Branding as indicated in this paper plays a vital role in marketing activities and it is directly affected by packaging – its design, colour, shape, labelling information, value creation and marketing communications. Therefore, packaging is perceived as a constituent element for developing and managing brand and product categories (Boone et al., 2010).

PACKAGING DESIGN

Packaging has evolved substantially since our ancestors created pottery and leather pouches to store their food and the role of packaging has in the 21st century become more and more a tool of communication. From the simple but ingenious corrugated box as well as the ever flexible plastic compares have found a way to not only distribute and protect their products but also send communication messages to the consumer.

This section aims at introducing the reader to the visual elements marketers can use in sending their specific messages as well as the growing role of packaging in the marketing mix and its connection to brands.

The Visual Elements of Packaging Design-

The visual elements of packaging design are the visual cues that the consumer can see by walking down the aisle in the supermarket without physically interacting with the products and consist of colours, shapes and graphics. Many consumers in low involvement purchases are influenced by the visual elements of packaging in several ways as

summarised by Bloch (1995). First, a distinctive design can make one brand stand out from the visual clutter and make current competitors seem obsolete. Second, design creates impressions about the product's price and quality. Third, it can have a long-lasting impact on consumers. This last point suggests that sometimes consumers keep the packaging of products after their use such as the case of creme boxes or perfume bottles. How the visual design of a product influences the consumer is mainly a result of the combination of its visual elements: colour, shape and graphics.

Colours - In today's supermarkets with a myriad of choices no brand can afford to ignore the impact of colours. While the colours of product packaging earlier were based on random choice, colour has become one of the key issues in packaging design today and companies frequently ask consultants to assist in these decisions.

This trend is not surprising considering that 90 percent of consumers' subconscious judgement about an item is based on colour and that colour can increase brand recognition by up to 80 percent according to a research by the Institute for Colour Research (Shovlin, 2007). Schmitt and Simonson (1997) accordingly note that colour is one of the many tools that global companies can use to create, maintain and modify brand images in consumers' minds.

Shape - Plasschaert (1995) states that the shape of packaging design reflects the nature and personality of the product and emphasizes that the shape of the package can be a strong form of persuasion because it can provide information about how to use the product.

Graphics - Graphics are capable of communicating both informative and emotional messages and include pictures, logo or brand name, typography and the above-explained colours.

Graphical elements on the packaging can strongly affect consumer attention, and Silayoi et al. (2004) argue that one of the most important roles of the graphics is to grab consumers' interest so that they consider the product and the brand.

When consumers scan the shelves in a supermarket, the graphic elements of a packaging design can make the difference between identifying with and overlooking an item. In this way the graphics can make a product cut through the shelf clutter and make it easier for consumers to find their brands (Silayoi et al., 2004). Herrington et al. (1995) further argue that when consumers evaluate alternatives more carefully, the graphics often represent the actual product to them. Accordingly, poor graphics can make the consumer lose interest or completely overlook the product as well as sending negative associations about quality, while attractive graphics can gain interest and send positive associations. Therefore it could be argued that distinctive graphics enhance product recognition. An

example of this could be the picture of a purple cow used by Milka Chocolate or the simplicity of Apple's packaging graphics. Meyers and Lubliner (1998) consequently stress that packaging design graphics should be based on a distinct positioning and branding strategy, which should be projected in a powerful and comprehensible manner.

Packaging Design in the Marketing Mix -

The marketing mix has for many years been one of the cornerstones in many companies' overall marketing strategy and according to Nandan (2005) the four Ps (product, promotion, price and place) of the marketing mix have an important role in creating a brand as they can be used to create and enhance brand equity.

Among others Rundh (2005) and Olsson and Gyorei (2002) in relation to this model argue that packaging design has an ability to influence all the variables in the marketing mix and should thus be considered undereach P.

Packaging Design and Product - The product constitutes one of the classic four P's of the marketing mix, and for FMCGs the most fundamental characteristic of the product and what the consumer sees at the point-of-sale is its exterior form and design (Bloch, 1995). Underwood and Klein (2002) and Nickels and Jolson (1976) accordingly argue that for a wide variety of products, and especially for FMCG products, consumers consider the packaging as equal to the product until the good is used for its desired purpose.

Packaging Design and Price - According to Clement (2008) consumers do most of their price comparison based on visual design stimuli compared to actual price tag comparisons. Therefore packaging design serves as a communicator of a specific price category and can directly alter a consumer's perception of the actual price.

Packaging Design and Promotion -

The influence of packaging is evident when a product is promoted through traditional media such as TV and print ads, as in most cases it is the packaging that is actually shown as being the offered product. Further, simply because, as Buhl (2005) puts it, there are too many, there are too much and it is too expensive to communicate through traditional media, packaging design could be a solution for a more effective communication strategy. This again refers back to Pilditch's (1973) notion of packaging design as the silent salesman which leads us to the last P: Place.

Packaging Design and Place -

Place is often referred to as being equal to the point-of-sale in a retail context (McGoldrick, 2002). In the in-store setting consumers are exposed to the impact

of visual packaging design stimuli and as such packaging design is an inseparable element of Place and has significant influence on consumers' shopping experiences (Clement, 2008). It is thus important to make a thorough analysis of the environment where the product will be sold. Harckham (1989) suggests that before a package is designed, the type of store and location in the store where the product is to be sold, competitors in the store and the retailers' requirements have to be considered.

CONCLUSION

The relationship between consumer choices in various market segments and design characteristics of packaging is a key issue that marketers of packaged products must understand to develop effective marketing strategies. Attention and attractiveness at the point of purchase play a critical role in getting brand choice.

Utilizing the importance of packaging design elements as market segmentation variables can provide very useful information to marketers who want to maximize the package's impact in selling the product. Businesses that want to develop new brands, expand their product lines, or even enhance the impact and image of current brands can use segmentation on customer response to package elements as a useful tool in developing effective product strategies.

To conclude the findings of theoretical and empirical research on the functionality of packaging, it could be generalized that it plays an important role in the process of creating a product, promoting it and finally selling it. It can be said that today's consumers buy the package alongside the product, whether they prefer it or not.

REFERENCES

- Al-Khatib, J.A., Stanton, A.D. and Rawwas, M.Y.A. (2005). "Ethical segmentation of consumers in developing countries: a comparative analysis", *International Marketing Review*, Vol. 22 No. 2, pp. 225-46.
- Barber, N. & Almanza, B. (2006). Influence of Wine Packaging on Consumers' Decision to Purchase, *Journal of Foodservice Business Research*, 9, pp. 83-98. doi: 10.1300/J369v09n04_06
- Bloch, P. H. (1995). "Seeking the Ideal Form: Product Design and Consumer Response." *Journal of Marketing*. 59(3), pp. 16-30.
- Boone, L.E., Kurtz, D.L., MacKenzie, H.F., Snow, K. (2010). *Contemporary Marketing*. 2nd Canadian Edition, Nelson Education Limited.
- Brennan J.G., Butters J.R, Cowell N.D., Lilley A.E, (2000). *Food Engineering Operations*, Elsevier App. Sci., London, New York.
- Copley, P. (2004). *Marketing Communications Management: concepts and theories, cases and practices*, Amsterdam, Butterworth Heinemann are an imprint of Elsevier.
- Coyle, W., Gilmour, B. and Armbruster, W.J. (2004). "Where will demographics take the Asia-Pacific food system?", *Amber Waves (USDA)*, Vol. 3, June, pp. 14-21, available at: www.ers.usda.gov/Amberwaves/June04/pdf/features_asiapacific.pdf (accessed June 2005).
- Fennema O. R., Karel M., Lundy D. (2005). *Principles of Food Science. Part II Physical Principles of Food Preservation*, Marcel Dekker Inc., New York.
- Herrington, J. D. & Capella, L. M. (1995). "Shopping reactions to perceived time pressure." *International Journal of Retail & Distribution Management*, 25(12), pp. 13-20.
- Kotler, P. (2002). *Marketing Management*. Millennium Edition. New York, Prentice-Hall, Inc.
- Kotler, P., Armstrong, G., Wong, V., Saunders, J. (2008). *Principles of Marketing*, 5th European Edition, Harlow: Pearson Education Ltd.
- Kupiec, B. and Revell, B. (2001). "Measuring consumer quality judgments", *British Food Journal*, Vol. 103 No. 1, pp. 7-22.
- Louw, A., Kimber, M. (2007). "The Power of Packaging", The Customer Equity Company is a wholly owned subsidiary of TNS (UK), available at www.tnsglobal.com/_assets/files/The_power_of_packaging.pdf, referred on 19/02/2010.
- Nandaii, S. (2005). "An exploration of the brand identity-brand image linkage: A communications perspective." *Journal of Brand Management*, 12(4), pp. 264-278.
- Olsson, A. & Gyorei. M. (2002). "Packaging Throughout the Value Chain in the Customer Perspective Marketing Mix." *Packaging*

Technology- and Science. 15(5), pp. 231-239.

Orth, U.R., McDaniel, M., Shellhammer, T. and Lopetcharat, K. (2004). "Promoting brand benefits: the role of consumer psychographics and lifestyle", *Journal of Consumer Marketing*, Vol. 21 No. 2, pp. 97-108.

Packaging Requirements for Fruit and Vegetables, North Carolina State University web page: www2.ncsu.edu/eos/service

Peattie, K. (2008). Green Marketing. In: M.J. Baker and S.J. Hart (eds.) *The Marketing Book*, 6th Edition, Amsterdam: Butterworth Heinemann is an imprint of Elsevier.

Plasschaert, J. (1995). "The Meaning of Colour on Packaging – A Methodology for Qualitative Research Using Semiotic principles and Computer Image Manipulation." *Decision Making and Research Action*, 48), pp. 217-232.

Rundh, B. (2005). "The multi-faceted dimension of packaging: Marketing logistic marketing tool?" *British Food Journal*, 107(9), pp. 670-684.

Sacharow S., Griffin R. (2000). *Principles of Food Packaging*, 2nd Edition, AVI Pub. Co. Westport, Connecticut.

Shovlin, C. (2007). "Cracking the colour code." *Marketing Week* (01419285.), 30(41), pp. 28-30.

Silayoi, P. & Speece, M. (2004). "Packaging and purchase decisions: An exploratory study on the impact of involvement level and time pressure." *British Food Journal*, 106(8), pp. 607-628.

Venter, K., Merwe, D., Beer, H., Kempen, E., & Bosman, M. (2011). Consumers' perceptions of food packaging: an exploratory investigation in Potchefstroom, South Africa. *International Journal of Consumer Studies*, 35, pp. 273-281. doi:

Yam, K. L. (2009). *The Wiley Encyclopedia of Packaging Technology*, 3rd edition. Retrieved from <http://pkt.jinakar.com/ept>. Pdf

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