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## Food Products Consumer Behaviors: The Role of Packaging Elements

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**Abstract:** Today, packaging has been acknowledged as a strategic tool for enhancing competitiveness of food products by experts. Despite, the importance of packaging in food industries, it is rather anonymous and has been somewhat neglected in marketing research efforts in Iran. The purpose of this study was to examine the relationship between packaging and food products consumer behaviors in Refah chain stores in Iran. In this study, we have tried to evaluate and compare the effects of packaging elements on consumer behavior in the pre-purchase, purchase and post-purchase stages. The questionnaires filled by participants (n=175) which were analyzed qualitatively to examine the importance of different packaging elements on consumer behavior in the three stages of purchase decision. Results show that all packaging elements are highly important for food products buyers and these elements can highly influence their purchasing decision.

**Key words:** Consumer behavior, purchasing decision, packaging, food products, Iran

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### INTRODUCTION

Understanding the relative importance of product attributes influencing food choice at the point of sale is mostly important to the success in today competitive food markets. For many years, conjoint analysis has been used to estimate the importance of various products attributes for consumer's purchasing decisions (Green and Srinivasan, 1978, 1990; Enneking *et al.*, 2007). Packaging seems to be one of the most important factors in purchase decisions made at the point of sale (Prendergast and Pitt, 1996). Packaging is also a key food product attribute perceived by consumers. There is no escaping the fact that packaging performs marketing function, even if a company does not explicitly recognize the marketing aspects of packaging. In addition, with the move to self-service retail formats, packaging increases its key characteristic as the salesman on the shelf at the point of sale. The critical importance of packaging design is growing in such competitive market conditions, as package becomes a primary vehicle for communication and branding (Rettie and Brewer, 2000).

The previous studies showed that although the managerial focus toward packaging has increased, a review of the marketing literature reveals few theoretical contributions in the area of packaging and relatively few efforts in relation to its impact on the marketing function such as consumer behavior (Rundh, 2005). Some of the most important research in this field is summarized in Table 1.

The package is a critical factor in the decision-making process because it communicates to consumers. The package standing on the shelf, affects the consumer decision process and package design must ensure that consumer response is favorable (Silayoi and Speece, 2004). However, several conflicting trends in consumer decision making has made the food package design challenging. Some consumers are paying more attention to label information, as they become more concerned about health and nutrition issues (Coulson, 2000).

The following discussion examined how packaging influences purchase decisions for packaged food products. While, these are important issues, there are few comprehensive studies on how packaging elements influence consumer behavior during the different stages of purchase decision. The studies on consumer behavior (Solomon *et al.*, 1999), regarding the type of decision process and the stage of decision and consumption also provided a useful framework for this study. The aim of this study was to form a better understanding of the relationship between packaging and consumer purchase behavior during the different process of consumer decision-making in Iranian food consumers points of opinions.

Analysis of consumer purchasing decisions is not uncommon and a body of knowledge has developed (Watson *et al.*, 2002). There are several models and theories which describe consumer behavior from a specific perspective. Among all these models, the purchase decision model helps to understand the

Table 1: Reviewing various researches

Research focus	Author
Packaging as a variable that influencing product evaluation	McDaniel and Baker (1977)
Focus on the impact of package size on consumer usage	Wansink (1996)
Packaging functions in relationship with product categories	Prendergast and Pitt (1996)
Visual impact of packaging on consumer attention, categorization and evaluation	Schoorsman <i>et al.</i> (1997)
Understanding perceptual processes for packaging design	Nancarrow <i>et al.</i> (1998)
Focus on the communicative aspects of packaging	Underwood and Ozanne (1998)
Packaging as a source of profit	Will (1990)
The verbal and visual components of package design	Rettie and Brewer (2000)
Ethical issues in packaging	Bone and Corey (2000)
Attentional effects of Packaging communication on product imagery	Underwood <i>et al.</i> (2001)
exploring the packaging design management process within food retailer	Vasquez <i>et al.</i> (2003)
Packages and physical distribution	Jahre and Hatteland (2004)
Packaging and purchase decisions (study on the impact of involvement level and time pressure)	Silayoi and Speece (2004)
Critical issues in packaged food business	Ahmed <i>et al.</i> (2005)
Consumer perceptions of product packaging	Ampuero and Vila (2005)

relation between consumer behavior variables better than the other models. Since, this model provides a specific framework of different processes and stages of consumer behavior (Rau and Saeed, 1981; Vignali *et al.*, 2001).

Consumer decision-making can be defined as a mental orientation characterizing a consumer's approach to making choice (Lysonski *et al.*, 1996). Intention to purchase depends on the degree to which consumers expect the product to satisfy them, when they consume it (Kupiec and Revell, 2001). How they perceive the product depends on communication elements, which become the key to success for many marketing strategies.

Davis and Rigaux (1974) were the first authors who introduced different stages within the decision-making process. Specifically, they divided the process into three stages: problem recognition, search for internal and external information and final decision. They supposed that it made no sense to include an evaluation of alternatives stage prior to the final decision (Dewey, 1910) and numerous papers have demonstrated that this would be found within the second stage. Following the same line, there are other series of papers which have considered either more or fewer stages. For example, Woodside and Motes (1979) considered a total of nine stages, due to the fact that they considered very concrete decisions, such as style, size and brand. In each stage; Putnam and Davidson (1987) considered the final decision in two stages, namely where to buy and which brand to buy; Webster (1994) included the evaluation of alternatives stage and one final stage, which of post-purchase, aimed at reflecting the valuation of the purchasers with respect to the decision made.

The model proposed by William (1994), considers consumer behavior process as a three stages process in which consumer do specific activities at each stage. This model is formed based on the purchase decision making process. William (1994) believed the study of consumer

decision making includes the analysis of how people make their choices among different alternatives, the analysis of pre-purchase and post-purchase processes.

The pre-purchase activities are at the initial stage of decision making process and when someone has been aroused to purchase. These activities are highly important for both consumers and marketers since, the results of these activities define when and where consumers will buy a specific product (William, 1994). This stage consist of two major parts: The recognition of the problem and the awareness that the solution may take the form of filling certain needs through a purchase. The recognition of a problem can derive from numerous external and internal directions. The second part of this stage is an awareness of the direction where the best solution to the problem is most likely to be. After acquiring information and learning about alternatives, consumers define a set of determinant attributes (Alpert, 1971) to use to compare and evaluate brands in a particular product class. After comparing available brands with respect to each of the attributes, consumers eliminate some alternatives and develop finalchoice sets of brands from which to choose (Louviere, 1988).

The process by which consumers compare brands on sets of determinant attributes, form final choice sets and make choices is complicated but at some points the consumer should stop looking for and evaluating information and should make his choice. The purchase choice includes the product itself, the packaging, the store and the purchase method. At this stage, when the consumers choose the brand and the store then, the purchase process is made. This is what Wilkie called purchase process (Hawkins and Gilson, 1992; William, 1994).

Post-purchase process occurs after the purchase because the decision-making process is not over when the purchase is made (William, 1994). Consumers evaluate their decision and use it in their future decisions. The

result of all these processes is the consumer satisfaction which leads to either consumer loyalty or trying different brands alternatively (Szymanski and Henrad, 2001). Consumers during their decision-making process rely on different attributes before deciding whether to buy or consume a certain food product (Ragaert *et al.*, 2004). In addition, evaluative criteria may change depending on the stage of the decision making process (Pre-Purchase, Purchase and Post-Purchase) (Gardial *et al.*, 1994). This suggests that consumers might give different importance to a certain attribute when deciding to purchase or to consume a food product (Ares *et al.*, 2008). Based on this, the package's overall characteristics can underline the uniqueness and originality of the product. In addition, product quality judgments are largely influenced by product characteristics reflected by packaging between different stages of decision making process. If it communicates high, consumers assume that the product is of high quality. If the package represents low quality, consumers link this low quality perception to the product itself. The package communicates favorable or unfavorable implied meaning about the product (Rundh, 2005; Silayoi and Speece, 2004). We look at these various elements in more details in the remainder of this section, to examine how consumers are likely to use each one.

Packaging is defined as the technology and art of preparing a commodity for convenient transport, storage and sale (Jahre and Hatteland, 2004). From the packaging literature, it can be revealed that packaging is fulfilling a multiple purposes in relation to a firm's external activity, even if this cannot be found to the same extent in different studies. If compared with its relevant functions in the marketing literature a theoretical framework has been worked out where previous research efforts are considered. Packaging can be considered as an integral part of the product and is the first point of contact with the brand for a consumer product (Rundh, 2005).

From a managerial point of view, packaging needs to fulfill several functions although previous research almost emphasizes the logistic function, the marketing function and that the package provides convenience in handling and storing the product (Prendergast and Pitt, 1996). In the marketing literature, it is also obvious that packaging is playing an important role as a marketing tool in many market areas by protection, promotion and user convenience. For export companies, packaging will vary as a function of transportation mode, transit conditions and time of transportation (Rundh, 2005).

According to Silayoi and Speece (2004) model, five main packaging elements potentially affect consumer purchase decisions, which can be separated into two categories: visual and informational elements. The visual elements consist of graphic, size and shape of packaging

and relate more to the affective side of decision-making. Informational elements relate to information provided and technologies used in the package and are more likely to address the cognitive side of decisions.

Using packaging elements by consumer is an important issue for low involvement products. Generally, informational elements require more mental effort to process than to do visual elements, which evoke more of an emotional response (Silayoi and Speece, 2004). However, these elements usually introduce in separate terms but really they have very near relation.

The role of imagery in information processing pictures may exert an influence on judgments through their mediating impact on the images they provide of the situations they describe. However, images may be elicited by verbal descriptions of situations as well. The role of imagery in consumer behavior has been recognized in research by Escalas (2004). That is, individuals who read a story may often imagine themselves as a protagonist in the narrative. As a consequence of being transported into the situation portrayed in advertisement, they may be more influenced by it (Wanke, 2009).

The food industry is the largest single end-use market accounting for 35% of the global packaging industry. Since, packaging can take many forms the consumption is unequal between different regions in the world and the per capita consumption is considerably higher in industrialized countries than in developing countries (Rundh, 2005).

Iran has a population of over 74 million which makes this country the 17th populated country in the world. Iran has also the 17th largest economy according to its 2009 GDP. Seventy percent of Iranians are under 35 years old. This young population who are also in transition from a traditional lifestyle to a modern lifestyle has increased the demand for packaged food products recently. After the Iran's 1979 revolution, country's independence which was one of the main ideologies of the revolutionaries became Iran's main industrial development policy in those years. The government supported internal productions in almost all areas through promotional stimulus and packages. This included large import tariffs for most of the products which were or could be produced in Iran. This however, has changed in the recent years. The Iranian policy makers now more believe in free market rather than a controlled market. Although, they still support internal production of some products, the emergence of packaged food famous brands in Iranian super markets and chain stores in recent years proves that these products can enter to Iranian market more easily than before.

Investigations shows that, Iran packaged food products are moving into ever larger supermarkets and hypermarkets and there is a multiplication of products, offering consumers vast choice. The competitive context is ever more intense, both in the retail store and household. This means that Iran provides an appropriate context for examining packaging of processed food products. Understanding consumer response to packaging in Iran, is critical to food producing companies since, the packaged food industry in Iran is competitive. In Iran, the rapid growth of modern retailing, where packaging plays a critical role in merchandising and communication, is an important driver of the dynamic competitive environment for fast moving consumer goods. Expansion of modern retailing is common across Asia, even in very low income countries (Speece and Huong, 2002). Although, according to purchasing power parity index Iran has ranked 73rd in the world and one can think most of decent, imported food products cannot be affordable for Iranian people, but the story is different. There are large gaps in wealth amount of different level of society and there are specific levels of society who can easily afford to buy top brand packaged food products even when import tariffs and transportation fees are added. Traveling to other countries for vacation or business trips has also made these certain levels of society to become familiar with different packed food brands. In addition, different surveys reveals that Iranian consumers believe that almost any packaged food product produced in other countries have better quality.

The whole ranges of modern retail stores common in Europe and North America are also becoming common in Iran. Hypermarkets now lead growth. Refah, is one of the main players of retail industry in Iran. It has the second largest retail chain stores with more than 130 branches in Iran.

These trends have pushed the producers towards lot of food product and packaging innovation. In Iran, ready-to-eat and other convenience food products are among the most rapidly growing categories. Packaging has become a critical marketing issue for Iranian food industry in the current competitive market. Industry experts believed that product innovation and packaging are the keys to enhance competitiveness of Iranian packaged food products.

A key to maximizing package impact is understanding consumer response to packaging. Understanding issues that concern consumers in one highly competitive market should provide a useful guide for others, even if details of execution might be different across countries (Silayoi and Speece, 2004).

## MATERIALS AND METHODS

**Survey instrument:** A quantitative survey was conducted in order to empirically measure and test the relationship between variables. The survey instrument was identified through a comprehensive literature review of consumer buying behaviors and packaging. The first section of the questionnaire contained questions assessing personal and demographic dimensions that include age, education, employment status, household income and household place of residence. The main section of questionnaire was developed based on the work of Silayoi and Speece (2004) and William (1994). Visual and informational elements of food products packaging including 5 items of size, shape, color, technology and information were rated on five-point scales from strongly agree to strongly disagree at each end. The questionnaire covered three stages of purchase decision including: Pre-purchase, Purchase and Post-Purchase (Fig. 1). Respondents were asked how these items of Packaging would influence on their different activities of purchase decision.

Prior to empirical testing, it was refined by an expert panel of marketing academics and researchers and then by pilot testing. This study was conducted in 2 phases. Phase 1 involved a pilot study, which was conducted to refine the test instrument (Teijlingen and Hundley, 2001). Thirty-two respondents were interviewed in the pilot testing phase and all surveys were included in the exploratory analysis. The results of this phase of our study proved the designed instrument is proper for this study. In other words, the content validity of this study was confirmed at this stage.

**Sample selection and characteristics:** The main study (phase 2) was conducted From April to June 2009, in this period, 175 consumers of food products consisted of approximately equally men (47%) and women (53%) participated in the choice-based conjoint experiment, which took place in the region of Tehran. The statistical population of this study includes Refah chain storez

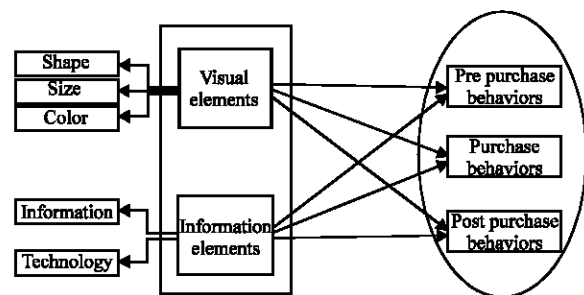


Fig. 1: Conceptual model of research

food customers in Tehran. The cluster sampling method was used for two reasons. First of all, the sampling frame list was unknown. Secondly, the number of society members was statistically infinite. In our cluster sampling method, we divided Tehran into 5 different regions of North, South, East, West and center. Among these five regions, there regions of North, center and South were selected randomly.

Seventy questionnaires were distributed in each region over a two-week period. Data were collected by trained personnel at different days of the week as well as at uniformly distributed time intervals to assure a high degree of representation of the population in the sample and to minimize day and time-related response bias. Out of the 210 distributed questionnaires, 35 were excluded for reasons of inconsistency in responses and incompleteness of answers.

**Data analysis:** The 175 valid questionnaires were analyzed. Frequencies were used to generate a profile of the key demographic characteristics of the respondents. Statistical analysis results are presented in two parts.

**Descriptive statistics:** The demographic and socio-economic characteristics of the 175 participants are shown in Table 2.

Descriptive statistics were used to calculate the mean and standard error scores of attributes. The distributions of variables importance examined in this study are presented in Table 3. The data in Table 3 indicate that informational element of food packaging in all stages of consumer decision making are considered the most important product choice criteria, while visual element of packaging attracts the least attention.

The overall evaluation of the above criteria and, in particular, the high values of both informational and visual elements of packaging suggests that customers are mostly concerned with essential properties and informational characteristics of product and pay

considerably less attention to visual dimensions of the product such as packaging shape, size or color.

Findings of this study showed that, informational elements of the package influence purchase decision of food products to great extent. The participants tended to judge food product performance by reading the label if they were considering products more carefully. Properly delivered information on packaging generates strong impact on the consumers' purchase decision. This information reduces the uncertainty and creates product credibility.

The behavior of consumers towards food packaged products characterized by different stages of decision making process is less influenced by image issues and visual response (Kupiec and Revell, 2001); in such cases consumers need more information. Written information on the package can assist consumers in making their decisions carefully as they consider product characteristics (Silayoi and Speece, 2004).

However, graphics and color are relatively important. Attractive packaging generates consumer attention by breaking through the competitive disorder.

Table 2: Consumer profile

Factors	Percentage
<b>Gender</b>	
Female	53
Male	47
<b>Age</b>	
Less than 20	5
Between 20-30	28
Between 30-40	28
More than 40	39
<b>Household monthly income</b>	
Less than \$500	25
Between \$500-\$1000	48
More than \$1000	27
<b>Level of education</b>	
Basic obligatory secondary school studies	33
Higher secondary/vocational/equiv. studies	29
University	38
<b>Employment status</b>	
No	33
Yes	67

Table 3: Importance of packaging elements

Packaging elements	Purchase decision stages					
	Pre-purchase		Purchase		Post-purchase	
	Informational	Visual	Informational	Visual	Informational	Visual
	(%)					
Very important	34.5	11.1	35.5	19	20	8.16
Fairly important	25.1	27.1	20.5	34	29.5	19.66
Neutral	19.9	29.8	22	26	22	32.60
Not so important	10.2	18.2	13	13	17.25	15.30
Not at all important	4	13.5	4	8	7.75	18.00
Not response	6.3	0.3	5	0	3.5	6.28
Mean value	3.57	3.032	3.555	3.43	3.2625	2.6584

**RESULTS**

One-way repeated measures Analysis of Variance (ANOVA) was used to compare the impacts of packaging elements, visual and informational, on purchase decision in three stages (pre-purchase, purchase and post-purchase). The participants were questioned about the impact of packaging elements on the three stages of purchase decision making process. The design of this study was repeated measures.

Table 4 shows the results of one-way repeated measure. ANOVA analysis used to detect weather there were significant differences among impacts of packaging elements on purchase decision in three stages.

The main effect of the time was significant ( $F(2, 326) = 67.124, p = 0.000, p < 0.000$ ). Effect size of time was computed using partial  $\eta^2$ . For the packaging elements, the effect size of time was 0.292 which was a large effect (Table 5). Because, one-way repeated measures ANOVA results were significant, these results were further analyzed using pair wise comparisons (Post Hoc) to examined the effects of time on packaging elements in three stages.

Result of Table 6 show that the impact of packaging elements in purchase stage is more than other stages. According to the above table, impact of packaging elements in pre-purchase stage is more than post-purchase stage. Table 7 shows the importance of shape, size, color, technology and information variables in each stage of purchase process via Related one way ANOVA test.

**The impact of demographic variables on purchasing process**

**Gender:** The results showed that consumers gender has significant impact on color ( $t = 6.34$ ), size ( $t = 4.72$ ), shape ( $t = 6.53$ ) and information ( $t = 8.97$ ) variables, while it has no significant impact on packaging technology ( $t = 1.29$ ). For female consumers, at pre-purchase stage color and shape, at purchase stage size and shape and at post purchase information and size are important. On the other hand, for male consumers at pre-stage purchase information and shape, at purchase stage color and information and at post purchase stage color and shape are more important.

**Age:** According to results there is no significance difference among all different age groups except under 20 age group and above 40 age group. For consumers who are under 20 years old, at pre-purchase stage color and shape, at purchase stage color, shape and size and at post-purchase stage size and shape are more important.

Table 4: Descriptive statistics

Variables	Mean	SD	N
Pre-purchase	3.4318	0.60511	164
Purchase	3.5375	0.60879	164
Post-purchase	3.0958	0.59112	164

Table 5: Repeated measure ANOVA

Packaging elements	df	Mean squared	F-value	p-value	partial $\eta^2$
Within-subjects time	2	8.722	67.124	0.000***	0.292
Error (time)	326	0.130			

\* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$

Table 6: Pair wise comparisons

(I) time	(J) time	Sig.	95% confidence interval for difference	
			Lower bound	Upper bound
Pre purchase	Purchase	0.007	-0.182	-0.029
	Post purchase	0.000	0.259	0.413
Purchase	Pre purchase	0.007	0.029	0.182
	Post purchase	0.000	0.360	0.524
Post purchase	Pre purchase	0.000	-0.413	-0.259
	Purchase	0.000	-0.524	-0.360

Table 7: Importance of packaging elements in each stage of purchase process

Stage	Element	Sig. (F)
Pre-purchase	Shape	0.077
	Color	0.037*
	Size	0.000*
	Information	0.016*
Purchase	Technology	0.064
	Shape	0.894
	Color	0.712
	Size	0.000*
Post-purchase	Information	0.452
	Technology	0.124
	Shape	0.000*
	Color	0.000*
Post-purchase	Size	0.000*
	Information	0.102
	Technology	0.000*
	Technology	0.000*

\*Difference is significant if Sig. (F)  $< 0.05$

On the other hand, among consumers who are above 40 years old at pre-purchase stage shape and information, at purchase stage information and color and at post-purchase stage packaging size are more important.

**Education:** According to results, there is no significant difference among consumers with different level of education.

**Income:** The results show there are significant differences between consumers with income level 1 and level 3. For consumers with level 1 income at pre-purchase stage packaging information and technology, at purchase stage packaging information and size and at post stage packaging size are more important. However, for consumers with level 3 income at pre-purchase stage packaging color and shape, at purchase stage packaging color and size and at post stage packaging color and technology are more important.

## DISCUSSION

Consumer behavior analysis is the use of behavior principles, usually gained experimentally, to interpret human economic consumption. It stands academically at the intersection of economic psychology on one hand and marketing science-the study of the behavior of consumers and marketers, especially as they interact-on the other. The present study attempted to examine the relationship between packaging and food products consumer behaviors in Iran. Based on this, we discuss the relationship between packaging elements and food product consumer behaviors based on different stages of their decision making process in more detail according to our research findings.

**Pre-purchase:** The results of this study reveal the fact that food product buyers pay attention to packing elements when they feel the need for a specific product. The findings show that informational elements of a food package are the most important elements at this stage.

When consumer feels a need for which he does not have any solution, he looks for information from personal, commercial, public and experimental resources. The impact of each resource on purchase decision is different and dependent on the product and consumer (Kotler and Armstrong, 1994). The survey results indicate that, in food products, the package and the information written on it is one of the most important and common information resources. This is in line with Angela *et al.* (1997) study of the positive influence of food package labels on purchase decisions of these products. His research results show that 58% of food products buyers pay attention to the information written on package when they are evaluating different alternatives (Angela *et al.*, 1997).

**Purchase:** Different research findings reveal the fact that the consumer decision about modifying, postponing or avoiding purchase decision is highly dependent on the mental risk of decision perceived by consumer. About food products, which consumers generally perceive less risk than other products, the package plays an important role (Vasquez *et al.*, 2003). This study shows that packaging with reliance on information and visual elements plays the most important role in consumer purchase decision at this stage in comparison with the other stages. The food product buyers mostly pay attention to information written on food package when they are going to make their ultimate purchase decision. Moreover, the other image elements such as; color, shape and technology of package has also a significant effect on consumer purchase decision at stores (Warlop *et al.*,

2005). The relation between these two elements in this stage is very important issue too; the disposition to form images on the basis of verbal information may be either chronic (Childers *et al.*, 1985) or situationally induced. In a series of studies, it was found that when people with a disposition to form visual images (i.e., visualizers) receive attribute descriptions of a product that is unfamiliar to them, they often find it difficult to construct an image of it and react unfavorably to the product being described (Wanke, 2009). However, providing a picture of the product can substantially increase their evaluations of it, but the impact of a picture on visualizers' evaluations depends in part on whether the verbal and pictorial information can be integrated into a single image. In contrast, when individuals have a disposition to process information semantically without forming visual images, they are unaffected by these factors (Wanke, 2009).

**Post-purchase:** After purchasing a product the package has two key roles in consumers' satisfaction or dissatisfaction. First of all if the package provides desired condition for keeping products this can led to satisfaction (Steinka *et al.*, 2006). In addition, when consumers use the products they compare all information written on the package with the actual product and if the product performance is lower than their expectation this will result in dissatisfaction. Furthermore, Warlop *et al.* (2005) research findings reveals since different packaging elements can remind consumers the perceived quality this can influence their future decision.

**Effects of Pictures on Initial Impression Formation**  
Several studies of the impact of pictures and verbal attribute information on product evaluations were conducted by Yeung and Wyer (2004). They found that when products were described by verbal attribute information alone, participants' evaluations of the product depended on whether they were told to use affective or utilitarian criteria. When they were shown a picture of the product before receiving the verbal attribute information, however, they formed an initial impression of the product on the basis of the picture alone. That is, the attribute information they received later had little effect (Wanke, 2009).

## CONCLUSIONS AND RECOMMENDATIONS

This area of investigation is complex and uncertain, though extremely promising. The fields of economics, psychology, sociology and marketing are all deeply involved in trying to move this research forward, with often-conflicting research streams and terminology. As in any study, there are some limitations that should be



taken into account in the interpretation of these results. This study was focused on general roles of packaging elements on different stages of food consumers purchase behavior. However, much more detailed understanding, careful examination of issues, among much more broadly consumers is essential.

Other research with a more detailed approach considering other variables such as purchase complexity level, time pressure and individual interests in purchase is recommended. These variables can influence purchase behavior in different stages. In addition, this research is limited by the traditional problems with self report survey research. Future research should use multi item scales to assess relationship between packaging elements and food products buyer behavior. Future research should also examine these relationships for specific product categories in a broader set of countries.

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