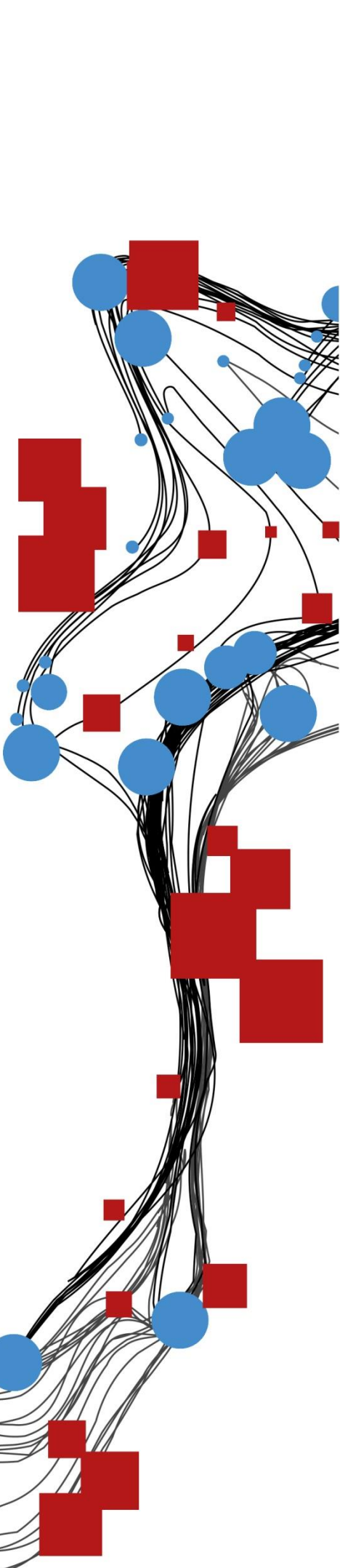




# Shaping designs

---

*Effects of the graphic design of packaging sales promotion shapes and products' packaging shapes on customers' expectations, pre-purchase attitude and purchase intention*

Master Thesis "Shaping designs"  
J.M.J. Schoonbrood, s1595881  
Enschede, April 1<sup>st</sup>, 2016

Master Communication studies  
Specialization Marketing Communication  
Faculty of Behavioral, Management and Social sciences (BMS)  
University of Twente.

Prof. Dr. A.T.H. Pruyn  
Dr. T. J. L. van Rompay

## Summary

An English idiom is 'don't judge a book by its cover', but when it comes to buying products, it may be useful to take a good look at a product's packaging, because it can say a lot about the content. Several studies have been done on the graphic design of a product's packaging and the effects of the shape of graphic elements on customers' responses. Besides studying the graphic design of a product's packaging, it is also important to study the graphic design of packaging sales promotions, since they are often used to stimulate sales. However, studies that address the graphic design of packaging sales promotions, or the interaction between the graphic design of packaging and packaging sales promotions are scarce. The aim of the present study was to find the most optimal way of shaping a product's packaging and its sales promotion. This study examined the influence of the graphic design on customers' expectations, pre-purchase attitude and purchase intention. Customers' choice process present in a product's category was also taken into account. Customers either have a tendency to switch brands within a category, which indicates variety-seeking behavior, or show apathy towards brand switching, which indicates inertia-prone behavior. To examine the influence of the three principal variables, 16 different visuals were created. These visuals differed in sales promotion shape (angular vs. rounded), packaging shape (angular vs. rounded) and choice behavior dominant in the product category (variety-seeking vs. inertia-prone). Over 240 respondents participated in the study, and after they saw one of the 16 visuals they filled in an online questionnaire. As expected, it was found that rounded sales promotion shapes and rounded packaging shapes caused the most positive responses, compared to angular shapes. Further, the results showed that variety-seeking products led to higher expectations. But, inertia-prone products led to higher purchase intentions, a higher expected retailer's price for the product and a higher price that customers were willing to pay for the product. There was also an interaction effect found between shapes and choice behavior, which showed that rounded shapes had the most positive influence on customers' responses, but only in inertia-prone product categories. Limitations, recommendations for further research and practical implications are discussed.

Keywords: packaging, sales promotions, graphic design, shapes, choice behavior

## 1. Introduction

In fast moving consumer goods (FMCG) marketing, only one moment really matters; the moment a customer reaches for a product and puts it into his or her basket. Prior to making this final product choice, the customer has been influenced by several manufacturers' and retailers' marketing communications. Outside of a retail environment a customer is mostly exposed to above the line communications, like advertising. Within the retail environment itself, the customer is mostly influenced by several below the line marketing communications like personal selling and sales promotions.

Sales promotions is a broad term, which covers a slew of activities that stimulate purchasing (Pickton & Broderick, 2001). Despite the fact that marketers put a lot of effort in maximizing customers' exposure to sales promotions and other marketing communications, ultimately customers choose to which stimuli they are exposed. A type of marketing communications that cannot be prevented from being seen, are in-store marketing communications. They are harder to avoid, since they are present in an environment where customers are actively looking for products and brands.

In-store marketing communications that are often present are sales promotions. Sales promotions are visible at the point of sale (POS) (Blackwell, Miniard & Engel, 2006), and can be several types like coupons, bonus packs and displays. Sales promotions are used by all kinds of products or brands, and are often scattered around the supermarket. A customer buying habit study performed by Point Of Purchase Advertising International (POPAI) showed that when shopping, 26.8% of Dutch customers visited all aisles in the supermarket and 27.8% visited most aisles (POPAI, 1997). Dutch visit the supermarket 3.4 times a week, and spend 23 minutes on average per trip. Within a month they spend more than 5 hours in a store, and thus have a significant opportunity to be exposed to in-store sales promotions (POPAI, 1997). In-store sales promotions target customers at the point of sale, and are one of the last sales promotions customers see before they make their final purchase decisions (POPAI, 2004).

The POPAI research also showed that over 80 percent of all Dutch customers' supermarket purchase decisions were made in-store, with over 52 percent of these purchases being unplanned (POPAI, 1997). This means that four out of five purchase decisions is made after customers enter the store, and half of these purchases is unplanned. POS sales promotions can influence customers' final purchase decisions, stimulate impulse buying and can induce brand switching (Abratt & Goodey, 1990). Despite the fact that brand marketers most preferably want to get on customers' shopping lists (prior to entering a store), it is also very interesting for them to understand how to influence customers' in-store purchase decisions with the help of sales promotions.

Interesting POS sales promotions are packaging sales promotions. Packaging sales promotions are sales promotions attached to a product's packaging, and they can have an important influence on purchase decisions. Packaging sales promotions add an extra value to the product or provide customers with something special, besides the purchased product. Packaging sales promotions can be several types, like discounts, refunds, premiums, bonus packs and contests (Pickton & Broderick, 2001). Sales promotions can be further divided into two main types, with their own different primary objectives. There are classical and thematic sales promotions (Floor & van Raaij, 1989). Classical sales promotions are focused on the short-term, with the

objective of obtaining additional sales, during a temporary promotion period. The product gets extra attention from a temporary increase in the price/value ratio. Examples of classical sales promotions are free products and products with which customers can win or collect things, often indicated with slogans like 'try now', 'buy x .. get y', 'check if you won', 'are you already participating?' and 'collect them all'. With classical sales promotions people are stimulated to take action and purchase products by being addressed personally, and with the use of Cialdini's principle of scarcity. The principle of scarcity implies that customers tend towards wanting things as they become less available (Blackwell, Miniard & Engel, 2006). Companies emphasize that if customers do not buy a product today, it may be gone tomorrow. Thematic sales promotions are focused on the long-term, with the objective of increasing competitive advantages and building long-term relationships. The promotion has to be integrated with the advertising and other marketing communications, increasing the price/value ratio for a longer period. A well-known example of a thematic sales promotion is the recent Coca-Cola campaign, where the regular cans and bottles were personalized with peoples' names. While the product stayed exactly the same, customers felt like they were buying something unique and personal, or at least more than just a can of coke. Another example is from the Dutch company Douwe Egberts (DE), which processes and sells coffee and tea. They have had a loyalty program for almost 90 years, in which customers can collect value points, with unlimited validity, that are printed on the packaging. Customers can save up these points for several free, branded, coffee and tea products or accessories. In this case the coffee and tea products also remained exactly the same, but customers got something extra from the brand. The aforementioned examples show that packaging promotions can turn spending money into earning extras. Hence, when implementing a packaging sales promotion, companies first have to determine the primary objectives they want to achieve, and choose the packaging sales promotion that matches these objectives, because not all packaging sales promotions are suitable for achieving certain objectives.

In addition to the general primary objectives, companies can have more specific objectives they want to achieve with packaging sales promotions. For example, attracting new customers, retaining existing customers, increasing customers' spending, introducing a new brand, encouraging product use and supporting thematic advertising (Floor & van Raaij, 1989). Companies have to find a match between the objective to achieve and the best suitable sales promotion. For example, for introducing a new brand and attracting new customers, sampling, demonstrations and free premiums (classical sales promotions) are very suitable. But, these sales promotions are not suitable at all for retaining existing customers and increasing customers' spending. When focusing on these objectives, paid premiums and collective actions or stamp systems (thematic sales promotions) may be more suitable (Floor & van Raaij, 1989).

Sales promotions stand out in a retail environment, and attract customers' attention. Besides extra attention within the retail environment, packaging sales promotions also provide brands with extra attention outside of stores. Packaging sales promotions are a unique marketing instrument, because customers take it home with them. Every time a product with a packaging sales promotion is used, there is a contact moment between the customers and the brand's sales promotion. This causes a lot of exposure due to several, unavoidable, contact moments. Packaging sales promotions can even be visible when the customer hasn't bought the product yet, or doesn't visit a retail environment at all (e.g. they are visible on supermarket leaflets

or when ordering groceries from the supermarket's website). The influence of packaging sales promotions will only increase, because even when other sales promotions change, products will always be packaged and consumers cannot avoid packaging sales promotions. Thus, when customers are in a store, packaging sales promotions target them exactly where they make (unplanned) purchase decisions. But, their unique advantage, in comparison to other POS sales promotions, is that at the customer's home they can also influence the customer's future purchase decisions (e.g. when making a shopping list). Therefore, when customers go shopping, they have already planned their purchases and will be influenced less by other sales promotions or might switch less between brands.

Since a product's packaging and a sales promotion on a product's packaging can influence customers' purchase decisions, it is relevant to find the best way to graphically design a packaging sales promotion. When speaking of graphically designing a sales promotion, it means designing the visual communication aspects of a sales promotion, and determining images, colors, shapes, typefaces, logos and so on. Research regarding graphic design has mostly been done on the graphic design of packaging (Westerman et al., 2013; Van Rompay, Pruyn & Tieke, 2009). Despite its relevance, only few studies were found that address the graphic design of packaging sales promotions, or the interplay between a products' packaging and packaging sales promotions. The present research is conducted to find out the best way to graphically design a packaging sales promotion. Therefore, it investigates what the influence is of the graphic design of a product's packaging sales promotion and product's packaging on a customer's expectations, attitude and intention to purchase a product. Further taken into account is the customers' choice process present in a product's category.

## 2. Theoretical framework

### 2.1 The graphic design of packaging sales promotions

As mentioned before, research regarding graphic design has mostly been done on the graphic design of packaging itself, not the graphic design of packaging sales promotions. That the graphic design of packaging is important was proven by Westerman et al. (2013). Their research focused on the effects of graphical forms on customers' evaluation and they showed that a 'halo' effect of graphics exists. The halo effect describes the effect that an evaluation of one factor (in this case the packaging's graphic design) influences the evaluation of other factors (in this case e.g. expected quality). It turned out that respondents preferred rounded, upward oriented graphics, as opposed to angular, downward oriented graphics. When a product's packaging contained rounded, upward oriented graphics, the purchase likelihood was higher and the packaging was reported more appealing, more pleasing and less annoying, as opposed to packaging with angular, downward oriented graphics (Westerman et al., 2013). However, although customers might prefer rounded graphics, marketers might prefer to use angular graphics. Not only are angular shaped packaging preferred for logistic reasons (e.g. they are easier to stack and transport), they also grab attention more easily and are noticed more quickly (Westerman et al., 2013). This can be explained by their association with fear and negative emotions, which causes sharp corners to attract attention and elicit an almost innate avoidance response. Other research also found that angular shapes express aggression, and a conflict between the stimulus and its environment, and rounded shapes expressed harmony (Van Rompay, Pruyn & Tieke, 2009). Another explanation for people's

preference for rounded shapes lies within the processes involved in visual cognition. Visual cognition refers to the way cognition takes place in the brain, elicited by visual stimuli. Processing rounded shapes takes up less cognitive load than processing angular shapes (Thomas, 2011, August 17). The first factor that causes this is that rounded lines match with the natural motion of the head and eyes. Rounded or smooth lines and curves are easy to follow and process. Lines that suddenly change direction, for instance with a sharp corner, interrupt thinking and require additional steps to process them. The second factor that causes this is that rounded lines match with various organic objects used in everyday life and sharp corners and lines stand out from an organic environment. Since packaging sales promotions can capture customers' attention, persuade them to purchase the product and influence other factors, it is interesting to investigate with which graphic design this can be done best. This all leads to the first two hypotheses:

Hypothesis 1:

Packaging sales promotions with rounded shapes have a more positive influence on customers' responses than packaging sales promotions with angular shapes.

Hypothesis 2:

Product packaging with rounded shapes have a more positive influence on customers' responses than product packaging with angular shapes.

In the hypotheses it is often mentioned that certain design elements and/or choice behaviors have a 'more positive influence on customers' responses', which means that customers' expectations/pre-purchase attitude/purchase intention are higher due to these elements, compared to others elements.

## 2.2 (In)congruence between the graphic design of the packaging sales promotion and the product's packaging

Besides investigating the best graphic design for packaging sales promotions, it is also important to look at the optimal combination between the graphic design of the packaging sales promotion, and the graphic design of the product's packaging. Van Rompay, Pruyn and Tieke (2009) found that (graphics on) products express symbolic meanings that can influence customers' evaluations and attitudes. Their research showed that congruence between stimuli facilitates easy processing and therefore positively affects customers' responses. When different stimuli on the same packaging expressed different meanings incongruence occurred, which led to doubt regarding the product. However, although customers might prefer congruent graphics, marketers might prefer to use incongruent graphics, because they attract attention, provide customers with something unexpected and might therefor elicit elaborate processing (Van Rompay, Pruyn & Tieke, 2009). Thus, the congruence between (the symbolic meaning of) graphics on products can positively influence customers' responses. This phenomenon can be explained by theories on processing fluency, which describe that stimuli that can be processed effortlessly, are in most cases judged as positive and can influence responses favorably. Perceived congruence of stimuli facilitates ease of processing. Because fluent processing is perceived as positive, fluent (and thus congruent) stimuli are also seen as positive (Van Rompay & Pruyn, 2011). Gmuer, Siegrist and Dohle (2015) found that fluency is transferred across modalities, therefore, processing fluency can positively influence several customers' responses. Claypool, Mackie and Garcia-Marques (2015) described that

fluency has a positive effect on customers' attitudes within the domain of persuasion, and Pocheptsova, Labroo and Dhar (2010) showed that high processing fluency resulted in higher purchase intention for everyday products. However, as mentioned before, while congruence can positively influence customers' responses, incongruence might attract more attention. Schoormans and Robben (1997) also found that when stimuli contained elements that were in contrast with other elements in the same environment, the contrasting elements were more likely to draw customers' attention. Therefore, designs with incongruent elements, and less fluent processing, are likely to attract more attention than designs with congruent elements. Since (in)congruence between the design of the packaging sales promotion and the product's packaging influences customers' responses, it is interesting to investigate with which (combination of) graphic design this can be done best (see figure 1 for examples).



*Figure 1. Rounded packaging shape with incongruent, angular promotion shape & angular packaging shape with incongruent, rounded promotion shape*

Since there is a lack of research, the present research will focus on the effects of graphic design of packaging sales promotions on customers' responses (see figure 2), and more specifically on the effects of their shape and (in)congruence with the product's packaging. Based on aforementioned research, it is expected that rounded shapes will be rated more positive than angular shapes. It is also expected that congruence between the design of the packaging sales promotions and the product's packaging will be rated more positive than incongruence, because congruence facilitates fluent processing. This all leads to hypothesis 4:

Hypothesis 4:

Congruence between the shapes of the packaging sales promotion and the product's packaging has a more positive influence on customers' responses than incongruence between the shapes.

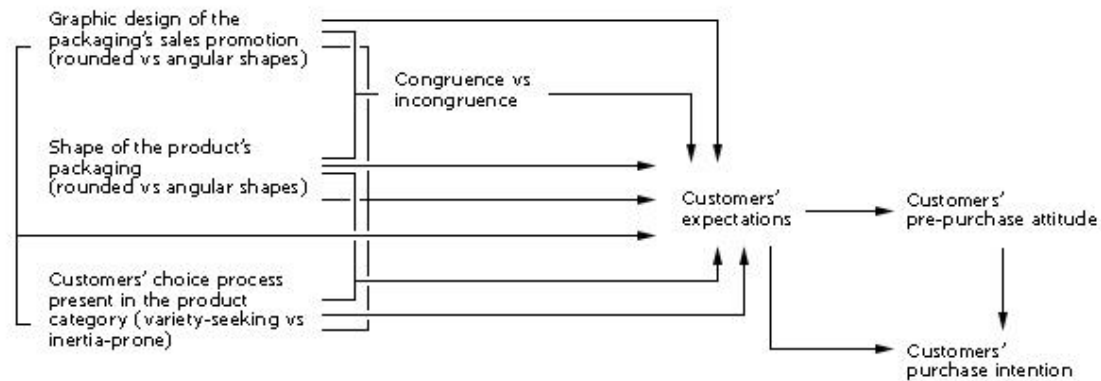


Figure 2. The conceptual framework

### 2.3 The influence of packaging sales promotions on (repeat) purchasing behavior

Since sales promotions are used to stimulate (re)purchasing, it is interesting to investigate if this is really achieved. Some research has already been done on the effects of sales promotions on purchasing behavior, however there has been some ambiguity found. In the sixth edition of their book *Consumer Behavior*, Engel, Blackwell and Miniard (1990) refer to a research of the National Panel Diary (NPD) to describe the impact of coupons on purchasing behavior. They found that coupons boost trial purchasing (15.1% of coupon recipients made a trial purchase vs 7.4% of customers without a coupon), but coupon recipients tend to be inferior repeat purchasers (24.8% of coupon-induced triers made a repurchase vs 31.4% of customers without a coupon). However, in the tenth edition of their book *Consumer Behavior*, Blackwell, Miniard and Engel (2006) also refer to a research of the NPD, but their conclusion is different. Here they describe the impact of free samples on purchasing behavior. They found that free samples boost trial purchasing (16.0% of free sample recipients made a trial purchase vs 11.4% of customers without a free sample), and free sample recipients tend to be better repeat purchasers (35.7% of free sample-induced triers made a repurchase vs 31.8% of customers without a coupon).

Since ambiguity was found regarding the effects of sales promotions on repeat purchasing, it is relevant to look at the factors linked to sales promotions that cause (repeat) purchasing behavior. Three factors might explain why coupon recipients tend to be inferior repeat purchasers. First, coupon users might be less brand loyal than non-coupon users in general, and are therefore less likely to repeat purchase the same product. The second explanation comes from the self-perception theory, which describes that people form attitudes by observing their own behavior and deciding which attitudes caused that behavior (Engel, Blackwell & Miniard, 1990). When people realize that they were persuaded by a sales promotion to purchase a product, they are less likely to repurchase that product. This is because they infer that their preference for the product was not based on an internal motivator (their own preference or favorable product attributes) but on an external motivator (the sales promotion). The third factor is that people have an innate preference for immediate gratification, despite the fact that it can cause regret in the long run (O'Donoghue & Rabin, 2000). This longing for immediate gratification forms the basis of why customers have a hard time resisting the

temptation of an impulse purchase (O'Donoghue & Rabin, 2000). When customers are tempted by a sales promotion to make an impulse purchase, an emotional conflict often occurs. At first they experience positive feelings caused by buying a real bargain or receiving a good deal. However, later on they might experience negative feelings of guilt or regret, caused by the realization that they did not really want to purchase the product, but were tempted by a sales promotion. Hence, customers' tendency to immediate gratification can have both positive and negative effects on purchasing. Further, two factors might explain why free sample recipients tend to be better repeat purchasers. First, free sample recipients can try the product before actually purchasing it. This way they do not only have expectations about the product, prior to purchasing, but have an actual experience with the product and already know what to expect when buying the product. The second explanation comes from Cialdini's principle of reciprocity, which describes that when people are given something, they feel indebted to return that gesture (Blackwell, Miniard & Engel, 2006). Thus, when companies make products with sales promotions (like free samples) available to customers, the customers might feel obliged to do something in return for the company and purchase the product. But, although the principle of reciprocity affects purchasing, it might be the case that the effect of feeling obliged to reciprocate is limited. Customers who profited from a sales promotion make an initial purchase to reciprocate, but do not repurchase the product after that because they feel that they have reciprocated already.

Although previous research is inconclusive about repeat purchasing, packaging sales promotions do have a positive effect on customers' initial purchasing (intention). However, the present research aims to find out if this positive effect of packaging sales promotions on purchase intention still exists, even when the graphic design of the packaging sales promotion and product's packaging is manipulated to make their shapes (in)congruent with each other.

## 2.4 Customers' choice processes; variety-seeking vs inertia-prone

According to Rosenberg (2011, May 20), "Nothing *motivates* people to buy the same thing over and over. They're *unmotivated* to switch . . . Picking the same thing is the *easy, lazy* answer. Changing is the hard one that needs motivation". Rosenberg describes customers' choice process, which Zhang, Krishna and Dhar (2000) have researched in relation to sales promotions. They found that customers' natural choice process was an important determinant of promotions' impact. Customers either have a tendency to switch brands on consecutive purchases (variety-seeking), or show apathy towards brand switching and repurchase the same brand over consecutive purchases (inertia-proneness) (Zhang, Krishna & Dhar, 2000). A research from Givon (1984), found that the degree of variety-seeking or inertia-proneness differs per person. It turned out that when deciding on purchasing food products, more than half of all customers neither seeks nor avoids variety. However, there is still a considerable part that does, which should not be neglected. It also occurs that while customers vary between brands in one product category, they tend to avoid variety in other product categories. Thus, for customers to change their buying behavior, it is key that they are motivated, if necessary by marketers. Sales promotions can function as external motivators that affect customers' inborn choice process. Zhang, Krishna and Dhar (2000) researched the effect of customers' choice process in relation to sales promotions, and focused on which promotion yielded the highest profit. When the degree of variety seeking

was high, companies gained more profit from offering customers promotions that gave them a delayed reward. Here, new customers already switched brands on their own and delayed benefit promotions can help to retain existing customers. When the degree of inertia was high, companies gained more profit from promotions that offered customers immediate rewards. Here, new customers must be motivated to switch brands and immediate benefit promotions can serve as an external motivator.

Givon's research (1984) also found that variety-seeking or inertia-prone behavior differs per product category. The product categories with the most inertia-prone behavior were regular coffee, facial tissues and aluminum foil. The product categories with the most variety-seeking behavior were salad dressing, canned and frozen soup and dry spaghetti and macaroni. Although the research pointed out these differences, explanations for these behaviors could not be formed. Research from Kahn, Kalwani and Morrison (1986) also investigated differences in variety-seeking and inertia-prone behaviors amongst product categories. Here, sandwich bags, wraps and margarine and butter displayed mainly inertia-prone behavior. Soft drinks and cereals displayed mainly variety-seeking behavior. Furthermore, the research from Kahn et al. (1986) points out soft drinks as a striking product category. For the non-cola drinks, mainly variety-seeking behavior was displayed. For the cola drinks, both variety-seeking behavior and inertia-prone behavior were displayed. Knowing which customers' innate choice process is often present in which product categories is essential for marketers because these product categories require different promotional strategies (Givon, 1984). In product categories where variety-seeking behavior is high, it is easier to persuade customers to switch brands, and thus also more difficult to prevent them to switch away from a brand. In product categories where inertia-proneness is high, it works the other way around. The present research will investigate what the effects are of a packaging sales promotion in product categories with different customers' choice processes present.

Besides the focus on the effects of graphic design, the present research will also focus on which customers' choice process is present in a product category and what the effects are on customers' responses (see figure 2). It is expected that packaging sales promotions in product categories where variety-seeking choice behavior is often present have a more positive influence on customers' responses than packaging sales promotions in product categories where inertia-prone choice behavior is often present. This is expected because product categories where variety-seeking choice behavior is high often create new experiences and high expectations (e.g. by offering new flavors) to persuade customers to buy these products. Although customers in variety-seeking product categories are easily persuaded to switch brands, they must still put effort into switching brands, and therefore respond more positive to products that offer them new experiences, which product categories where variety-seeking choice behavior is high give them. Since inertia-prone customers are already unmotivated to switch brands, and often are also indifferent about the brand they buy, it is expected that in product categories where inertia-prone choice behavior is high, customers' expectations, purchase intention and other responses are less positive. This all leads to hypothesis 3:

Hypothesis 3:

Packaging sales promotions in variety-seeking product categories have a more positive influence on customers' responses than packaging sales promotions in inertia-prone product categories.

When combining the graphic design of the packaging sales promotion, the graphic design of the packaging itself and the product's category, several expectations can be made regarding how these three variables interact. It is expected that packaging sales promotions with angular shapes have the most positive customers' responses in variety-seeking product categories. This is because when customers seek variety, they are actively elaborating on which products to buy. Angular packaging sales promotions' shapes are noticed more quickly because they stand out, which brings them under the attention of customers and facilitates them with a clearer overview of interesting products and promotions to compare. It is expected that packaging sales promotions with rounded shapes have the most positive customers' responses in inertia-prone product categories. This is because with inertia-prone customers their thinking goes automatically, which matches with the fluent and smooth lines of rounded shapes. This all leads to hypothesis 5:

Hypothesis 5:

- A. In variety-seeking product categories, packaging sales promotions with angular shapes have a more positive influence on customers' responses than packaging sales promotions with rounded shapes.
- B. In inertia-prone product categories, packaging sales promotions with rounded shapes have a more positive influence on customers' responses than packaging sales promotions with angular shapes.

The same is expected for the interaction between the shape of the packaging itself and the product's category. This all leads to hypothesis 6:

Hypothesis 6:

- A. In variety-seeking product categories, angular packaging shapes have a more positive influence on customers' responses than rounded packaging shapes.
- B. In inertia-prone product categories, rounded packaging shapes have a more positive influence on customers' responses than angular packaging shapes.

When combining the shape of the packaging sales promotion, the shape of the packaging itself and the product's category, it is expected that congruence between the shape of the packaging sales promotion and the product's packaging has the most positive influence on customers' responses in inertia-prone product categories. This is because congruence facilitates fluent processing which matches with the smooth and automatic choice process of inertia-prone customers. It is expected that incongruence between the shape of the packaging sales promotion and the product's packaging has the most positive influence on customers' responses in variety-seeking product categories. This is because incongruence grabs attention and interrupts processing, which forces customer's to actively think about their purchase, which matches with the controlled choice process customer's use to decide on their purchase in variety-seeking product categories. This all leads to hypothesis 7:

Hypothesis 7:

- A. Congruence between the shape of the packaging sales promotion and the product's packaging has a more positive influence on customers' responses in inertia-prone product categories than in variety-seeking product categories.

*B. Incongruence between the shape of the packaging sales promotion and the product's packaging has a more positive influence on customers' responses in variety-seeking product categories than in inertia-prone product categories.*

## 2.5 Customer responses

A lot of research on (packaging) sales promotions has been done from a marketers' point of view, with the focus on the effects on brand performance outcomes, like market share and profits (Raju, Dhar & Morrison, 1994; Dhar, Morrison & Raju, 1996; Zhang, Krishna & Dhar, 2000). Less research has been done on the effects of packaging sales promotions on customers' expectations, thoughts, feelings and opinions regarding a product. The focus in the present research will be on customers' expectations, pre-purchase attitude and purchase intention.

Expectations that customers form about a product play an important role in determining customers' pre-purchase attitude and purchase intention. Expectations regarding products are estimations about aspects or features that might be associated with the product. They set a reference point and a customer's product experience is compared to that reference point. Although it is important that a product meets a customer's expectations, it might be even more important that a product sets the right expectations. A product's packaging plays a role in shaping customers' expectations. This can be explained by cross-modal correspondence, which entails that people tend to make connections between different modalities (Becker, Van Rompay, Schifferstein & Galetzka, 2011; Velasco, Salgado-Montejo, Marmolejo-Ramos & Spence, 2014). Thus, when people see a product, they tend to match attributes from one modality (e.g. the product's packaging) with attributes from another modality (e.g. the product's taste). Therefore, by simply seeing a product, customers can form expectations about the product's quantity, flavor, texture, or price. Velasco, Salgado-Montejo, Marmolejo-Ramos and Spence (2014) found that customers associate desserts in packaging with rounded shapes with sweet flavors and they associated desserts in packaging with angular shapes with sour flavors. Ares and Deliza (2010) found that desserts in packaging with rounded shapes were associated with creamy and soft, and desserts in packaging with angular shapes were associated with thick and low-calorie. An explanation for this can be found in the aforementioned halo effect. It is interesting to see which customer expectations are further influenced by a product's packaging shape. Only one study was found that also takes congruence between attributes into account. Wei, Ou, Luo and Hutchings (2014) looked into the influence of color congruence on customers' expectations. They found that color harmony (i.e. congruence between colors) had a positive influence on customers' expectations of quality and liking of the product. It is expected that this effect of (color) congruence is also applicable for shape congruence between a product's packaging and a product's packaging sales promotion.

Besides customers' expectations, pre-purchase attitude and purchase intention will be taken into account. An attitude is a customer's general evaluation of a product (Fishbein & Ajzen, 1975; Oliver, 1981), which can be formed prior to purchasing or even consuming a product. Intention is, according to the Theory of Planned Behavior (Fishbein & Ajzen, 1975), the most immediate precursor of human behavior. This behavioral intention is formed by attitudes, subjective norm and perceived behavioral control. Since sales promotions are

action communications, they are aimed at influencing customers' current purchase behavior. Attitudes and expectations influence each other, and attitudes also influence the relationship between expectations and intention (Fishbein & Ajzen, 1975). Expectations influence both attitude as well as purchase intention, and thus expectations and optimistic attitudes are essential for creating interest in a product, which might cause a positive purchase intention (Oliver, 1993). For example, if a customer expects that a product is healthy, and its attitude towards healthy is positive, the customer's purchase intention is likely to be positively influenced.

Thus, based on previous research, a product's packaging plays a role in shaping a customer's expectations, as well as congruence between attributes. Therefore, the present research will focus on the influence of the graphic design of a packaging sales promotion, a product's packaging and the customers' choice process present in the product category, on customers' expectations, pre-purchase attitude and purchase intention (see figure 2).

### 3. Research question, conceptual framework, hypotheses and research design

In short, the present research will focus on the graphic design of classical packaging sales promotions. The shape of the packaging sales promotion (rounded vs angular) and its (in)congruence with the packaging shape (rounded vs angular) will be taken into account. Further, the customers' natural choice process (variety-seeking vs inertia-prone) present in a product's category will be considered a variable. The present research aims to investigate which influences these variables have on customers' responses, namely customers' expectations, pre-purchase attitude and purchase intention.

All the aforementioned information leads to the following research question;

**What is the influence of the graphic design of a product's packaging sales promotion shape and a product's packaging shape, and the customers' choice process present in a product's category, on a customer's expectations, pre-purchase attitude and pre-purchase intention?**

All the relevant concepts, variables and hypotheses of the present research are displayed in figure 3. The concepts in the blue rectangles with the solid lines are the independent variables that are manipulated in the research, and the concepts in the blue rectangles with the dashed lines are the dependent variables that are measured in the research.

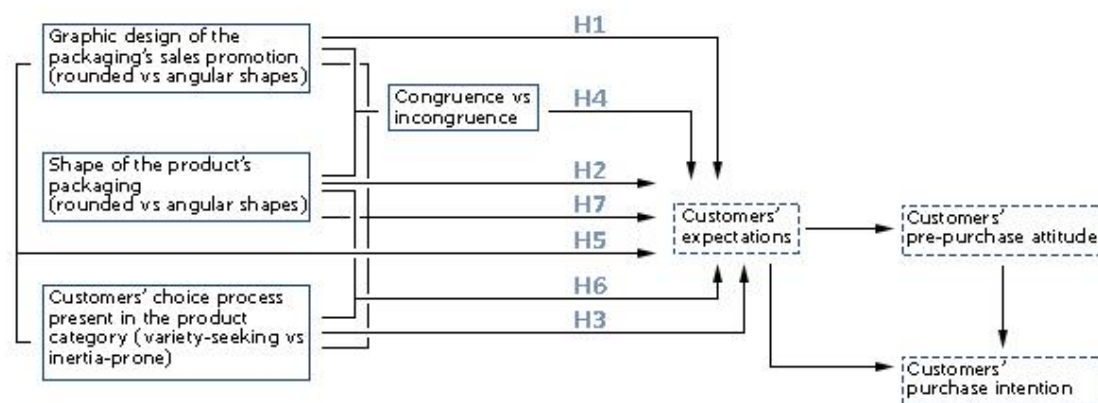


Figure 3. The conceptual framework with all concepts, independent and dependent variables and hypotheses

Based on all the aforementioned information, the following hypotheses were drawn up;

Main effects:

1. Packaging sales promotions with rounded shapes have a more positive influence on customers' responses than packaging sales promotions with angular shapes.
2. Product packaging with rounded shapes have a more positive influence on customers' responses than product packaging with angular shapes.
3. Packaging sales promotions in variety-seeking product categories have a more positive influence on customers' responses than packaging sales promotions in inertia-prone product categories.

Interaction effects:

4. Congruence between the shapes of the packaging sales promotion and the product's packaging has a more positive influence on customers' responses than incongruence between the shapes.
5. A. In variety-seeking product categories, packaging sales promotions with angular shapes have a more positive influence on customers' responses than packaging sales promotions with rounded shapes.  
B. In inertia-prone product categories, packaging sales promotions with rounded shapes have a more positive influence on customers' responses than packaging sales promotions with angular shapes.
6. A. In variety-seeking product categories, angular packaging shapes have a more positive influence on customers' responses than rounded packaging shapes.  
B. In inertia-prone product categories, rounded packaging shapes have a more positive influence on customers' responses than angular packaging shapes.
7. A. Congruence between the shape of the packaging sales promotion and the product's packaging has a more positive influence on customers' responses in inertia-prone product categories than in variety-seeking product categories.  
B. Incongruence between the shape of the packaging sales promotion and the product's packaging has a more positive influence on customers' responses in variety-seeking product categories than in inertia-prone product categories.

Based on all the aforementioned information a research design is constructed, which is displayed in table 1.

|                                                                                  |                                                                 | C: Customers' choice process present in the product category with a sales promotion |                |                |                |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------|----------------|----------------|
|                                                                                  |                                                                 | Variety-seeking                                                                     |                | Inertia-prone  |                |
| A: Graphic design of the packaging's sales promotion (rounded vs angular shapes) | B: Shape of the product's packaging (rounded vs angular shapes) | Rounded shapes                                                                      | Angular shapes | Rounded shapes | Angular shapes |
|                                                                                  | Rounded shapes                                                  | Condition 1                                                                         | Condition 3    | Condition 2    | Condition 4    |
|                                                                                  | Angular shapes                                                  | Condition 5                                                                         | Condition 7    | Condition 6    | Condition 8    |

Table 1. The (2x2x2) research design with the eight different design conditions

## 4. Design and results pre-test

To determine which product categories, sales promotions and packaging are the most optimal choice for the main study a pre-test was conducted. See appendix 1 for the pre-tested visuals of the products, sales promotions and packaging. See appendix 2 for the questionnaire used in the pre-test.

### 4.1 Method pre-test

A pre-test gives more insight in which product categories, sales promotion shapes and packaging shapes are the most optimal choice for the present research. The pre-test first ensures that the expected customers' choice process is indeed present in the selected product category. Second, the pre-test investigates if the design manipulations are executed correctly, and if respondents really categorize the shapes as rounded or angular. Since there were four product categories, with two types of packaging shapes and two types of sales promotion shapes, there were 16 different visuals in total. Each pre-test respondent only saw one packaging shape and sales promotion shape per product, and thus four different visuals. In total, 16 respondents were approached to participate, these respondents were all randomly selected students from the University of Twente. The pre-test was conducted online via the online survey software and insight platform Qualtrics ([www.qualtrics.com](http://www.qualtrics.com)). The visual was displayed together with and on the same page as the questions. The questionnaire started with a short introduction text, then the visuals and their corresponding questions were displayed (one by one), followed by a short word of thanks.

### 4.2 Visuals pre-test

#### *Product categories*

Previous research has already pointed out that variety-seeking or inertia-prone behavior differs per product category. Variety-seeking behavior turned out to be most dominant in the cereal product category (Givon, 1984; Kahn et al., 1986). In order to not limit the present research to just one variety-seeking product, another product was added. Sahoo (2013) found that bath and shower products have an extensive offer of brands and products. An important element that causes this variety is the fragrance of the product. Customers frequently switch brands to try products with different smells, colors and packages. Based on the aforementioned research, shower gel is seen as a product category where variety-seeking behavior is dominant, and was therefore included in the pre-test. Inertia-prone behavior turned out to be most dominant in the product category sandwich bags (Givon, 1984; Kahn et al., 1986). To add another inertia-prone product to the pre-test, milk was chosen. Hansen and Sørensen (1993) described in their research that the decision making process when buying milk was dominated by inertia and habitual buying. Milk is therefore seen as a product category where inertia-prone behavior is dominant, and was included in the pre-test.

#### *Packaging*

The products' packaging used in the pre-test were similar to the types of packaging the products are normally packaged in, only the shape and design were different. The shape of the packaging was mainly rounded or angular. The design of the packaging was plain and simple, so that the manipulations were very clear. All the visual stimuli were created by using Adobe Photoshop CS6 software. The packaging was predominantly white,

with a simple product image on the bottom and the product's name in a blue block (RGB; 68,140,203) (see appendix 1). Under the product's name an additional text was placed which contained more information regarding the product, like the flavor/scent or the exact quantity. All letters on the packaging were capitalized and in the font Eurostile. The font size used for the product's name was the biggest, and the font size of the additional information was about 66% of this size. Also, the font-weight of the product's name was bold and the font-weight of the additional information was regular. The product's name was in English, which makes it possible to conduct the research among a broad target group. The design of the packaging slightly resembles Albert Heijn's private label AH Basic, which might cause brand recognition. A disadvantage is that this might elicit biased opinions about the brand, which can influence customers' responses. However, since AH Basic is a very generic label that offers a wide variety of products and never uses packaging sales promotions, it is expected that this was not of influence. An advantage of the resemblance to an actual brand is that the packaging is similar to a customer's real life shopping experience, which might cause them to realize less that they are participating in a research.

#### *Packaging sales promotions*

The shapes of the packaging sales promotions were rounded (a circle) or angular (a square). The text on the packaging sales promotion was '20% OFF'. Percentage off discounts and money off discounts are the most popular ways to offer discounts (Winn, 2012, August 17). Since the products in the present research vary in price, it was chosen to use the same percentage off discount, instead of a money off discount, to ensure equal discounts for the four product categories. Further, '20% OFF' contains several rounded shapes, which (as mentioned before) facilitate easy processing and a higher purchase likelihood. High processing fluency also causes a higher purchase intention (Pocheptsova, Labroo & Dhar, 2010). The font was the same as the font used on the packaging (Eurostile) and the letters were also capitalized. The font size was about 55% of the font size from the product's name and the font-weight was bold. For the color of the packaging sales promotion shape red was chosen (RGB; 180,24,24), with a white text. According to research (Kauppinen-Räsänen, 2014), red attracts attention and is stimulating, which is useful when persuading customers to buy products with sales promotions.

### 4.3 Questionnaire pre-test

The questionnaire used in the pre-test can be found in appendix 2 and contains 27 items. For each respondent all items were repeated for each visual. Most items were statements that could be answered using a seven-point Likert-type scale, where the descriptive equivalents ranged from 'Strongly disagree (1)' to 'Strongly agree (7)'. Two items were statements that could be answered using a seven-point Likert-type scale, where the descriptive equivalents ranged from 'Very angular (1)' to 'Very round (7)'. Two items were statements that could be answered using a seven-point Likert-type scale, where the descriptive equivalents ranged from 'Very sharp (1)' to 'Very soft (7)'.

The first 16 items regarded respondents' choice behavior, and two variety-seeking statements (e.g. 'I don't mind spending time and effort to search for new alternatives to buy within this product category.') were alternated with two inertia-prone statements (e.g. I don't bother to change the brand I usually buy from this

product category.’). These items were based on questions used in previous research on variety-seeking and inertia-prone behavior (Anderson & Srinivasan, 2003; Ranaweera & Neely, 2003). Two items regarded the shape of the product’s packaging (e.g. ‘The shape of the product’s packaging is...’), to check if respondents indeed viewed these shapes as angular/sharp or round/soft. Two items regarded the shape of the sales promotion on the packaging (e.g. ‘The shape of the sales promotion sticker on the packaging is...’), to check if respondents indeed viewed these shapes as angular/sharp or round/soft. One statement regarded the way in which respondents saw similarities between the shape of the product’s packaging and the shape of the sales promotion on the packaging (e.g. ‘The way in which the sales promotion sticker is shaped is similar to the shape of the product’s packaging.’). The last items were questions regarding the design of the product’s packaging and the packaging sales promotion, to check the noticeability, processing fluency and understandability of both (e.g. ‘When I close my eyes, it is easy to visualize the packaging.’).

#### 4.4 Results pre-test

The detailed results of the pre-test can be found in appendix 3. The results confirm that the expected choice behaviors are dominant in the different product categories. Cereal and shower gel can indeed be seen as variety-seeking product categories, and milk and sandwich bags can indeed be seen as inertia-prone product categories. The results also show that the packaging shape manipulations were successful for all product categories. The rounded packaging can indeed be seen as a rounded packaging, and the angular packaging can indeed be seen as an angular packaging. The results also show that the sales promotion shape manipulations were successful for all product categories. The rounded sales promotions can indeed be seen as rounded sales promotions, and the angular sales promotions can indeed be seen as angular sales promotions. The results showed that in the inertia-prone product categories the respondents did see the congruent shapes as congruent, and the incongruent shapes as incongruent. However, in the variety-seeking product categories, respondents did not see the congruent shapes as congruent, and the incongruent shapes as incongruent. No differences were found within the congruent and incongruent condition. Since the packaging and sales promotion shape manipulations were successful, the designs will not be altered for the main research. However, the (in)congruency question will be again included in the main study, after it is formulated in a way that is easier to understand. Further, the results show no significant differences within the products for the different packaging designs and their influence on the extent to which a respondent thinks a product is eye-catching, pleasing and attention grabbing. However, it is still expected that there will be significant differences in the main research, due to the bigger sample size there. Unfortunately, the two processing fluency questions were not reliable, therefore it was decided to include these two questions again in the main study, and add another processing fluency question to enlarge the processing fluency scale. At last, the results showed that over 90% of the respondents agreed that the sales promotion was easy to understand.

## 5. Design main study

### 5.1 Method main study

Since there were four product categories, with two types of packaging shapes and two types of sales promotion shapes, there were 16 different visuals in total. The main study had an independent measures design, so each respondent only saw one visual and thus one packaging shape and sales promotion shape per product. The main study was also conducted online via the online survey software and insight platform Qualtrics ([www.qualtrics.com](http://www.qualtrics.com)). The questionnaire started with a short introduction text in which the study was explained. Next, the visual and its corresponding questions were displayed. In the first part the visual was shown on the same page as the questions, in the second part the visual was no longer visible to check the extent to which respondents remembered the different design elements. The same visuals were used as in the pre-test (see appendix 1), since the pre-test results showed that the manipulations were done successfully. The questionnaire ended with a few demographic variables and a short word of thanks.

### 5.2 Target group main study

The target group for the main study were students. Students were very suitable to participate in the present study since they all regularly purchase products for themselves and their households. They also share quite the same demographic characteristics, which ensures that any significant results from the research cannot be attributed to varying demographics. Further, since universities often have students with nationalities from all over the world, the research was completely in English.

### 5.3 Questionnaire main study

The questionnaire used in the main study can be found in appendix 4 and contains 41 items. The first 26 items were asked while the visual was present, the next 15 items were asked without the visual present. Most items were statements that could be answered using a seven-point Likert-type scale, where the descriptive equivalents range from 'Strongly disagree (1)' to 'Strongly agree (7)'. Four items were questions with only two possible answers, four items were open questions and two items were multiple choice items.

Before asking respondents questions about certain product categories, it was important to check if they were familiar with the product category, and if they had ever bought a product from this category. For this reason, the first two items were included in the questionnaire (e.g. 'Have you ever bought products from this product category?'). The next 17 items regarded respondents' expectations, pre-purchase attitude and purchase intention. These questions were all based on questions used in previous research, sometimes with some small alterations (e.g. the word 'brand' is replaced by the word 'product', since this research did not focus on brands). The items regarding respondents' (price) expectations (e.g. 'The average market price for [product category (volume)] is [average price]. What do you think that the retailer's price for the displayed product is?') were based on research by Westerman et al. (2013), Wei et al. (2014), Van Rompay, Pruyn and Tieke (2009) and Becker et al. (2010). The average prices mentioned (Cereal: 500g, €2.32, Milk: 1l, €0.91, Shower gel: 250ml, €2.75, Sandwich bags: 100x, €0.45) were based on a product comparison in an Albert Heijn supermarket. Prices of national brands, store brands and value store brands were compared and a mean was

calculated. The items regarding respondents' pre-purchase attitude (e.g. 'I think this product is satisfying.') were based on research by Ares and Deliza (2010), Cavallo and Temares (1969), Van Rompay, Pruyn and Tieke (2009) and Becker et al. (2010). The items regarding respondents' purchase intention (e.g. 'I would purchase this product.') were based on research by Westerman et al. (2013) and Ares and Deliza (2010). The next items were questions regarding the design of the product's packaging and its processing fluency (e.g. 'When I close my eyes, it is easy to visualize the packaging.'). The item regarding the way in which respondents saw similarities between the shape of the product's packaging and the shape of the sales promotion on the packaging was altered because the pre-test showed some unexpected results, which could be caused by the formulation of the question, so a more detailed description was given in the main study. The first seven items that were asked without the visual present regarded the packaging sales promotion and were asked to check the noticeability, understandability and likeability of the product. These questions were asked without the visual present to see if respondents really noticed and remembered the sales promotion, because this is essentially the intention of a sales promotion. The last eight items were the demographic variables and some questions regarding respondents' price consciousness (e.g. 'I pay attention to sales and specials.'). (Bruner, Hensel & James, 2005). Price consciousness is measured to see if it influences respondents' answers on the dependent variables regarding price. It is expected that most respondents are price conscious, since increased sensitivity to price has been a growing trend in the past years (Nanji, 2013, May 24).

## 6. Results main study

### 6.1 Respondents

Since there were 16 different visuals, a large group of respondents was needed. 244 people participated in the study, including 131 male and 113 female respondents. The average age of the respondents was 24,5 years. Over 91% of the respondents has at least completed, or was enrolled in, a Bachelor's Degree at a University of Applied Sciences. Of all respondents, 92,2% had a Dutch nationality, 4,5% a German nationality, and 3,3% had other nationalities.

Table 2 displays the distribution of the respondents across the 16 conditions. The online survey software and insight platform Qualtrics, that was used to distribute the survey, was set up to automatically and evenly distribute all the respondents across the 16 conditions. However, when analyzing the results, it turned out that this was not entirely the case. Unfortunately, four conditions had fewer respondents than the expected average.

|                                      | Cereal | Milk | Shower gel | Sandwich bags | Total |
|--------------------------------------|--------|------|------------|---------------|-------|
| Rounded packaging, Rounded promotion | 16     | 16   | 12         | 14            | 58    |
| Rounded packaging, Angular promotion | 18     | 18   | 14         | 18            | 68    |
| Angular packaging, Rounded promotion | 18     | 15   | 15         | 9             | 57    |
| Angular packaging, Angular promotion | 15     | 15   | 15         | 16            | 61    |
| Total                                | 67     | 64   | 56         | 57            | 244   |

Table 2. The number of respondents per condition

Cronbach's alpha for the 4 items measuring respondents' price consciousness was .83. Since the price consciousness scale was internally consistent, a new variable was created that displays the mean score per respondent on the price consciousness scale. It turned out that the price consciousness of the respondents was not normally distributed, but negatively skewed ( $M = 5.34$ ,  $SD = 1.09$ ). The majority of the respondents (75%) (somewhat) agreed with being price conscious. As mentioned before, this result is not entirely unexpected. Since respondents' level of price consciousness can have an influence on the independent variables regarding price, respondents' price consciousness is included in further analyses as a covariate. Although the majority of the respondents (somewhat) agreed with being price conscious, differences between the levels of price consciousness can still occur. Therefore, with the help of a median split (Median = 5.5), respondents with scores on the lower half of the variable (1 – 5.25; 40.6% of the respondents) were categorized into 'price conscious' respondents and respondents with scores on the higher half of the variable (5.5 – 7; 59.4% of the respondents) were categorized into 'very price conscious' respondents.

## 6.2 Product familiarity and buying history

Of all 244 respondents, 7 were not familiar with the product (category) shown to them. Of all 244 respondents, 30 have never bought products from the product category shown to them. However, it was decided to include all respondents in the research, because their opinions regarding packaging are not just shaped by the product they see before them at the time. Even if respondents are not familiar with a product, or have never bought the product they see before them, they can still give their opinion about the packaging.

## 6.3 Reliability

Prior to further analyses, the reliability of all items that measure the same construct has to be calculated. Cronbach's alpha for the 4 items measuring respondents' expectations about the product was .61. A closer examination of the item-total statistics indicated that alpha would not increase if an item was deleted. Although this alpha is a bit low, it was considered adequate for the present research. Cronbach's alpha for the 7 items measuring respondents' attitude towards the product was .90. Cronbach's alpha for the 4 items measuring respondents' purchase intention towards the product was .92. Cronbach's alpha for the 3 items measuring the evaluation of the packaging design was .80. Cronbach's alpha for the 3 items (Q23 – Q25) measuring the processing fluency of the packaging design was .67. A closer examination of the item-total statistics indicated that alpha would increase to .75 if item 1 was deleted. This question stated 'I find it easy to look at the design of the packaging and take it all in.' and was probably not clear enough for respondents. Consequently, this item was dropped from the questionnaire and all subsequent analyses regarding processing fluency were based on the remaining two items. Cronbach's alpha for the 4 items measuring the evaluation of the packaging sales promotion was .89. Finally, new variables were created for each scale that display the mean score on per respondent.

## 6.4 Food vs non-food products

As mentioned before, four different products were used in the present study. This happened to be two food products (cereal and milk) and two non-food products (shower gel and sandwich bags). A MANOVA was used to investigate if there were significant differences on the dependent variables between the food and non-food products, and if the food/non-food property should be taken into account as a covariate for further analyses. Before conducting the MANOVA, the data were examined to ensure the underlying assumptions were met. Univariate normality was assessed with Shapiro-Wilk tests (at  $\alpha = .05$ ). Normality was not violated for expectations and pre-purchase attitude. However, the tests showed a violation of normality for purchase intention, an evaluation of the packaging design and an evaluation of the packaging sales promotion. Although normality was violated, the MANOVA can still be used, since non-normality only has a small effect on p-values when comparing means (Fleishman, 2011, November 11). However, we have to keep this in mind when drawing conclusions. Box's  $M$  was non-significant at  $\alpha = .005$  for the MANOVA, indicating that homogeneity of variance-covariance matrices could be assumed. The MANOVA was not statistically significant, indicating that food/non-food products caused no significant differences in the evaluation of the products,  $F(5, 238) = 1.503$ ,  $p = .190$ , partial  $\eta^2 = .031$ . Therefore, whether a product is a food/non-food product will not be taken into account for further analyses.

## 6.5 (In)congruence between shapes

A one-way between groups ANOVA was used to investigate if respondents saw the congruent shapes as congruent, and the incongruent shapes as incongruent, since this was not the case in the pre-test. Inspection of the Shapiro-Wilk statistics indicated that the assumption of normality was violated for all four conditions. However, the ANOVA can still be used, since non-normality only has a small effect on p-values when comparing means (Fleishman, 2011, November 11). Levene's statistic was non-significant,  $F(3, 240) = .909$ ,  $p = .437$ , and thus the assumption of homogeneity of variance was not violated. The ANOVA was statistically significant, indicating that there were significant differences in congruence between the four conditions,  $F(3, 240) = 7.21$ ,  $p < .001$ ,  $\eta^2 = .083$ . Post-hoc analyses with Tukey's HSD (using an  $\alpha$  of .05) were performed to see between which conditions the differences occurred. These revealed that the 'rounded packaging, rounded sales promotion' condition ( $M = 4.00$ ,  $SD = 1.68$ ) had significantly higher congruence scores than the 'angular packaging, rounded sales promotion' condition ( $M = 2.91$ ,  $SD = 1.88$ ). However, there were no significant differences between the 'rounded packaging, rounded sales promotion' condition and the 'rounded packaging, angular sales promotion' condition ( $M = 3.72$ ,  $SD = 1.92$ ), nor between the 'rounded packaging, rounded sales promotion' condition the 'angular packaging, angular sales promotion' condition ( $M = 4.43$ ,  $SD = 1.77$ ). Further, there were no significant differences between the 'rounded packaging, angular sales promotion' condition and the other three conditions. The 'angular packaging, rounded sales promotion' condition did not only differ significantly from the 'rounded packaging, rounded sales promotion' condition, but also from the 'angular packaging, angular sales promotion' condition. At last, the 'angular packaging, angular sales promotion' condition only differed from the 'angular packaging, rounded sales promotion' condition. Since clear

differences between the congruent and the incongruent conditions cannot be entirely assumed, it was decided to no longer use the 'congruent' and 'incongruent' in the results section.

### 6.6 Processing fluency

A one-way between groups ANOVA was used to investigate if the different packaging designs influence the extent to which respondents experience processing fluency. Inspection of the Shapiro-Wilk statistics indicated that the assumption of normality was violated for all four conditions. However, the ANOVA can still be used, since non-normality only has a small effect on p-values when comparing means (Fleishman, 2011, November 11). Levene's statistic was non-significant,  $F(3, 240) = .515, p = .672$ , and thus the assumption of homogeneity of variance was not violated. The ANOVA was not statistically significant, indicating that there were no significant differences in processing fluency between the four conditions,  $F(3, 240) = .62, p = .600, \eta^2 = .007$ .

### 6.7 Noticeability and recall sales promotion

Of all respondents, 97.1% noticed the sales promotion on the packaging, and 2.9% did not. Further, 79% correctly described that the sales promotion was '20% off', 16.4% only recalled '20%', 1.7% thought it was '20% extra', 1.7% only gave descriptions about the design of the sticker (color and shape) and 1.3% knew it was a discount, but did not recall the correct percentage. Since the correct recall of the packaging sales promotion can have an influence on the evaluation of the packaging sales promotion, an independent samples  $t$  test was used to investigate if there were significant differences between the groups. Normality was assessed with Shapiro-Wilk tests (at  $\alpha = .05$ ), which showed a violation of normality. Although normality was violated, the  $t$  test can still be used, since non-normality only has a small effect on p-values when comparing means (Fleishman, 2011, November 11). The  $t$  test was not statistically significant, indicating that there were no significant differences in the evaluation of the packaging sales promotion, between respondents who did and did not correctly recall the packaging sales promotion,  $t(236) = -.478, p = .633$ , two-tailed.

### 6.8 Understandability sales promotion

A chi-square test for goodness of fit was used to assess whether the sales promotion on the packaging was easy to understand. The chi-square test was statistically significant,  $\chi^2(6, n = 244) = 321.22, p < .001$ , indicating that some answers were reported with significantly greater frequency than others. 50.8% of the respondents agreed with 'The sales promotion on the packaging is easy to understand.', 22.5% strongly agreed, 12.7% somewhat agreed, 5.7% disagreed, 3.4% neither agreed nor disagreed, 3.3% somewhat disagreed and 1.6% strongly disagreed. The above mentioned results show that 86% of the respondents (somewhat) agree that the sales promotion is easy to understand.

### 6.9 Dependent variables

One MANOVA and two ANCOVAs were conducted to compare the mean scores on the dependent variables for all the different independent variables alone and combined. The three independent variables were sales promotion shape (rounded vs. angular), packaging shape (rounded vs. angular) and choice behavior present in

the product category (variety-seeking vs. inertia-prone). The seven dependent variables were expectations, pre-purchase attitude, purchase intention, the expected retailer's price for the product, the price respondents were willing to pay for the product, an evaluation of the packaging design and an evaluation of the packaging sales promotion. First a MANOVA was conducted for all three independent variables alone and combined, and five of the dependent variables; expectations, pre-purchase attitude, purchase intention, an evaluation of the packaging design and an evaluation of the packaging sales promotion. Table 3 shows the means and standard deviations for the independent variables alone and combined, for each of the five dependent variables. The significant differences are indicated with a \* and will be examined and explained further.

Before conducting the MANOVA, the data were examined to ensure the underlying assumptions were met. Univariate normality was assessed with Shapiro-Wilk tests (at  $\alpha = .05$ ). For all three independent variables, normality was not violated for expectations and pre-purchase attitude. However, all three independent variables showed a violation of normality for purchase intention, an evaluation of the packaging design and an evaluation of the packaging sales promotion. Although normality was violated, the MANOVA can still be used, since non-normality only has a small effect on p-values when comparing means (Fleishman, 2011, November 11). However, we have to keep this in mind when drawing conclusions. Box's  $M$  was non-significant at  $\alpha = .005$  for the MANOVA, indicating that homogeneity of variance-covariance matrices could be assumed.

The MANOVA showed a significant effect of the promotion shape variable (rounded vs. angular) on the combined dependent variables,  $F(5, 232) = 2.322, p = .044$ , partial  $\eta^2 = .048$ . Analyses of the dependent variables individually showed that only the evaluation of the packaging sales promotion was statistically significant,  $F(1, 236) = 11.330, p = .001$ , partial  $\eta^2 = .046$ , indicating that customers evaluated the sales promotion significantly higher (i.e. more positively) when it was rounded ( $M = 4.41, SD = 1.14$ ) instead of angular ( $M = 3.85, SD = 1.42$ ). These results are in line with hypothesis 1, which stated that 'Packaging sales promotions with rounded shapes have a more positive influence on customers' responses than packaging sales promotions with angular shapes.'

The MANOVA also showed a significant effect of the choice behavior variable (variety-seeking vs. inertia-prone) on the combined dependent variables,  $F(5, 232) = 4.670, p < .001$ , partial  $\eta^2 = .091$ . Analyses of the dependent variables individually showed that only the expectations variable and the purchase intention variable were statistically significant. The significant expectation variable,  $F(1, 236) = 9.490, p = .002$ , partial  $\eta^2 = .039$ , indicated that customers had significantly higher (i.e. more positively) expectations about the product in product categories where variety-seeking choice behavior was dominant ( $M = 3.38, SD = 0.82$ ) than in product categories where inertia-prone choice behavior was dominant ( $M = 3.04, SD = 0.86$ ). The significant purchase intention variable,  $F(1, 236) = 5.543, p = .019$ , partial  $\eta^2 = .023$ , indicated that customers had a significantly higher intention to purchase the product in product categories where inertia-prone choice behavior was dominant ( $M = 4.40, SD = 1.49$ ) than in product categories where variety-seeking choice behavior was dominant ( $M = 3.97, SD = 1.33$ ). These results regarding the expectations are in line with hypothesis 3, which stated that 'Packaging sales promotions in variety-seeking product categories have a more positive influence on customers' responses than packaging sales promotions in inertia-prone product categories.'. However, the results regarding purchase intention are the opposite of what was expected in hypothesis 3.

|                       |                                 | N   | Expectations  | Pre-purchase attitude | Purchase intention | Design evaluation | Sales promotion evaluation |
|-----------------------|---------------------------------|-----|---------------|-----------------------|--------------------|-------------------|----------------------------|
| A                     | Rounded Promotion (Round pr)    | 115 | 3.22 (0.86)   | 3.78 (1.09)           | 4.25 (1.45)        | 3.05 (1.29)       | 4.41 (1.14) *              |
|                       | Angular Promotion (Ang pr)      | 129 | 3.20 (0.85)   | 3.64 (1.05)           | 4.12 (1.40)        | 2.89 (1.27)       | 3.85 (1.42) *              |
| B                     | Rounded Packaging (Round pa)    | 126 | 3.22 (0.87)   | 3.72 (1.05)           | 4.23 (1.36)        | 3.03 (1.25)       | 4.16 (1.33)                |
|                       | Angular Packaging (Ang pa)      | 118 | 3.19 (0.84)   | 3.69 (1.09)           | 4.13 (1.49)        | 2.90 (1.31)       | 4.06 (1.32)                |
| C                     | Variety-seeking behavior (Var.) | 123 | 3.38 (0.82) * | 3.77 (1.05)           | 3.97 (1.33) *      | 3.11 (1.27)       | 4.10 (1.37)                |
|                       | Inertia-prone behavior (Ine.)   | 121 | 3.04 (0.86) * | 3.64 (1.09)           | 4.40 (1.49) *      | 2.81 (1.27)       | 4.12 (1.29)                |
| A<br>x<br>B           | Round pr X Round pa             | 58  | 3.20 (0.86)   | 3.87 (1.03)           | 4.33 (1.39)        | 3.14 (1.22)       | 4.56 (1.14)                |
|                       | Round pr X Ang pa               | 57  | 3.25 (0.86)   | 3.68 (1.14)           | 4.17 (1.51)        | 2.96 (1.36)       | 4.25 (1.13)                |
|                       | Ang pr X Round pa               | 68  | 3.25 (0.89)   | 3.59 (1.06)           | 4.15 (1.34)        | 2.93 (1.27)       | 3.81 (1.40)                |
|                       | Ang pr X Ang pa                 | 61  | 3.14 (0.82)   | 3.70 (1.05)           | 4.09 (1.48)        | 2.84 (1.28)       | 3.88 (1.46)                |
| A<br>x<br>C           | Round pr X Var.                 | 61  | 3.36 (0.80)   | 3.83 (1.00)           | 4.09 (1.28)        | 2.96 (1.22) *     | 4.25 (1.13)                |
|                       | Round pr X Ine.                 | 54  | 3.07 (0.90)   | 3.72 (1.19)           | 4.43 (1.61)        | 3.15 (1.36) *     | 4.59 (1.14)                |
|                       | Ang pr X Var.                   | 62  | 3.40 (0.84)   | 3.71 (1.10)           | 3.85 (1.38)        | 3.25 (1.32) *     | 3.96 (1.56)                |
|                       | Ang pr X Ine.                   | 67  | 3.01 (0.83)   | 3.58 (1.01)           | 4.37 (1.39)        | 2.55 (1.14) *     | 3.74 (1.29)                |
| B<br>x<br>C           | Round pa X Var.                 | 60  | 3.41 (0.80)   | 3.87 (1.01)           | 4.05 (1.25)        | 3.14 (1.24)       | 4.15 (1.34)                |
|                       | Round pa X Ine.                 | 66  | 3.06 (0.90)   | 3.58 (1.08)           | 4.40 (1.44)        | 2.92 (1.25)       | 4.16 (1.34)                |
|                       | Ang pa X Var.                   | 63  | 3.35 (0.84)   | 3.67 (1.09)           | 3.89 (1.40)        | 3.07 (1.31)       | 4.05 (1.40)                |
|                       | Ang pa X Ine.                   | 55  | 3.01 (0.81)   | 3.72 (1.11)           | 4.40 (1.56)        | 2.70 (1.30)       | 4.07 (1.24)                |
| A<br>x<br>B<br>x<br>C | Round pr X Round pa X Var.      | 28  | 3.30 (0.70)   | 3.93 (0.93)           | 4.05 (1.20)        | 2.90 (1.03)       | 4.39 (1.07)                |
|                       | Round pr X Round pa X Ine.      | 30  | 3.10 (0.98)   | 3.81 (1.13)           | 4.58 (1.53)        | 3.36 (1.35)       | 4.72 (1.20)                |
|                       | Round pr X Ang pa X Var.        | 33  | 3.40 (0.89)   | 3.74 (1.05)           | 4.13 (1.36)        | 3.01 (1.37)       | 4.13 (1.18)                |
|                       | Round pr X Ang pa X Ine.        | 24  | 3.04 (0.79)   | 3.61 (1.28)           | 4.23 (1.72)        | 2.90 (1.37)       | 4.43 (1.06)                |
|                       | Ang pr X Round pa X Var.        | 32  | 3.50 (0.88)   | 3.81 (1.08)           | 4.05 (1.32)        | 3.35 (1.38)       | 3.95 (1.52)                |
|                       | Ang pr X Round pa X Ine.        | 36  | 3.02 (0.84)   | 3.39 (1.01)           | 4.24 (1.37)        | 2.56 (1.05)       | 3.69 (1.29)                |
|                       | Ang pr X Ang pa X Var.          | 30  | 3.29 (0.79)   | 3.60 (1.13)           | 3.36 (1.42)        | 3.13 (1.26)       | 3.97 (1.63)                |
|                       | Ang pr X Ang pa X Ine.          | 31  | 2.99 (0.83)   | 3.80 (0.97)           | 4.52 (1.43)        | 2.55 (1.25)       | 3.80 (1.31)                |

Table 3. A comparison of means (and standard deviations) for the independent variables alone and combined, for five of the dependent variables [significance at  $p < .10$  is indicated with a \* and a blue background]

The MANOVA also showed a significant effect of the promotion shape variable X the choice behavior variable on the combined dependent variables,  $F(5, 232) = 2.083, p = .068$ , partial  $\eta^2 = .043$ . Analyses of the dependent variables individually showed that only the evaluation of the packaging design was statistically significant,  $F(1, 236) = 7.052, p = .008$ , partial  $\eta^2 = .029$ . Post-hoc testing revealed that customers in the 'rounded promotion X variety-seeking behavior' ( $M = 2.96, SD = 1.22$ ), 'angular promotion X variety-seeking behavior' ( $M = 3.25, SD = 1.32$ ) and 'rounded promotion X inertia-prone behavior' ( $M = 3.15, SD = 1.36$ ) conditions evaluated the packaging design significantly higher than customers in the 'angular promotion X inertia-prone behavior' ( $M = 2.55, SD = 1.14$ ) condition. These results regarding are in line with hypothesis 5B, which stated that 'In inertia-prone product categories, packaging sales promotions with rounded shapes have a more positive influence on customers' responses than packaging sales promotions with angular shapes.'. However, the results are not in line with hypothesis 5A, which stated that 'In variety-seeking product categories, packaging sales promotions with angular shapes have a more positive influence on customers' responses than packaging sales promotions with rounded shapes.', since no significant differences were found within the variety-seeking conditions. Therefore, the results show the presence of an interaction effect between promotion shape and choice behavior.

After this, two one-way analyses of covariance (ANCOVAs) were conducted for all three independent variables alone and combined, and the two dependent variables regarding price; the expected retailer's price for the product and the price respondents were willing to pay for the product. A covariate was included to examine the effects of respondents' price consciousness. Table 4 shows the means and standard deviations for the independent variables alone and combined, for the two dependent variables regarding price. The significant differences are indicated with a \* and will be examined and explained further. For the two questions regarding the price (expected retailer's price for the product and price respondents were willing to pay for the product) the mean was calculated, which represented an percentage of the average price for that product (e.g. when the mean was 60, respondents expected that the retailer's price for the product shown was 60% of the average price for that product). Unfortunately, not all respondents answered the two price questions. Only 163 respondents answered the question regarding the expected retailer's price, and 181 respondents answered the question regarding what price they were willing to pay for the product. The varying number of respondents (and the covariate of price consciousness) is also the reason why the two dependent variables regarding price could not be included in the MANOVA, but had to be analyzed with different tests.

Before conducting the ANCOVAs the data was examined to ensure the underlying assumptions were met. Univariate normality was assessed with Shapiro-Wilk tests (at  $\alpha = .05$ ). All three independent variables showed a violation of normality for both dependent variables. Although normality was violated, the ANCOVAs can still be used, since non-normality only has a small effect on p-values when comparing means (Fleishman, 2011, November 11). However, we have to keep this in mind when drawing conclusions. Levene's test showed a violation of the homogeneity of variance for both the expected retailer's price for the product and the price respondents were willing to pay for the product. According to Lindman, the  $F$  ratio is quite robust with respect to violations of the homogeneity of variance assumption (as mentioned in Allen & Bennet, 2010), but we have to keep this in mind when drawing conclusions.

|                       |                                 | N   | Expected retailer's price | N   | Price willing to pay |
|-----------------------|---------------------------------|-----|---------------------------|-----|----------------------|
| A                     | Rounded Promotion (Round pr)    | 78  | 75.43 (39.79)             | 86  | 84.62 (60.88)        |
|                       | Angular Promotion (Ang pr)      | 85  | 72.69 (40.05)             | 95  | 92.38 (76.46)        |
| B                     | Rounded Packaging (Round pa)    | 86  | 76.74 (44.43)             | 98  | 100.92 (86.50) *     |
|                       | Angular Packaging (Ang pa)      | 77  | 70.94 (33.99)             | 83  | 74.26 (36.57) *      |
| C                     | Variety-seeking behavior (Var.) | 114 | 64.15 (26.38) *           | 119 | 62.77 (24.92) *      |
|                       | Inertia-prone behavior (Ine.)   | 49  | 96.92 (54.31) *           | 62  | 138.44 (95.87) *     |
| A<br>x<br>B           | Round pr X Round pa             | 41  | 77.42 (43.75)             | 45  | 97.67 (75.06)        |
|                       | Round pr X Ang pa               | 37  | 73.23 (35.37)             | 41  | 70.30 (35.74)        |
|                       | Ang pr X Round pa               | 45  | 76.13 (45.53)             | 53  | 103.67 (95.77)       |
|                       | Ang pr X Ang pa                 | 40  | 68.82 (32.97)             | 42  | 78.13 (37.39)        |
| A<br>x<br>C           | Round pr X Var.                 | 57  | 65.95 (23.76)             | 60  | 60.65 (22.18)        |
|                       | Round pr X Ine.                 | 21  | 101.17 (59.70)            | 26  | 139.95 (82.93)       |
|                       | Ang pr X Var.                   | 57  | 62.36 (28.87)             | 59  | 64.94 (27.46)        |
|                       | Ang pr X Ine.                   | 28  | 93.73 (50.77)             | 36  | 137.35 (105.37)      |
| B<br>x<br>C           | Round pa X Var.                 | 57  | 65.71 (31.00)             | 58  | 62.38 (25.94) *      |
|                       | Round pa X Ine.                 | 29  | 98.42 (57.76)             | 40  | 156.79 (110.52) *    |
|                       | Ang pa X Var.                   | 57  | 62.59 (20.93)             | 61  | 63.15 (24.13) *      |
|                       | Ang pa X Ine.                   | 20  | 94.74 (50.25)             | 22  | 105.08 (46.95) *     |
| A<br>x<br>B<br>x<br>C | Round pr X Round pa X Var.      | 27  | 66.53 (25.51)             | 27  | 59.90 (20.43)        |
|                       | Round pr X Round pa X Ine.      | 14  | 98.41 (62.19)             | 18  | 154.34 (90.97)       |
|                       | Round pr X Ang pa X Var.        | 30  | 65.43 (22.50)             | 33  | 61.26 (23.82)        |
|                       | Round pr X Ang pa X Ine.        | 7   | 106.68 (58.74)            | 8   | 107.59 (52.27)       |
|                       | Ang pr X Round pa X Var.        | 30  | 64.98 (35.66)             | 31  | 64.55 (30.11)        |
|                       | Ang pr X Round pa X Ine.        | 15  | 98.43 (55.52)             | 22  | 158.80 (126.39)      |
|                       | Ang pr X Ang pa X Var.          | 27  | 59.45 (18.96)             | 28  | 65.37 (24.74)        |
|                       | Ang pr X Ang pa X Ine.          | 13  | 88.30 (46.31)             | 14  | 103.65 (45.65)       |

Table 4. A comparison of means (and standard deviations) for the independent variables alone and combined, for the two dependent variables regarding price [significance at  $p < .10$  is indicated with a \* and a blue background]

The first ANCOVA indicated that respondents' price consciousness was not significantly related to the expected retailer's price,  $F(1, 154) = .089$ ,  $p = .766$ , partial  $\eta^2 = .001$ . There were no significantly different scores between the 'price conscious' respondents and the 'very price conscious' respondents. The ANCOVA did show a statistically significant main effect of the choice behavior variable (variety-seeking vs. inertia-prone) on the expected retailer's price for the product,  $F(1, 154) = 26.078$ ,  $p < .001$ , partial  $\eta^2 = .145$ , indicating that customers expected the retailer's price to be higher in product categories where inertia-prone choice behavior was dominant ( $M = 96.92$ ,  $SD = 54.31$ ) than in product categories where variety-seeking choice behavior was dominant ( $M = 64.15$ ,  $SD = 26.38$ ). The other independent variables (promotion shape and packaging shape) showed no statistically significant main or interaction effects. These results are the opposite of what was expected in hypothesis 3, which stated that 'Packaging sales promotions in variety-seeking product categories have a more positive influence on customers' responses than packaging sales promotions in inertia-prone product categories.'

The second ANCOVA indicated that, after accounting for the effect of respondents' price consciousness, there was a statistically significant main effect of the packaging shape variable (rounded vs. angular) on the price respondents were willing to pay for the product,  $F(1, 172) = 6.462$ ,  $p = .012$ , partial  $\eta^2 = .036$ , indicating that customers were willing to pay a higher price for the product when the packaging was rounded ( $M = 100.92$ ,  $SD = 86.50$ ) than when the packaging was angular ( $M = 74.26$ ,  $SD = 36.57$ ). These results are in line with

hypothesis 2, which stated that ‘Product packaging with rounded shapes have a more positive influence on customers’ responses than product packaging with angular shapes.’. The ANCOVA also showed a statistically significant main effect of the choice behavior variable (variety-seeking vs. inertia-prone) on the price respondents were willing to pay for the product,  $F(1, 172) = 49.086, p < .001$ , partial  $\eta^2 = .222$ , indicating that customers were willing to pay a higher price for the product in product categories where inertia-prone choice behavior was dominant ( $M = 138.44, SD = 95.87$ ) than in product categories where variety-seeking choice behavior was dominant ( $M = 62.77, SD = 24.92$ ). These results are the opposite of what was expected in hypothesis 3, which stated that ‘Packaging sales promotions in variety-seeking product categories have a more positive influence on customers’ responses than packaging sales promotions in inertia-prone product categories.’. Furthermore, the ANCOVA showed an interaction between packaging shape X choice behavior,  $F(1, 172) = 7.552, p = .007$ , partial  $\eta^2 = .042$ , indicating that the effect of packaging shape on the price customers were willing to pay for the product depends on the choice behavior dominant in the product category. Rounded packaging shapes have a statistically significant (positive) effect on the price customers were willing to pay for the product, but only for inertia-prone categories,  $F(1, 173) = 11.031, p < .01$ . In variety-seeking categories, (rounded) packaging shapes do not influence the price customers were willing to pay for the product,  $F(1, 173) = 0.005, ns$ . The other independent variable (promotion shape) showed no statistically significant main or interaction effects. These results regarding are in line with hypothesis 6B, which stated that ‘In inertia-prone product categories, rounded packaging shapes have a more positive influence on customers’ responses than angular packaging shapes.’. However, the results are not in line with hypothesis 6A, which stated that ‘In variety-seeking product categories, angular packaging shapes have a more positive influence on customers’ responses than rounded packaging shapes.’, since no significant differences were found within the variety-seeking conditions. Therefore, the results show the presence of an interaction effect between packaging shape and choice behavior.

## 7. Discussion

### 7.1 General Discussion

The present research was conducted to find out the best way to graphically design a packaging sales promotion. The research investigated the influence of the graphic design of a product’s packaging sales promotion shape and a product’s packaging shape on customers’ responses to a product. The customer’s choice process dominant in a product’s category was also taken into account. Although the expected effects of the graphic design and customer’s choice process differed across all conditions and variables, the results confirmed that these elements both had an influence on customers’ responses to a product. Sales promotions with rounded shapes generated the most positive responses. They led to a better evaluation of the sales promotion. Rounded packaging shapes led to a higher price that customers were willing to pay for a product. When looking at the choice behavior present in a product category, it was found that variety-seeking products created higher expectations, but inertia-prone products led to a higher purchase intention, a higher expected retailer’s price and a higher price that customers were willing to pay for the product. When looking at the interaction of shape and choice behavior it turned out that rounded sales promotion and packaging shapes

worked best for increasing customers' evaluation of the design and the price they were willing to pay for the product. However, this only worked for inertia-prone products. No interaction was found between sales promotion shape, packaging shape and choice behavior.

The results regarding shapes confirmed the predictions that rounded (sales promotion and packaging) shapes have a more positive influence on customers' responses than angular shapes. Rounded shapes led to a more positive evaluation of the packaging sales promotion (for the packaging sales promotion shape), and a higher price that customers were willing to pay for the product (for the packaging shape). These results support the findings of other studies (e.g. Westerman et al., 2013; Van Rompay, Pruyn & Tieke, 2009) that indicate that rounded shapes elicit positive feelings, which are transferred by the halo effect to other factors, like the evaluation of the packaging sales promotion and the price the product was worth to customers. However these studies also found that marketers might prefer to use angular shaped graphics, for both logistic reasons and because they grab attention more easily (e.g. Westerman et al., 2013; Van Rompay, Pruyn & Tieke, 2009). But, these results were not found in the present study, which could be explained by the research method. In the present research, products were shown individually, which makes it natural that the displayed packaging sales promotion and packaging grab the respondent's full attention. Unfortunately, this is not quite similar to a customer's real-life shopping experience. In a store, several products stand next to each other on a shelf. They all have different graphic designs and compete for the customer's attention. It could be the case that in a store context angular shapes turn out to grab attention more easily, or even that the previously found effects of rounded shapes turn out to be different. Therefore, further research needs to be done that compares graphic designs with rounded shapes to graphic designs with angular shapes, while the products are shown together in a store context.

When looking at the interaction between sales promotion shapes and packaging shapes it was expected that the two conditions with the same sales promotion and packaging shapes were rated as more congruent, compared to the two conditions with different sales promotion and packaging shapes. However, no differences were found between two conditions with the rounded packaging shapes and the rounded/angular sales promotion shapes, which could be explained by the visual stimuli. When looking more closely at the visuals it seems that the angular packaging conditions are much more similar to each other than the rounded packaging conditions. The angular packaging conditions are all angular boxes, cartons or flacons, with four distinct corners. The rounded packaging conditions are all rounded, but vary in roundness from a rounded bag and bottle to an oval flacon. This could be the reason for the unexpected scores on the congruence question. A respondent might see a roll of bags as round, but might not see an oval flacon as round, and therefore might not see congruence between a somewhat rounded packaging and a clearly rounded sales promotion. Therefore, the expectation that congruence between the shapes of the packaging sales promotion and the product's packaging has a more positive influence on customers' responses than incongruence was not confirmed. Further it was found that respondents did not experience greater processing fluency with congruent shapes, compared to incongruent shapes. This was unexpected, since other studies (e.g. Van Rompay, Pruyn & Tieke, 2009; Gmuer, Siegrist & Dohle, 2015) found that congruence between stimuli facilitates easy processing.

However, the lack of greater processing fluency with congruent stimuli could also be explained by the aforementioned differences between the visuals that were supposed to look congruent.

The results regarding customers' choice behavior both confirmed and contradicted the expectation that packaging sales promotions in variety-seeking product categories have a more positive influence on customers' responses than packaging sales promotions in inertia-prone product categories. As expected, it was found that product categories where variety-seeking behavior was dominant led to higher expectations of the product. An explanation for this is that variety-seeking product categories create higher expectations because they tend to attract new customers with innovations (e.g. new flavors or colors), and customers therefore expect the product to be as good as, or even better than, the product they previously bought from that category. However, an unexpected result was that product categories where inertia-prone behavior was dominant led to a higher purchase intention, higher expected retailer's price for the product and higher price customers were willing to pay for the product. An explanation for this is that inertia-prone products are often products with which customers' experience a low risk when purchased. Since inertia-prone products are often standard and well-known, customers know exactly what to expect from them and they can rely on them to fulfill their needs. Therefore, customers' expected retailer's price for the product, purchase intention and the price that they are willing to pay for the product are higher than for variety-seeking products. This result could also be explained by the research of Zhang, Krishna and Dhar (2000), which showed that when the degree of inertia was high, customers were more motivated to buy a product when the promotion offered them an immediate reward (which a 20% discount does).

When looking at the interaction between sales promotion shape and choice behavior it was expected that in product categories where variety-seeking behavior was dominant, packaging sales promotions with angular shapes had a more positive influence on customers' responses, and in product categories where inertia-prone behavior was dominant, packaging sales promotions with rounded shapes had a more positive influence on customers' responses. These expectations were only partly confirmed since in the variety-seeking product categories there were no differences found between sales promotion shapes, but in the inertia-prone product categories rounded sales promotion indeed led to a higher evaluation of the design. This interaction between sales promotion shape and choice behavior is interesting to see since it confirms the idea that the automatic thinking in the inertia-prone product categories matches with the fluent (processing) and smooth lines of rounded shapes which causes more positive responses (Van Rompay & Pruyn, 2011).

For the interaction between packaging shape and choice behavior it was expected that in product categories where variety-seeking behavior was dominant, angular packaging shapes had a more positive influence on customers' responses, and in product categories where inertia-prone behavior was dominant, rounded packaging shapes had more positive influence on customers' responses. These expectations were only partly confirmed since in the variety-seeking product categories there were no differences found between packaging shape, but in the inertia-prone product categories rounded packaging shapes led to a higher price that customers were willing to pay for the product. This interaction indicated that the effect of packaging shape depends on the choice behavior dominant in the product category, and confirms the idea that the automatic

thinking in the inertia-prone product categories matches with the fluent (processing) and smooth lines of rounded shapes which causes more positive responses (Van Rompay & Pruyn, 2011).

For the interaction between sales promotion shape, packaging shape and choice behavior it was expected that congruence between the sales promotion shape and packaging shape had a more positive influence on customers' responses in inertia-prone product categories, and incongruence between the sales promotion shape and packaging shape had a more positive influence on customers' responses in variety-seeking product categories. However, the present study found no results at all that indicate the existence of an interaction between sales promotion shape, packaging shape and choice behavior. Although it is not quite clear why no results were found, an explanation might be that the used visual stimuli were not optimal, since they lacked a clear distinction between congruence and incongruence, as mentioned previously. This could cause visual processing to be at a regular level, so not really fluent (which matches the choice process of inertia-prone customers) and not really interrupted (which matches the choice process of variety-seeking product customers), which could explain the lack of (interaction) effects found.

## 7.2 Limitations and recommendations for further research

The present research added quite some new and valuable information to the research field regarding the graphic design of packaging and packaging sales promotions. However, the present study also had some limitations that have to be taken into account for future research.

The first and foremost limitation is that the present research displayed the products individually on a screen, which does not represent a real-life store environment where products stand on a shelf, surrounded by other products. It may be that the positive effects of rounded shapes appear to be different in a store context, or that angular shapes in this context display clear (positive or negative) effects. Although the present research was a good start for expanding the knowledge on the graphic design of packaging and packaging sales promotions, it is valuable that further research is carried out in a different context, or that another research method is added (e.g. an eye-tracking system to determine which (element on a) packaging attracts the most attention).

Further, it was expected that the conditions with similar shaped sales promotions and packaging were seen as congruent, and the conditions with different shaped sales promotions and packaging were seen as incongruent. However, this was not found. It was also assumed that congruence led to higher processing fluency, which in its turn could cause more favorable responses. But, there were also no differences found in processing fluency between the four design conditions. For further research it is recommended that the visual stimuli are improved in order to ensure that angular shapes are really seen as angular and rounded shapes are really seen as rounded. The packaging shapes must be equally similar to each other among the different categories (e.g. similar shaped boxes or similar shaped bottles). This could enhance a clearer distinction between congruent and incongruent shapes, and could enhance differences in processing to become clear.

The present research studied important aspects of the graphic design of packaging sales promotions, however it is not clear if the results that were found are limited to the type of sales promotion used. In their study, Zhang, Krishna and Dhar (2000) found different effects of sales promotions that offer delayed rewards

and sales promotions that offer immediate rewards. It could be that customers respond different to the graphic design of sales promotions, when their reward system works differently. Therefore, for further research it is valuable to investigate other types of sales promotions. Further, the present study was focused on product categories with clear variety-seeking or inertia-prone choice behavior. As the research from Givon (1984) pointed out, more than half of all customers neither seeks nor avoids variety. It is recommended to incorporate other choice behaviors in future studies. Also, graphic design has several elements that may play a role in influencing customers' responses, but the focus in the present research was only on shape. Future research can benefit from varying different graphic design elements in the visuals, and investigate the influence of other elements. It is also important to check for further research if the chosen product categories are product categories where sales promotions are often present (e.g. one could wonder if sales promotions on sandwich bags are realistic).

When looking at the respondents, the study was limited to a young and highly educated population due to convenience sampling. Further, some respondents were not familiar with the product (category) shown to them and some had never bought products from that category. However, it was decided to include all respondents in the research, since their opinion regarding graphic design is not limited to, or merely shaped by, the product they saw. Even if respondents were not familiar with a product, or had never bought the product displayed, they could still give their opinion about the packaging. An explanation for why some respondents never bought the displayed product is that they might be against a product and therefore do not buy it (e.g. a respondent mentioned that she never bought sandwich bags because they are not eco-friendly). Moreover, the present research only investigated four product categories, which makes it important to also study other products. Thus, for future research it is recommended to take respondents with different demographic variables and different products into account.

In retrospect, using the online survey software and insight platform Qualtrics to conduct the research caused two difficulties. First, Qualtrics was set up to automatically and evenly distribute all the respondents across the 16 conditions. However, when analyzing the results, it turned out that this was not entirely the case; four conditions had fewer respondents than the expected average. Second, Qualtrics was set up to require respondents to answer all questions. However, when analyzing the results, it turned out that several respondents answered the price questions with '0.00'. While Qualtrics accepted this as a valid response, these questions were not answered seriously and could not be taken into account. Therefore, these answers were reported as missing in SPSS and were not used for further analyses. Thus, for further research, more attention must be paid to an evenly distribution and ensuring that all answers given could be used (e.g. let respondents answer a price question with a slider bar to make sure that the indicated value is usable).

While the reliability scores of the items measuring the different scales were found adequate for the present research, the reliability regarding the expectations scale and processing fluency scale were not as high as one would hope. For further research it might be good to add more questions to the scales or explore other options to increase the reliability scores. Also, normality was violated for several tests. Although non-normality only has a small effect on p-values when comparing means, it is important for further research to try and avoid non-normality.

Lastly, for further research it is interesting to see if there is a ceiling effect of the influence of choice process on the price that customers are willing to pay for a product. The present study showed that customers were willing to pay a higher price for inertia-prone products, which is very interesting for companies and brands. However, it is important to find out if they can keep increasing the price and customers will still buy the inertia-prone product, or if customers stop to buy the product once the price reaches a certain level.

### 7.3 Conclusion and implications

The present research was conducted to find out the best way to graphically design a packaging sales promotion. Packaging sales promotions play an important role in influencing customers' (unplanned) purchase decisions, since they are the only kind of sales promotion that influence customers both at home and in-store and cannot be avoided. Despite their big influence, little research had been done on which graphical design is the most optimal for positively influencing customers' responses. To fill the gap in the literature, the present research investigated the influence of the graphic design of a product's packaging sales promotion shape and a product's packaging shape on customers' responses to a product. The customer's choice process dominant in a product's category was also taken into account. While there appeared to be no distinct answer on how to shape the graphic design the best, this research still provided useful insights. For both the sales promotion and the packaging, rounded shapes generated the most positive responses, compared to angular shapes. The sales promotion was evaluated better and customers were willing to pay a higher price for the product when the shapes were rounded. The findings regarding the sales promotion shape are convenient for marketers since they are easy to apply; to ensure that customers like a sales promotion (more), it simply has to have a rounded shape. Unfortunately, the findings regarding packaging shape are more challenging to apply in practice, one does not simply change a packaging shape from angular to rounded. However, since a rounded packaging shape could increase the price customers are willing to pay for a product, it is important to keep this in mind when designing a packaging. The findings regarding choice behavior point out that product categories where variety-seeking behavior was dominant led to higher expectations, and product categories where inertia-prone behavior was dominant led to a higher purchase intention, a higher expected retailer's price and a higher price that customers were willing to pay for the product. This indicated that companies and brands set high expectations with variety-seeking products, which should always be met. However, it appears that customers will always buy inertia-prone products, even for a higher price, which might make them less susceptible to competitors' sales promotions. The interactions between shape and choice behavior pointed out that rounded sales promotion and packaging shapes worked best for increasing customers' evaluation of the design and the price they were willing to pay for the product. However, this only worked for inertia-prone products. Thus, in inertia-prone product categories, companies and brands could benefit from rounded shapes, which are easier to implement when it concerns a sales promotion shape, compared to a packaging shape. While several limitations and suggestions for further research can be pointed out, the present study is a valuable addition to an emerging field of research. When shaping designs, the most positive responses can be achieved by rounded shapes.

## 8. Appendices

### 8.1 Appendix 1: Visuals of product categories, packaging shapes and sales promotions shapes pre-tested

#### 8.1.1 *Variety-seeking product categories*

##### 8.1.1.1 Rounded packaging shapes, rounded/angular sales promotion shapes



### 8.1.1.2 Angular packaging shapes, rounded/angular sales promotion shapes



### 8.1.2 Inertia-prone product categories

#### 8.1.2.1 Rounded packaging shapes, rounded/angular sales promotion shapes





#### 8.1.2.2 Angular packaging shapes, rounded/angular sales promotion shapes



## 8.2 Appendix 2: Questionnaire pre-test

Dear respondent,

Welcome to my Masters' thesis survey!

Thank you for participating. With your help I will be able to finish my Masters' in Marketing Communication at the University of Twente.

In this survey I would like to hear your thoughts and opinions about the graphic design of a product's packaging in order to design it in the most optimal way.

Four fictive products will be shown to you during the survey, please look closely at them and answer all the corresponding questions. You can only fill in one answer per question, and be assured that there is no wrong answer possible. This survey should take about 10-15 minutes to complete.

All the answers you provide are anonymous and will be kept in the strictest confidentiality. Participating is voluntarily and you are free to end your participation at any moment and for any reason.

If you have any questions, please don't hesitate to contact me.

Juliën Schoonbrood

Student Communication studies, specialization Marketing Communication, University of Twente.

j.m.j.schoonbrood@student.utwente.nl

06 – 45326270

Please click the '>>' button to begin.

---

Please take a close look at the visual below and read the related text.

[Visual of a product with a packaging sales promotion]

The following questions relate to the displayed product category; [product category].

Be aware that the **displayed product is a fictive one**, so it does not exist. This is also the reason that there is no brand displayed on the packaging. However, the **displayed product category does exist** in real-life, and this category must be kept in mind when answering the following questions.

Imagine that you go to the supermarket to buy [product category]. On the shelves you see this product, with a sales promotion attached onto the packaging. You think about the previous time(s) you bought and used this product. What are your opinions about this product?

The following questions relate to your purchasing behavior with the displayed product category.

Please check the box that best corresponds to your opinion regarding each statement below.

Q1. Even when I'm satisfied with my last purchase, I like to vary within this product category by purchasing different brands.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q2. I like to change the brand I usually buy from this product category.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q3. Unless I'm not satisfied, I will continue to repurchase the same brand from this product category.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q4. I don't bother to change the brand I usually buy from this product category.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q5. I don't mind spending time and effort to search for new alternatives to buy within this product category.

- Q6. I usually switch brands within this product category. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q7. I don't want to spend time and effort to change away from the brand I normally buy from this product category. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q8. I usually buy the same brand from this product category. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q9. In my opinion all brands within this product category are different. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q10. When I buy a brand from this product category, I buy it because I want to try something new. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q11. I consider all brands within this product category as fairly similar. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q12. When I repurchase a brand from this product category, I buy the same brand because that is convenient and saves time. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q13. I switch brands within this product category because I'm easily bored with them. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q14. I like to own a variety of brands from this product category. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q15. I repurchase the same brand from this product category out of habit. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q16. I don't really think or care about the brand I buy. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

The following questions relate to the graphic design of the displayed product.

Please check the box that best corresponds to your opinion regarding each statement below.

- Q17. The shape of the product's packaging is ... Very angular - 1 2 3 4 5 6 7 - Very round
- Q18. The shape of the sales promotion sticker on the packaging is ... Very angular - 1 2 3 4 5 6 7 - Very round
- Q19. The shape of the product's packaging is ... Very sharp - 1 2 3 4 5 6 7 - Very soft
- Q20. The shape of the sales promotion sticker on the packaging is ... Very sharp - 1 2 3 4 5 6 7 - Very soft
- Q21. The way in which the sales promotion sticker is shaped is similar to the shape of the product's packaging. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

The following questions relate to the packaging of the displayed product.

Please check the box that best corresponds to your opinion regarding each statement below.

- Q22. This is an eye-catching product. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q23. I find this design pleasing. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q24. This design is attention grabbing. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q25. I find it easy to visually process the design of the packaging. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q26. When I close my eyes, it is easy to visualize the packaging. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q27. The sales promotion (20% off) on the packaging is easy to understand. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

---

--- New visual and questions! (repeat 3 more times) ---

---

You have answered all the questions and reached the end of the survey. Thank you again for participating!

Juliën Schoonbrood

Student Communication studies, specialization Marketing Communication, University of Twente.

[j.m.j.schoonbrood@student.utwente.nl](mailto:j.m.j.schoonbrood@student.utwente.nl)

06 – 45326270

## 8.3 Appendix 3: Detailed results pre-test

### 8.3.1 Dominant choice behavior

Since inertia-prone behavior and variety-seeking behavior are two opposites, it was chosen to recode the answers given to the questions related to inertia-prone behavior. In this way, all choice behavior answers close to (1) on the Likert-scale indicate that inertia-prone behavior was dominant and all choice behavior answers close to (7) on the Likert-scale indicate that variety-seeking behavior was dominant.

Prior to further analyses, the reliability of the 16 items regarding the customers' choice process present in a products' category was calculated. Cronbach's alpha was .86. Thus, all the items measuring customers' choice process were reliable, and therefore a sum score variable was computed.

A Mann-Whitney  $U$  test indicated that the scores on the choice process questions were significantly higher for the variety-seeking products categories (Mean Rank = 43.16,  $n = 32$ ) than for the inertia-prone product categories (Mean Rank = 21.84,  $n = 32$ ),  $U = 171.00$ ,  $z = -4.58$  (corrected for ties),  $p = .000$ , two-tailed. This effect can be described as large ( $r = .81$ ). These results are as expected, since higher scores indicate more variety-seeking behavior, and lower scores indicate more inertia-prone behavior. The results therefore confirm that cereal and shower gel can be seen as variety-seeking product categories, and that milk and sandwich bags can be seen as inertia-prone product categories.

### 8.3.2 Shape manipulations – Packaging

The reliability of the 2 items regarding the packaging shape was calculated. Cronbach's alpha was .95. Thus, the items measuring packaging shape were reliable, and therefore a sum score variable was computed.

After this, Mann-Whitney  $U$  tests were performed for each product category. For cereal, the Mann-Whitney  $U$  test indicated that the scores on the shape questions were significantly higher for the rounded packaging shapes (Mean Rank = 12.50,  $n = 8$ ) than for the angular packaging shapes (Mean Rank = 4.50,  $n = 8$ ),  $U = 0.000$ ,  $p = .000$ . This effect can be described as very large ( $r = 1.24$ ). For milk, the Mann-Whitney  $U$  test also indicated that the scores on the shape questions were significantly higher for the rounded packaging shapes (Mean Rank = 12.50,  $n = 8$ ) than for the angular packaging shapes (Mean Rank = 4.50,  $n = 8$ ),  $U = 0.000$ ,  $p = .000$ . This effect can be described as very large ( $r = 1.21$ ). For shower gel, the Mann-Whitney  $U$  test also indicated that the scores on the shape questions were significantly higher for the rounded packaging shapes (Mean Rank = 11.75,  $n = 8$ ) than for the angular packaging shapes (Mean Rank = 5.25,  $n = 8$ ),  $U = 0.000$ ,  $p = .000$ . This effect can be described as very large ( $r = 0.98$ ). For sandwich bags, the Mann-Whitney  $U$  test also indicated that the scores on the shape questions were significantly higher for the rounded packaging shapes (Mean Rank = 12.50,  $n = 8$ ) than for the angular packaging shapes (Mean Rank = 4.50,  $n = 8$ ),  $U = 0.000$ ,  $p = .000$ . This effect can be described as very large ( $r = 1.20$ ). All the above mentioned results are as expected, since higher scores indicate more rounded shapes, and lower scores indicate more angular shapes. The results therefore confirm that for all

product categories the packaging shape manipulations were successful, since the rounded packaging can indeed be seen as a rounded packaging, and the angular packaging can indeed be seen as an angular packaging.

### 8.3.3 Shape manipulations – Sales promotion

The reliability of the 2 items regarding the sales promotion shape was calculated. Cronbach's alpha was .89. Thus, the items measuring sales promotion shape were reliable, and therefore a sum score variable was computed.

After this, Mann-Whitney  $U$  tests were performed for each product category. For cereal, the Mann-Whitney  $U$  test indicated that the scores on the shape questions were significantly higher for the rounded sales promotion shapes (Mean Rank = 12.50,  $n = 8$ ) than for the angular sales promotion shapes (Mean Rank = 4.50,  $n = 8$ ),  $U = 0.000$ ,  $p = .000$ . This effect can be described as very large ( $r = 1.21$ ). For milk, the Mann-Whitney  $U$  test indicated that the scores on the shape questions were significantly higher for the rounded sales promotion shapes (Mean Rank = 12.19,  $n = 8$ ) than for the angular sales promotion shapes (Mean Rank = 4.81,  $n = 8$ ),  $U = 2.500$ ,  $p = .001$ . This effect can be described as very large ( $r = 1.12$ ). For shower gel, the Mann-Whitney  $U$  test indicated that the scores on the shape questions were significantly higher for the rounded sales promotion shapes (Mean Rank = 12.50,  $n = 8$ ) than for the angular sales promotion shapes (Mean Rank = 4.50,  $n = 8$ ),  $U = 0.000$ ,  $p = .000$ . This effect can be described as very large ( $r = 1.21$ ). For sandwich bags, the Mann-Whitney  $U$  test indicated that the scores on the shape questions were significantly higher for the rounded sales promotion shapes (Mean Rank = 12.50,  $n = 8$ ) than for the angular sales promotion shapes (Mean Rank = 4.50,  $n = 8$ ),  $U = 0.000$ ,  $p = .000$ . This effect can be described as very large ( $r = 1.20$ ). All the above mentioned results are as expected, since higher scores indicate more rounded shapes, and lower scores indicate more angular shapes. The results therefore confirm that for all product categories the sales promotion shape manipulations were successful, since the rounded sales promotion can indeed be seen as a rounded sales promotion, and the angular sales promotion can indeed be seen as an angular sales promotion.

### 8.3.4 Shape (in)congruence

Next, Mann-Whitney  $U$  tests were performed for each product category to see if shape (in)congruence between the packaging and sales promotion was present. For cereal, the Mann-Whitney  $U$  test indicated that the scores on the (in)congruence question were not significantly higher for the congruent shapes (Mean Rank = 10.00,  $n = 8$ ) than for the incongruent shapes (Mean Rank = 7.00,  $n = 8$ ),  $U = 20.000$ ,  $p = .234$ . For milk, the Mann-Whitney  $U$  test indicated that the scores on the (in)congruence question were significantly higher for the congruent shapes (Mean Rank = 11.75,  $n = 8$ ) than for the incongruent shapes (Mean Rank = 5.25,  $n = 8$ ),  $U = 6.000$ ,  $p = .005$ . This effect can be described as very large ( $r = 1.00$ ). For shower gel, the Mann-Whitney  $U$  test indicated that the scores on the (in)congruence question were not significantly higher for the congruent shapes (Mean Rank = 10.50,  $n = 8$ ) than for the incongruent shapes (Mean Rank = 6.50,  $n = 8$ ),  $U = 16.000$ ,  $p = .105$ . For sandwich bags, the Mann-Whitney  $U$  test indicated that the scores on the (in)congruence question were significantly higher for the congruent shapes (Mean Rank = 12.38,  $n = 8$ ) than for the incongruent shapes (Mean Rank = 4.63,  $n = 8$ ),  $U = 1.000$ ,  $p = .000$ . This effect can be described as very large ( $r = 1.17$ ). The above

mentioned results show that in the variety-seeking product categories respondents did not see the congruent shapes as congruent and the incongruent shapes as incongruent. However, in the inertia-prone product categories the respondents did see the congruent shapes as congruent and the incongruent shapes as incongruent.

Due to these striking results, more Mann-Whitney  $U$  tests were performed to check if there were any differences within the congruent and incongruent shapes, these results can be found in figure 5. These results show that there were no differences within the congruent and incongruent condition.

| Product       | Design | Congruence                        |                                   | Incongruence                      |                                   |
|---------------|--------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
|               |        | Rounded Pack<br>Rounded Promotion | Angular Pack<br>Angular Promotion | Rounded Pack<br>Angular Promotion | Angular Pack<br>Rounded Promotion |
| Cereal        |        | (Mean Rank = 4.50, $n = 4$ )      | (Mean Rank = 4.50, $n = 4$ )      | (Mean Rank = 4.38, $n = 4$ )      | (Mean Rank = 4.63, $n = 4$ )      |
|               |        | $U = 8.000, p = 1.000$            |                                   | $U = 7.500, p = 0.886$            |                                   |
| Milk          |        | (Mean Rank = 3.88, $n = 4$ )      | (Mean Rank = 5.13, $n = 4$ )      | (Mean Rank = 6.00, $n = 4$ )      | (Mean Rank = 3.00, $n = 4$ )      |
|               |        | $U = 5.500, p = 0.486$            |                                   | $U = 2.000, p = 0.114$            |                                   |
| Shower gel    |        | (Mean Rank = 5.75, $n = 4$ )      | (Mean Rank = 3.25, $n = 4$ )      | (Mean Rank = 3.50, $n = 4$ )      | (Mean Rank = 4.635.50, $n = 4$ )  |
|               |        | $U = 3.000, p = 0.200$            |                                   | $U = 4.000, p = 0.343$            |                                   |
| Sandwich bags |        | (Mean Rank = 3.00, $n = 4$ )      | (Mean Rank = 6.00, $n = 4$ )      | (Mean Rank = 5.25, $n = 4$ )      | (Mean Rank = 3.75, $n = 4$ )      |
|               |        | $U = 2.000, p = 0.114$            |                                   | $U = 5.000, p = 0.486$            |                                   |

Table 5. The results of the Mann-Whitney  $U$  tests per product, within the (in)congruence conditions

Although there were differences found between the variety-seeking and inertia-prone product categories, the designs will not be altered for the main study, since the packaging shape manipulations and sales promotion shape manipulations were successful. It was however decided that the (in)congruency question will be included in the main study, after it is formulated in a way that is easier to understand.

### 8.3.5 Design

The reliability of the 3 items regarding the product('s design) was calculated. Cronbach's alpha was .85. Thus, the items measuring sales promotion shape were reliable, and therefore a sum score variable was computed.

Next, a Kruskal-Wallis one-way ANOVA was performed to see if the different packaging designs influence the extent to which respondents think the different products are eye-catching, pleasing and attention grabbing. However, in each product category these analyses indicated that there were no statistically significant differences between the four product designs. For the product category cereal, the 'rounded packaging, rounded sales promotion' was (*Mean Rank* = 9.38), the 'rounded packaging, angular sales promotion' (*Mean*

*Rank* = 11.88), the 'angular packaging, rounded sales promotion' (*Mean Rank* = 7.88), and the 'angular packaging, angular sales promotion' (*Mean Rank* = 4.88),  $H$  (corrected for ties) = 4.608,  $df = 3$ ,  $n = 16$ ,  $p = .203$ . For the product category milk, the 'rounded packaging, rounded sales promotion' was (*Mean Rank* = 12.38), the 'rounded packaging, angular sales promotion' (*Mean Rank* = 8.00), the 'angular packaging, rounded sales promotion' (*Mean Rank* = 6.50), and the 'angular packaging, angular sales promotion' (*Mean Rank* = 7.13),  $H$  (corrected for ties) = 3.778,  $df = 3$ ,  $n = 16$ ,  $p = .286$ . For the product category shower gel, the 'rounded packaging, rounded sales promotion' was (*Mean Rank* = 7.38), the 'rounded packaging, angular sales promotion' (*Mean Rank* = 11.25), the 'angular packaging, rounded sales promotion' (*Mean Rank* = 5.75), and the 'angular packaging, angular sales promotion' (*Mean Rank* = 9.63),  $H$  (corrected for ties) = 3.148,  $df = 3$ ,  $n = 16$ ,  $p = .369$ . For the product category sandwich bags, the 'rounded packaging, rounded sales promotion' was (*Mean Rank* = 10.88), the 'rounded packaging, angular sales promotion' (*Mean Rank* = 5.50), the 'angular packaging, rounded sales promotion' (*Mean Rank* = 10.00), and the 'angular packaging, angular sales promotion' (*Mean Rank* = 7.63),  $H$  (corrected for ties) = 3.235,  $df = 3$ ,  $n = 16$ ,  $p = .357$ . Although there are no significant differences in the pre-test, it can still be the case that in the main research the effects will be significant, due to the bigger sample size there.

### 8.3.6 Processing fluency

The reliability of the 2 items regarding the processing fluency of the visuals was calculated and Cronbach's alpha was .42. Since this alpha is quite low, it was not considered adequate for the present research. Therefore it was decided that no further analyses in the pre-test will be done on these questions, and it was decided to include these two questions again in the main study, and add another processing fluency question to enlarge the processing fluency scale.

### 8.3.7 Understandability

A chi-square test for goodness of fit was used to assess whether the sales promotion on the packaging was easy to understand. All answers close to (1) on the Likert-scale indicate that the respondent strongly disagrees that the sales promotion is easy to understand and all answers close to (7) on the Likert-scale indicate that the respondent strongly agrees that the sales promotion is easy to understand. It is expected that most answers are close to (7) on the Likert-scale. The chi-square test was statistically significant,  $\chi^2 (5, n = 64) = 83.56$ ,  $p < .001$ , indicating that some answers were reported with significantly greater frequency than others. 50% of the respondents agreed with Q27, 36% strongly agreed, 4.7% somewhat agreed, 3.1% somewhat disagreed, 3.1% disagreed and 3.1% strongly disagreed. The above mentioned results show that over 90% of the respondents agrees that the sales promotion is easy to understand, and is therefore suitable to use in the main research.

## 8.4 Appendix 4: Questionnaire main study

Dear respondent,

Welcome to my Masters' thesis survey!

Thank you for participating. With your help I will be able to finish my Masters' in Marketing Communication at the University of Twente.

In this survey I would like to hear your thoughts and opinions about the graphic design of a product's packaging in order to design it in the most optimal way.

A fictive product will be shown to you during the survey, please look closely at it and answer all the corresponding questions. You can only fill in one answer per question, and be assured that there is no wrong answer possible. This survey should take about 5 minutes to complete.

All the answers you provide are anonymous and will be kept in the strictest confidentiality. Participating is completely voluntarily and you are free to end your participation at any moment and for any reason.

If you have any questions, please don't hesitate to contact me.

Juliën Schoonbrood

Student Communication studies, specialization Marketing Communication, University of Twente.

j.m.j.schoonbrood@student.utwente.nl

06 – 45326270

Please click '>>' to begin.

---

Please take a close look at the product below and read the related text.

[Visual of a product with a packaging sales promotion]

The following questions relate to the displayed product category; [product category].

Be aware that the **displayed product is a fictive one**, so it does not exist. This is also the reason that there is no brand displayed on the packaging. However, the **displayed product category does exist** in real-life, and this category must be kept in mind when answering the following questions.

Imagine that you go to the supermarket to buy [product category]. On the shelves you see this product, with a sales promotion attached onto the packaging. What are your opinions about this product?

The following questions relate to your familiarity with the displayed product and its product category.

Please check the box that best corresponds to your answer for each question below.

- |                                                                         |     |    |
|-------------------------------------------------------------------------|-----|----|
| Q1. Are you familiar with products from the displayed product category? | Yes | No |
| Q2. Have you ever bought products from this product category?           | Yes | No |

The following questions relate to your expectations about the displayed product.

Please check the box that best corresponds to your opinion regarding each statement below.

- |                                               |                                                    |
|-----------------------------------------------|----------------------------------------------------|
| Q3. This is a high quality product.           | Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree |
| Q4. This is a luxury product.                 | Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree |
| Q5. This product has a nice [flavor/texture]. | Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree |

Q6. This product has a strong [flavor/texture].

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q7. The average market price for [product category (volume)] is [average price]. What do you think that the retailer's price for the displayed product is?

€,...

Q8. If the displayed product was available, what would you be willing to pay for this product?

€,...

The following questions relate to your attitude towards the displayed product.

Please check the box that best corresponds to your opinion regarding each statement below.

Q9. I think I would like this product.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q10. I think this product is satisfying.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q11. This product appeals to me.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q12. This is a fine product.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q13. I feel positive about this product.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q14. This is an attractive product.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q15. This is a superior product.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

The following questions relate to your purchase intention towards the displayed product.

Please check the box that best corresponds to your opinion regarding each statement below.

Q16. I would purchase this product.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q17. It is likely that I would try this product.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q18. I would consider buying this product the next time I need [product category].

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q19. I would buy this product when it becomes available.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

--- For your convenience the same visual as above is displayed again. Please take another close look at the visual before answering the further questions. ---

The following questions relate to the packaging of the displayed product.

Please check the box that best corresponds to your opinion regarding each statement below.

Q20. This is an eye-catching product.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q21. I find this design pleasing.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q22. This design is attention grabbing.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q23. I find it easy to look at the design of the packaging and take it all in.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q24. When I close my eyes, it is easy to visualize the packaging.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q25. I find it easy to draw this design, or to explain to someone what it looks like.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

Q26. A product's packaging often contains different elements like text, colors, images, a brand, and shapes. These elements can have similar properties that make them look congruent, or have different properties that make them look incongruent. For now, **only look at the shape of the sales promotion sticker and the shape of the product's packaging** and answer the following question:

The way in which the sales promotion sticker is shaped is similar to the shape of the product's packaging.

Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree

---

--- The following questions will be asked without showing the visual ---

- Q27. Did you notice the sales promotion on the packaging? Yes No
- Q28. Please describe what the sales promotion on the packaging was; .....
- Q29. The sales promotion on the packaging is easy to understand. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q30. With this type of sales promotion I feel that I am getting a good deal. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q31. I like this type of sales promotion. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q32. With this type of sales promotion I feel like buying the product. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q33. I think this sales promotion is successful. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- 

The following questions relate to your demographic characteristics.

Please check the box that best corresponds to your answer for each question below.

- Q34. Please indicate your gender: Male Female
- Q35. Please indicate your age: ..... years old
- Q36. Education level: What is the highest level of education you have completed, or are currently enrolled in?
- Less than High School
  - High School
  - Bachelor's Degree - University of Applied Sciences
  - Bachelor's Degree - University
  - Master's Degree - University
  - Doctoral Degree (PhD)
  - Professional Degree
- Q37. Nationality:
- Dutch
  - German
  - Other, namely: .....
- Q38. It is important for me to get the best price for the products I buy. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q39. I pay attention to sales and specials. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q40. I usually find myself checking the prices, even for small items. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- Q41. I compare prices of at least a few brands before I choose one. Strongly disagree - 1 2 3 4 5 6 7 - Strongly agree
- 

You have answered all the questions and reached the end of the survey. Thank you again for participating!

Juliën Schoonbrood

Student Communication studies, specialization Marketing Communication, University of Twente.

j.m.j.schoonbrood@student.utwente.nl

06 – 45326270

## 10. References

- Abratt, R., & Goodey, D. (1990). Unplanned Buying and In-Store Stimuli in Supermarkets. *Managerial and Decision Economics*, 11(2), 111-121. Retrieved from <http://www.jstor.org/stable/2487460>
- Allen, P., & Bennet, K. (2010). *PASW statistics by SPSS: A practical guide* (Version 18.0). Australia: Cengage Learning Australia Pty Limited.
- Anderson, R. E., & Srinivasan, S. S. (2003). E-satisfaction and E-loyalty: A contingency Framework. *Psychology & Marketing*, 20(2), 123-138. doi: 10.1002/mar.10063
- Ares, G., & Deliza, R. (2010). Studying the influence of package shape and colour on consumer expectations of milk desserts using word association and conjoint analysis. *Food Quality and Preference*, 21(8), 930-937. doi:10.1016/j.foodqual.2010.03.006
- Becker, L., Van Rompay, T. J. L., Schifferstein, H. N. J., & Galetzka, M. (2011). Tough package, strong taste: The influence of packaging design on taste impressions and product evaluations. *Food Quality and Preference*, 22(1), 17-23. doi:10.1016/j.foodqual.2010.06.007
- Blackwell, R. D., Miniard, P. W., & Engel, J.F. (2006). *Consumer Behavior* (10<sup>th</sup> Edition, International Student Edition). Mason, OH: Thomson South-Western
- Bruner, G. C., Hensel, P. J. & James, K. E. (2005) *Marketing Scales Handbook (Volume IV)*. Mason, OH: South-Western Educational Publishing
- Claypool, H. M., Mackie, D. M., & Garcia-Marques, T. (2015). Fluency and Attitudes. *Social and Personality Psychology Compass*, 9(7), 370–382. doi: 10.1111/spc3.12179
- Dhar, S. K., Morrison, D. G., & Raju, J. S. (1996). The Effect of Package Coupons on Brand Choice: An Epilogue on Profits. *Marketing Science*, 15(2), 192-203. doi: 10.1287/mksc.15.2.192
- Engel, J.F., Blackwell, R. D., & Miniard, P. W. (1990). *Consumer Behavior* (Sixth Edition). Hinsdale, Illinois: The Dryden Press
- Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention, and Behavior: An introduction to Theory and Research*. Retrieved from <http://people.umass.edu/ajzen/f&a1975.html>
- Fleishman, A. (2011, November 11). 7. Assumptions of Statistical Tests [Web log post]. Retrieved from <http://allenfleishmanbiostatistics.com/Articles/2011/11/6-confounding-or-it-may-not-mean-that/>
- Floor, K., & Van Raaij, F. (1989). *Marketing communicatie strategie*. Leiden / Antwerpen: Stenfert Kroese Uitgevers
- Givon, M. (1984). Variety Seeking through Brand Switching. *Marketing Science*, 3(1), 1-22. Retrieved from <http://www.jstor.org/stable/183970>
- Gmuer, A., Siegrist, M., & Dohle, S. (2015). Does wine label processing fluency influence wine hedonics? *Food Quality and Preference*, 44, 12-16. doi: 10.1016/j.foodqual.2015.03.007
- Hansen, J. K., & Sørensen, H. C. (1993). *The Importance of Price for the Sale of Ecological Products* (MAPP working paper no.13). Aarhus: Aarhus School of Business. Retrieved from <http://pure.au.dk/portal/files/32299697/wp13.pdf>
- Kahn, B. E., Kalwani, M. U., & Morrison, D. G. (1986). Measuring Variety-Seeking and Reinforcement Behaviors Using Panel Data. *Journal of Marketing Research*, 23(2), 89-100. Retrieved from <http://www.jstor.org/stable/3151656>

- Kauppinen-Räsänen, H. (2014). Strategic Use of Color in Brand Packaging. *Packaging Technology and Science*, 27(8), 663-676. doi: 10.1002/pts.2061
- Nanji, A. (2013, May 24). Consumer Price Sensitivity and Deal Seeking Up in 2013 [Web log post]. Retrieved from <http://www.marketingprofs.com/charts/2013/10833/consumer-price-sensitivity-and-deal-seeking-up-in-2013>
- O'Donoghue, T., & Rabin, M. (2000). The Economics of Immediate Gratification. *Journal of Behavioral Decision Making*, 13(2), 233-250. doi: 10.1002/(SICI)1099-0771(200004/06)13:2<233::AID-BDM325>3.0.CO;2-U
- Oliver, R. L. (1981). Measurement and Evaluation of Satisfaction Processes in Retail Settings. *Journal of Retailing*, 57(3), 25-48. Retrieved from <http://web.b.ebscohost.com.ezproxy.ub.unimaas.nl/ehost/pdfviewer/pdfviewer?vid=1&sid=d1fd0600-e30e-459c-8d8e-f874aebb8805%40sessionmgr198&hid=115>
- Oliver, R. L. (1993). Cognitive, Affective, and Attribute Bases of the Satisfaction Response. *Journal of Consumer Research*, 20(3), 418-430. Retrieved from <http://www.jstor.org/stable/2489356>
- Pickton, D., & Broderick, A. (2001). *Integrated Marketing Communications*. Harlow: Pearson Education Limited – Financial Times Prentice Hall
- Pocheptsova, A., Labroo, A. A., & Dhar, R. (2010). Making Products Feel Special: When Metacognitive Difficulty Enhances Evaluation. *Journal of Marketing Research*, 47(6), 1059–1069. doi: 10.1509/jmkr.47.6.1059
- Point Of Purchase Advertising International. (1997). *The POPAI Europe Consumer Buying Habits Study: Measuring the In-Store Decision Making of Supermarket Shoppers*. Retrieved from [http://www.popai.com/uploads/downloads/2013/08/ThePOPAIEuropeConsumerConsumerBuyingHabitsStudy\\_1995.pdf](http://www.popai.com/uploads/downloads/2013/08/ThePOPAIEuropeConsumerConsumerBuyingHabitsStudy_1995.pdf)
- Point Of Purchase Advertising International. (2004). *The Power Of Point-Of-Purchase Advertising: Marketing At Retail*. Retrieved from <https://books.google.nl/books?id=VXH6w3scCsc&pg=PA190&lpg=PA190&dq=The+in-store+decision+rate+is+made+up+of+the+total+of+generally+planned,+unplanned+and&source=bl&ots=AaxV7Nk7JX&sig=IDM6hCGS52qdHh17qO6LsyiMoWU&hl=nl&sa=X&ved=0CCEQ6AEwAGoVChMlrdWGgfr2xwIVBr0aCh3qjA1N#v=onepage&q=The%20in-store%20decision%20rate%20is%20made%20up%20of%20the%20total%20of%20generally%20planned%20C%20unplanned%20and&f=false>
- Raju, J. S., Dhar, S. K., & Morrison, D. G. (1994). The Effect of Package Coupons on Brand Choice. *Marketing Science*, 13(2), 145-164. doi: 10.1287/mksc.13.2.145
- Ranaweera, C., & Neely, A. (2003). Some moderating effects on the service quality-customer retention link. *International Journal of Operations & Production Management*, 23(2), 230 – 248. doi: 10.1108/01443570310458474
- Rosenberg, N. (2011, May 20). What motivates consumers to continually buy a certain brand and ignore almost any other brands within the same category/shelf? [Forum message]. Retrieved from <https://www.quora.com/What-motivates-consumers-to-continually-buy-a-certain-brand-and-ignore-almost-any-other-brands-within-the-same-category-shelf>
- Sahoo, S. (2013). *Impulse buying behaviour in bath and shower care category across modern retail formats* (Doctoral dissertation, Mudra Institute of Communications, Ahmedabad). Retrieved from <http://keic.mica-apps.net:1026/greenstone/collect/disserta/index/assoc/HASH01a0/129532c0.dir/doc.pdf>

- Schoormans, J. P. L., & Robben, H. S. J. (1997). The Effect of New Package Design on Product Attention, Categorization and Evaluation. *Journal of Economic Psychology*, 18(2-3), 271-287. doi:10.1016/S0167-4870(97)00008-1
- Thomas, A. (2011, August 17). *Why Rounded Corners are Easier on the Eyes* [Web log post]. Retrieved from <http://uxmovement.com/thinking/why-rounded-corners-are-easier-on-the-eyes/>
- Van Rompay, T. J. L., & Pruyn, A. T. H. (2011). When Visual Product Features Speak the Same Language: Effects of Shape-Typeface Congruence on Brand Perception and Price Expectations. *Journal of Production Innovation Management*, 28(4), 599-610. doi: 10.1111/j.1540-5885.2011.00828.x
- Van Rompay, T. J. L., Pruyn, A. T. H., & Tieke, P. (2009). Symbolic meaning integration in design and its influence on product and brand evaluation. *International Journal of Design*, 3(2), 19-26. Retrieved from <http://www.ijdesign.org/ojs/index.php/IJDesign/article/viewFile/566/245>
- Velasco, C., Salgado-Montejo, A., Marmolejo-Ramos, F., & Spence, C. (2014). Predictive packaging design: Tasting shapes, typefaces, names, and sounds. *Food Quality and Preference*, 34, 88-95. doi:10.1016/j.foodqual.2013.12.005
- Wei, S. T., Ou, L. C., Luo, M. R., & Hutchings, J. B. (2014). Package design: Colour harmony and consumer expectations. *International Journal of Design*, 8(1), 109-126. Retrieved from <http://www.ijdesign.org/ojs/index.php/IJDesign/article/view/1130/612>
- Westerman, S. J., Sutherland, E. J., Gardner, P. H., Baig, N., Critchley, C., Hickey, C., ... Zervos, Z. (2013). The design of consumer packaging: Effects of manipulations of shape, orientation, and alignment of graphical forms on consumers' assessments. *Food Quality and Preference*, 27(1), 8-17. doi: 10.1016/j.foodqual.2012.05.007
- Winn, M. (2012, August 17). Leveraging the Psychology of Discounts to Make More Money [Web log post]. Retrieved from <http://www.volusion.com/ecommerce-blog/articles/using-the-psychology-of-discounts-to-make-more-money/>
- Zhang, Z. J., Krishna, A., & Dhar, S. K. (2000). The Optimal Choice of Promotional Vehicles: Front-Loaded or Rear-Loaded Incentives? *Management Science*, 46(3), 348-362. doi: 10.1287/mnsc.46.3.348.12062