The Impact of Emotion on Effective Packaging for Consumer Goods

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Abstract

Effective packaging is an important component of marketing effectiveness. Despite many discussions of the varying roles and effects of packaging elements, little attention has been paid to what defines overall packaging effectiveness and its measurement from a marketing perspective. Building on the literature, this paper proposes three fundamental measures that need to be considered for effective packs, i.e. attention, recognition and affect. The last section the paper sets out a research agenda and methods to help develop the body of knowledge in the packaging literature.

Key words: Packaging effectiveness, attention, recognition, affect

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Introduction

Packaging has long been an important element in the marketing mix. For many relatively homogenous consumer packaged goods, packaging is the product (Stern, 1981; Deasy, 1997; Silayoi and Speece, 2004). Evidence shows that most non-durable shopping decisions are made at the point of purchase (Prone, 1993; POPAI, 1996; POPAI, 2001) and packaging is a key factor in the purchase decision (Prendergast and Pitt, 1996; Silayoi and Speece, 2004). According to Millward Brown (cited in Campaign, 1997), approximately 40% of marketing budgets are allocated to pack design. Ineffective packaging is risky and costly (Young, 1990).

Although the literature discusses the importance and role of packaging, limited attention has been given to defining pack effectiveness from the consumer perspective and how it can be measured accurately. This paper reviews the literature on how packaging works from a marketing perspective then draws on findings from areas such as neuroscience and psychology, to propose attention, recognition and affect as three key measurements to evaluate packaging effectiveness. The paper then concludes with a conceptual framework and a research agenda.

Packaging effectiveness measurements

Attention - "Without noticing, there is nothing" – (Sharp, 2010, p.144).

Cluttered in-store environments combined with modern shopping behaviour have made attention a critical factor for a pack to fail or succeed. According to Kardes (2001) consumers only attend to a small fraction of the marketing communications to which they are exposed. Packaging's ability to be noticed helps it to impact in-store decisions. If a customer does not notice a brand's physical existence on shelf then the brand is not mentally available (Sharp, 2010). What the brand invested to be available physically thus has been wasted to some degree. Similar to Descartes' famous philosophy 'I think, therefore, I exist', for packaged brands, 'I (a brand) am noticed, therefore, I exist'.

Recognition

With only a few seconds typically allocated to each purchase decision (Shapiro and Krishnan, 2001), consumers experience difficulties in finding favourite brands. Hence marketers need to make their brands easily recognizable. Recognition is one dimension of brand awareness and the important one for packaged good purchases. In an experiment, Macdonald and Sharp (2000) find that 'consumers choosing from a set of brands that includes one known brand will make a decision more quickly than consumers choosing from a set of three unknown brands'. It is important to ensure that packaging can be recognized to tap into this heuristic buying behaviour. Moreover, packaging is often featured in out of store marketing, e.g. TV ads. Out of store marketing plays a role in influencing shopping behaviour through memory (van der Lans, Pieters and Wedal, 2008; Chandon *et al.*, 2009). Therefore, packs that can be recognised easily will help consumers to distinguish the brand they have in mind from

competing brands, helping to translate out-of-store marketing efforts (e.g. advertising) into purchases.

Affective responses

Aesthetic design, through graphics (e.g. colour, typeface, images) and structural elements (e.g., shape, size, and materials) has the ability to produce emotions and related physiological responses, which are universal and involuntary (Hine, 1995). Bloch (1995) noted that an aesthetically designed product works through eliciting 'at least a moderate level of aesthetic response in consumers, including an engagement of attention and strong positive emotions'. Silayoi and Speece (2004) find that for low involvement products, shopping decisions were usually made on pure liking. Packs suffering from poor imagery are less likely to enter into the consumers' consideration set at the point of purchase (Underwood, 2003). Therefore the measurement of consumers' emotional responses to packaging, which plays an important role in decision-making and choice (Damasio, 1994; Zajonc, 1980), can reflect how effective a package is likely to be. While the role of affect in pack has long been recognized qualitatively, scant research has been done to include consumer affective responses in empirical pack research.

What is affect?

Neuro-scientists state affect covers both the emotions and feelings a person has toward an object or activity (Wiles and Cornwell, 1990). Advertising researchers (Cramphorn, 2006; Penn, 2006) feel that emotions and feelings are often confused. They note that emotions are short-term, unconscious and influence feelings while feelings are conscious, cognitive and can be self-reported. This paper conceptualizes affect as emotions that are short-term, non-conscious (and not reportable) that can be measured with biometric equipment, whilst feelings are cognitive and to some degree consciously self-reportable.

The relationship between attention, recognition and affect

Affect, attention and recognition should not be observed as separate concepts in packaging, as the literature from other areas of marketing shows that they are strongly inter-related. Poels and Dewitte (2008), for example, suggest that emotional reactions to commercial print ads guide attention and action automatically and unconsciously. Cheskin's experiment (cited by Hine, 1995) discusses a possible relationship between affect, attention, and recognition: people may attend or recognise triangles better but it does not mean they like them. People may have more a positive association with an oval or a circle (Hine, 1995), but they may not be noticed or recognised in the cluttered retail environment if they are observed alone. Other areas of study also find relations between affect, attention and recognition. Geuens (1998) find that positive feelings are associated with higher ad and brand recognition scores in print ads. According to Eich (2000), emotional events or scenes are better remembered, recalled or recognised.

Packaging elements and their effect on attention, recognition and emotion

The majority of the study on attention, recognition and emotion of pack are conducted through examining packaging elements, especially the graphic and informational elements.

Attention: It is well established that graphic elements such as color and pictures have greater effects on attention over informational elements such as nutritional facts and brand names(Underwood, Klein and Burke, 2001; Pieters and Warlop, 1999).

Recognition: Product recognition involves visual cues stored in memory including design elements such as shape, colour, size, position and typeface (Olson, 2004). Lerman and Garbarino (2002) acknowledge brand name as an important point of distinctiveness for better recognition. Gaillard, Sharp & Romaniuk (2006) find that colour is the primarily element across brands that drives brand recognition.

Emotion: Gofman et al. (2009) studied consumers' emotional reaction to visual package elements using self-report methods and found that font, medallion, picture and tagline all have different levels of emotional effects. In addition, colour effects on emotion are well documented in the literature on the psychology of colour (Valdez and Mehrabian, 1994). Hine (1995, p215) states that 'Colour is unquestionably the most influential tool for emotional expression in packaging. Studies of involuntary physical reactions – eye movement, neural activity, and heart rate – show that colour is the element of a package that triggers the fastest and largest response'.

How packaging works effectively – the conceptual model

For packaging to be effective, it has to support consumer purchase behaviour and this is realised through eliciting desired consumer responses (Silayoi and Speece, 2004). While packaging effectiveness is normally associated with choice and post-validated by sales, this basic research focuses on how effective packaging elicits desired consumer responses, i.e. attention, recognition and affect, which influence in-store decision making and brand choice. This elicitation can either be generated by a conscious or a non-conscious response to a pack, or a combination of the two. These responses are the psychological antecedents to consumer choice (Wang and Minor, 2008) and therefore they are the underpinnings of packaging effectiveness.

Research agenda

Research question 1: Does packaging induce affect?
H1: Packaging can induce affective responses through different packaging elements, e.g. colour, images and brand name font.

As Hine (1995) points out, shoppers are affected by packaging in ways that they do not consciously understand. Previous packaging research using qualitative and self-report methods to measure emotions is flawed as packaging is a low affect stimulus and verbal measurement only captures feelings post-rationalized by the respondent (Penn, 2006). Therefore, physiological measures should be adopted to validate the existence of the unconscious affective responses to packaging.

Measurement of affect: As affective response to packaging is more likely to be unconscious, temporary and hard to verbalize, verbal measurements using discrete emotion based-words or categories may provide little value in capturing and reflecting the true consumer affective response to packaging. As a result, this research proposes to employ physiological devices to measure the possible affective response to packaging.

Intensity of emotion: Skin conductance (SC) is generally considered a sensitive measure of arousal, which is a good indicator of the intensity of emotion (Poels and Dewitte, 2006). However, it does not tell us the direction of the arousal, which can be either positive or negative. *Valence of emotion:* Facial electromyography (EMG) is regarded as a valid and sensitive measure of valence (Poels and Dewitte, 2006). The EMG detects the movements of two facial muscles that are related to different valences of emotion (Lang et al., 1993): the corrugator muscle is associated with negative emotions, and the zygomatic muscle is associated with positive emotions. EMG has been used in academic research to study emotional reactions to pictures (Lang et al., 1993) and TV commercials (Hazlett and Hazlett, 1999).

Research question 2: What is the impact of affect on attention?

H2a: More affect inducing packaging will attract more attention; gaze times on the element will increase.

Research question 3: What is the impact of affect on recognition?

H3a: Packs that induce positive affective responses will have increased accuracy to be recognised within a time limit compared to packs with none or low affective responses;

H3b: Packs that induce negative affective responses will result in increased accuracy to be recognised within a time limit compared to packs with none or low affective responses;

It is important to note that the research on the relationship between affect, attention, and recognition were done in areas such as advertising and psychology. The relationship has not been assessed in packaging. This research will test and validate if similar relationships hold between affect, attention and recognition in packaging context, which lead to our research questions two and three as stated above.

Measurement of attention: Eye tracking has been widely used as a technique to measure gaze duration, a valid indicator of visual attention in consumer research. This research will use gaze time, which is the sum of fixation durations on a stimulus element or on the stimulus as a whole, to measure the attention.

Measurement of recognition: The target packaging stimuli will be randomly displayed among control packs from the same product category with unfamiliar brand names. The respondents will be asked to identify the target stimuli after previous viewing. Their accuracy is the measure of recognition.

Overview of research design

Study 1: This study is designed to tackle research question one, and to form the basis to answer research questions 2 and 3.

This section will assess if the change of key packaging attributes identified from the literature, i.e., colour, graphic, and font style, will elicit different levels of consumer affective response and consumer attentional focus. We will vary the levels of the three elements with combinations using an experimental design and display them on a time-controlled computer screen. The brands will be unknown international brands to remove variability in brand familiarity. Participants will view each package for a time precisely controlled by the

computer. Eye tracking, skin conductance and facial EMG will be set up to measure the physiological responses to measure attention and affect. We will then be able to understand which combinations of packaging elements induce positive, negative, and no affect.

Study 2: From Question 1 we should have a good understanding of the relationship between different affective levels and their corresponding packages as stimuli, which will enable us to group the packaging stimuli into three different categories for study 2:

- Weak affect-eliciting or non-affect-eliciting package
- Strong positive affect-eliciting package
- Strong negative affect–eliciting package

In study 2, we put the chosen stimuli into a competitive environment among other control packages to measure the degree to which affective inducing packaging is associated with the respondent's attentional focus and packaging recognition.

We will display the strong positive, weak and strong negative affect-eliciting packages using an experimental design, among 3 or 5 other packages from the same product category on the same screen for a set period of time, e.g. 10 seconds, which is close to the average time that it takes a shopper to make a decision. Each screen will contain one stimulus with the other packages pre-tested to be neutral competitors. Before each display, there will be a reminder on the screen to ask participants to pay attention and to browse the packages on the screen as if they were in a shopping task. The duration of the visual fixation on the stimulus package for each display/screen is the measure of the attention for that stimulus.

The researcher will then show a series of screens with only one stimulus at a time from the experimental packages displayed before plus other pre-tested but unknown packs and asks the same participant whether he or she has seen it during the test. The computer will time the participant's response in answering the yes/no question and will jump to the next screen automatically.

The research uses the duration of the eye fixation to measure the different attentional effect of weak, none, or strong positive affect-eliciting packages. We expect that strong affect-eliciting packages will attract longer eye-fixations and therefore more attention. The recognition measures are the correct identification of the packs seen before and the time spent to complete each identification task. The researcher expects the recognition measure would vary among the three groups of stimuli as suggested in H2a & H2b.

Conclusion

In summary, this research will test the existence of affect in packaging and its impact on attention and recognition using different packaging elements in a competitive package context. It is expected that the research findings will contribute to the development of generalisable knowledge about the impact of packaging elements on consumer responses by affirming the existence of affect and its causal stimuli and the measurement of the impact of affect on attention and recognition.

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