A Framework For Product Design Based On Semantic Attribution Process

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Abstract: Existing brands already have certain products that generate a particular experience in customer minds. Every time a customer's interacts with of brand's products and related touchpoints, the customer form an idea about the brand. This is how a brand experience is 9constructed in the mind of the customer. Understanding how customers perceive and respond to certain products along the experience, helps designers to better align product design with brand value, in order to guarantee a consistent brand experience. While current literature provide in deep research into customer–brand and customer-product interaction, there is a distinct lack of any substantive assessment of how customer´s interaction with branded product impact on the brand experience. To do so, this paper presents a operational hypothesis to comprehend customer responses to certain branded product. The framework combines general brand experience assessment scales and product cantered experience approaches.

Keywords: brand experience, brand gap

1. Introduction

Companies in growth markets set a strong focus on technology-driven innovation. However, technology starts to lose its potential for differentiation as the market transforms from a growth market to a mature one. Moreover, the oversupplies of information and products variants have enhanced customer decision-making capabilities. Nowadays, customers are better informed and they can realize the technical similarity of products more easily. Consequently, customers are becoming more demanding in their choices.

Since product are considered in a more emotive way than technical one (Fukuda, 2013), companies can no longer rely solely on operational efficiency or technological superiority to create a sustainable competitive advantage. Today, companies must also find ways to increase customer empathy and engagement.

Moving away from technology driven innovation has brought a paradigm shift in the design process. The process of product value creation is shifting from a technology-focused design to a human centered one (Brown,2009).

Human centered design focuses on customers experiences (emotions, expectations and feelings) and acknowledges the customers active role in creating valued elements. This requires designers to not only design the product, but also create the potential experience in relation to its use. The resulting product should have a customer value and generate a positive emotional experience for customers.

The importance of experiences in the development of value proposition was presented in the Experience Economy theory (Pine and Gilmore, 1998). This theory suggests that companies should introduce an experiential variable and focus on the generation of experiences that reinforce the bonds between brands and customers. So, brands like Ikea, Apple and BMW are focused on building experiences related to the brand that highlights the sensory, cognitive, emotional, social and behavioural characteristics of customers (Brakus et al.,2009).

A brand experience happens whenever you come into contact with an organization or its brand. In this context products are visualized as one of the core means that companies hold in order to construct a strong brand experience in the mind of their customers (Hestard ,2013). In the product design domain, comprehending how customers perceive and respond to certain branded product along the experience, could help to better align the product design process with the brand experience and vice versa. However, the literature review shows a lack of methods and tool to help designer to better understanding the customer perception in order to shorten the existing gap between the brand intention and customer perception in the brand experience context.

This paper explores brand experience construction through product design interpretation. Consequently, the aim of this paper is to provide designers with consistent framework to explore brand experience construction through human centered product design interpretation

2. Brand in modern context

A brand is a combination of tangible and intangible elements. Tangible elements refer to traditional brand representation through the name, logo and slogan of a company. On the other hand, intangible elements consist of emotional value and belief created in the mind of the customer (Kapferer, 2012). In recent years, an increasing attention has been given to the latter concepts.

In today's hypercompetitive context, differentiation in price, distribution or provisions are criteria that have increasingly less value. Quality is a feature that is taken for granted by customers and loyalty is not established due to product functionality or usability (Alfaro et al., 2012), but thanks to values, ideas and mindsets that the brand shares with the customer and vice versa. In addition, as Maslow's hierarchy of need suggest (1943) , once functional issues of utility, safety and comfort have been satisfied , the emphasis is shifted towards emotive response of product, resulting in a move away from technology driven product design to more emotion and human centered product design .

In this new era, brand intangible aspects are gaining more and more strength. Consequently, brand has become an intangible business resource capable for strengthening ties with the customers.

Brand is able to influence customer choices not just because they offer quality assurance and reduce the perceived risk in purchasing the product(Karjalainen 2003), but because brand is capable of creating differentiation from other brands (Keller, 1993; Kapferer, 2008), strengthening relational

ties with the customer (Holt, 2002; Clatworthy, 2012) and contributing to generating emotional response. Thereby, brands are now based on a combination of elements, such as values, experiences, needs, desires and aspirations (Alfaro et al., 2012).

The sum of all customer emotional responses when interacting with the brand and its product create the so-called brand experience. Therefore, the brand is catching increasing attention from organizations and researchers, since it shows great potential to generate sustainable and meaningful competitive advantage in the experience economy (Hestad, 2013).

2.1 Brand experience

A brand experience happens whenever a customer interacts with an organization or its brand. Brands, especially strong ones, embody a relatively small set of values that are specific and distinct. Consequently, brand experience is conceptualized as sensations, feelings, cognitions and behavioral responses evoked by brand-related stimuli (Brakus et al., 2009).

Brand-related stimuli can be associated with any inherent characteristics of a brand that signify its presence or absence (Morrison and Crane, 2007). These characteristics bring along experiences for customers and could be listed as: brand name (Srinivasan and Till, 2002), simple touchpoints such as order forms, application forms, invoices given to customers once a sale is made (Coomber and Poore, 2012) or physical infrastructure (Hanna and Rowley, 2013). Previous studies on the experience concept have considered brand-related stimuli (or clues) very crucial in managing experiences during the entire buying process (Berry, Carbone, & Haeckel, 2002).

By way of example, Nespresso´s simple idea "the quest for excellence" carries certain core values linked to excellence, timeless elegance and exclusivity. These values are manifested every time the customer interacts with any Nespresso touchpoint. To contextualize this, consider the Nespresso store. It has been designed according to a boutique concept. When the customer enters the store, they perceive, feel and experience the exclusivity and elegance of the brand. However, this is not sufficient for establishing a secure consistent brand experience. To reinforce the core values, other touchpoints include the coffee capsules have been designed according to brand values. The Coffee capsules have a diamond like structure, shiny texture and exotic sounding name, which lend a sense of elegance and luxury to the product. Moreover, the coffee machine itself is unusual. Nespresso combined traditional coffee machines and art deco patterns to create a unique elegant design. Finally, other touchpoints included on the company web page and services reaffirm the Nespresso brand experience. In conclusion, every element that surrounds Nespresso is designed, taking into account the brand values. This is how Nespresso manages to evoke a consistent brand experience.

Thus, brand experience encompasses each interaction between a customer and a tangible or intangible artefact, which awakens subjective customer responses. Therefore, brand experience is the sum of customers' perceptions at each touchpoint (Chattopadhyay and Laborie, 2005; Alloza 2008). In this context, brand experience is created when customers use the brand, talk to others about the brand, and seek out brand information, promotions, and events and so on (Ambler et al., 2002).

2.2 Product in brand experience domain

Some authors argue that the most important brand touchpoints are the products. In building brand experience, the product is portrayed as the key physical representation of the brand, as products are

the core physical element that companies use to manifest their values and ideas and connect with the customer. Therefore, products enable intangible concepts, such as a brand, to become real for the customer [Aaker and Joachimsthaler, 2012; Hestard 2013).

Within various categories of customer goods, it is easy to name a number of brands that are not only known for high-quality products but also for their recognizable design. These brands use specific design features consistently over their product line-ups. Through design consistency, brands can become solid and unmistakable. Volvo, for instance, is characteristically safe, whereas IKEA is perceived as exuding togetherness, enthusiasm, curiosity and creativity.

Nevertheless, an individual product or touchpoint is only a building block in the total brand experience. In addition to the importance of designing each individual brand touchpoint, it is also relevant to consider its role in the entire brand experience. Roscam (2010) uses a musical metaphor to express this idea. The brand experience is like a symphony. All brand touchpoints together form an orchestra playing the symphony; the task of each brand touchpoint is to contribute to the symphony by playing its specific part in harmony with the other brand touchpoints.

Companies designing and producing a range of products have to consider common styling features to maintain a clear identity on the market (Warell, 2001). However, design consistency in brand experience goes beyond just using some colours, form and logos through the product range. The challenge goes beyond transforming values into the physical domain by designing deliberate semantic references. The future challenge is about transforming brand values into customer brand experiences.

Within the brand experience field, products and related elements are the core physical element that companies use to manifest their values and ideas and connect with the customer. Customers, through product interpretation, assign values to the brand, based on how the product is viewed, heard or touched (Roscam, 2010)]. As conclusion, with the brand experience being the sum of all customer feelings and emotions, the focus is on creating a consistent range of feelings, emotion, and behaviour through customer product interaction.

3. Values transferred models

Design has the ability to transfer abstract and intangible ideas, like brand values, into tangible elements like products. This is why, designers are able to communicate brand values, such as elegance, functionality, mode of use and social significance through the medium of products.

In ideal situations, products function as the manifestation of brand identity, evoking certain associations that are aligned to strategically define brand values and messages (Karjalainen, 2003). However, brand values embedded in products leave room for ambiguous interpretations. This ambiguity leads to a gap between the brand intended values and the customer perceived values, also called brand gap (Gonzalez et al., 2016) and it occurs when brand intention and customer perception do not match properly. The brand gap describes the differences between what the brand wants to achieve and what the customer experiences (Neumeier,2003; Gonzalez et al.,2016].

Following extensive research, several approaches for formulating and assisting the transformation of brand value into the physical domain exist and are presented (Rasoulifar et al., 2015). Karjalainen and Snelders (2010) suggest a framework of explicit and implicit references to value-based design elements. Other sources present a method for encoding the key elements of an specific brand (Buick)

into a repeatable language (McCormack et al.,2004). Barnes et al. (2008) deal with brand values using a Kansei Engineering approach and, respectively, present a toolkit to support packaging design and the analytical hierarchy process approach in furniture design. Finally, Warell (2001) proposes an approach called Design Format Analysis to capture and explore the occurrence of design elements among a variety of products.

These methods comprehend the encoding process of values in the design language domain. However, they do not actively involve the customer when comprehending the decoding process. These processes do not ensure that the experiences, values, emotions and feelings that the brand wants to communicate are consistent and reach the customers hearts and minds along the time, leading to wide brand gap.

4. Brand gap

The traditional communication approach exemplified in the Figure 1 (Shannon, 2001), shows the existence of a message sender, the recipient of the message and the medium (Karjalainen, 2004; Shannon, 2001). The sender, who act with a specific intention wanting their message to be understood by the intended recipient. Thus, this model assumes that a particular form is responsible for a particular uses and creates the same emotion, feeling and experience in every customer. This model reduces the customer to a passive recipient and understands the process of value transmission from the point of view of the sender.
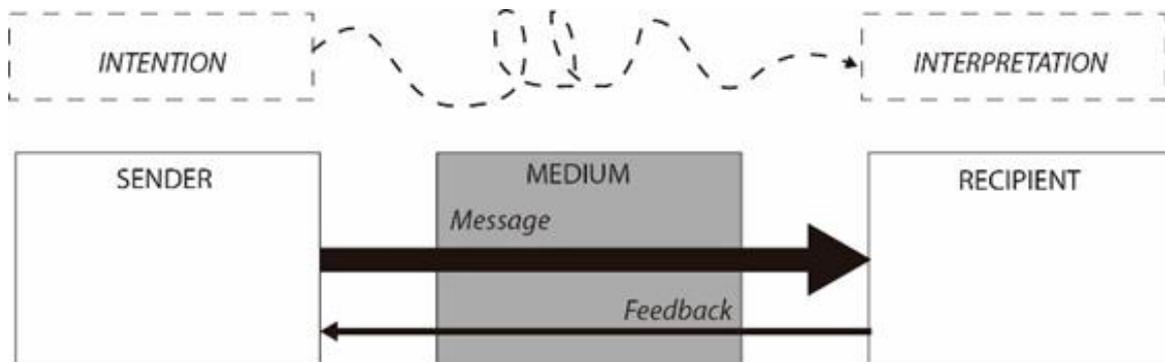

Figure 1. Shannon´s (2001) communication model

The lack of active involvement of the customer in the fuzzy front end of product development can create distortion that results in a poor and inconsistent brand experience. These distortions are evidenced through the concept of brand gap.

The brand gap concept defines the differences between the brand intention and customer perception. Brand gap is best evidence in the Figure 2.The Figure 2 shows that brand gap encompasses all the distortions occurring between the brand and customer. Ambiguous interpretations of brand values embedded in touchpoints could be caused by two major distortions, either the designer failed to 'encode' proper meaning into the product, or the user did not correctly 'decode' them. Thus, brand gap can be the result of two types of distortions, first, the ways to transform values into the physical domain (semantic transformation) or secondly, the way in which customers perceives the interaction (semantic attribution).
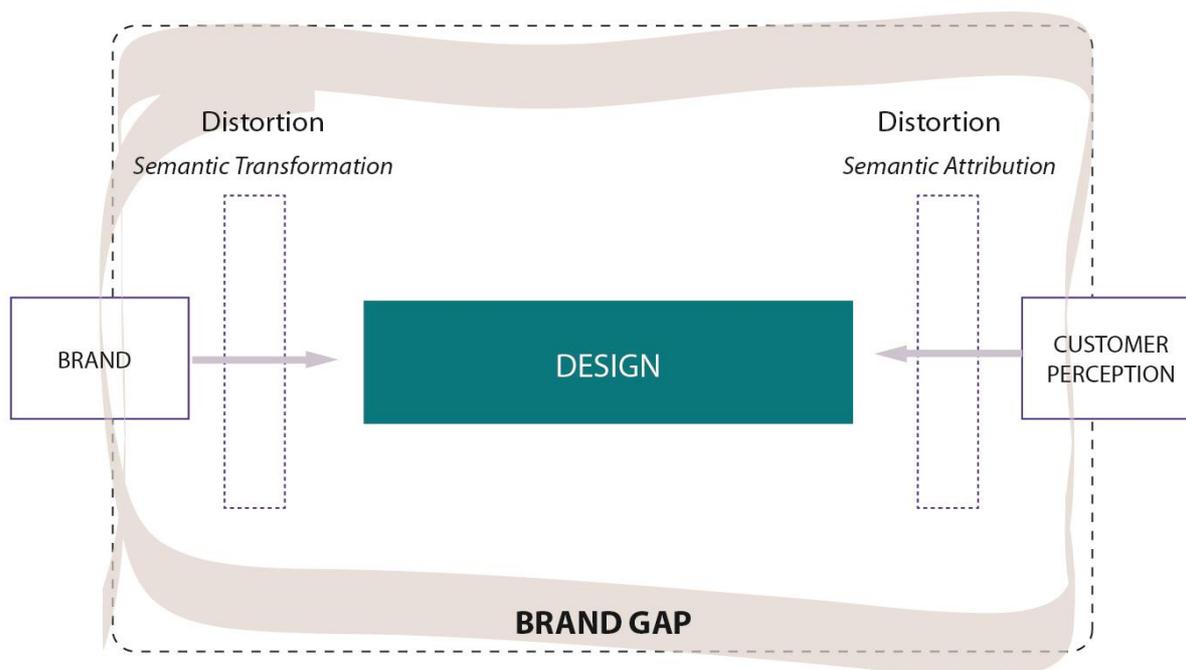
Figure 2. Brand gap (Karjalianen, 2004;Gonzalez et al.,2016)

Brands are created by organizations, thereby brand values need to be materialized and engineered to maximize impact at every touchpoint interaction (Roscam, 2010). However, brand also has to reach the hearts and minds of customers. Thus, some kind of transfer of meaning must take place between the brand creator/designer and the customer/user and vice versa, in order to construct a strong and relevant brand experience. In the brand experience context, designers need to understand how customers perceive the actual products and related element. Therefore, a deep understanding of how customers process brand information is needed.

5. Customers product interpretation

Understanding customer is an important phase in the design process and is critical to construct a consistent brand experience (Smith and Smith, 2012). For many branded products, companies do not carry out direct user studies. They rely on their general understanding of the target customer and the market trends that product designers and marketing departments have identified (Rasoulifar, 2015). However, designers need to know what their designs mean to their customers or the meanings that could emerge in its interaction. Taking this premise seriously involves a radical shift from a concern for tangible artifacts, industrial products, for example, to a concern for how people interact with them; from what things objectively are to processes through which they are created and experienced (Krippendorff and Butter, 2007).

Most of the research on experiences to date has focused on utilitarian product attributes and category experiences, not on experiences provided by brands. When customers search for, shop for, and consume brands, they are exposed to utilitarian product attributes. However, they are also exposed to various specific brand-related stimuli, These brand-related stimuli constitute the major source of subjective, internal customer responses, in other words brand experience.

Brakus et al.(2009) were one of the first authors to analyze and measure brand experience as an individual attribute on the brand construct. As aforementioned, they conceptualized brand experience as sensations, feelings, cognitions, and behavioral responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communications, and environments. Authors distinguish several experience dimensions and construct a brand experience scale, based on sensory, affective, behavioral and intellectual dimension.

5.1 Sensory dimension

The sensory dimension is related to sensory perception of the customer. Brands provide multi-sensory stimulation thought sight, sound, smell, taste and touch. Brakus et al (2009) define the following 3 items in order to assess the sensory dimension of the brand.

- This brand makes a strong impression on my visual sense or other senses.
- I find this brand interesting in a sensory way.
- This brand does not appeal to my senses.

The 3 items proposed by Brakus et al.(2009)focus on the overall sensory experience. However, when customer interacts with branded products, products transmit various signals, which are perceived by the physiological senses (Lindstrom, 2005). Although the human perceptual apparatus results in multisensory perception, regarding the product type or the moment and context of use, one or two sensory modalities may dominate among others. Understanding which senses are specially stimulated by the brand during each moment of the brand experience might help designer to better understand the coming emotions, feeling and behaviours (Calvert et al., 2004; Ngo and Spence, 2010).

5.2 Affective dimension

The affective dimension is associated with the customer's feelings and emotions. Therefore, this dimension relates to emotions evoked by the brand, such as joy, fun, pride, nostalgia or even frustration. Brakus et al.(2009) define the following 3 items to assess the affective dimension.

- This brand induces feelings and sentiments.
- I do not have strong emotions for this brand.
- This brand is an emotional brand.

Beyond brand providing mere sensory stimulation, it also evokes positive or negative moods and make customer feel happy, angry or sad. However, Brakus et al.(2009)do not focus on customers relationships with products, instead try to find out how far and how strong are customer feelings and emotions regarding the brand .

Desmet (2003) is one of the first author that focus the customer emotional response from the exploration of relationships between products and customers interactions. He defined an instrument called the Product Emotion Measurement instrument (PrEmo) to measure emotions. This instrument analyses the existence and intensity of 14 emotions in relation to a specific product interaction. Seven of these emotions are pleasant (i.e. Desire, pleasant surprise, inspiration, amusement, admiration, satisfaction and fascination), and seven are unpleasant (i.e. indignation, contempt, disgust, unpleasant surprise, dissatisfaction, disappointment and boredom).

5.3 Behavioural dimension

The behavioural dimension deal with customer behaviour patterns in the long-term. How customer behaves toward the product is partly influence by the cognitive ad affective response. Brakus et al.(2009) defines the following 3 items.

- I engage in physical actions and behaviors when I use this brand.
- This brand results in bodily Experiences.
- This brand is not action oriented.

Behavioural response use the term of approach or avoid distinguishing those interested customer from disinterested customers. However, customer behavioural response may be also associated with further research of the product purchase or product use. User centered design holds several tools such an observation, shadowing or safari, which analyse user behavioural response to a product or situation. These tools track the customer action and comprehend the reasons behind them.

5.4 Intellectual dimension

The intellectual dimension refers to experiences that encourage customers to think, arousing their curiosity and creativity. Brakus et al (2009) , defines the following 3 items to assess the intellectual dimension of the brand experience.

- I engage in a lot of thinking when I encounter this brand.
- This brand does not make me think.
- This brand stimulates my curiosity and problem solving.

Brakus et al.(2009) focus the intellectual dimension to the general brand approach. However, from a product or touchpoints perspective, the judgement that the customer make about the product is focus mostly in 3 categories (Crozier, 1994, Norman 2004 , Crilly et al., 2004). Aesthetic impression (sensation that results from perception of attractiveness or unattractiveness), semantic interpretation (what a product is seen to say about its functions and mode of use) symbolic association (the perception or meaning of what a product say about its user). The first two ideas are already shown in the aforementioned dimension. The meaning and ideas created in the mind of the customer because of the relations between the customer and the product might be an interesting approach to analyse in the intellectual dimension.

To comprehend the customer response in relation to each product and related touchpoints goes beyond analyses the items proposed by Brakus et al. (2009). These items do not approach the brand experience from a product perspective. In addition, the results help to get an overall overview about the brand experience, but it does not open a new direction for new design opportunities that better align product design with brand and customer. Furthermore, it does not analyze the progression of the brand experience along the time in order to identify the level of consistency and the existing gaps. Consequently, we propose to combine Brakus et al.(2009) general approach to brand experience with more product centered methods that deal with products emotions like Desmet (2003) , the five senses Lindstrom(2005) and user center design tools (observation and safari) .

6. Discussion

Products can, through their design, either strengthen or weaken the customer brand experience by creating positive or negative perceptions, emotions, values and associations (Wikström , 1996].Thus , to comprehend how customers respond to specific product and related touchpoints brand stimulus along the experience helps designers to better align product design with brand values.

The review literature presents several approaches to transform brand values into specific product design. However, those approaches do not help to comprehend customer response and perception when face with product brand stimuli. The framework explores brand experience construction through human centered product design interpretation based on the 4 brand experience dimensions proposed by Brakus et all.(2009).
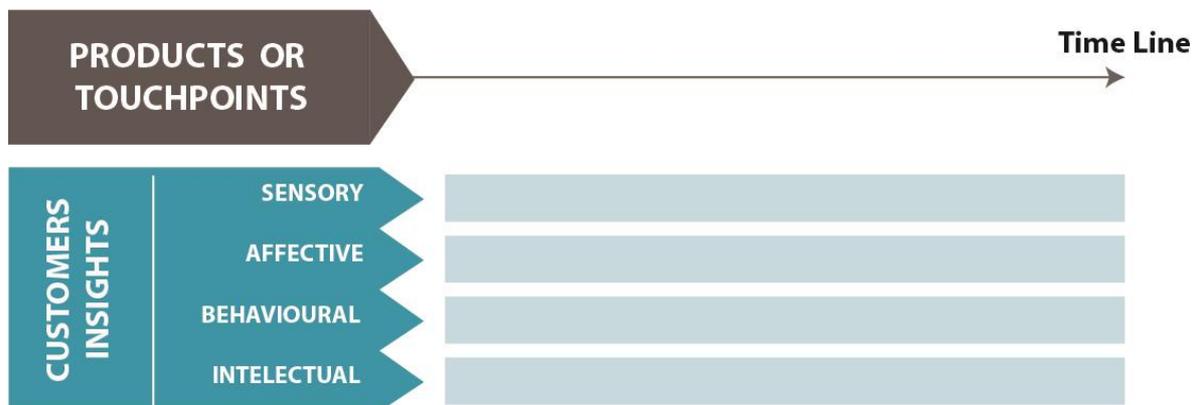

Figure 3: framework for brand experience analysys

The framework shown in Figure 3 is proposed as a base to understand the customer brand experience. The framework firstly analyses the existing products and related touchpoints. Later, it explores the customer response to each of these elements, based on the 4 dimension proposed by Brakus et all. (2009) . Once the main products and related touchpoints are defined, designers should determine how customer response in the sensory, affective, behavioural, and intellectual dimension.

The sensory dimension is about identifying which senses are being stimulated through the actual products and related touchpoints and if these are stimulated positively, negatively or neutrally. The affective dimension analyses which of the 14 emotions, proposed by Desmet (2003), are aroused with regards to the products or related touchpoints . The 14 emotions are assessed on 3 scales which are represented by the following ratings: "I do feel the emotion," "to some extent I feel the emotion "and "I do not feel the emotion" . The behavioural dimension attempts to define the behavioural patterns result from the perceived senses and the emotions previously defined. It is about observing the customer and ascertaining the product customer interaction. Observation could be done using human centered design tools. Finally, the intellectual dimension analyzes to what extent the brand values are perceived by the customer. Consequently, the intellectual dimension checks if the values defined are perceived by the customer.

The new framework approaches brand experience construction through customer product interpretation. The framework proposes visualise customer response in relation to product and related touchpoints. Subsequently, by identifying the relevant products and related touchpoints along the experience and understanding how customers respond designers might better align product design and brand values to create a consistent brand experience. In addition, approaching

brand experience through product customer interaction , opens new opportunities to product innovation not previously addressed.

7. Further research

Since the framework presented in this study is theoretical, there is a need to test it through practical case studies that involve companies, designers and customers. Such case studies will enable testing of not only the framework's comprehensibility and usability, but also the potential benefits of the results for the company.

The framework provides guidelines to transform brand values into brand experience through product design. In addition, the framework provides guidelines to activate innovation in the context of brand experience. While the operational hypothesis must be demonstrated empirically by means of case studies, there is also a need for explorative analyses involving in-depth debate on how customer product interpretation might help to strengthen brand experience.

References

Aaker, D. A., & Joachimsthaler, E. (2012). Brand leadership. Simon and Schuster.

Alfaro, E., et al.(2012). Customer experience. Una visión multidimensional del marketing de experiencias. [en línea], Accesible en http://www.thecustomerexperience.es/descargas.html. Consultado el 10 de febrero 2015.

Alloza, A. (2008). Brand Engagement and Brand Experience at BBVA, the Transformation of a 150 Years Old Company. Corporate Reputation Review, 11, 371-379.

Ambler, T., Bhattacharya, C. B., Edell, J., Keller, K. L., Lemon, K. N., & Mittal, V. (2002). Relating brandand customer perspectives on marketing management. Journal of Service Research, 5(1), 13-25.

Barnes, C., Childs, T., Henson, B., & Lillford, S. (2008). Kansei engineering toolkit for the packaging industry. The TQM Journal, 20(4), 372-388.

Berry, L. L., Carbone, L.P., and Haeckel, S. H. (2002). Managing the total customer experience. Sloan Management Review, 43, 85-89. Biedenbach, G. and Marell, A. (2010). The impact of customer experience on brand equity in a business-to-business services setting. Journal of Brand Management, 17, 446-458.

Brakus JJ, Schmitt B, Zarantonello L (2009). Brand experience: What is it? How is it measured? Does it affect loyalty?" JM 73: 52-68.

Brown, T. (2009). Change by design.

Calvert, G., Spence, C., & Stein, B. E. (2004). The handbook of multisensory processes. MIT press.

Chattopadhyay, A., and Laborie, J. L. (2005). Managing Brand Experience: The Market Contact Audit. Journal of Advertising Research, 45, 9-16.

Clatworthy S (2012). Bringing the gap between brand strategy and customer experience. Managing Service Quality, An International Journal, 22:108-127

Crilly, N., Moultrie, J., & Clarkson, P. J. (2004). Seeing things: consumer response to the visual domain in product design. Design studies, 25(6), 547-577.

Coomber, L., and Poore, J. (2012). From good to branded: Using immersive design to deliver a positive brand experience for British Gas. Journal of Brand Strategy, 1(4), 318-326.

Crozier, R. (1994). Manufactured pleasures: psychological responses to design. Manchester University Press.

Desmet, P. (2003). Measuring emotion: Development and application of an instrument to measure emotional responses to products. In Funology (pp. 111-123). Springer Netherlands.

Fukuda S (2013). Emotion and Innovation. In: Fukuda S (ed) Emotional Engineering: vol. 2 (pp. 11-21). Springer London.

Gonzalez I, Val E, Justel D, Iriarte I (2016). A framework for innovation opportunity identification based on brand experience. In DS 84: Proceedings of the DESIGN 2016 14th International Design Conference

Gonzalez I, Val E, Justel D, Iriarte I (2016). Closing the Brand Gap through Innovation and Design. Procedia CIRP, 50: 112-116

Hanna, S., & Rowley, J. (2013). Place brand practitioners' perspectives on the management and evaluation of the brand experience. *Town planning review*, *84*(4), 495-51 Hestad M (2013). Branding and product design. Surrey, England.

Holt, D. B. (2002). Why do brands cause trouble? A dialectical theory of consumer culture and branding. Journal of consumer research, 29(1), 70-90.

Kapferer, J. N. (2008). The New Strategic Brand Management: Creating and Sustaining Brand Equity.

Kapferer, J. N. (2012). The new strategic brand management: Advanced insights and strategic thinking. Kogan page publishers.

Karjalainen, T. M. (2003,). Strategic design language—transforming brand identity into product design elements. In *10th International Product Development Management Conference, June* (pp. 10-11).

Karjalainen, T. M., & Snelders, D. (2010). Designing visual recognition for the brand. Journal of Product Innovation Management, 27(1), 6-22.

Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. the Journal of Marketing, 1-22.

Krippendorff, K., & Butter, R. (2007). Semantics: Meanings and contexts of artifacts.

Lindstrom, M. (2005). Brand sense. *New York*.

Maslow, A. H. (1943). A theory of human motivation. Psychological review, 50(4), 370.

McCormack, J. P., Cagan, J., & Vogel, C. M. (2004). Speaking the Buick language: capturing, understanding, and exploring brand identity with shape grammars. Design studies, 25(1), 1-29.

Morrison, S., & Crane, F.G. (2007) Building the service brand by creating and managing an emotional brand experience. Brand Management, 14, 5, 410 421.

Neumeier, M. (2005). The brand gap. Peachpit Press.

Ngo, M. K., & Spence, C. (2010). Auditory, tactile, and multisensory cues facilitate search for dynamic visual stimuli. Attention, Perception, & Psychophysics, 72(6), 1654-1665.

Norman, D A Emotional Design: Why we Love (or Hate) Everyday Things Basic Books, New York, NY (2004)

Pine, B. J., & Gilmore, J. H. (1999). The Experience Economy: Work is Theatre and Every Business a Stage (Harvard Business School Press, Cambridge, MA).

Rasoulifar, G., Eckert, C., & Prudhomme, G. (2015). Communicating Consumer Needs in the Design Process of Branded Products. Journal of Mechanical Design, 137(7), 071404.

Roscam E (2010) Brand driven innovation: strategies for development and design. Ava Publishing, Laussane

Shannon, C. E. (2001). A mathematical theory of communication. ACM SIGMOBILE Mobile Computing and Communications Review, 5(1), 3-55.

Smith, G. C., and Smith, S., 2012, "Latent Semantic Engineering—A New Conceptual User-Centered Design Approach," Adv. Eng. Inf., 26(2), pp. 456–473.

Srinivasan, S. S., & Till, B. D. (2002). Evaluation of search, experience and credence attributes: role of brand name and product trial. Journal of Product & Brand Management, 11(7), 417-431.

Warell, A. (2001). Design Syntactics: A functional approach to visual product form Theory, Models, and Methods. Chalmers University of Technology.

Wikström S (1996) The customer as co-producer. European Journal of Marketing, 30(4), 6-19

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