Chapter 49
Brand Style DNA in Consumer Products: Decoding Strategies from a Design Perspective

Shoubhik Dutta Roy and Wricha Mishra

Abstract Brands use style DNA strategies to differentiate from competition and enhance brand perception. It is, therefore, critical for design professionals to have a clear understanding of these strategies, so as to be able to deliver the benefits successfully. However, literature available on the subject is found to be varying in terminology and largely limited to certain product categories and iconic brands. Brand style DNA concerns the complete portfolio of a brand, but very few researchers have gone to the extent of analyzing a brand's product range and comparing it with that of competitors. Moreover, a bias toward the marketing and psychological perspectives necessitates research focused on the design perspective. This paper consolidates available knowledge into an integrated structure, something that does not exist at present. It comprises of four facets—parameters of brand style DNA strategies, factors to be considered, evolution over time, and deconstruction techniques. Further, this study deep-dives into one of the most prominent areas of decoding brand style DNA strategies—the analysis of explicit design cues. Two existing techniques, namely Design Format Analysis and 4DD Analysis, are critically examined. A systematic and definitive conceptual framework is proposed that addresses the weaknesses of existing techniques and makes significant improvements through introduction of image boards with multiple views, standardized design cues, and category-level analysis.

49.1 Introduction

'Brand Style DNA' can be defined as a set of building blocks of a brand's style, which is consistently used across its product offerings to strengthen its brand identity. In this highly competitive era, consumer product brands are emphasizing on defining a

S. Dutta Roy (✉) · W. Mishra
MIT Institute of Design, Pune 412201, India
e-mail: shoubhikduttaroy@mitid.edu.in

W. Mishra
e-mail: wrichamishra@mitid.edu.in

A. Chakrabarti et al. (eds.), *Design for Tomorrow—Volume 1*, Smart Innovation, Systems and Technologies 221, https://doi.org/10.1007/978-981-16-0041-8_49

proper strategy for the style DNA of their products [1]. The term 'consumer products' is commonly understood to encompass all man-made objects we use in our daily lives.

Brands develop a consistent and distinct style for their products for two reasons: to facilitate recognition and to transfer an existing product's impression on to a new product from the same brand. The style is manifested in certain visual references that are deliberately and consistently embedded in the brand's portfolio. Some famous examples are the 'waisted' bottle profile of Coca Cola, and the 'kidney-grille' seen on every BMW car [2].

Literature available on brand style DNA reveals parameters, considerations and techniques from different viewpoints and concerning different contexts. However, an overview carried out from the design perspective reveals some critical gaps. There is clearly a bias toward the psychological and marketing perspectives. Psychology-heavy papers delve into various aspects of consumer perception related to brands [3, 4]. Marketing heavy literature talks about issues of brand positioning and innovation [1, 5]. The drawback of this perspective bias is that there is lack of clarity on the practical implication of this knowledge for designers. This is particularly worrisome because of the importance of design in implementing brand style DNA. There are two aspects to this. First, design is that attribute of a brand's DNA that bonds together other attributes such as ease of use, technology, and dependability [6]. The second aspect relates to the role of designers. Although product managers and brand managers make strategic decisions regarding style DNA, the responsibility for its implementation, i.e., creating a distinct and consistent brand image, rests with product designers [7, 8]. It is for this reason that several authors recommend close collaboration between managers and designers [9, 10].

Moreover, literature available on brand style DNA is scattered and limited to specific product segments or specific brands. Approximately half of the available studies pertain to the automotive domain, while consumer products of everyday use do not get adequate consideration. Literature also shows a bias toward analyzing iconic or premium brands, while mass market brands get insufficient attention. Another gap encountered is that a large chunk of literature on brand style DNA discusses individual products, without looking at the product range offered by the brand. Whereas, deconstruction or reconstruction of a brand's style DNA requires proper understanding of not just the brand's portfolio but also that of its competitors in a particular category. On the whole, a glaring question that emerges is: which style DNA strategy works for what kind of brand, and in what kind of product segment? Existing literature does not provide a clear answer. Therefore, it can be assumed that there is paucity of studies toward a structured framework to decode brand style DNA.

In view of the above, the present study is carried out with two objectives:

1 To consolidate all facets of brand style DNA into an integrated structure
2 To propose an articulated conceptual framework to decode the style DNA of key brands in any consumer product segment.

49.2 Methodology

Brand style DNA strategies are complex and the purpose of this study was to systematically decode its various nuances. This was approached in two parts. In the first part of the study, an overview of relevant research papers was carried out, directed toward finding answers to the following questions:

1. What are the parameters of brand style DNA strategies?
2. What are the factors affecting brand style DNA strategies?
3. Does the style DNA of a brand change over time? If yes, why and how?
4. What are the techniques for analyzing and implementing brand style DNA?

Answers to these questions revealed different viewpoints and approaches. These were compared and consolidated into an integrated structure, presented in Sect. 49.3 of this paper. Building on the resultant structured body of knowledge, the second part of the study was focused on developing a conceptual framework to assess the brand style DNA of different brands in any consumer product category. The process is demonstrated taking a particular product category as an example. Finally, the benefits and applications of the framework, its limitations, and scope for future research are discussed in detail.

49.3 Facets of Brand Style DNA

The overview of literature on brand style DNA yielded valuable insights, although these were found to be scattered, and varying in terminology and contexts. The knowledge is summarized below under four sections (Fig. 49.1) according to the four research questions (Fig. 49.2).

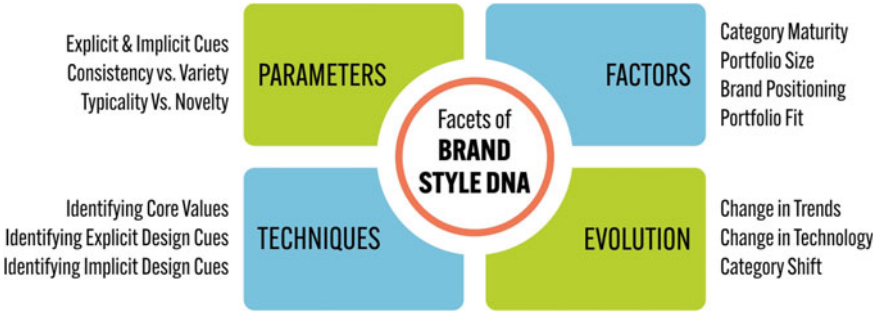

Fig. 49.1 Facets of brand style DNA

Fig. 49.2 Examples of explicit and implicit cues. *Source* https://www.bmw.com.my/ and Torres [15]

49.3.1 Parameters of Brand Style DNA Strategies

Style DNA strategies are too complex and case-specific to be classified into types. However, a review of strategies discussed by multiple authors across the world reveals three pairs of parameters, namely explicit and implicit cues, consistency versus variety, and typicality versus novelty. The style DNA strategy of any brand can be explained in terms of these parameters [1, 11–14].

Explicit and Implicit Cues. Brand identity is manifested in certain design cues that the brand uses consistently across its product range. Karjalainen (2007) classifies them as explicit and implicit cues [12]. Explicit or 'artificial' design cues are easy to identify and make products attractive. For example, BMW uses the explicit cue of kidney-shaped grille across its range to create recognition [12]. Implicit or 'value-based' cues, on the other hand, are subtle and express the core values of the brand. An interesting example is Alessi, the Italian company famous for its unique kitchen utensils and housewares. Alessi's brand personality lies in its fun value combined with functionality, and its high visual and emotional appeal [15].

Consistency versus Variety. Design cues of a brand, whether explicit or implicit, are used across its product range. This creates consistency within the brand's portfolio. However, individual products of a brand need to be distinguished from each other, calling for some level of variety. Brand style DNA calls for the right balance between consistency and variety. Too much consistency hampers categorization of a brand's products and affects brand excitement, while too much variety reduces brand reliability [16]. Simoni et al. [11] call this phenomenon 'stylistic heterogeneity' and describe it as product portfolio language homogeneity versus product portfolio language heterogeneity.

Typicality versus Novelty. The previous two pairs of parameters are internal, in the sense that they look at products within a brand's portfolio. Typicality and novelty are external parameters, because they refer to similarity or difference with respect to competitors in a particular product category. Too typical designs may fail to stand out from the competition and communicate the brand message, while too radical designs may face low acceptability. Therefore, typicality and novelty must coexist

in a tension to facilitate brand style DNA [14]. According to Keller et al. [17], point of parity (POP) refers to design elements typical of a product category, while point of difference (POD) refers to unique elements used by a particular brand to create identity. Ranawat et al. [18] use the terms product category descriptors (PCDs) and brand identity carriers (BICs), respectively, to refer to the same.

49.3.2 Factors Affecting Brand Style DNA

Literature has brought out a plethora of factors that need to be considered while defining or following style DNA for a brand. The first three factors described below are broadly based on Person et al. [5] classification. The fourth one, portfolio fit, draws from Andersson and Warell [7] study on brand extensions.

Category Maturity. In product categories that are in an early phase, brands tend to keep designs similar to competitors to avoid the risk of recognition of the purpose of the product. At this stage, they compete on technology and functionality. These aspects get more or less standardized by the time the category reaches maturity. Then brands bank more on design to stand out in the market [5].

Portfolio size. Brands with a smaller portfolio prefer style consistency within their products, for easy recognition by customers. Brands with larger portfolios mostly serve a wider customer base, so they need to address different preferences and contexts. Therefore, these brands are likely to feature greater variety [5].

Brand positioning. Brands can be classified according to their approach to innovation (incremental versus radical) and in their orientation to the marketplace (market-driven versus driving markets). If brands do not respect their positioning during new product development, it may lead to customer confusion regarding brand meaning, and loss of competitive advantage [9].

Portfolio fit. Whenever a brand introduces a new product, it has to give due consideration to where that product would fit into its existing portfolio, so as to maintain the brand's style DNA. Line extension is the most basic type of brand extension, wherein a new product is added to an existing product range in the same product category. Category extension refers to extension of a brand into a category it was non-existent in. Vertical extension happens when a brand introduces a professional, luxury, or low-cost version of one of its existing products [7].

49.3.3 Evolution of Brand Style DNA Over Time

As we see from the above sections on parameters and factors, strategizing brand style DNA is a complex process. Literature throws up another dimension to the entire exercise, that of time. Style DNA of a brand rarely stays the same over the years, it evolves

over time. This can be attributed to three reasons. Firstly, technologies change drastically in many product categories, necessitating design changes. Secondly, trends change over time. Keeping the product image updated with the times is necessary to prevent brand aging [19]. Thirdly, brands exit less profitable categories and step into more lucrative ones.

Brand style DNA can be changed in two ways, redesign and revitalization [7]. In redesign, the brand modifies its DNA incrementally based on trends and competition. Revitalization is more drastic, wherein product messages need significant reinterpretation of meanings. They take time to diffuse and achieve success.

49.3.4 Techniques for Deconstructing Brand Style DNA

This is the primary focus area of this study and very critical because it forms the basis for future strategies of a brand. Karjalainen [12] proposed a style branding process involving three stages of deconstruction: identifying core values, identifying explicit design cues, and identifying implicit design cues.

Identifying core values. This stage involves a study of the brand's vision and mission statements, positioning, target customers, and heritage. For brand s that do not have well-defined core values, the Brand Translation Framework introduced by Mulder-Nijkamp and Eggink [20] seems to be appropriate. The framework starts with compiling physical characteristics of the brand's product designs in the form of pictures, then derives associated keywords and finally decodes core values of the brand.

Identifying explicit design cues. McCormack et al. [21] shape grammar approach accurately captures the geometry behind brand-typical shapes, but fails to capture elements of color and texture. Moreover, the use of parametric rules makes the process too tedious and mathematical for analyzing product style. Somewhat similar is the case with Ranscombe et al.'s 'degree of similarity' method. It is useful only for certain product categories that have subtle differences between products [22]. The most promising method seems to be Design Format Analysis (DFA) developed by Warell [23]. This technique is discussed in detail in Sect. 49.3.5.

Identifying implicit design cues. Implicit cues are more difficult to identify, because they belong to the language domain and are highly subjective in nature. Therefore, this stage is ideally based on consumer research. A widely used method for this is Semantic Differential, wherein bipolar parameters are rated on a Likert scale to decode the personality characteristics of individual brands [11, 14].

Literature primarily deals with identifying explicit design cues, as this is considered to be the most important and most elaborate step in decoding brand style DNA. Therefore, having overviewed the three key stages above, we delve deeper into analysis of explicit cues.

49.3.5 Analyzing Explicit Design Cues

The most widely accepted technique for analyzing explicit design cues is Design Format Analysis. This subsection critically analyzes existing versions of DFA and proposes an improved framework to address its limitations.

Existing versions of Design Format Analysis. Karjalainen's [12] DFA plots the occurrence of characteristic design features of a brand against selected products of the brand. This seems to work for iconic brands like Apple that Karjalainen exemplifies. However, in case of most mass market brands, the characteristic design features are not articulated by the brand or by researchers. Karjalainen does not explain how to use the technique for such cases. Some more shortcomings surface as we examine it in detail. In Karjalainen's examples, product visuals used are not in the same view, and several of them are shown in flat-front view that does not communicate the form fully. Moreover, Karjalainen's explorations are limited to individual brands, he does not analyze a product category.

Ranawat et al. [18] presented an improved version of DFA called 4DD analysis, which addressed some of the shortcomings mentioned above. They expanded the original method to analyze different brands in a particular product category. In their example of power tools, shown in Fig. 49.1, they do a summation of scores in the right-most column and identify product category descriptors (PCDs). They also identify brand identity carriers (BICs) as all the cues that are not PCDs. This is not convincing, because a design cue that occurs in only one of the four products of the brand cannot be an identity carrier for the brand. Another concern with this technique is that some design cues change from brand to brand. This makes it hard to compare the tables side by side. Figure 49.3 shows a comparison of the two techniques described above.

The proposed framework. The conceptual framework seeks to address concerns with existing techniques and provide an elegant and definitive approach for decoding brand style DNA in any given product category. First of all, top brands in the product category are identified and key products selected for each. Image boards are prepared for all the selected products, comprising of up to three key views of the products. Images of all selected products have comparable views, and the same are scaled to comparable dimensions.

The image boards are examined in detail for variations in aesthetic elements, i.e., form, color, texture, and space, and explicit designs cues are identified for the product category. Next, a brand-level DFA table is prepared for each of the brands. Summation of scores is done on the last column. If a brand is found to have several high scoring cues, it can be said to have high consistency. Next, a category-level DFA table is made, wherein total scores of all brands are further added to a grand total. Here, high overall scoring cues are identified as product category descriptors. The remaining cues, that have high scores for individual brands but not at the category level, are identified as brand identity carriers. The overall technique is summarized in the conceptual framework shown in Fig. 49.4.

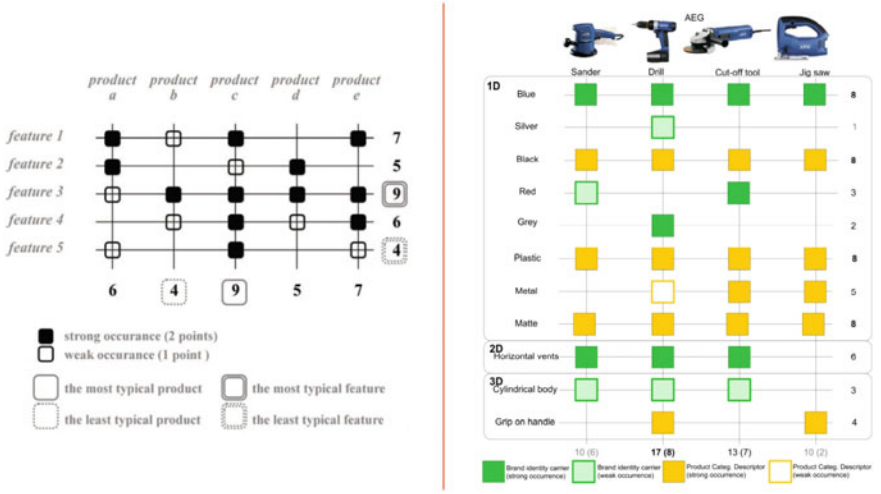

Fig. 49.3 Comparison of design format analysis (left) and 4DD analysis (right). *Source* Karjalainen [12] and Ranawat et al. [18]

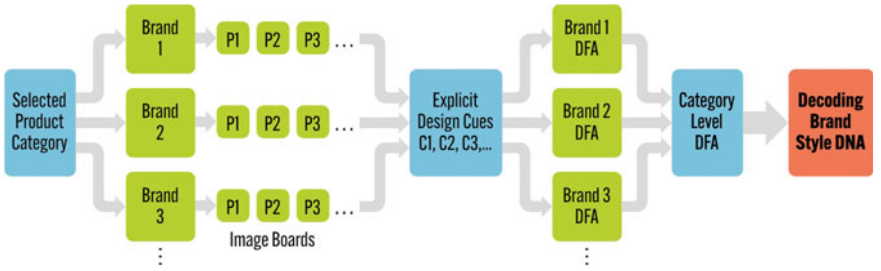

Fig. 49.4 Proposed framework for decoding brand style DNA

Example. Let us understand the conceptual framework with the help of an actual example. The category chosen was semi-premium watches for men. The price range for semi-premium was defined as ranging from 5000 to 20,000 rupees in the Indian market. Top five products of top five brands were shortlisted, based on ratings and popularity (as on March 19, 2020) on amazon.in, the top ecommerce retailer in India [24].

The brands selected were Fossil, Casio G-Shock, Casio Edifice, Titan, and Invicta. Image boards of all 25 products were prepared, with three key views of each product (Fig. 49.5). This step is completely missing from existing techniques, and this step is vital for meticulous identification of explicit design cues. A total of 21 cues were identified, based on band material, case material, case thickness, bezel design, dial shape, dial complexity, color scheme, display type, and hour markings (Fig. 49.6). The cues are standardized across brands, unlike in Ranawat et al.'s 4DD analysis.

Fig. 49.5 Image boards of 2 of the 25 watches

Fig. 49.6 Twenty-one explicit design cues identified for the product category of watches

Unlike prior techniques, here the DFA table was constructed at two levels to bring transparency to the process (Fig. 49.7). It was first constructed for each brand. Results showed that Casio G-shock had very high consistency, because 11 out of 21 design cues were found to be consistent, while only 3 were inconsistent. Casio Edifice had high consistency, and the other three brands were found to have low consistency. Next, the category-level DFA table was created. PCDs were identified as metal case, markings on bezel, circular dial, and analog display. Casio G-Shock was found to have the most BICs, while Fossil and Invicta were found to have the least.

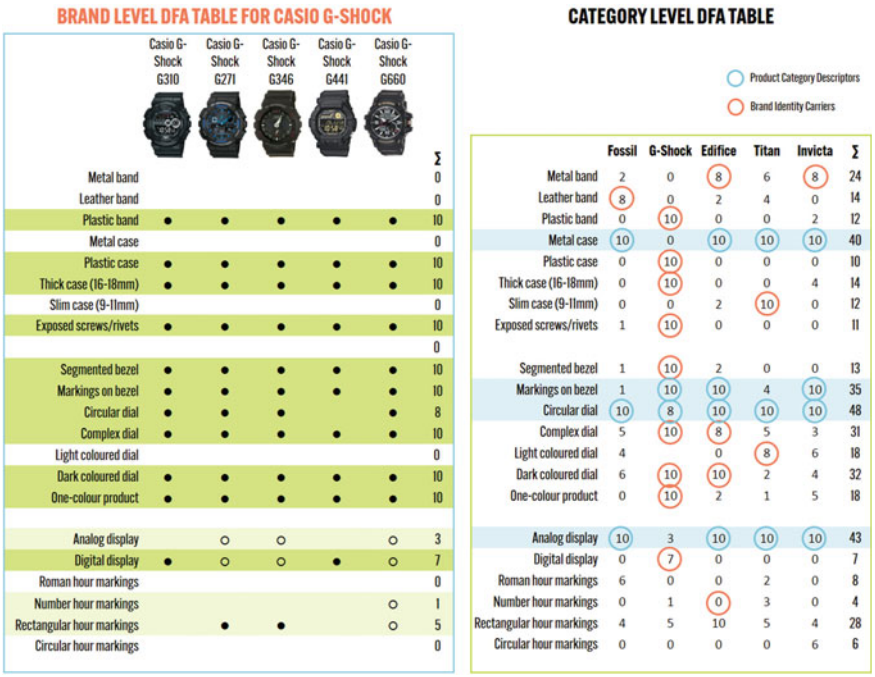

Fig. 49.7 Brand-level DFA table for Casio G-Shock and category-level DFA

49.4 Discussion

This study has two important achievements. Firstly, it presents an integrated structure for understanding the facets of brand style DNA. This was possible through a careful assembly of scattered knowledge, equating different terminologies for similar phenomena, and comparing different techniques used by different authors. Secondly, it proposes a conceptual framework that systematically decodes brand style DNA of key brands in any product category. This was achieved through identification of explicit design cues, in a transparent and diligent manner, as demonstrated in Sect. 49.3.5.

The proposed structure and framework are created to benefit product design professionals, researchers, and even marketing professionals concerned with the aesthetic aspect of a product brand. Since the responsibility for implementation of brand style DNA rests with product designers [7, 8], this structure and framework would give them a formal justification for product style. Beverland et al. [9] warn against misalignment between brand positioning (led by marketing) and new product development (led by designers). The proposed method is neither heavy on psychology nor on statistical tools. Therefore, it can serve as a common discussion platform for design and marketing professionals. Debates between the two sides regarding design strategy can be formalized with this method, urging both sides to

take a focused look at each product offering, right from an early concept phase to the final launch phase.

Brand style DNA continues over generations of products, therefore it is critical to articulate explicit design cues [21]. The proposed framework does exactly that, thereby ensuring that a brand's style DNA remains consistent irrespective of which designer works on it at which point of time. Further, the framework can be used by brands to do a style status check with respect to competition and ease the decision on whether to move toward greater similarity or greater differentiation. This decision is a primary aspect of strategic product styling, as confirmed by Person et al. [5]. By clearly identifying characteristic explicit design cues for a brand, the proposed framework would help it to keep a check on whether its style DNA matches with its core values. After all, consumers would recognize a brand and its associated values only if they have been translated correctly into explicit design cues [13]. Moreover, the propositions of this paper would be of immense benefit to new brands and young designers, helping them unearth style DNA strategies of successful brands for benchmarking and inspiration.

The proposed framework addresses the shortcomings of existing techniques and suggests significant improvements. Brand-level and category-level application of DFA are presented as separate tables for transparency in the process and clear calculation of PCDs and BICs. Category-level analysis was not present in Karjalainen [12] examples and ambiguous in Ranawat et al. [18] version. Another significant improvement is that Ranawat et al.'s 4DD analysis uses varying design cues for different brands, while the proposed technique standardizes them into a common set. This facilitates direct comparison of the selected brands and also consolidates all design cues in use within the category, into one list.

The existing techniques analyze style attributes based on one image per product. For several products, one view may not do justice to the design and important design cues may get ignored. Therefore, this framework suggests the use of up to three images of the selected products. Further, the proposed framework recommends creation of image boards with multiple views, so that the identification of design cues can be approached with rigor and appreciation of design details. This is evident from the fact that 21 design cues were identified for a medium-complexity product like wrist watches, while examples found in literature, even for cars, do not exceed 14 design cues.

The scope of this paper was to the extent of developing a framework for analyzing explicit design cues. While it facilitates vital insights about style DNA of brands in a particular category, decoding individual brands' strategies would remain incomplete until we decipher implicit design cues, through consumer surveys on different product categories. Analyzing explicit and implicit cues together can help us assess brand personality. There is immense scope for further study, and we hope this paper helps design, research, and marketing professionals to make further contributions to the knowledge base, in the domain of brand style DNA.

References

1. Dell'Era, C., Verganti, R.: Strategies of innovation and imitation of product languages. J. Prod. Innov. Manag. **24**, 580–599 (2007)
2. Karjalainen, T.M., Snelders, D.: Designing visual recognition for the brand. J. Prod. Innov. Manag. **27**, 6–22 (2009)
3. Warell, A.: Identity references in product design: an approach for inter-relating visual product experience and brand value representation. Procedia Manuf. **3**, 2118–2125 (2015)
4. Kreuzbauer, R., Malter, A.J.: Product design perception and brand categorization. In: Fitzsimons, G., Morwitz, V. (eds.) Advances in Consumer Research, vol. 34, pp. 240–246. Association for Consumer Research, Duluth (2007)
5. Person, O., Schoormans, J., Snelders, D., Karjalainen, T.M.: Should new products look similar or different? The influence of the market environment on strategic product styling. Des. Stud. **29**(1), 30–48 (2008)
6. Takamura, J.H.: Molecular branding: a study on the nature of the relationship between product design and brand loyalty. In: Conference Proceedings of DeSForm, pp. 4–55. Northumbria University, Newcastle (2007).
7. Andersson, T., Warell, A.: Aesthetic flexibility in the management of visual product branding. Procedia Manuf. **3**, 2191–2198 (2015)
8. Andersson, T., Warell, A., Holmlid, S., Ölvander, J.: Product gist: An approach to identifying form characteristics of the current product sign. In: Proceedings of the 10th European Academy of Design Conference—Crafting the Future. Göteborg University, Gothenburg (2013)
9. Beverland, M., Napoli, J., Farrelly, F.: Can all brands innovate in the same way? A typology of brand position and innovation effort. J. Prod. Innov. Manag. **27**(1), 33–48 (2010)
10. Kreuzbauer, R., Malter, A.J.: Embodied cognition and new product design: changing product form to influence brand categorization. J. Prod. Innov. Manag. **22**, 165–176 (2005)
11. Simoni, M., Cautela, C., Zurlo, F.: Product design strategies in technological shifts: an explorative study of Italian design-driven companies. Technovation **34**(11), 702–715 (2014)
12. Karjalainen, T.M.: It looks like a Toyota: educational approaches to designing for visual brand recognition. International Journal of Design **1**(1), 67–81 (2007)
13. Mulder-Nijkamp, M., Eggink, W.: Unravelling the secret of successful brand extension: a case study to explore consumer response. In: Proceedings of the 19th DMI: Academic Design Management Conference, pp. 479–504. The Design Management Institute, London (2014).
14. Lee, S., Self, J., Andrietc, E.: Most advanced yet acceptable: a case of referential form-driven meaning innovation. In: Lloyd, P., Bohemia, E. (eds.) Proceedings of DRS2016, pp. 157–178. The Design Research Society, Brighton (2016).
15. Torres, P.: Creating Brand Recognition Through Product Design. In: International Conference on Research into Design, pp. 205–214. Bangalore (2015).
16. Fischer, M.S., Holder, D., Maier, T.: Evaluating similarities in visual product appearance for brand affiliation. In: Fukuda, S. (ed.) Advances in Affective and Pleasurable Design, pp. 3–12. Springer, Cham (2019)
17. Keller, K.L., Apéria, T., Georgson, M.: Strategic brand management: a European perspective. Pearson, Harlow (2012)
18. Ranawat, A., Tuteja, S., Hölttä-Otto, K.: Contribution of visual design elements to the perceived product family look. J. Des. Res. **10**(3), 189–205 (2012)
19. Hangyue, C., Shijian, L.: Product visual image design based on product family DNA. In: 9th International Conference on Computer-Aided Industrial Design and Conceptual Design, pp. 783–787. Kunming (2008)
20. Mulder-Nijkamp, M., Eggink, W.: Brand value by design: the use of three levels of recognition in design. In: Proceedings 5th IASDR 2013 Tokyo, pp. 5639–5650. Tokyo (2013)
21. McCormack, J.P., Cagan, J., Vogel, C.M.: Capturing the essence of a product's brand through a shape grammar representation. In: Folkeson, A., Gralen, K., Norell, M., Sellgren, U. (eds.) Proceedings of ICED 03, pp. 175–176. Stockholm (2003)

22. Ranscombe, C., Hicks, B., Mullineux, G., Singh, B.: Visually decomposing vehicle images: exploring the influence of different aesthetic features on consumer perception of brand. Des. Stud. **33**(4), 319–341 (2012)
23. Warell, A.: Design syntactics: a functional approach to visual product form theory, models, and methods. Chalmers University of Technology, Gothenburg (2001)
24. Leading online stores in India in 2017, ranked by net e-commerce sales. Survey by Statistica. https://www.statista.com/statistics/297355/leading-e-retailers-in-india-ranked-by-annual-web-e-commerce-sales/