

Measuring the Future Brand Effect of Graphic Design

by Gert Kootstra and Jos Vink

In evaluations based on five criteria—identification, differentiation, saliency, the transfer of functional brand meanings, and the transfer of emotional brand meanings—Gert Kootstra and Jos Vink are able to quantify the brand impact of specific designs. Amplifying their analysis with a range of illustrations, they review projects that support (and a couple that fail to support) the objectives of their respective organizations.



Gert L. Kootstra, MBM,
Managing Consultant,
Census Design
Management BV

Proving return on investment has become something of an obsession for designers, who by nature are more attuned to qualitative than to quantitative measures. As design takes a more significant role in business and designers seek to improve the stature of their profession, methods to validate design as a source of added value become more important. Happily, the Dutch Designers Association, or BNO as it is called in The Netherlands, has developed a quantitative research instrument that is proving its merit in a variety of companies.

Qualitative research can offer insights into which opinions, associations, or ideas certain designs conjure up. Quantitative research, on the other hand, maps the extent to which these opinions, associations, and ideas exist in certain target groups.

Qualitative research may well provide a reliable indication of design effectiveness, but because observations cannot be reflected numerically, that reliability is sometimes disputed. Quantitative research uses a far more extensive survey, which adds to its reliability and leads to greater certainty regarding the effects of some designs. Another advantage of quantitative measurements is that numerical reflection of research data enables statistical analysis. In this way, the results of the research can be compared at different times or places. Keep in mind that comparisons to previous research or competitor performance do require an accurate score profile—preferably within a standardized research instrument. This preference is also fueled by the need to keep research expenses low, and by the desire to be able to build a data-



Jos Vink, Managing
Partner, Blouw Research

base for benchmarking purposes.

The BNO brings together more than 2,500 individual designers, as well as 200 design agencies and design departments within companies. It represents them and promotes their business, social, and cultural interests. In 2003, the BNO surveyed its members to find out if any of them undertook measurements of design effectiveness in their organizations. One of the things the survey uncovered was that design ROI was researched only on a small scale, and then mainly on the initiative of clients. What measurement there was mainly took the form of concept testing—through in-depth individual interviews or focus sessions. All of it was qualitative; quantitative research was rarely undertaken. In fact, there didn't seem to be any research instrument available to carry out quantitative research. And since such an instrument could not be found in any of the literature either, the BNO study group decided to develop one itself.

A tool for brand building

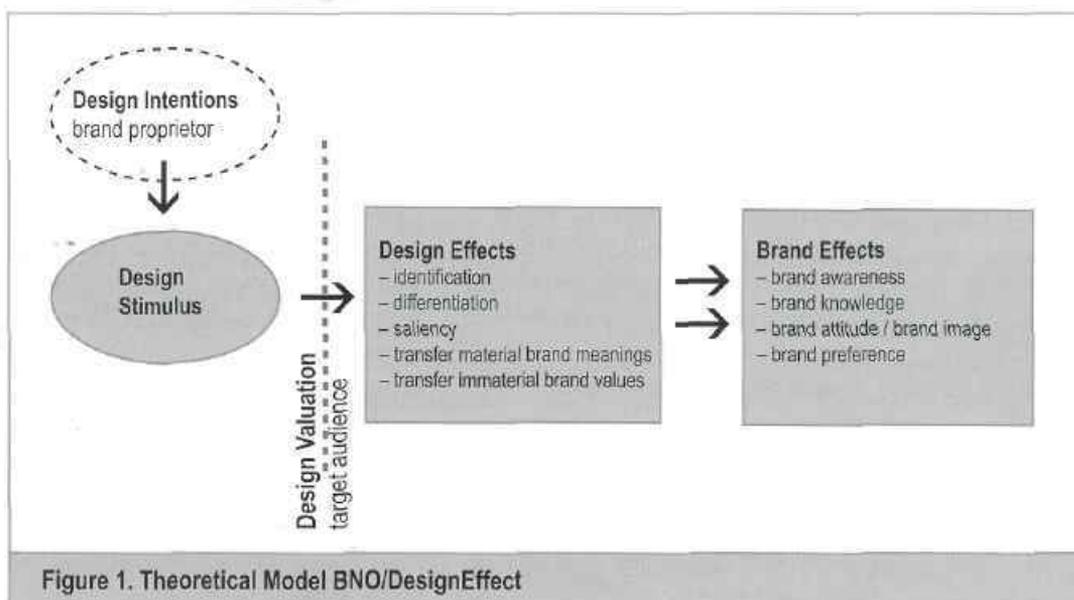
BNO/DesignEffect aims to chart the effect that design has on the creation and maintenance of brands. The tool can be deployed in research into brand symbols (logos), as well as in brand communications, such as websites, packaging, brochures, ads, and magazines. It measures the influence design has on consumer valuation; it also measures design effects in relation to brand effects—design effects being the intended and

desired consumer valuations of a design stimulus, and brand effects being the distinctive results of these valuations. After all, a design strategy is not isolated but something that follows naturally from the brand strategy.

Pinpointing and tracking the role of design in the consumer process can, in our opinion, best be done using the concept of the brand. This approach to effectiveness research is based on insights from psychology, and it links visual observation to the consumers' choice process. The aim is to find out whether the design objectives, expressed in intended changes in consumer and user valuation or perception, have been achieved. The process of assigning meaning and associations used in the brand concept is the design process at issue here.

In Figure 1, we present the theoretical model on which BNO/DesignEffect is based. The model reflects the tensions between the brand owner's design intentions and the design valuations of the intended target group. Design intentions relate to corporate objectives and are partly inspired by brand identity, brand concept, and other brand strategic considerations, such as current or desired positioning.

In an ideal situation, the formulated intentions and the intended effects on the target group will also constitute the core of the creative brief for the design work. We are working on the assumption here that the chosen design intentions will subsequently be incorporated into the



design by the designer.

The perceptions of the intended target group are directly reflected in design valuations: the extent to which an item is deemed to apply to the stimulus. These perceptions are indirectly reflected in the brand awareness, brand knowledge, brand attitude, and brand preference of consumers and users. By analyzing the scores on the different items, we can predict which brand effects will occur, and to what degree. The performance scores can also be compared with those of other stimuli, which have been researched using the same items.

The model is based on the following assumptions:

- Attributes and aspects of a design have certain effects on observers.
- Design effects can be subdivided into five dimensions: identification, differentiation, saliency, conveying of material brand meanings, and conveying of immaterial brand values.
- As a result of these five effects, the design has a demonstrable influence on brand effects in terms of awareness, knowledge, attitude/image, and behavior.
- Perceiving the design over a short period of time has the same influence as when the design is perceived by the target group for a longer period of time. The intensity (power) of the valuation will vary greatly, but the contents (the nature of the associations) and direction (positive or negative) will vary to a lesser degree.

With respect to consumer behavior, the research model will be limited to purchase intention, commitment, and loyalty. Experience in the area of advertising effectiveness research has shown that behavioral criteria, such as actual purchase, are affected to a large extent by factors that cannot be controlled within a research setting.

Drawing up and validation of an items list

A good items list is needed to measure to what degree a stimulus has a positive effect. Items are meanings or attributes based on which stimulus is researched. This list should not be too long; that would cause the research to be too lengthy and expensive, and it would also make it repetitive, leading the respondents to have difficulty

focusing. A second criterion is that the items list has to be validated using statistical research.

The two market research firms of Ruigrok MC and Blauw Research were involved in the development of the DesignEffect items list. Extensive qualitative preliminary research uncovered around 140 items, which through statistical analysis and follow-up research were reduced to 80, then to 40, and eventually to 28 items, divided over seven dimensions. These dimensions are subdivided into values, personal attributes, and emotions. In Figure 2, we provide an overview.¹

This division was made by defining which items are interlinked. Their mutual coherence is determined using a factor analysis. These factors are subsequently tested for their unambiguity using a reliability analysis; they were then

1. We would like to point out here that this is a translation of terms that were validated in Dutch.

Item	Factor	Character
Progressive	Progressive	Value
Modern	Progressive	Value
Innovative	Progressive	Value
Trend-setting	Progressive	Value
Traditional	Traditional	Value
Serious	Traditional	Value
Formal	Traditional	Value
Classic	Traditional	Value
Social	Social	Value
Human	Social	Value
Personal	Social	Value
Optimistic	Social	Value
Daring	Daring	Personal attribute
Imaginative	Daring	Personal attribute
Creative	Daring	Personal attribute
Original	Daring	Personal attribute
Reliable	Reliable	Personal attribute
Accurate	Reliable	Personal attribute
Self-confident	Reliable	Personal attribute
Efficient	Reliable	Personal attribute
Happy	Happy	Personal attribute
Cheerful	Happy	Personal attribute
Lively	Happy	Personal attribute
Sociable	Happy	Personal attribute
Enjoyment	Enjoyment	Emotion
Inspiring	Enjoyment	Emotion
Surprising	Enjoyment	Emotion
Satisfying	Enjoyment	Emotion

Figure 2. Items List BNO/DesignEffect

checked to see to what extent they accounted for the general valuation of the design. This relevance is established using a regression analysis.

The quantitative validation research² was carried out by way of an online survey of 880 respondents, using six different designs. This survey led to the conclusion that the BNO/DesignEffect instrument shows the statistically significant discrepancies in the brand effect of different designs.

What does BNO/DesignEffect measure?

DesignEffect predicts brand effects of a design by measuring design effects. The five design effects are defined as follows:

Design effects

1. *Identification.* The owner, producer, or sender of the brand article or message becomes known through design. Another function of design is categorization. This effect can be assessed by the extent to which the design provides pointers toward the sender and/or the respective category.
2. *Differentiation.* Design contributes to the way a brand article or message stands out in relation to the competition in the eyes of consumers. This design effect can be assessed by the extent of perceived difference (uniqueness) within a specific category.
3. *Saliency.* Design can contribute to a brand by its level of strikingness, or attracting the attention of consumers by being different.
4. *Transfer of material (functional) brand meanings.* Through physical aspects, such as shape, size, color, material, structure, and imagery, design actively contributes to the perceived performance of the brand. The design effect can be assessed by the extent to which the design contributes to the perceived performance of the brand.
5. *Transfer of immaterial (emotional) brand meanings.* Through visual expression, design contributes to the psychosocial meaning of the brand, leading to the attribution of certain values, character traits, or emotions to it. The design effect can be assessed by the extent to which the symbolic brand meaning (expressed

*DesignEffect
predicts brand
effects of a design
by measuring
design effects.*

by the design) is perceived by the observer.

This last design effect can be subdivided into the following attributes:

- *Values:* The extent to which the design facilitates the perception of the symbolic (psychological) brand values

Personal attributes: The extent to which specific personal attributes are attributed to the brand by the design through visual expression

Emotions: The extent to which the design reaches out to emotions ascribed to the brand

Brand effects

The five effects described above give a design a demonstrable influence on the awareness, attitude, and behavior of consumers. This influence includes a distinction between four brand effects: namely, brand awareness, brand knowledge, brand attitude and image, and brand preference. We know these effects from classical theoretical models such as AIDA or DAGMAR that explain how marketing communications works. These models suppose a hierarchy (order) of effects that is passed through when confronted with a stimulus; awareness will lead to the development of knowledge about the brand, and this knowledge in turn will lead to developing an attitude toward the brand. Subsequently, preference will result from a well-developed attitude. The stages follow the three main effect categories: knowledge (cognitive), attitude (affective) and behavior (conative).

The brand effects in our instrument coincide with four stages in the working process as presented in these models. A fifth and sixth stage—namely, intention and purchase—are omitted, as we explained earlier in the text. Now, if we believe design can have an effect in the various stages of the working process mentioned above, we have to make a theoretical connection between the five distinctive design effects as proposed and the four brand effects.

Brand awareness is the extent to which the target group can recognize the brand within a

2. The fill! report can be obtained from Blauw Research, Rollercbm.

certain product class. The design effect can be determined on the basis of the degree to which design contributes to recognition, remembering (memory value), and strikingness (saliency) of the brand. It can be important for effectiveness that the design provide some pointers to the category in question—in particular, for new brand introductions or drastic changes to a brand design.

Brand knowledge refers to both brand awareness and knowledge of the attributes (the attributes and advantages linked to the brand article). This is therefore a much broader concept than brand awareness. The added value of a brand depends on, among other things, a great level of familiarity with and clear expectation of the performance (on a more concrete instrumental level). The design effect can be charted on the basis of the degree to which design contributes to the perception of product attributes, and the perception of the advantages of using the product. We specify product-related meaning as material brand meanings; the design effect can be determined on the basis of the perception and valuation of these brand meanings in relation to the research stimulus.

When the design is intended to convey material brand meanings or immaterial brand values, customers will better understand what is meant and assume a more open mind with regard to the brand. Material brand meanings will sooner lead to cognitive evaluation (knowledge-oriented), while immaterial values will lead to affective evaluation (attitude-oriented).

The *brand image* is the sum of all the impressions consumers have of a brand (or brand article), which can, in turn, influence their behavior with respect to that brand (article). All attributes that are attributed to the brand are part of the brand image, but so are the more abstract attributes and advantages that are associated with the product, and therefore rub off on the product. (Attributes and advantages can also be simply thoughts or perceptions.)

Apart from that, the brand values, personal attributes, and emotions attributed to the brand

Brand awareness is the extent to which the target group can recognize the brand within a certain product class.

also play a decisive role. We refer to these as the *immaterial brand values*.

Brand owners can try to influence the brand image to develop into their desired direction by publishing the values chosen for the brand—its personal attributes and emotions—as recognizably and unequivocally as possible. The design effect can be charted on the basis of the attractiveness of the

design (likeability): Does it appeal; is it original; does one have an affinity for it; does one feel a connection with it? But it can also be measured on the basis of the extent to which design contributes to the saliency of the brand, and the perception of personal attributes, emotions, or values that go with the brand.

Brand preference occurs when the brand occupies a prominent place in the consumer's awareness set. When design is deployed to differentiate (that is, to contribute to consumers' perceptions of the brand article as different from that of other providers), this will also add to brand preference.

Final valuations of the design can, in principle, lead to brand preference formation—for example, on the basis of visual preference: "This design has the greatest appeal to me," or "This design suits me the best." The degree of consumer brand preference gives us a clue regarding purchase intention, and possibly also regarding actual purchasing behaviour.

A number of factors influence this—for example, the extent to which the design is perceived as unique, distinctive, and attractive. The perception of the price/quality ratio is also important. Moreover, the design effect can also be charted on the basis of the extent to which design contributes to brand commitment and brand loyalty. Especially through the conveyance of immaterial brand values, consumers can gain insight into the brand and assess to what extent it is convincing, authentic, and in keeping with their personal orientations. Mind you, not all brands are concerned with this aspect, which tends to apply to those for which a certain ideology or brand personality is at the forefront

(think Beij, & Jerry's ice cream or Apple Computer). The creative expression of that ideology or personality through design influences perception and valuation.

Figure 3 summarizes the design effects that can be used to determine various brand effects. Not all design effects lead to the same brand effect; a clear distinction can be made here. Identification and saliency can both have a positive effect on brand awareness (when signalling the brand clearly), but are unlikely to influence other brand effects. And the conveyance of material (functional) brand meanings more likely result in brand knowledge as an effect, whereas conveying immaterial brand values—a more attitude-oriented design effect—tends to affect the brand image.

Design effects and brand effects need to be congruent to prove effectiveness. When, for instance, the design strategy is aimed at creating a brand image but the only design effect that can be found is identification, the brand effect of design will be limited to brand awareness. After all, the ability to contribute to a brand image necessitates the transfer of immaterial brand values as a design effect. Therefore it can be argued that in this case the effectiveness of the current design strategy—referring to the measured stimulus—is doubtful.

How to use the instrument

Prior to use, the client company or brand owner provides a questionnaire with a checklist indicating what it is looking to achieve with the

*Design effects
and brand effects
need to be congruent
to prove effectiveness.*

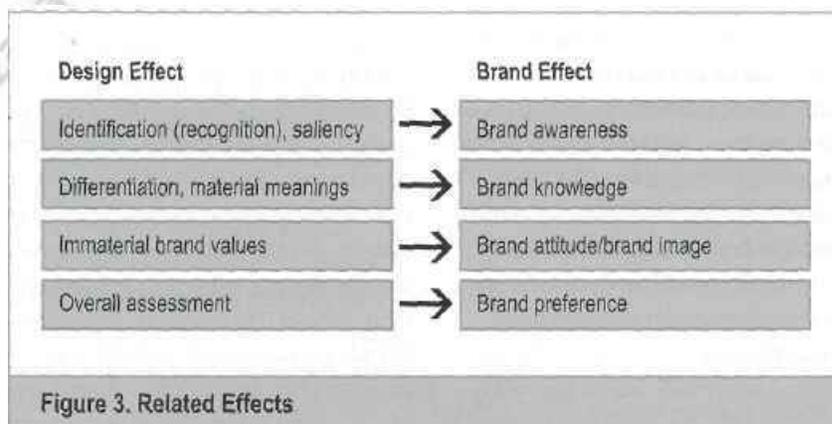
design. This should include a selection from the standard items list. On some occasions, this means having the brand values adapted to the items that best suit them. The client can, however, still add a number of additional items it

would like to see measured.

The design in question is subsequently presented to at least 300 respondents from the intended target group, using the standardized questionnaire. All questions are—barring one—multiple choice; in this way, processing the answers is kept simple, and expenses can be limited. (The one open question asks for spontaneous associations.) Respondents answer the questions while continuously viewing the design on the screen. They can enlarge the image by clicking on it.

The client receives an extensive report, including a handy score card. Blauw Research and Ruigrok MC are building a joint database so that the results of the survey can be offset against earlier scores of other designs within a certain sector or a specific company. This is useful because it gives a score—for example, the score for *trend-setting*—a clearer profile. If the benchmark score for that value is 4.7, a score of 5.7 (which is in itself not very high) will still be considered relatively good.

When you want to check or find out to what extent an existing brand image possibly influences the valuation of a design, you have the option to go for a so-called split-run setup. By this, we mean the possibility that established brand associations can positively or negatively



affect the valuation of the design object. When researching a design, you can then carry out random checks, where half the research population views the design without the brand image (and brand name), and the other half views the design with the brand image. By subsequently comparing the scores of both spot checks, you can find out to what extent the brand image affects the valuation of the design.

Another option is to compare an existing or revamped design to that of some of the competitors. The effect of the design is then determined by the scores of the design in question, as well as the comparison with the scores of competing designs.

Where it is used

BNO/Design Effect can be deployed for a number of research projects:

- Testing existing designs that may require revamping (due to decision-making/investment decisions or to obtain input for the design brief)
- Testing of existing versus new design (certainty regarding the return on the renewal)
- Pre-testing concepts and design tendencies (selection of the best concept; well-founded decision)
- Post-testing of launched designs (identifying market effect)
- Benchmark testing (own design versus competition's)
- Testing for one or several target groups. This could occur when different versions of a design are developed for one brand in order to target different groups. The client may want to gauge the effectiveness of this strategy.

BNO/DesignEffect in action

- DesignEffect was used to assess the current brand design of the largest chain of independent mortgage advisors in The Netherlands. The marketing department felt revamping was necessary, but had no clear evidence. The goal was to realize a sound and objective basis for the decision-making process and to gain more insights for the direction in which redesign should take place. However, the scores on all the design effects were very low, indicating no

brand effect at all. In short, the existing brand design added zero value to the brand. The research resulted in the advice to start a drastic re-design project.

The Hague University is working on repositioning itself, with quality, market leadership (regional), and challenge (international) as the core elements. Based on the new positioning, the university had a new logo designed. It then wanted to pre-test the design concept to see to what extent it contributed to attaining the repositioning objective. Research was conducted among The Hague University's international relations, among Polish students, and among the parents of Polish students. The report compared the results from these groups. First the spontaneous associations evoked by the design were defined. These associations were subdivided into positive and negative ones. The designs were subsequently assessed on attractiveness, appeal, suitability, distinctiveness, and strikingness. The research also charted the degree to which the respondents considered a number of aspects applicable to the logo of The Hague University and in comparison with those of its competing educational institutions. This included a closer look at the seven brand values the organization wanted to attribute to the design. Benchmark figures from previous DesignEffect studies were used to point out to what extent a score was below or above average.

¹ In 2007, TPG Post, the Dutch national postal company, was rebranded and renamed TNT Post. The new company hoped to investigate the brand image effects of the alteration by means of two studies using the same instrument. It identified brand image effects with regard to no fewer than 10 specific design intentions, all related to immaterial brand values. The result of both studies has to prove if, and to what level, the new TNT brand design contributes to the desired TNT Post brand image, in comparison with the contribution of the former TPG design to the TPG brand image.

¹ For the first TPG study, two samples were taken, one from a business and one from a general audience. Both samples were at ran-

dom confronted with two out of six design applications, varying from the bags and clothing of postal workers to the postal car fleet, website, advertisements, and brochures. The TPG study showed high scores on identification and saliency, but its score for differentiation was only average. The design clearly contributed to the TPG brand image, based on a transfer of immaterial brand values. However, three of the ten intended design aspects could not be found at all. Apparently, the task for the new TNT brand design would be to convey

these three missing aspects. It also became clear which of the distinctive brand design applications could be improved. In fact, a number of conclusions were drawn that served as input for the final efforts of the designers working on the new brand.

Rabobank hoped to visually separate its advertising for its retail and wholesale segments through the use of photography and customized layouts. The idea was to address distinctive values targeted to the two audiences while retaining a high level of identification and differentiation. For both audiences, the bank identified three brand values: close, concerned, and trendsetting. However, it also identified specific design values (intended design aspects) for each segment. For retail, for example, the values were described as warm, human, and powerful; for wholesale, professional, surprising, and innovative. DesignEffect was used to gauge the effectiveness of this approach. The two photography styles and two layouts were presented in four mutual combinations to both target groups, along with text elements.

The results clearly indicated the effectiveness of the design with regard to the four brand effects. However, it is difficult to predict the level of intensity of these effects, since this strongly depends on the way the design will be used (for example, the choice of media involved), and on the frequency with which it will be used. DesignEffect also found that the designs were likely to have little impact on brand awareness because they received a fairly average score on saliency and on distinctiveness in comparison to the benchmark. The designs also did not convey any knowledge about the use of the brand or any new knowledge concerning the brand. On the plus side, based on the overall scores, the researchers felt the redesign would affect Rabobank's brand image positively. The combination of the retail photo and layout seemed to convey a strong effect with regard to two specific brand values and two intended design aspects. Therefore, it would seem that there will also be a positive effect on brand preference, even if the level of differentiation is fairly average.

Sidebar: An illustration of the use of BNO/DesignEffect

One of the participants in the development of DesignEffect is Informatie Beheer Groep (Information Management Group), the government organization in charge of student grants in The Netherlands. With several million clients, communication is a critical success factor for customer satisfaction and for building a reputation. However, research showed that the current image was stale and weak. During a brand revamp in 2004, Information Management Group decided to introduce a systematic approach based on a new communications strategy that focused on a more effective and more personal target group approach.

This new strategy centered on a clear differentiation of functional information on the product level (regarding the "what": the content of specific regulations) and motivational information at business-process level (the "how to": interaction with clients). This resulted in a separation of brand meanings that gave direction to the design policy.

Information at the product level was intended to be clear, simple, and spot-on. At this level, it had to address functional product features and related functional benefits, such as, for instance, no interest, or a flexible redeem schedule. Information at the motivational level had to express the softer benefits of the products, such as reliability, freedom, and safety. In terms of design effects, the first level was about identification, saliency, and conveying functional meanings, while the second was about differentiation and conveying more-abstract concepts.

During the development of tactical communications, such as brochures, magazines, and websites, the designers worked with clearly defined design values and guidelines, but up to this point no tests had been conducted. Theoretically, it seemed that functional information would drive brand awareness and brand knowledge, while motivational information would drive brand attitude and brand image.

Two brochures were tested during rollout and implementation, and the results were in line with what had actually been planned. Even though the scores were more or less satisfying, it was felt they could be improved. Design at this tactical level of communications is a continuous and cyclical process leading to renewal every two to three years. Using DesignEffect enables the organization to monitor this process in a very accurate and structured way. ■

Conclusions to be drawn

The results of BNO/DesignEffect are promising, and clients are happy to work with it. But it is still used only on a small scale, and it has not yet found its way to SMEs (small and medium-size enterprises). DesignEffect is particularly suitable for organizations pursuing an active brand policy closely tied in with their design policy.

We are cautiously optimistic about this instrument's future prospects. After all, design is still a neglected area of market research, and it cannot be expected to suddenly come to the fore. There is a lack of market research tradition, and the concept of design effectiveness and how it can be measured is still uncharted territory.

A second reason is that formulated design objectives make or break the assessment of design effectiveness, and unfortunately these design objectives are often formulated too loosely. Design specialists point out that the quality of the design brief is often poor because of this.

The determination of this type of design effectiveness requires a clear analysis on the basis of the knowledge of design as a branding instrument. That is probably where the complexity of this approach of effectiveness research lies. There seems to be a distinct lack of knowledge of design effects and their relation to brand performance, which is a void that BNO/DesignEffect can help to fill.

Acknowledgements

The development of a method to predict design effects was conducted in close collaboration with Dr. Edward Greenland, research director of Blauw Research and professor at Nyenrode Business University in The Netherlands. We would furthermore like to extend our gratitude to all who have contributed to the development of this instrument, in particular to Wout van der Wijk, Marja Ruigrok, and Pieter van Ginkei.

Suggested Readings

Kootstra, Gert L. "The Role of Design in Brand Development," in: Rik Riezebos (ed.), *Brand Management, A Theoretical and Practical Approach* (Harlow, UK: FT/Prentice Hall: Pearson Education, 2002). I

Reprint #07184K0081