

# The Influence of Product Design Evaluations on Investors' Willingness to Invest in Companies: Theory and Experiment with Finnish Individual Investors

by Jaakko Aspara

Jaakko Aspara, Professor  
of Marketing, Aalto  
University, Helsinki,  
Finland



Both academicians and practitioners in design management have been increasingly interested in the strategic value of product design, including its contributions to company financial value (e.g., Borja de Mozota, 2002; Borja de Mozota and Clipson, 1990; Buchanan, 2008; Hertenstein and Platt, 1997; Heskett, 2001). However, one important aspect of design's strategic value has been mostly ignored in the literature; and that is the issue of how investors in the stock market evaluate companies' product design as part of their investment considerations. The purpose of this article is especially to address that question. After hypotheses were developed about the influence of product design evaluations on investors' investment interest, an experimental study was conducted among Finnish individual investors. The results of the study demonstrate that product design creates strategic distinction for a company not only among customers in the product market but also among investors in the stock market. Indeed, investors' favorable evaluations of a company's product design are shown to significantly increase their willingness to invest in the company's stock. The results provide new and interesting insights into the broader socioeconomic impacts of product design in the investment context, as well as valuable implications for the practice of design management.

## References to investors in earlier design management literature

Although they have occurred only rarely in the literature on design management, references to investors have mostly appeared amid broader lists of the various stakeholders (i.e., customers, employees, the general public) who are potentially influenced by a firm's design efforts. Such lists have appeared in connection with the generic claim that design-enabled distinction in products (or other artifacts) can make a company more attractive to *all* of its stakeholders—and, therefore, to investors as well (e.g., Bruce and Bessant, 2002, p. 87; Schmitt, Simonson, and Marcus, 1995).

Slightly more specific perspectives on the relationship between investors and product design have been presented by Andrew Hargadon and Brigitte Borja de Mozota. Hargadon's work has highlighted—often through elaborate case studies, such as that of Edison's electric light innovation (Hargadon and Douglas, 2001)—that success in design tends to depend on how design “addresses the needs of multiple actors” (Hargadon, 2005). Among these actors, Hargadon often mentions investors. Borja de Mozota (2003, p. 113), in turn, notes that in the future, design will have an important role in companies' financial relationships with investors or owners, among

others. Elsewhere, Borja de Mozota (2006) further prescribes that design managers should attempt to outline measurable connections between customers' perceptions of the company's product design and the creation of financial value. One of the ultimate questions for companies will be, she suggests, “How should design appear to our shareholders?” (2006, pp. 47, 48).

Nevertheless, even Hargadon's and Borja de Mozota's arguments remain somewhat superficial when it comes to investors' actual evaluations or behavior with regard to product design. Indeed, there appear to be no closer examinations into the subjective, psychological, and behavioral mechanisms of *how* a company's product design actually influences investors. Curiously enough, even studies (Rich, 2004) that have found some evidence of the fact that companies with highly regarded product design fare better in terms of stock market valuation<sup>1</sup> have been ignorant of *why* or *how* good product design attracts individual investors. In the absence of

<sup>1</sup>In a number of studies commissioned by the Design Council (summarized in Rich, 2004), a set of stock exchange-listed companies were divided into groups on the basis of the number of design awards that the companies have won. The studies generally suggest that the group of companies winning a high number of design awards continually outperformed other stocks (as seen in terms of the general stock market index). Specifically, the “good-design” companies outperformed the other stocks by 10–200 percentage units within different subperiods (booms, busts) during the overall period of 1993–2003.

earlier research that would directly pertain to this question, the issue is first addressed theoretically by drawing on investment behavior research, and a set of hypotheses is developed to be tested in an experimental study.

## Hypothesis development

Research into the psychology and behavior of investors indicates there are basically two mechanisms through which investors' evaluations of product design may influence their willingness to invest in companies. The first relates to the influence that product design evaluations may have on investors' expectations about the financial returns of companies. The second pertains to the influence that product design evaluations may have on investment interest *over and beyond* expectations of financial return.

With regard to the first mechanism, it is likely that investors will be generally attracted by the increased sales, better profit margins, enhanced brand value, greater market share, and better return on investment that companies manifesting “good design” are likely to enjoy (cf. Borja de Mozota, 2006). That is, investors may generally presume that companies whose product design they evaluate to be good are also good investment targets (Aspara, forthcoming; Aspara and Tikkanen, 2008, 2010b). Such opti-

mism about a company's expected financial returns will, in turn, naturally increase the investor's interest in the company's stock. In the specific terms of investment psychology research, the preference to invest in companies that have products of good and likable design can also be viewed as the use of an investment criteria called "affect heuristic" (see Frieder and Subrahmanyam, 2005; Slovic, Finucane, Peters, and MacGregor, 2002): an investor's preference to invest in a company simply because one likes the company (or its product design, in this case). In sum, investors may generally presume that companies whose product design they perceive to be good are "representative" (Shefrin and Statman, 1995) of good investment opportunities as well.

The second mechanism by which investors' evaluations of a company's product design may affect their investment interest goes over and beyond their expectations of financial returns (Aspara and Tikkanen, 2008). This mechanism is based on a deeper positive attitude that an investor may potentially hold toward the company's product design. According to a common psychological notion, an individual's positive attitude toward (i.e., positive overall evaluation of) an object—in this case, a company's product design—will manifest in the individual's predisposition to behave in a consistently favorable way with respect

to the object (Fishbein and Ajzen, 1975; Zajonc, 1980). Due to the psychological drive to maintain "attitude-behavior consistency" (Abelson et al., 1968; Festinger, 1957), in turn, it can be expected that an individual who has a positive affective attitude toward a company's product design will not only, for instance, talk favorably about the company and its products (and perhaps buy or use them) but also express his positive attitude by favoring the company in investment decision making (Aspara, Nyman, and Tikkanen, 2009; Aspara and Tikkanen, 2010a, 2011a). Notably, such behavioral favoring, based on a positive attitude toward the company's product design, can be somewhat independent of the investor's expectations about the financial returns of the company—and should therefore increase the investor's interest to invest in the company over and beyond its expected financial returns.

Summarizing the above discussion, the first hypothesis is:

*Hypothesis 1: An individual investor's positive overall evaluation of the company's product design has a positive effect on his interest to invest in the company's stock.*

Furthermore, because the above discussion proposed that positive product design evaluations may influence investment interest both

(a) by generating optimism in the investor's financial expectations (I like the product design → the company will succeed financially) and (b) by generating preference that goes over and beyond the financial expectations (attitude-based favoring), it is also hypothesized that:

*Hypothesis 2: The effect that an investor's positive overall evaluation of the company's product design has on investment interest will be partially (but not fully) mediated by the investor's optimism about the company's expected financial returns.*

The above hypotheses concern the investor's overall evaluation of the (goodness of the) company's product design. Nevertheless, it may be that an investor's investment interest will not only be influenced by his overall evaluation of the company's product design, but also by how personally relevant that investor finds the company's products or its product domain to be. The personal relevance of the company's product domain refers to the degree to which the investor finds a certain domain—for instance, an activity, area of interest, idea, or ideal—that the company's products represent to be personally relevant (Aspara, 2009; Aspara and Tikkanen, 2010a). For instance, if an investor finds "motoring" to be a personally relevant domain (or

activity or area of interest), he is more likely to consider investing in companies that design and manufacture automobiles and/or tires. Or, if an investor considers “healthcare” to be a highly relevant domain (idea) personally, he is likely to have increased interest to invest in companies that design and produce healthcare products.

The reason personal interest associated with a company’s product domain is likely to increase investment interest is that finding a certain object to be personally relevant has been shown to cause willingness to engage in preferential and supportive behaviors with respect to that object (Aspara and Tikkanen, 2008, 2011b; Scott and Lane, 2000). In turn, one way to give preferential and supportive behavior to a personally relevant product domain (e.g., healthcare) is to invest in a company that designs and produces products in that domain (e.g., healthcare product companies).

Thus, in addition to the effect of an investor’s overall evaluation of a company’s product design (as in Hypotheses 1 and 2), the following is hypothesized:

*Hypothesis 3: The personal relevance that an individual investor associates with a company’s product domain has a positive effect on his interest to invest in the company’s stock.*

If the above hypotheses hold—that is, if evaluating a com-

pany’s product design to be good and personally relevant increases investment interest—we should be able to observe these effects in contexts in which investment decisions are made (e.g., a situation in which investors are shown presentations or advertisements of potential companies in which they might invest). Specifically, it can be expected that individuals’ investment interest in a company increases as we emphasize the company’s product design to them in advertisements for that company. This leads to the final hypothesis—a corollary to the hypotheses above:

*Hypothesis 4: Emphasis on product design in a company’s investment advertisement has a positive effect on investors’ interest to invest in the company’s stock.*

## Method

### Participants

To examine the hypotheses, an experiment was set up with Finnish individual investors. The subjects were recruited at “stock exchange evening” events of the Finnish Foundation for Share Promotion. This nonprofit foundation organizes a series of such events a couple of times a year; the events are open to the public and targeted to people interested in stock investing. Subjects were recruited to the present study at four such events. The subjects were informed of a

possibility to win prizes (with a value of approximately 50 euros) in a lottery, should they return the questionnaire (with the prepaid envelope attached). In total, 446 copies of the pencil-and-paper experiment material were distributed. Usable responses were received back from 141 investors, resulting in a response rate of 32%.

Due to the nonperfect response rate, there was a potential nonresponse bias. Thus, a common procedure was used to control for this bias: comparing the responses of the respondents who answered late (i.e., closer to the deadline) with those of the early respondents (Armstrong and Overton, 1977). The early versus late respondent check showed no significant differences between earlier and later respondents’ responses. This indicates that nonresponse bias is not a serious concern in the present study.

Approximately 70% of the investors who eventually participated were male, and 30% female. Most of the investors were between 45 and 65 years old and owned between 6 and 20 stocks.

### Study design

The study employed analysis of covariance (ANCOVA), common in psychological experiments that involve a few experimental factors as categorical independent variables (currently: “product design empha-

sis in investment ad" and "company/product type"), a few measured covariates (e.g., "overall evaluation of the company's product design" and "personal relevance of the company's product domain"), and a single, continuous dependent variable ("interest to invest").

For the first factor ("product design emphasis in investment ad"), the investor-participants were assigned randomly to conditions according to how a company was presented to them in an investment advertisement (or company presentation). This would enable the examination of Hypothesis 4. In the first condition for this first factor (that "product design emphasis in investment ad" = high), the participants encountered a company presentation that markedly emphasized matters related to the company's products and their design. In the second condition ("product design emphasis in investment ad" = low), the participants encountered a company presentation that did not emphasize these matters (see details below).

The purpose of the second factor ("company/product type") was to enhance the generalizability of the experiment results over different kinds of companies. Hence, the subjects were randomly assigned to evaluate one of four alternative types of companies, distinct in terms of the type of products produced by the companies. They were:

- Everyday consumer products (referred to as "everyday" in the following), such as eyeglasses
- High-tech products ("high-tech"), such as cameras
- Medical products ("medical"), such as pharmaceutical treatment products
- Business/consumer services ("service"), such as currency exchange services

In sum, the study employed a  $2 \times 4$  design, with "product design emphasis in investment ad" (high or low) and "company/product type" (everyday, high-tech, medical, or service) serving as between-subjects factors. Moreover, for the examination of Hypotheses 1–3, the measured covariates that were included in the ANCOVA were "overall evaluation of the company's product design" and "personal relevance of the company's product domain," as well as, finally, "optimism about the company's financial returns."

#### **Procedure**

In the cover letter distributed with the study material, the subjects were told that the questionnaire related to research that studied private investors' stock investments and, especially, their interest to invest in various companies in association with stock issues (such as initial public offerings [IPO]). In the actual study material, participants were first presented with two pages

of background questions about their personal demographics. The background questions were followed by the stimulus, (company presentation), which was followed by questions pertaining to the dependent variable ("interest to invest"). Thereafter, questions pertaining to the company-specific covariates were presented.

#### **Stimuli and manipulations**

Notably, the objective information content (text) of the company ads/presentations was the same in the high and low conditions of "product design emphasis in company ad"—so that different amounts of information conveyed by the ads would not confound the results. In this setting, the high condition for "product design emphasis in investment ad" was achieved by adding to the company presentation a heading that highlighted in bold typeface the products of the company and their potential personal relevance and use value (e.g., "Carl Zeiss—premium lenses for the sake of faultless vision"). Moreover, one sentence in the presentation was underlined and set in italics—namely, a sentence that further highlighted how the subject might personally connect with and find value in the company's products (e.g., "Even in your own pocket, there might be a product whose performance is ensured by Zeiss's technology").

In the low condition of “product design emphasis in company ad,” the company presentation simply lacked both the heading as well as the highlighting of the sentence at the end of the text. Consequently, even if the subjects in the low condition encountered the same text (in literal terms), they would not likely pay so much attention to the product design–related personal relevance and use value. To see an example of what the stimuli looked like for subjects in the high versus low condition of the factor, see the appendix.

The manipulation of the “company/product type” factor involved simply presenting to a subject the ad/presentation (as in the appendix) of one of the four companies. Notably, the presentation texts for each firm were of similar length (approx. 120 words) and followed a similar pattern across the conditions.

### Measures

The dependent variable “interest to invest” was measured, in the present study, after presenting the participants with an investment scenario. The idea was to present the participant with a scenario whereby he should imagine having a certain amount of money at hand—an amount that he would have already decided to invest in certain stock(s). After the scenario was presented, the subject would gauge his interest in investing the money in the stock

of the focal company. The amount of money at stake was set to be significant, yet below 10% of the value of the subject’s stock portfolio (the final figure used in the scenario was 7 percent).

With reference to the aforementioned amount of money, *R euros* (7 percent of the total value of the respondent’s stock portfolio), the dependent variable “interest to invest” was measured by asking the subject, “How interested would you be to invest *R euros* (or a significant part of it) in [company X]?” The answers were recorded on a 7-point scale, anchored by “0 = not at all interested”... “6 = extremely interested.”

The measurement items for the covariates “overall evaluation of the company’s product design” and “personal relevance of the company’s product domain,” as well as “optimism about the company’s financial returns,” are detailed below in Table 1.

### Results

#### *The effect of product design emphasis in investment ad (Hypothesis 4)*

Hypothesis 4 predicted that high “product design emphasis in investment ad” would have a positive effect on an individual’s “interest to invest” in the company. This hypothesis was first examined in a  $2 \times 4$  analysis of variance (ANOVA), where the other factor was “company/product type” (everyday,

high-tech, medical, or service).

Table 2 presents the simple cell means for “interest to invest.”

The ANOVA revealed a significant main effect of “product design emphasis in investment ad” on interest to invest ( $F(1, 164) = 6.28, p = .013$ ). Specifically, investors in the high condition had significantly higher interest to invest in the company ( $M_{\text{HiDesignEmphasis}} = 2.77$ ) than those in the low condition ( $M_{\text{LowDesignEmphasis}} = 2.10; p = .013$ ). Figure 1 presents the least-squares means for the two groups. The results indicate support for Hypothesis 4: Product design emphasis in a company’s investment advertisement had a positive effect on an investor’s general willingness to invest in the company’s stock.

When it comes to “company/product type,” the analysis revealed a significant main effect as well ( $F(3, 164) = 5.05, p = .002$ ). Pairwise comparisons showed, especially, that when the company’s product type was service, subjects had lower interest to invest in the company ( $M_{\text{service}} = 1.61$ ) than in the rest of the conditions ( $M_{\text{high-tech}} = 3.05; M_{\text{medical}} = 2.76; M_{\text{everyday}} = 2.33$ ). While this finding is interesting as such, it does not have implications for our hypotheses. More importantly, the ANOVA revealed no significant interaction effect between “company/product type” and “product design emphasis in investment ad” ( $F(3, 164) = .62, p > .5$ ). In other

Covariate	Scale type	Items	Reliability
OVERALL EVALUATION OF THE COMPANY'S PRODUCT DESIGN	Three-item, reflective scale	<p>1. How good do you think the firm's products/services are in terms of design?</p> <ul style="list-style-type: none"> <li>• 0 = "Very unattractive"</li> <li>...</li> <li>• 6 = "Very attractive"</li> </ul> <p>2. How good do you think the firm's products/services are in terms of functionality and usability?</p> <ul style="list-style-type: none"> <li>• 0 = "Very bad"</li> <li>...</li> <li>• 6 = "Very good"</li> </ul> <p>3. Considering the firm's products, what is your opinion about the firm's products overall?</p> <ul style="list-style-type: none"> <li>• 0 = "Don't like at all"</li> <li>...</li> <li>• 6 = "Like very much"</li> </ul>	Cronbach's alpha = .85
PERSONAL RELEVANCE OF THE COMPANY'S PRODUCT DOMAIN	Two-item, reflective scale	<p>1. Do you feel that the firm's product domain is personally important to you?</p> <ul style="list-style-type: none"> <li>• 0 = "The product domain is significantly less important to me than to an average person in the street"</li> <li>...</li> <li>• 6 = "The product domain is significantly more important to me than to an average person in the street"</li> </ul> <p>2. Is the firm's product domain "close to your heart"?</p> <ul style="list-style-type: none"> <li>• 0 = "Not at all close to my heart"</li> <li>...</li> <li>• 6 = "Highly close to my heart"</li> </ul>	Cronbach's alpha = .80
OPTIMISM ABOUT THE COMPANY'S FINANCIAL RETURNS	Single-item scale	<p>1. If you were considering investing in the firm at the moment, what would be your "hunch" about the attractiveness of the firm's business in terms of long-term investment returns?</p> <ul style="list-style-type: none"> <li>• 0 = "Highly unattractive"</li> <li>...</li> <li>• 6 = "Highly attractive"</li> </ul>	N/A (due to single item)

Table 1. Measurement items of the covariates.

Company/product type	Low product design emphasis in investment ad	High product design emphasis in investment ad
Everyday	1.79 (1.82)	2.87 (1.63)
High-tech	2.95 (1.93)	3.14 (1.71)
Medical	2.53 (2.03)	3.00 (1.77)
Service	1.14 (1.21)	2.08 (1.44)

Table 2. Simple cell means for “interest to invest.”

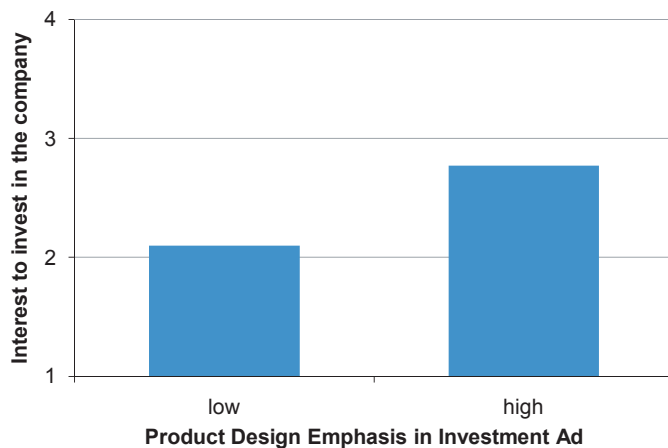


Figure 1. Interest to invest in the company by product design emphasis in investment ad.

words, the effect that product design emphasis in a company’s investment ad had on investors’ interest in the company did not differ significantly by company/product type. This finding gives us confidence in the generalizability of the effect of product design emphasis on investment interest.

**The effects of product design evaluations and personal relevance (Hypotheses 1 and 3)**

Including the variables “overall evaluation of the company’s product design” and “personal relevance of

the company’s product domain” into the above ANOVA as covariates enabled Hypotheses 1 and 3 to be tested. In the resulting analysis of covariance (ANCOVA), both “overall effect for the company’s product design” ( $F(1, 150) = 14.99, p = .0002$ ) and “personal relevance of the company’s product domain” ( $F(1, 150) = 7.55, p = .007$ ) were found to have significant effects on interest to invest. This suggests that both an investor’s overall evaluation of the company’s product design and the personal relevance that an investor associates with a company’s

product domain have positive effects on his interest in the company. Moreover, these effects are independent, because both the covariates achieved significance.<sup>2</sup> As a further illustration of these effects, Figure 2 presents the observed means of interest to invest at different levels of the covariates. These findings give support to Hypotheses 1 and 3.

Furthermore, as the covariates were included in the ANCOVA, the previously reported effect of “company/product type” on interest to invest ( $F(3, 164) = 5.05, p = .002$ ) became nonsignificant ( $F(3, 150) = 1.49, p = .22$ ). This suggests that the type of the company or its products does *not*, per se, explain investors’ interest to invest in particular companies—if we account for investors’ differential “overall evaluation of the company’s product design” and “personal relevance of the company’s product domain” for the companies that had different types of products.

In regard to the other experimental factor—“product design emphasis in investment ad”—the previously reported effect on interest to invest ( $F(1, 164) = 6.28, p = .013$ ) was also substantially attenuated when the covariate variables were included ( $F(1, 150) = 4.20, p = .042$ ). This further confirms the supposition that

<sup>2</sup>Multicollinearity should not be a concern here, because the correlation between the two covariates was under .5.



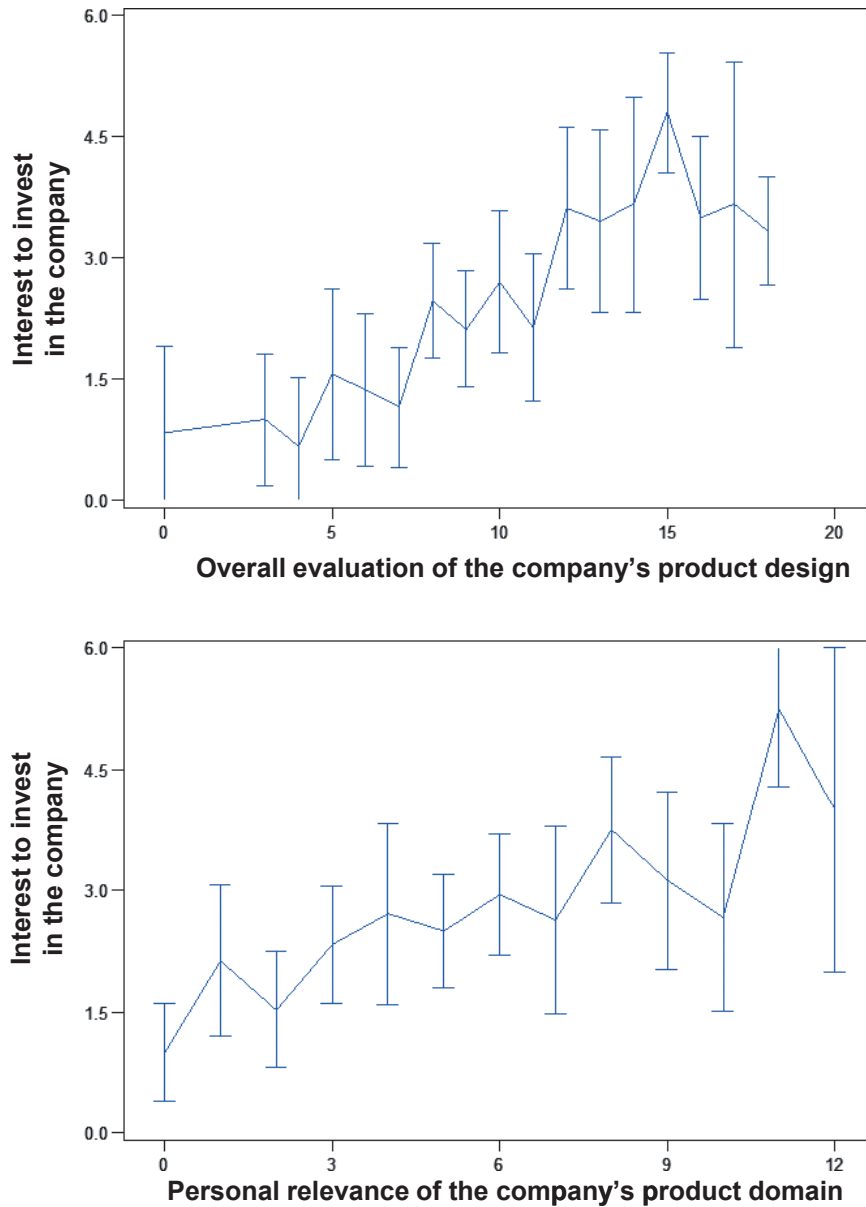


Figure 2. Interest to invest in company by product design evaluations.

the positive influence of emphasizing the company's product design to investors in an investment ad is, indeed, mostly due to enhanced product design evaluations and

enhanced personal relevance elicited by that emphasis.

Note, finally, that although this study controlled for the possible influence of investors' prior familiarity

with the companies on their investment interest,<sup>3</sup> this covariate did not achieve significance in the ANCOVA ( $F(1, 150) = .23$ ,  $p = .63$ ). This confirms the notion that the found effects cannot be explained merely by investors' familiarity with the companies or their brands (cf. Frieder and Subrahmanyan, 2005).

#### *Financial expectations as a mediator (Hypothesis 2)*

To finally examine Hypothesis 2, one more analysis was needed, so as to test whether optimism about the company's financial returns would partially mediate the effects of "overall evaluation of the company's product design" and "personal relevance of the company's product domain" on investment interest. This was tested by including "optimism about the company's financial returns" as an additional covariate to the earlier ANCOVA.

As expected, "optimism about the company's financial returns" became significant in the final ANCOVA ( $F(1, 155) = 26.80$ ,  $p < .0001$ ). Moreover, with the inclusion of this covariate, the effect of "overall evaluation of the company's product" was substantially reduced, yet remained significant

<sup>3</sup>This covariate was measured with a single-item scale. The subject was asked: "How familiar were you with this company (before receiving/answering this questionnaire)?" The responses were recorded on a 7-point scale, anchored by "0 = not at all familiar" ... "6 = I was very familiar with the company."

(from  $F(1, 156) = 20.20, p < .001$  down to  $F(1, 155) = 6.17, p = .014$ ). Likewise, the effect of “personal relevance of the company’s product domain” was reduced, yet remained significant (from  $F(1, 156) = 10.19, p = .002$  to  $F(1, 155) = 3.93, p = .049$ ). In sum, these additional analyses suggest that optimism about a company’s expected financial returns mediates partially, but not fully, the effects that the overall evaluation of the company’s product design and the personal relevance of the company’s product domain have on investors’ interest in the company. Thus, these findings essentially support Hypothesis 2—and suggest that product design evaluations influence investors’ willingness to invest in companies essentially via two mechanisms: increasing their expectations about the financial returns of companies, on the one hand, and eliciting some willingness to invest over and beyond expectations of financial returns, on the other.

### Discussion and conclusion

Although design management literature has made some references to investors’ perceptions of companies’ product design (e.g., Borja de Mozota, 2003, 2006; Hargadon, 2005), it has lacked closer examinations of the mechanisms by which investors’ evaluations of companies’ product design actually influence their investment considerations. The present article contributes to the

understanding of these mechanisms by explicating the theory behind, as well as providing empirical evidence of, how individual investors’ subjective evaluations of companies’ product design can influence their willingness to invest in companies’ stocks.

The present research identifies two subjective product design–related factors that influence investors’ investment behavior and decisions concerning companies’ stocks. The first factor is the investor’s overall evaluation of a company’s product design. This factor reflects the degree to which the investor perceives the company’s products to be attractive, good, and likable overall. The second factor is the personal relevance or importance that an investor attaches to “domains” represented by a company’s products. The domains can be heterogeneous activities or areas of interests (e.g., motoring, optics, sports)—but also more abstract themes or ideas (e.g., healthcare, eye vision, mobility, social responsibility).

At the general level, the identification and evidence of these factors add an important dimension to design management literature’s notion about the marketplace distinction that can be achieved through product design. In earlier design management research, the goodness and effectiveness of a company’s product design have mostly been assumed to influence people’s *willing-*

*ness to use and buy those products*, and in this way create strategic distinction, differentiation, and competitive advantage for the company (e.g., Borja de Mozota, 2002; Hertenstein and Platt, 1997; Kotler and Rath, 1984; Olson, Cooper, and Slater, 1998; Phatak and Chandron, 1989). The important additional dimension highlighted by the present research is that the aforementioned product design–related factors also influence people’s or individual *investors’ willingness to invest in the company*. In other words, the present research identifies and finds evidence of additional ways in which products and product design may create important, strategic marketplace distinction for the company—that is, stock market distinction.

Moreover, the present results imply two specific ways in which a company’s product design can “address investors’ needs”—needs that earlier design management research has only marginally touched on (Hargadon, 2005). Indeed, the study implies two broad types of investor needs that a company’s product design may address: financial needs; and self-expressive or affective needs that go beyond the financial needs. Based on the present results, the investor’s overall evaluation of or liking for a company’s product design, and the personal relevance or importance to the investor of the domains represented by a company’s products,

will influence that investor's pursuit toward addressing both needs.

### ***Implications for design management practice***

In general, the findings identify new and important roles that design may play in companies' investor (or shareholder) relationships (cf. Borja de Mozota, 2003, p. 113). Specifically, product design may, based on the results, play a role in the company's attempts to attract investments from investors. It may also enable "hybrid" strategies or business models that take into account, at the outset, certain investors' special attraction to the company's current or future product design.

*Attracting investors to whom the company's product design may appeal.* First of all, any firm can take advantage of the tendency of the personal relevance of various domains—areas of interest, activities, and ideas—to elicit extra willingness in investors to invest in companies that represent those domains with their products. In other words, a company that designs and produces certain (kinds of) products may find it highly useful, when attempting to promote itself as an investment target in the stock market, to target such investors.

Relevant domains may be identified by asking the question: "What activities, areas of interest, ideas, or ideals do our company's products

support or represent?" For instance, if the company's products are tires, answers to this question might include, at least, "driving," "traveling by road," and even "road safety." Accordingly, the company can pursue investors who find these domains personally relevant and offer itself as an investment target—with communications designed to highlight the potential personal relevance of these domains. Or, if the company's products are specialized heart-related drugs, the answers to the question might include "healthcare," "fight against illnesses," and "well-being" in general—and again, investors who find these domains personally relevant can be pursued with investment offers.

The company can also target investors with a positive overall evaluation of (or liking for) its product design. It is likely that there will be overlap between these two groups, and the greatest investment interest is likely to be found among investors who find the company's product domain to be personally relevant and also have a strong overall liking for its product design. Nevertheless, it is also useful to consider these two issues or investor groups separately. There might not be so many people finding, for example, certain very mundane product categories—such as kitchen utensils or newspapers—as highly relevant personally (in an identification sense). However, many people may have a strong

overall liking for particular companies' design within those categories (e.g., Iittala, the *New York Times*). In effect, the company can benefit from this kind of affinity among potential investors rather independently of whether the product domains in question are personally relevant to those investors. In any case, both personal relevance and overall liking can also be enhanced by way of communicating about the company's products to the investors (e.g., reminding investors about how they can personally relate to the products as well as showcasing impressive and likable visualizations of the products).

In sum, the present results indicate that investors who find a company's product domain personally relevant and/or have a positive evaluation of the company's product design have high potential as investor groups for the company: It is likely that the company can relatively effectively attract investments from these investors. This finding can serve in segmentation and targeting of selected investors when the company wants to attract new investments in order to, for example, raise capital for new investments, realize an IPO or other stock issue, or just generally widen its shareholder base and fortify its market valuation. Coordination of design work and people—especially financial experts, product designers, and communication designers—is needed here to generate an identity

and communication that is as effective as possible. When it comes to communicating with the selected investors, the communication should logically be designed to address both the financial and the self-expressive/affective needs of those investors.

*Creating hybrid business models based on appealing product design visions.* Beyond attracting investments from investors to whom the company's (current) product design appeals, corporate managers, entrepreneurs, and designers should also consider defining new kinds of "hybrid" business models. Such business models could consider in advance certain investors' special attraction to the company's current or future product designs.

"Hybrid business models" implies business models in which corporate managers or entrepreneurs outline *simultaneously* (or interdependently):

- A *product design vision*: What kind of products (i.e., product categories as well as special design aspects and benefits) will the company or new venture develop/design and, consequently, introduce and sell in the market (and to which customers)?
- An *investor vision*: Which investors will the company attract with its product vision—due to the envisioned products' being personally relevant to and liked by those investors—in order to

obtain capital for the development/design of those products?

An example of this kind of hybrid business model could be one in which a company or entrepreneur envisions development and design of a new kind of solar panel–powered car and seeks a substantial part of the financial resources needed for the development/design of that product from investors who find cars, road traveling, and/or environmental friendliness as personally relevant domains worth supporting. Another target investor group could be investors who find the early designs (and prototypes) of the cars appealing and likable in look, feel, and/or function. The business model may also include the idea that some of the investors will be actual users and buyers of the car when it comes to market.<sup>4</sup>

Another example could be a company that envisions the development and design of a new gardening robot to facilitate gardening activities for the elderly. Here, the business model might include the idea that a substantial part of the financial resources needed for the development/design is obtained from investors who find gardens and, perhaps, ease of life as personally relevant domains worth supporting—as well as investors who find the early designs or prototypes of

<sup>4</sup>In this sense, for instance, Apple Computer already runs a hybrid business model—considering that "Apple shareholders are typically very loyal [and also] own the company's products" (McIntyre, 2008).

the robot generally appealing and pleasant in look, feel, and/or function. Again, some of the investors might be potential target users of the prospective products as well.

Notably, this recommendation about hybrid business models, as an implication of the results of the present study, is a fundamental extension of design management literature's extant notion concerning design processes at the strategic level of a company's business. Especially, the suggestion echoes the view that management of design at the corporate level pertains not only to product development/innovation or visual identity creation, but also potentially to definition of the company mission or vision (Borja de Mozota, 2003, p. 67; see also Svenngren, 1995a, 1995b)—in this case, the strategic product design vision with respect to investors.

#### Future research avenues

In further research, the present study should be replicated by addressing varying kinds of companies from various industries that represent various kinds of domains with their products. The experiment should also be conducted with investors from a variety of countries.

Moreover, it would be interesting to study whether and to what extent the results of this study apply not only to individual investors but, perhaps, also to institutional investors and/or investment

market professionals, such as investment analysts. One might think that professionals would not be influenced at all by the somewhat “soft,” attitudinal product evaluation factors proposed in this research. Nevertheless, some preliminary existing studies suggest that even professional investment analysts, for instance, often make investment evaluations and decisions based on affective or attitudinal factors (Aspara, 2010; Ganzach, 2001). This is a potentially fruitful setting for studying how the product evaluation–related psychological and behavioral mechanisms proposed in this article potentially influence the investments of professional and institutional investors as well as individuals. ■

Reprint #11061ASP79

## Acknowledgments

I thank the research assistants Taimi Laaksonen, Nina Yppärilä, and Miikka Tölö for their help in gathering the data. I am also grateful to the Jenny and Antti Wihuri Foundation, the Finnish Foundation for Share Promotion, and the NASDAQ OMX Nordic Foundation for research grants related to the article's topic.

## References

- Abelson, R. P., Aronson, E., McGuire, W. J., Newcomb, T. M., Rosenberg, M., Tannenbaum, P. (1968). *Theories of Cognitive Consistency: A Source Book*. Chicago: Rand-McNally.
- Armstrong, J. S., Overton, T. S. (1977). “Estimating Nonresponse Bias in Mail Surveys.” *Journal of Marketing Research*, 14(3), pp. 369–402.
- Aspara, J. (2009). “Aesthetics of Stock Investments.” *Consumption Markets and Culture*, 12(2), pp. 99–131.
- Aspara, J. (2010). “How Do Institutional Actors in the Financial Market Assess Companies' Product Design? The Quasi-rational Evaluative Schemes.” *Knowledge, Technology & Policy*, 22(4), pp. 241–258.
- Aspara, J. (forthcoming). “The Role of Product and Brand Perceptions in Stock Investing: Effects on Investment Considerations, Optimism, and Confidence.” *Journal of Behavioral Finance*.
- Aspara, J., Nyman, H., Tikkanen, H. (2009). “The Interrelationship of Stock Ownership and Customer Relationship Volume.” *Journal of Financial Services Marketing*, 14(3), pp. 203–217.
- Aspara, J., Olkkonen, R., Tikkanen, H., Moisander, J., Parvinen, P. (2008). “A Theory of Affective Self-affinity: Definitions and Application to a Company and Its Business.” *Academy of Marketing Science Review* [online], 12(3), Available at <http://www.amsreview.org/articles/aspara-03-2008.pdf>.
- Aspara, J., Tikkanen, H. (2008). “Interactions of Individuals' Company-related Attitudes and Their Buying of the Companies' Stocks and Products.” *Journal of Behavioral Finance*, 9(2), pp. 85–94.
- Aspara, J., Tikkanen, H. (2010a). “Consumers' Stock Preferences Beyond Expected Financial Returns: The Influence of Product and Brand Evaluations.” *International Journal of Bank Marketing*, 28(3), pp. 193–221.
- Aspara, J., Tikkanen, H. (2010b). “The Role of Company Affect in Stock Investments: Towards Blind, Undemanding, Non-comparative and Committed Love.” *Journal of Behavioral Finance*, 11(2), pp. 103–113.
- Aspara, J., Tikkanen, H. (2011a). “Individuals' Affect-based Motivations to Invest in Stocks: Beyond Expected Financial Returns and Risks.” *Journal of Behavioral Finance*, 12(2), pp. 78–89.
- Aspara, J., Tikkanen, H. (2011b). “Corporate Marketing in the Stock Market: The Impact of Company Identification on Consumers' Investment Behaviour.” *European Journal of Marketing*, 45(9/10), pp. 1446–1469.
- Borja de Mozota, B. (2002). “Design and Competitive Edge: A Model for Design Management Excellence in European SMEs.” *Design Management Journal*, 2, pp. 88–103.
- Borja de Mozota, B. (2003). *Design Management: Using Design to Build Brand Value and Corporate Innovation*. New York: Allworth Press.
- Borja de Mozota, B. (2006). “The Four Powers of Design: A Value Model in Design Management.” *Design Management Review*, 17(2), pp. 44–53.

- Borja de Mozota, B., Clipson, C. (1990). "Design as a Strategic Management Tool." In M. Oakley, B. Borja de Mozota, C. Clipson (Eds.), *Design Management: A Handbook of Issues and Methods* (pp. 73–84). Oxford: Basil Blackwell.
- Bruce, M., Bessant, J. R. (2002). *Design in Business: Strategic Innovation Through Design*. Harlow, UK: Financial Times & Prentice Hall.
- Buchanan, R. (2008). "Introduction: Design and Organizational Change." *Design Issues*, 24(1), pp. 2–9.
- Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Stanford, CA: Stanford University Press.
- Fishbein, M., Ajzen, I. (1975). *Belief, Attitude, Intention, and Behaviour: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley.
- Frieder, L., Subrahmanyam, A. (2005). "Brand Perceptions and the Market for Common Stock." *Journal of Financial and Quantitative Analysis*, 40(1), pp. 57–85.
- Ganzach, Y. (2001). "Judging Risk and Return of Financial Assets." *Organizational Behavior and Human Decision Processes*, 83, pp. 353–370.
- Hargadon, A. (2005). "Leading with Vision: The Design of New Ventures." *Design Management Review*, 16(1), pp. 33–39.
- Hargadon, A. B., Douglas, Y. (2001). "When Innovations Meet Institutions: Edison and the Design of the Electric Light." *Administrative Science Quarterly*, 46(3), pp. 476–501.
- Hertenstein, J. H., Platt, M. B. (1997). "Developing a Strategic Design Culture." *Design Management Journal*, 8(2), pp. 10–19.
- Heskett, J. (2001). "Past, Present, and Future in Design for Industry." *Design Issues*, 17(1), pp. 18–26.
- Kotler, P., Rath, G. A. (1984). "Design: A Powerful but Neglected Strategic Tool." *Journal of Business Strategy*, 5(2), pp. 16–21.
- McIntyre, D. A. (2008). "Steve Jobs Is No Robin Hood." 24/7 Wall St., March 5, 2008. Available at <http://www.247wallst.com>.
- Olson, E. M., Cooper, R., Slater, S. F. (1998). "Design Strategy and Competitive Advantage." *Business Horizons*, 41(2), pp. 55–61.
- Phatak, A., Chandron, R. (1989). "Design Positioning for Strategic Advantage." *Design Management Journal*, 1(1), pp. 25–31.
- Rich, H. (2004). "Proving the Practical Power of Design." *Design Management Journal*, 15(4), pp. 28–34.
- Schmitt, B. H., Simonson, A., Marcus, J. (1995). "Managing Corporate Image and Identity." *Long Range Planning*, 28(5), pp. 82–92.
- Scott, S. G., Lane, V. R. (2000). "A Stakeholder Approach to Organizational Identity." *Academy of Management Review*, 25(1), pp. 43–62.
- Shefrin, H., Statman, M. (1995). "Making Sense of Beta, Size, and Book-to-Market." *Journal of Portfolio Management*, 21(2), pp. 26–34.
- Slovic, P., Finucane, M. L., Peters, E., MacGregor, D. G. (2002). "The Affect Heuristic." In T. Gilovich, D. Griffin, D. Kahneman (Eds.), *Heuristics and Biases: The Psychology of Intuitive Judgment* (pp. 397–420). Cambridge: Cambridge University Press.
- Svengren, L. (1995a). "Industrial Design as a Strategic Resource." *Proceedings of the European Academy of Design*, 4. Salford, UK.
- Svengren, L. (1995b). "Industriell design som strategisk resurs: En studie av designprocessens metoder och synsätt som del i företags strategiska utveckling." Doctoral dissertation, Lund University Press, Lund, Sweden.
- Zajonc, R. B. (1980). "Feeling and Thinking: Preferences Need No Inferences." *American Psychologist*, 35(2), pp. 151–175.

**Appendix: Examples of stimuli presented to the experiment subjects**

**Product design emphasis in company investment ad = High**

**Carl Zeiss – premium lenses for the sake of faultless vision**

Carl Zeiss is a Germany-based company that develops, manufactures, and sells optics and lens products to various industries, as well as licenses its trademark to selected companies. The products, such as eyeglass lenses, contact lenses, and camera lenses, are manufactured with premium materials and techniques. The high quality and faultlessness of the end products is important in their daily use, whether the question is about spectacles or the lens of a cell phone camera. In other words: even in your own pocket, there might be a product whose performance is ensured by Zeiss's technology.

Zeiss's international business has grown fairly quickly in the past years, and its future prospects as a company are promising.



**Product design emphasis in company investment ad = Low**

**Carl Zeiss**

Carl Zeiss is a Germany-based company that develops, manufactures, and sells optics and lens products to various industries, as well as licenses its trademark to selected companies. The products, such as eyeglass lenses, contact lenses, and camera lenses, are manufactured with premium materials and techniques. The high quality and faultlessness of the end products is important in their daily use, whether the question is about spectacles or the lens of a cell phone camera. In other words: even in your own pocket, there might be a product whose performance is ensured by Zeiss's technology.

Zeiss's international business has grown fairly quickly in the past years, and its future prospects as a company are promising.



**Author biography**

Jaakko Aspara is a professor of marketing at Aalto University, Helsinki, Finland. He holds a DSc in economics and business administration and a DA in industrial design and design management. His academic research deals with

the interfaces among design, marketing, and finance. He has written for more than 20 academic publications on topics in marketing, finance, strategy, and design. Specific topics of interest include investors' design and brand evaluations, companies' investments in

product innovation and design, branding and brand equity, and business models. He also actively participates in the development of design-intensive ventures and growth companies, as a board member and consultant.