THE BENEFITS OF DESIGN IN FINNISH PRODUCTION COMPANIES

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Abstract

Design is considered to be a success factor with great potential, at least in frontline companies and industries. In order to use design effectively and efficiently companies need to understand the benefits of design and the relationship between competitive factors and design. However, if companies want to use design strategically, they need experiences in design, as well as organizational structures and values supporting design usage. This paper presents the results of the inquiry about the state of design and the benefits of design in Finnish production companies in different industries and at different stages of design usage.

The inquiry shows that companies' design usage correlates positively with the company size and internationality of the markets. The experiences in using design are mainly positive, but there are also obstacles to design usage, such as the perceived expenditure of design. The inquiry surprisingly shows that the longer the product life cycle, the more probably a company uses design. The primary driver for design usage is customers' expectations for product appearance and the aim to strengthen the company image. Companies mainly use design in product development, but also in other business processes. The inquiry points out the ways of using design and the experienced impacts of design. Some companies also listed measures for design impacts, for instance, company image, product costs, sales, customer results, and the renewal of the product range.

1. Introduction

The study presented in this paper is part of the MUSA research project founded by Design 2005 technology program of Tekes, the National Technology Agency of Finland. The MUSA project studies the impacts of design, and seeks the benefits of design to different companies and industries. The objective of the project is to develop a model for evaluating the impacts of design in companies. The model consists of drivers for design usage, enablers such as the role of design in vision and strategy development, design management, operative design usage, and the results of design usage. The objective of the inquiry presented in this paper is to test the validity of the model with quantitative data, and study the drivers, usage and impacts of design in different business environments in general. Research questions were modified on the basis of company interviews.

The research team of the MUSA project consists of Miia Lammi, MA, researcher in Western Finland Design Centre MUOVA; Terhi Hietamäki, M.Sc. (Tech.), researcher in Designium; Jaana Hytönen, MA, researcher in Designium; Satu Lautamäki, Ph.D., director in Western Finland Design Centre MUOVA, Eija Nieminen, Dr. Tech., director in Designium and Markku Salimäki, Ph.D., director in the IDBM program.

The inquiry was sent to 500 CEOs at Finnish production companies in spring 2005. The sample was selected randomly from Statistics Finland's Business Register. The sample covered companies in different lines of business, and companies employing more than 3 people. The response rate was 25%, and 125 responded to the inquiry, but 24% sent the inquiry form unfilled. Eventually 98 filled out the form, which means that the final response rate was 19.6%.

Most of the respondents represent small and medium-sized companies, but big companies were also represented. 59% of the respondents represent companies which have between 11 and 50 employees, 15% between 101 and 250, 11% between 51 and 100, 7% over 251 employees, and 5% between 3 and 10. The results of the inquiry indicate the direction of the situation of design in Finnish production companies. Along with the results of the inquiry, I point out interesting research questions that remained uncovered in this study.

In the MUSA project, design is understood widely: "to plan and carry out, especially by artistic arrangement or in a skilful way" (Webster's New World College 1996), as practiced by individuals from the design disciplines, e.g. architects, graphic, fashion, industrial, and interior designers (Hietamäki & Hytönen, Lammi 2004). The competence of design includes both user focus and communication of corporate identity; creativity and future visioning, visualisation and concretization, aesthetics and functionality (see Hietamäki&Hytönen, Lammi 2004). The way of combining multidisciplinary aspects makes design a great possibility for the innovativeness of companies.

2. Drivers for design usage

Based on company interviews we listed five driving forces for using design i.e. factors supporting design usage in companies. The respondents were asked whether competitors' design usage, customers' expectations of well-designed products, strengthening corporate image, insufficiency of technology as a competitive factor, or design-oriented corporate culture is a key driver for design usage. The inquiry shows that customers' expectation is the most important driver with a 42% share of the respondents' opinion. The second most important driver is an intention to strengthening brand, and 20% of the respondents chose that one as the most important driver. The insufficiency of technology as a competitive factor and competitors' design usage are equally strong drivers with an 8% share. Only 2% of the respondents agreed that the company is design-oriented and the company's culture is the most important driving force.

It is interesting to notice that as much as 20% of the respondents were not able to articulate their opinion on design drivers in their business. The reason for this uncertainty might be that the companies have not thought about these kinds of questions before. The companies need to evaluate their business activities according to financial results and develop them further on the basis of the managers' experience and knowledge, but business activity is not just a rational process. Many decisions are premised on intuitive decisions and tacit knowledge (see e.g. Simon 1987; Bennett 1998; Patton 2003). The CEO or product development managers might just feel, assume and sense the possibilities of design, and they have not analyzed business drivers and determined strategic goals aiming to react to the relevant drivers.

The inquiry illustrates that the markets of a company and the length of product lifecycle affect the probability of companies' design usage and therefore can be seen as driving forces. 52% of the companies producing durables with over one-year lifecycle use design, 45% do not use design, and 3% did not answer the question. Design usage in the companies producing durables with less than one-year lifecycle is fifty-fifty. And 38% of the companies that produce disposable products use design and 62% do not. The results demonstrate that the longer the product lifecycle, the more probable companies' design usage. Design usage is least in companies that have products with different kinds of categories. It is possible that the companies producing durables with a long lifecycle are used to investing in R&D activities, and also see design as an investment. It is also

possible that the companies producing durables benefit the most from design. But I find it difficult to assume that companies manufacturing consumer products would not benefit from design, because buying criteria is highly linked to aesthetics and symbolic product values. (Creusen & Schoormans 2005).

It is shown in the inquiry that the internationality of a company's markets is a driver for design usage: The more international the markets are, the more probably the company uses design. 24% of the companies using design have national markets, 38% have Scandinavian markets, 53% have European markets and 73% have global markets. The trend is clear, but the reasons remain uncovered. It is possible that internationalization pushes companies to develop their operations and products continuously and systematically. But it is also possible that only those production companies in Finland seek to international markets that have reached a high level of process competence, cooperation networks with, for instance, universities and design agencies, high level of quality, and ability to take risks and envisioning future. Design drivers are relevant to strategic goal-setting in companies and therefore important issues in design research.

3. Design in business

It is possible for companies to employ designers or outsource design competence. The inquiry shows that most of the companies have decided to combine those two ways of using design. 35% of the respondents said that they have in-house designers, and are using external designers or a design agency. The rest of the respondents only use a design agency (23%), in-house designers (21%) or external designers (21%). Surprisingly, the companies not using design answered that they use in-house designers. This contradictory result might mean that these companies have design-oriented employees even though they do not have a degree in design discipline, or the answer contained a future-oriented idea that if they used design, they would employ an in-house designer.

According to the analysing tool developed during the MUSA project, we divided business activities to nine business processes: strategy and vision development, research, product development, production, marketing, sales, delivery, customer service, and after-sales marketing. On the basis of the results of the inquiry, design is primarily used in marketing, and 40.8% used design "a lot" or "some" in marketing. Design is used almost as much in product development (39.8%) as marketing, but the number of respondents using design a lot was higher in product development (20.4%) than in marketing (12.2%). Design was mainly used at least to some extent also in sales (34%), production (22.5%), customer service (22.5%), development of strategy and vision (17.3%), after-sales marketing (10.2%), delivery (8.1%), and research (7.1%). Even though design is least used in research activities, the companies using design in research invest in design strongly and a lot (7.1%). My assumption is that investments in design, usability and user of future foresight research, for instance, are an important part of frontline companies' design activities. But as we can see, design is spreading from traditional areas, i.e. product design, graphic design, and interior design to new ones. Companies have approved, at least to some extent, design management as part of their business.

If companies use design primarily in marketing and product development process, what are the ways of using design and what design means to the companies? For most of the companies design means designing usability factors (78.13%), building a product image (75%), and designing product appearance (74.73%) a lot or to some extent. This shows that design is mainly seen as aesthetics and usability. The development of corporate image is also an important way of using

design (71.88%). Traditional design competences, i.e. material and production technology have a moderate role in design. Design also means product improvements (65.64%), new product ideas (65.64%), future visioning (61.46%), package design (48.47%), construction design (48.47%), CAD design (40.62%), and lastly service design (35.42%). It is notable that in using design to find new product ideas has an important role in 27.08% of the companies, and a very low percentage of the companies think that design does not mean future visioning at all (2.06%).

There are also obstacles in design usage, which can be based either on knowledge and experience or attitude and beliefs. According to the companies, the two biggest obstacles are high expense of design (75% responded a lot or to some extent) and limited resources of the company (72.5%), which are closely linked. Also constraints on time resources (68.75%), and lack of knowledge about design (56.25%) are considered relevant obstacles in design usage. To some extent product lifecycle (35%), change resistance (31.2%), insecurity about the future (30%), redundancy of design (21.8%), and absence of competition (12.5%). On the other hand, 32.05% of the respondents thinks that redundancy of design is not a relevant obstacle at all, 27.5% that design usage is restricted by lack of competition, and 22.5% by product lifecycle. It is also good to notice that 24% of the total of 125 respondents sent the form unfilled, which means that they did not consider themselves belonging to the sample, and therefore redundancy of design might be those companies' biggest obstacle.

The companies' opinions were asked about design usage in the future. Almost half of the companies (48%) that had used design before said that they are going to invest in design as much as before in two years, and 35% are going to use design a bit more than before. 9% estimated to use design a little less, and 5% a lot more than before. 45% of the companies that had not used design before were not able to estimate whether they will use design in the next two years. 20% answered that they continue a non-design line, and 16% will use design a little more than before. 14% of the companies not using design did not answer the question.

It would be interesting to study different ways of using design especially in new areas of design in business, e.g. research and service processes. Finding the best practices in these design areas would be beneficial for growing companies and for the companies that are developing their design usage.

4. Impacts of design

The inquiry demonstrates that almost every respondent believe that design has an impact on product image (98%) and corporate image (90%), and nobody is of the opinion that design has no impact on image. 52% of the respondents said that design has a strong impact on product image. Customer satisfaction (76%) and product characteristics (74%) are also important impacts of design and closely related to each other. Relevant, interesting, and attractive product attributes are key elements of customer satisfaction (Hietamäki & Hytönen, Lammi 2004).

The companies think that design also has impact on entry into new markets (72%), innovativeness of the company (68%), and accumulation of the company's competence (66%). This establishes that design has a strong strategic impact on development, competitiveness and internationalisation of the companies. Financial results of design were listed by over half of the respondents: sales volume 62%, market share 62%, and expenses of products 60% of the respondents. Publicity of the companies (58%) and positioning of products (58%) are also possible design impacts. As much as 24% felt that design has a strong impact on publicity. About

fifty percent of the respondents believe that design has an impact on the increase of cooperation partners and effectiveness of product development. It is interesting to notice that the increase of cooperation divides the respondents. 24% have discovered that design has a pronounced impact and 12.2% that it has no impact on publicity of the company.

The companies are mainly satisfied with cooperation with designers. The experiences in design included, for instance, ”obligatory in our products”, ”even crucially important”, ”positive, but highly dependent on designers’ competence and knowledge in production industry”, ”designed product is more economical to produce and looks better”, ”our product differentiates from competitors’ products”. But negative experiences were also mentioned, for instance, ”extra cost is a weakness in competition situation”, ”difficult to buy and difficult to schedule”, ”OK, but the productivity became complicated”, ”some projects have been more successful than others, variety in experiences”. Some companies gave measurements for design results. Corporate image, product costs, sales, customer results, and the renewal of the product range were mentioned in open questions.

It would be interesting to find out the reasons for these polarized benefits of design. The impact of design seems to depend on competence of designers and their suitability for the project, and also a company’s design competence and outsourcing and project management skills.

5. Conclusion

Finnish production companies use design primarily to respond to customers’ needs and to develop the corporate brand. High level of internationalization and long product lifecycle are also key elements of design drivers of companies. Finnish production companies mainly use in-house and external designers together. Based on company interviews made in the MUSA project, companies can maximize the benefits of design by combining new ideas gained by design, competencies, experiences, and ways of working to deep knowledge, and experience from specific areas in this way (Hietamäki & Hytönen, Lammi 2004). Design has an established position in the product development process and marketing processes, but design is also used in other processes. Research related to design in particular seems to be a new area for designers in the future. Design has the strongest impact on image, but also on customer satisfaction. Here we can see linkage between design drivers and results. If design goals are set at the strategic level, the companies can expect strategic results.

In my opinion, this study shows the suitability and flexibility of the analyzing tool developed in the MUSA project. If the sample had been bigger, it would be possible to compare results in different branches of industry and the linkage between design usage and the impacts of design more thoroughly. This research study builds up a frame for future studies of benefits of design in different companies.

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