Back to the Drawing Board

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As we enter an era where sensitivity and creativity are held in high esteem, product designs with imagination and originality as intrinsic attributes are becoming more important. A design is recognized not only as a method of product differentiation but also as the most efficient method to uplift the brand’s perceived value and to innovate the business.

Tom Peters, an American writer on business management practices best known for his book *In Search of Excellence* (Collins Business, 2004) also emphasized design as essential to a company’s success. He argued that a design with sensitivity and passion brings soul to a product and that a designer should be the right-hand colleague of a CEO.

The importance of product design is heavily emphasized in Korea as well. The fact that the number of articles about design in the mass media there radically increased from 3,159 in 2000 to 6,685 in 2006 reveals such a trend (Lee and Bok 2007). The results of a survey that Samsung Economic Research Institute (SERI) did of 201 domestic CEOs shows that 51.7 percent of them recognize design as a key factor to strengthen their competitiveness.

For design management to be successful, a culture encouraging creativity is necessary. Companies that gained fame by offering innovative products, such as Apple and Sony, put their efforts into encouraging free-flowing and innovative thoughts of employees. The case of Toyota, which planned a special event in which designers experienced luxurious lifestyles before launching a high-quality car brand (Lexus), is well-documented. Through such experiences, designers could understand the perspectives of the consumers who purchase luxury cars and discover needs that were invisible from the manufacturer’s point of view.

Research helps create clear design goals—and better products.
They then could create differentiated designs even for the smallest details, such as a handle on a door and cup-holders inside an armrest in the middle of the back seat. As we can see from these examples, today’s leading companies are increasingly pushing the total design theme in which design is not only a part of a management process but is involved in every process and every factor.

The Direction of Design Research

Although the importance of design management is increasing, the current perception in business is that design is just a form of art and designers are merely artists. Understanding design only as an artistic activity may lead people to determine that design is irrelevant to business. However, it is much more than an art.

Design is more than just a process of expressing thoughts and delivering them to customers; Design expresses creative thoughts that can deliver full customer satisfaction and/or generate an emotional impression as well as commitment. In order to implement overall design management, research related to design should be promoted under a systematic methodology that includes factors such as technology, emotions related to a product, user Interface (UI), and consumer insight.

Reinforcing a company’s design research capability is critical in order for design to directly influence the outcome. Design research requires a series of jobs and a search for a design customized for consumer needs. It starts from understanding consumers by placing oneself in their shoes and thinking and shopping as they do. Through design research, setting up a clear design goal becomes easy.

Some leading global companies use design management not only as their slogan but also as their core method of business innovation. The fact that IDEO, a global company specializing in design, was recognized as an innovative company rather than a design company reveals a tendency to use the words design and innovation interchangeably. The i-Mac and i-Pod (Apple), RAZR V3 (Motorola), and Swiffer (P&G) have succeeded in innovation by design, and they are embodiments of how this leads to significant business results.

Generally, the most widely used marketing research methods are survey questionnaires, focus group discussions (FGD), and information collection through in-depth interviews. These methods are useful in evaluating established designs and mock-up products, but can place limitations in the beginning stages of a developing design.

For example, in order to figure out the most luxurious design for a premium target, it is necessary to define the needs of the target consumers in relation to the luxurious design depending on the country, culture, and the consumer segment. Although the luxurious design is explained by the language of each country, differences in perception as well as full deliverance of the consumers’ desires concerning the design arise due to contexts lost in translation and diverse sensitivity of words.

With conventional methods that are used in design research, it is assumed that the consumer is able to fully express his needs and preferences in words. However, according to Zaltman (2003), as 95 percent of consumers’ thoughts arise unconsciously, it is difficult for them to express recognition processes such as memorization, emotions, and thoughts through words.

Especially in the beginning stage of design concept research, it is necessary to grasp the emotional aspects intuitively rather than rationally by the usage of words. Therefore, qualitative methods relying on projective techniques such as collage and laddering or observation techniques such as empathic design are used to enhance the conventional methods.

After empathic design was introduced by Leonard and Rayport in the *Harvard Business Review* in 1997, it has rapidly expanded and is now used in major high-tech companies. As one of the participation-observing techniques, empathic design starts from this hypothesis: If the users of high-tech products are familiar with their usage and use the product unconsciously, it will be difficult to express their potential needs through writing or speaking. Therefore, it is important to discover new market opportunities through empathy or sympathetic; the researcher must participate in the user’s environment and sees and feels from the user’s perspective.

Case Study

We present a case study of a product design venture for one company (referred to as “Company L,”) conducted in 2007. The purpose of this research was to incorporate the design trends and the preference factors of the U.K. and Brazilian markets—which are representative markets of Europe and South America, respectively—to provide useful information that would help develop a design concept for mobile phones, which will be released one year later, by segments.

The following three methods were used for our research to find out the product design concept. Seven creative consumer focus group interviews were held for the representative consumers of each segmented market, who were capable of expressing their emotions and thoughts about the design. Also, in-depth interviews with three product design professionals were held. The preferred design concept was extracted through these two methods and an empathic design was operated with 14 respondents to make the concept more tangible.
Creative consumer focus group interview. A creative consumer focus group is similar to a conventional focus group, but the main difference is that the respondent in a creative consumer focus group undergoes a stage that determines if he is capable of detecting the sense of the design as well as fully immersing himself in the research. The respondents of this study had to participate in two stages. First, they went through basic screening questions to determine segment classification and participation level regarding mobile phones. Second, to measure expressiveness and the involvement in the design of mobile phones, the selected respondents were asked to write diaries evaluating their mobile phones in terms of design and also to take a creative test. One of the creativity tests used in this research presented respondents with six pictures of a circle. They were asked to draw pictures using such circles. After completion of the diary and the creativity test, researchers then selected the respondents capable of participation. The research on the creative consumer group was conducted for three hours in six stages. The six stages in detail are as follows. (See Exhibit 1.)

To start with, the respondents’ mobile phone usages and their lifestyles were studied. After that, the most preferred design concept was selected among the nine design concept hypotheses, which were used as stimuli for the creative consumer group developed by Company L prior to this research. They included “luxurious,” “expresses feature well,” “nice hand feeling,” “timeless,” “unique,” “does not show wear and tear,” “familiar,” “sleek,” and “goes with everything.” For example, the “luxurious” design concept was defined as looking expensive and elegant.

If respondents were not unanimous or they were split on suggestions in determining the most preferred design, during the second stage the moderator selected the final concept after holding a discussion with the respondents.

In the third stage, the respondents were questioned about the reasons for their preference regarding the selected concept by attributes. The attributes concerning the design can be determined in accordance with the company’s design philosophy or policy. The design team of Company L adopted its specific attributes for this study of mobile phones following McGrory’s design framework. (See McGrory, Peter (2003), Product Platforms: An Industrial Design Perspective, Http://oami.eu.int/.)

The mobile phone design was divided into three attributes. Attribute one (appearance) included color, material, texture, etc.; attribute two (substance) included shape and form; attribute three (experience) included function, feature, etc. Questions were asked in congruence of all three attributes.

In the fourth stage, product images in various categories (i.e., fashion, interior accessories, digital electronics, cars) that matched the most preferred concept were selected. For example, if the luxurious mobile phone concept was the most preferred concept, the respondents were asked to find the meaning of luxurious design by matching the concept to products of different categories.

Of all the design concept development research data, visual data actually helped designers to design a product. Even though a good design concept can be drawn from market research, it is useless if it is not effectively communicated to designers. To visually express the most preferred concept found in the creative consumer group to the designers, this research utilized diverse visual data. (See Exhibit 2.)

In the fifth stage, use of laddering helped determine what benefits and values the most preferred design concept created for the respondents. The emotional attributes of the most preferred concept were grasped using a collage, one of the projective techniques. For instance, in order to define the luxurious mobile phone concept, respondents were asked to use images from magazines or pictures that best described the concept and were asked about the reasoning behind their decisions. Hence, the image of luxuriousness was shaped.

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**Exhibit 1** Creative consumer group process

1st stage: Grasp mobile phone usages and lifestyles  
2nd stage: Select the most preferred design concept among nine design concept hypotheses  
3rd stage: Evaluating the most preferred design concept in terms of design aspects  
4th stage: Matching various product image to the most preferred design concept  
5th stage: Laddering of the most preferred design concept  
6th stage: College activity for the most preferred design concept

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**Exhibit 2** Example of stimuli
In-depth interview. Three designers with more than five years of industrial and mobile phone design were selected. The interviews took two hours each. Information about overall design trends and mobile phone design trends was collected. These interviews were conducted in order to verify to what extent the hypothesis made by the professionals about the future design trend of mobile phones corresponds with the research results of the consumers.

Empathic design. Fourteen people—two from each of the seven creative consumer groups—were selected by Company L and TNS Korea. This method makes it possible for a group of professionals to observe the consumers in their natural usage environments, such as their homes. During the design concept development stage, a designer, a marketer, and a research professional made observations in cooperation. Much can be missed if all seven creative consumer groups are observed by just one researcher. Thus, a small group consisting of professionals from cross-disciplinary fields participated in the observation of the empathic design and the consumer in-depth interviews.

Empathetic techniques were used to discover the consistent trend of preference regarding design for different products such as electronics, home appliances, clothes, shoes, watches, MP3 players, and accessories at a mall. Also, consumers’ phone usage on the streets or in frequently visited places such as restaurants and pubs was observed.

It was through these processes that the concept of the product design from the consumer group interview and the in-depth interview with a professional became more concrete.

Product Design Concept

From the seven creative consumer groups, five preferred product design concepts were derived from three stages. In the first stage, we summarized design attributes of each of the most preferred concepts chosen by each creative consumer group. In the second stage, we extracted keywords and described the design concept. In the last stage, we selected the most representative image of the design concept. (See Exhibit 3.)

In the results of this study, point of difference (POD) was used for “conditions required only for the design concept to be designed now” and point of entry (POE) was used for the “conditions that can be applied to any design concepts to attack a targeting market.”

To establish a design concept, a new value is required for the new product. Therefore, designers pursue product values such as differentiation, value addition, originality, and so on based on the new knowledge attained during market research. This means that POD and POE, required only for new products, should be distinguished. (See Exhibit 4.)

As seen in Exhibit 5, a guide that can actually help create a design prototype (e.g., a mock-up) using pictures or video is necessary after understanding the design concept and its market. In other words, mobile phone design concepts should aid the designer with information on the appearance, substance, and experience design. Without a design concept guide, there is no standard for diverse design attributes. This eliminates consistency and confidence, which can cause idea development to become meaningless. Therefore, a detailed design concept guide serves as an important communication tool that acts as a bridge between market research results and the designer.

Suggestion

Despite the increasing importance of design management, developed methods for design concept research are very limited. In order to overcome the problematic areas of the conventional methods, empathic design was conducted along with qualitative methods such as group interviews or in-depth interviews in this study.

Through the focus group interviews or in-depth interviews, the consumers’ needs for the product design were detected and then empathic design was used as a research tool to clarify the needs of the consumers for product design in relation to high-tech products that are a part of their daily lives.

Unlike the conventional focus group interview, creative consumer focus group interview respondents are rigidly selected and are able to express their creative ideas and desires for the product design. Also, the creative consumer focus group interview uses various visual stimuli and projective techniques...
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