Including "Pleasurable" as a Dimension of Product Quality

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Abstract

The concept of user-centered design has been growing in importance throughout the twenty-first century. This concept holds that a product designer should employ a design process that involves users and pays attention to their physical and psychological needs, so that they achieve the most benefit from the product, and that it gives them pleasure. Designing for pleasure has become a requirement for many reasons, especially since competing with other products by improving technical quality and reducing cost is no longer sufficient. Nowadays, users seek products that provide joy and evoke delight while they are using them. This study explores the concept of "Designing for Pleasure" and offers an explanation as to why "pleasurable" should be one of the dimensions of product quality. This paper proposes that the concept of being pleasurable to the user should be seen as an indicator of product quality, and one that considerably enhances a company's image.

Keywords: Emotional Response, Pleasure, Product Quality Dimensions, Satisfaction.

Introduction

In this era of globalization, competition among industrial companies has become so fierce, traditional solutions are no longer enough. Every company wants to increase its market share. Companies are focusing on product quality and are comparing their products with those offered by competitors. As a result, many companies do their best to meet or exceed users' expectations, needs, and even their hopes. Satisfying users should be a priority when evaluating the quality of the product. There is no doubt that the quality of product design has a great impact on a product's value and the company's market share. Many companies have become aware that the design of pleasurable products should be used as a tool for gaining

user loyalty. Product design that provides pleasure means the product creates positive feelings and emotions for users at all levels of interaction with that product. Pleasurable design can be achieved by considering the pleasure of the targeted user during the entire design process.

Some designers believe that the concept of pleasurable products is not achievable due to the fact that pleasure is intangible and can differ from one user to another, and from one point in time to another. Others believe that "pleasurable" is a tangible concept and claim that the conditions needed to evoke it are universal, which makes developing pleasurable products at least possible.

Jordan (1998) suggested that product designers and human factors specialists should go beyond the limits of usability and target the creation of pleasurable products that give users a positive feeling. Demir (2005) posited that emotional factors are some of the most important dimensions that affect user satisfaction. Others include product performance, usefulness, aesthetics, soundness, durability, and safety. Desmet (2007) introduced a framework that consists of nine sources of product-based emotions. According to this study, pleasure is considered one of the most important emotions. Fenech and Borg (2007) stated that designers should design products that are not only useful but enjoyable as well.

Han and Bowerman (2015) referred to the importance of products that give pleasure from the manufacturers' and retailers' point of view. They stated that it is important to study the impact of pleasurable products on people from different cultures in order to understand what can trigger the feeling of pleasure. Naeini and Mostowfi (2015) assumed that pleasure is the center of the relationship between product and user, so designers should consider pleasure and work to achieve it for users. Lin, Yeh, and Lin (2019) tried to determine why a product is perceived as pleasurable because that conveys an important advantage for a creative product. Their study suggested that passive emotions have a stronger impact than offensive emotions in this regard.

1- Product Quality

Reeves and Bendar (1994) determined that quality consists of four categories: excellence, value for money, conformity to requirements, and meeting customer

requirements. Waters and Waters (2008) suggest that a product's ability to meet customer expectations is key to an organization's success. According to Kotler and Armstrong (2012), Product Quality is the characteristic of a product or service that relies on its ability to satisfy stated or implied customer needs. According to Bowo et al. (2013), product quality is a relative measure of a good product or service that can indicate the extent to which a product is able to meet users' desires. A product's quality can be measured in terms of many dimensions, referred to as product quality dimensions Tjiptono (2008). According to Garvin, as cited in Tjiptono and Diana (2003), there are eight dimensions of product quality (shown in Figure 1). These dimensions are: Performance, Features, Reliability, Conformance to specifications, Durability, Serviceability, Aesthetics, and Perceived Quality.

Figure 1. Dimensions of Quality

1-1Performance

Performance indicates primary operating advantages of the product.

1-2Features

Features, which are related to performance, are supplementary characteristics that promote the product's appeal to the user.

1-3Reliability

Reliability refers to the likelihood that the product will not fail over a given period. Reliability is measured by the average failure per unit of time.

1-4 Conformance

Conformance dimension is the proportion of product design relative to the specifications and established standards.

1-5 Durability

Durability measures the length of operating life of the product prior to the end of its life cycle.

1-6 Serviceability

Serviceability refers to the speed, cost of service, and proficiency of the organization in repairing the product as needed.

1-7 Aesthetics

Aesthetics refers to how a product feels, looks, sounds etc. Aesthetics involves personal judgment that differs from one user to another.

1-8 Perceived Quality

Perceived quality is an indication of brand image and the reputation of other products under the same brand or company.

2- The Relationship between Product Quality and User Satisfaction

Lupiyoadi and Hamdani (2013) consider product quality as the extent to which a product meets the user requirements. Kotler and Armstrong (1996) state that product quality has an important role in establishing user satisfaction, explaining that the more quality a product can provide, the higher the user satisfaction (Figure 2). User Satisfaction represents the result of the product design and fulfillment of the user's requirements. Profits are strongly affected user satisfaction because that satisfaction plays an important role in repeat sales.
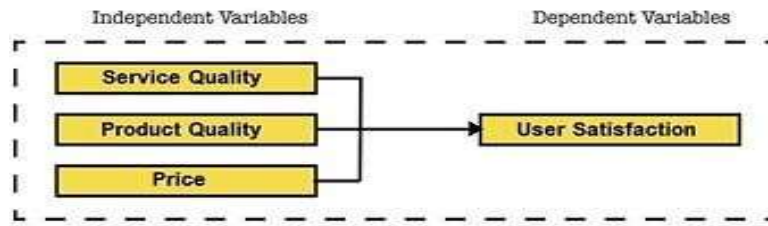
Figure 2. Relationship among Price, Product Quality and Service Quality towards User Satisfaction

3- Pleasure

Many researchers refer to the importance of achieving an emotional relationship between users and products. Norman (2013) considers function and ease of use to be essential product requirements, while pleasure is the final goal for users (Figure 3). Applying pleasurable elements in product design has become a popular trend and is an important element of product design requirements. Users want products that can enhance their positive feelings and evoke delight.

Figure 3. Importance of Pleasure in Product Design 4- Importance of Pleasure

Product design can no longer depend solely on function and technological features for success. Designers can achieve this change through a "shift from the search for solutions to the search for meaning" (Verganti 2016). According to (Levy 1959), "people buy products not only for what they can do, but also for what they mean". (Verganti 2016) explains innovation through meaning as follows:

"Creating meaningful and significative products, such as making gifts, is an act of

responsibility and pleasure; through the gift designers have a chance to create a more expressive world. Innovation of meaning is the way designers contribute to users' life, feelings of Pleasure are created when we love the gift, and we pleasure ourselves in making it. So, the gift is for the receiver, but the act of making the gift is for us as designers. When it happens, designers create meaning. Users will smell it even prior to seeing it, and they fell in love with it. Norman (2013)

says that designing the product with enjoyable elements can enhance the product use and designing a pleasurable product leads to achieving user's satisfaction."

5- Types of Pleasure

According to Jordan's (1998) framework, there are four distinct classifications for pleasure related to product design:

- Physio: derived from the body and sensory organs.

- Socio: related to relationships.

- Psycho: related to cognitive and emotional reactions.

- Idea: includes the values the product represents.

 Many researchers have offered other classifications, but they were all inspired by Jordan (1998). All of them have considered pleasure to be a tangible thing, and therefore an element of product quality. As a result, designers should consider the effect of culture on their product design.

5-1 Physio-Pleasure

Physio-pleasure includes pleasure derived from touch, taste, and smell. A product that offers physio-pleasure is seen as attractive by satisfying the tangible need of the user. Lewaliski (1988).

For example, the feel of a mobile phone in the hand, or the smell of a new car. The Wüsthof knife (Figure 4) is a good example of physio-pleasure as it provides pleasure to users from the balance and comfort of the handle.

Figure 4. Wüsthof knives

5-2 Socio-Pleasure

Socio-pleasure includes various aspects of social interactions, such as participation, cooperation, and social activities. A product may be the focus of a social event, such as vending machines or coffee machines in a gathering place. Socio-pleasure is also related to the pleasure derived from socially based connotations, social potential, and various characteristic of a society, such as products that express the ancient heritage of Egypt, or of Islam, etc. (Figure 5).

Figure 5. Products Bring Social Pleasure

5-3 Psycho-Pleasure

Psycho-pleasure is derived from perceptions, exploration, knowledge, and emotional aspects of a product, and an understanding of how the product is used. For example, by exploring a "smart" phone or tablet (see Figure 6) the user gets a

quick idea of how it works and how to use it. This is possible because the functionality can be easily learned - the steps required are easy to remember and the symbols are clearly arranged, which eventually lead to a sense of satisfaction on the part of the user. In this situation, the user gains trust in the product and feels empowered by using it successfully and with ease.

Figure 6. IPad Tablet

5-4Ideo-Pleasure

Ideo-pleasure consists of the sensations of beauty that are often associated with an individual's culture. Ideo-Pleasure is the pleasure associated with personal aspirations and moral values that are formed to achieve certain goals. The reaction is experiential and relates to intellectual

pleasure, where the person appreciates a product's aesthetic appearance, quality or whether it has an environmental value.

For example, the Lund University Sustainable Development Project, which aims to reduce water consumption, designed a special type of flower that attaches to a water faucet. The flower is coated with thermal chromium that reacts with warm water. As it is exposed to heat, the dye in the flower gradually changes from a bright color to transparent. Using warm water makes the flower lose its pleasant appearance, thus conveying a sense of connection with and responsibility toward the environment (Figure 7).

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Figure 7. Water Faucet Interacts with Warm Water 6- Emotional Response

Emotional response of the user is an expression of his/her emotional and feeling reaction towards the product; it explains the relationship between what the designer does and what the user feels. For example, enjoying something beautiful affects the user's response and evokes other feelings such as pleasure, happiness, and the desire to experience that beautiful stimuli again.

6-1 Emotional Response Levels

The user interacts with a product through three levels, as shown in Figure (8).

5-1-1 First level: Visceral

This response is based on one's first impressions of the external look of a product. It deals with feelings about the product's physical characteristics, which the user obtains through seeing, listening to, and touching it to determine whether the product is good or bad, and is safe or not.

6-1-2 Second level: Behavioral

This kind of response, which is concerned with usability and ease of use, occurs when the user actually uses the product and assesses its functions. Responses in this case depend on a user's previous experiences and future expectations.

6-1-3 Third level: Reflective

This type of response involves self-perception and long-term impact and refers to the user's personal image and satisfaction. These responses can form integrated, sentimental feelings that are affected by the user's experience, education, and culture.
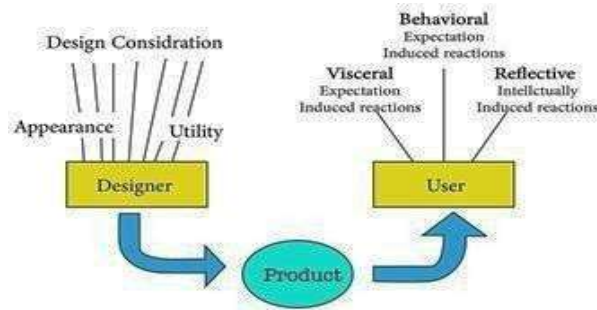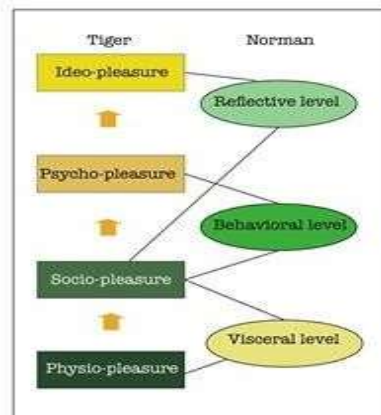
Figure 8. Emotional Response Levels

7- The Connection between Emotional Response Levels and Types of Pleasure

According to Norman (2013), "visceral design" refers to a product's appearance, "behavioral design" refers to its ease of use, and "reflective design" refers to the product's impact on the user's self-image and sense of satisfaction. Figure 9 shows that Physio-pleasure is related to the visceral level via the physical features of the product. If a product provides pleasure at the behavioral level, it does so via the interface between user and product. Lastly, Ideo-pleasure and Socio-pleasure are obtained at the reflective level, as they are concerned with user's values, i.e.,

culture.

Figure 4. Connection between Emotional Response Levels and Pleasure Types 8-

Pleasurable: A New Product Quality Dimension

Guiding designers to create products that can give users pleasure while they are using the product is becoming an essential goal and an important topic for researchers. This study attempts to highlight the importance of pleasurable product design as a tangible factor among the

dimensions of product quality. Based on the discussion above, the paper suggests that the concept of "pleasurable" with respect to product design consists of three main elements, as shown in Figure (10), as described below:

(1) Aesthetics (related to the visceral level) means the product has beautiful physical features, and the user admires the form, color, material, and texture of the product. These elements give the user a positive first impression; (2) Usability (related to the behavioral level) means the user can use the product easily and can take advantage of its features without exerting a significant cognitive effort; (3) Reflective (related to the reflective level) means the product reflects the user's personal aspirations, social, cultural, or environmental values. Such values can make a user happy and proud to use the product, which will eventually create user loyalty.
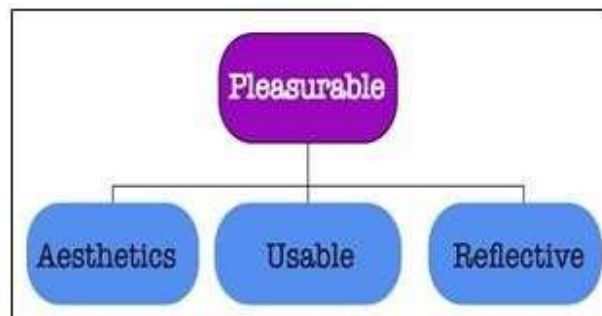

Figure 5. Components of Pleasure Dimension

Based on this, our final suggested dimensions of Quality with respect to product design are: Performance, Features, Reliability, Conformance, Durability, Serviceability, Pleasurable, and Perceived Quality (Figure 11).

Figure 6. New Dimensions of Quality

9- Considerations for Designers in Designing Pleasurable Products

These considerations are important guidelines for product designers to help them deliver different types of pleasurable experiences to users in designing new products. These guidelines are outlined as follows:

- The form, color, and texture of the product should be attractive to users.
- The user should be able to easily understand, discover, and remember the way the product is used. This ease of use leads to psychological pleasure for the user.
- The product should highlight positive social connotations, heritage, and traditions that could be a source of pride for the user. This may involve:
– Addressing user expectations with respect to functionality and ease of use.
– Enhancing the user's technological knowledge and experiences.
– Expressing the distinctive religious, and/or cultural factors of a society through the product's design.
– Respecting culture and traditions in all product features.
– Supporting users' moral and cultural values through product features.

Conclusion

Despite the debate about whether the concept of "pleasurable" in product design is tangible or intangible, it is important for designers to create pleasurable products to

make their designs stand out in a fiercely competitive market. Product loyalty is the logical, expected outcome when users are pleased with the product, so the four types of pleasure should always be considered when designing a product. According to the nature of the product, the priorities will differ among these four types, and good market research will help decide those priorities. Recognizing the concept of "pleasurable" as an important element of product quality will help designers to pay more attention to understanding current users and other potential customers for their products.

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