

THE INFLUENCE OF CONSUMER'S AWARENESS OF PRODUCT'S DESIGNED CHARACTER ON AESTHETIC ASSESSMENT

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There is a class of educated consumers that are aware about the designed character of products. Researchers found evidence that the awareness of this class of consumers affected the product's aesthetic assessment. This paper presents the results of an experiment aimed to study the influence of the designed character of products (expressed in assertions like: the product's appearance was conceived by a professional designer; the manufacturing company invested money in product's industrial design; the product's aesthetics can be used in advertising, etc.) on the average consumer in case of mundane products.

Keywords: designed character, consumer awareness, industrial design, product aesthetics

1. Introduction

Competition is tough on all markets and it will become tougher in the future. There are gone the happy days when a new functional feature or a parameter with an increased value was enough to sell the product. Manufacturing and distribution companies need to use their entire "arsenal" related to products they produce and sell to get good sale figures. Improved functionality carefully developed usability, above-the-standard quality, splendid aesthetics, well-studied branding and persuasive advertising are all used by companies to gain a bigger market share.

In this situation, the consumer is confused by the hundreds of similar products available in large stores or online shops. The common functionality, usability and quality have reached a level above consumer's perception, becoming irrelevant in the purchasing decision. Also, the previous experiences of product usage cannot be employed in the selection decision because new improved products are launched on the market at shorter intervals.

Excepting the case of brilliant uncommon narratives, the advertising is mainly based on product aesthetics and branding. So, the consumer will count on the trusted brands she/he used before or will let be persuaded by product's industrial design.

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2. Literature review

The importance of industrial design and its power of persuasion were indicated by the research carried out by Page and Herr [1], one conclusion being that product aesthetics could be a differentiator, a real competitive advantage. Also, it was recommended that the marketing and industrial design departments work together in developing marketing strategies based on efficient value propositions supported by the product aesthetics among other features [2].

On one hand, it is nice to own a beautiful product and, on the other hand, there is a debatable myth specifying that a company that spends money on product's aesthetics is also spending money on functionality, usability and quality.

Even more, sometimes product aesthetics can offer easy-to-observe cues about functional and usability attributes allowing the consumer to make reliable judgements about the product [3]. Anyway, the product aesthetics is one of the first features that a consumer notices when she/he sees a new product. This will be the base for a general first impression regarding the product and first impression is important for the overall assessment of the product [4]. This intuitive fact is supported by evidence provided by researchers. It was proved that product aesthetics could significantly influence the overall assessment of the product when data for consumers regarding the performance were absent or unclear [5]. Creusen and Schoormans [6] identified six different roles of product appearance in consumer choice, the aesthetic and symbolic roles being the most important ones. Furthermore, it was discovered that product aesthetics could have a non-normative influence on overall assessment of products even when aesthetics should be irrelevant [7, 8].

In specialised literature, the consumer is usually considered a contemplator of the products, who ignores the process of product development. In this view, the consumer disregards the industrial designer's contribution that makes the product to be perceived in a certain way. But there were certain exceptions to this general situation. Crilly et al. [9] proposed a framework of communication through industrial design, connecting the design team with the consumer.

In some situations, consumers are unaware that the product was designed in a certain way to fulfil their needs (from physiological to aesthetic), but, in other situations, they are conscious about the designed aspect and they are influenced by it. The designed aspect includes product perceptible features and designer's intentions. Designer's intentions may be related to processes like grabbing attention on the product, highlighting producer's brand, creating desire to own/use the product, ascribing a certain significance, etc.

Addressing the issue of the influence of designer's intentions awareness on product experience, Crilly [10] used interviews and mobile phones as subjects. Several questions were targeted to underline the designed aspect, from which the

most relevant was "When you are looking at, or using, products such as mobile phones, how aware are you that those products have been designed?". Crilly's endeavour provided confirmation that consumers were influenced by designer's intentions through an inference process.

Da Silva, Nathan Crilly and Paul Hekkert [11] developed and ran an experiment to determine if the consumer could infer from designer's intentions and if the consumer was influenced by these intentions. The participants to experiment were students from an industrial design programme. The experiment input (product images and designer intention statements) was taken from student projects. In one stage of the experiment, the participants were divided into knowledge (informed about designer's intentions) and no-knowledge participants. They were asked to rate the product images and the difference between knowledge and no-knowledge groups was calculated. One conclusion was that the knowledge participants assessed the products more positively. The researchers went further and assumed that consumers could find out about designer's intentions from designers' interviews, press releases, marketing campaigns, critical reviews, etc. Considering this, the authors' recommendation was that designers, manufacturers and advertising agencies should present directly their intentions in order to obtain a positive consumer appraisal.

Analysing carefully the results obtained by other researchers, Andrei Dumitrescu [12] observed that the products used in those experiments were quite special: mobile phones (very personal products) and products from student projects. On the other hand, the participants to one experiment were students from an industrial design programme, i.e. a special kind of educated consumers with a remarkable sensitivity to designer's intentions. So, this researcher organised an experiment with very mundane products and using the help of students from a technical university. The participants were persuaded to think at designer's intentions with several questions, the most direct being "Why do you think that the product had been designed with the features indicated by you?". One conclusion of the experiment was that consumers enhanced their aesthetic assessment as a result of the awareness of the "designed" character only in the case of remarkable design; no difference was noted in case of average design.

3. Research objectives

Motivated by the conclusions obtained by other researchers, the main research objective of the author was to validate or invalidate the theory that consumer's awareness of product's designed character was influencing the aesthetic assessment of the respective product.

Other research objectives were: i) assessment of consumer's ability to identify product's functional features; ii) assessment of consumer's ability to

identify product's aesthetic features and iii) assessment of consumer's perceived correlation between product's visual features and its quality. The first two other objectives were related to the participants' competence to discriminate aesthetic from functional.

The instrument used in research was the questionnaire. In order to compare the results with those obtained in other experiments [10], the same instrument was used, respectively asking participants to rate the product aesthetics before and after suggestions about the product's designed character had been made.

4. Design of experiment

In order to investigate further the relationship between consumer and industrial design, the author designed a new experiment. The technique to measure the influence of thoughts about the product's designed character was the same as in the author's previous experiment, respectively asking participants to rate the product aesthetics in the beginning and in the end of the experiment. Participants were invited to think about the designer's and manufacturer's intentions using questions related to relationship between visual features and product's quality, appropriateness of using product's aesthetics in advertising, sensing the touch of a professional industrial designer and company's money spent on product's industrial design. With the aim of assessing the participants' competence in understanding the concept of product aesthetics, two questions related to functional and aesthetic features were introduced. So, the list of questions used in experiment was:

1. Indicate the aesthetic value of the product. [1 ... 7]
2. Indicate a product's visual feature of functional nature. [open question]
3. Indicate a product's visual feature of aesthetic nature. [open question]
4. Are the positive features visual expressions of product's quality? [Yes / No / Don't know]
5. Do you think that product's industrial design can be used in product's advertising? [Yes / No / Don't know]
6. Looking at the product, are you aware that product's industrial design was conceived by a professional? [Yes / No]
7. Looking at the product, are you aware that the manufacturing company invested money in product's industrial design? [Yes / No]
8. Indicate again the aesthetic value of the product. (You can indicate the same value as before or a different one.) [1 ... 7]

The same sets of salt and pepper shakers used in previous experiment [12] were selected as stimuli (Figures 1 - 4). The first two sets were chosen for their

well-conceived design, the third – for its ordinary appearance and the fourth – for its design displaying a very strong significance.

It was decided to use students from a technical university as participants to experiment. The author ensured that no participant to this experiment was involved in the previous experiment.

5. Experimental results

The experiment was carried-out with 95 participants (61 female and 34 male participants). All participants were students enrolled at a large technical university in Romania. The participants filled the same questionnaire with 8 questions (in Romanian) per product supervised by the author. The product images were presented on computer displays of the same model. The whole experiment duration was three months.

The responses to open questions were analysed individually and assessed if they were correct or incorrect. (Please note that a set of shakers was considered as a single product.)



Fig. 1. Product 1



Fig. 2. Product 2



Fig. 3. Product 3



Fig. 4. Product 4

The second question (“Indicate a product’s visual feature of functional nature.”) was an open one and the answers had to be evaluated in terms of correctness. Correct answers were considered the following: the holes, the base, the transparency of container (when appropriate), the letters “S” and “P” (when appropriate), colour white for salt container and the colour red for pepper container (when appropriate), etc.

The third question (“Indicate a product’s visual feature of aesthetic nature.”) was an open one and the answers had to be assessed in terms of correctness. Correct answers were considered the following: the shape, the angel-devil stylisation (when appropriate), the colours, the texture, the shining of material (when appropriate), etc.

The results after processing the answers for the second and third questions are displayed in Table 1.

Table 1

Correct identification of visual functional and aesthetic features

| | Product 1 [%] | Product 2 [%] | Product 3 [%] | Product 4 [%] |
|---------------------|---------------|---------------|---------------|---------------|
| Functional features | 63.16 | 58.51 | 56.38 | 57.45 |
| Aesthetic features | 75.79 | 81.05 | 46.32 | 68.42 |

As absolute values, the percentages of correct identification of functional and aesthetic features were disappointing: between half and two thirds for functional features and between half and three quarters for aesthetic features. Considering that the participants were students at a technical university, the inability to distinguish the functional features was strange. The fact that aesthetic features were identified in a greater degree than the functional ones (3 cases out of 4) meant that participants were more interested in product aesthetics and they knew which were the aesthetic features. Only in the case of product 3, the aesthetic features scored less than functional features and this situation was probably caused by the product’s poor industrial design. A consequence of the average scores for aesthetic feature identification was that the participants stood very well for the average consumer, making true a conclusion of this paper.

The results obtained from the fourth question “Are the positive features visual expressions of product’s quality?” are indicated in Table 2. This question had also the purpose to make participants think more about visual quality of the products used in experiment.

Table 2

Are the positive features visual expressions of product’s quality?

| | Product 1 [%] | Product 2 [%] | Product 3 [%] | Product 4 [%] |
|------------|---------------|---------------|---------------|---------------|
| Yes | 75.79 | 58.95 | 72.63 | 83.16 |
| No | 13.68 | 32.63 | 16.84 | 12.63 |
| Don’t know | 10.53 | 8.42 | 10.53 | 4.21 |

Participants were positive about the correlation between product’s quality and positive visual features. Also, about 10% or less of them were uncertain about

the general correlation between quality and product aesthetics. Product 1 and product 3 had similar scores, meaning that product 3, with poor aesthetics, was considered acceptable from a quality point of view. Unexpectedly, product 2 scored low because some participants did not appreciate the colours and the rough texture. The absolute winner was product 4 (possessing striking visual features) that left only 4.21% of participants undecided about its quality and aesthetics. Also, the largest number of participants (83.16%) indicated a correlation between product 4's visual positive features and product's quality.

The results obtained from the fifth question ("Do you think that product's industrial design can be used in product's advertising?") are presented in Table 3. This question was aimed to underline the usual use of product aesthetics in publicity campaigns.

Table 3

Do you think that product's industrial design can be used in product's advertising?

| | Product 1 [%] | Product 2 [%] | Product 3 [%] | Product 4 [%] |
|------------|---------------|---------------|---------------|---------------|
| Yes | 84.21 | 60.0 | 54.74 | 85.26 |
| No | 9.47 | 31.58 | 40.0 | 10.53 |
| Don't know | 6.32 | 8.42 | 5.26 | 4.21 |

Again, product 2 had a poor score because the participants did not appreciate its' aesthetics. As expected, product 3 was placed on the last position because of its' very simple and mundane aspect. The participants did not consider that it was worthing to display the image of product 3 in an advert. Product 1 and 4 had good scores due to their carefully conceived aesthetics – the former grabbing attention by its' shiny and modern appearance and the latter possessing a high finish and especially a remarkable significance.

The results obtained from the sixth question ("Looking at the product, are you aware that product's industrial design was conceived by a professional?") are displayed in Table 4. This question was aimed to make participants think in-depth at the contribution of a professional designer to the product's aesthetics.

Table 4

Are you aware that product's industrial design was conceived by a professional?

| | Product 1 [%] | Product 2 [%] | Product 3 [%] | Product 4 [%] |
|-----|---------------|---------------|---------------|---------------|
| Yes | 75.79 | 60.00 | 47.37 | 81.05 |
| No | 24.21 | 40.00 | 52.63 | 18.95 |

In general, the participants to experiment were not very much convinced that the products' industrial design was conceived by a professional. The best score belonged to product 4 which was obviously designed by somebody with expertise and imagination, but even so its score was the lowest in comparison to its' scores from other questions. There was no wonder that more than half of the participants (52.63%) considered that product 3 was designed by an amateur or novice.

The outcomes obtained from the seventh question (“Looking at the product, are you aware that the manufacturing company invested money in product’s industrial design?”) are displayed in Table 5. This question was intended to make participants reflect about the money spent by the company on product aesthetics.

Table 5

Are you aware that the company invested money in product’s industrial design?

| | Product 1 [%] | Product 2 [%] | Product 3 [%] | Product 4 [%] |
|-----|---------------|---------------|---------------|---------------|
| Yes | 82.11 | 70.53 | 61.05 | 91.58 |
| No | 17.89 | 29.47 | 38.95 | 8.42 |

The participants to experiment appreciated less the money invested by the manufacturing company in case of product 3 and product 2. They considered the money was well-spent in case of product 1 and especially of product 4, that scored an impressive 91.58% - the highest score obtained at any question used in experiment.

The average marks obtained by products’ aesthetics before and after the questions aimed to make participants think more about their quality, advertising campaign, professional designer and money invested in industrial design are indicated in Table 6.

Table 6

Average marks for product aesthetics

| Product 1 [%] | | Product 2 [%] | | Product 3 [%] | | Product 4 [%] | |
|---------------|-------|---------------|-------|---------------|-------|---------------|-------|
| Before | After | Before | After | Before | After | Before | After |
| 5.14 | 5.17 | 4.56 | 4.47 | 4.47 | 4.53 | 5.57 | 5.57 |

Overall, the participants did not increase significantly their marks after answering the questions regarding their quality, advertising campaign, professional designer and money invested in design (product 1 – an increase with 0.03; product 2: -0.09; product 3: 0.06; product 4: 0). The results were similar with those obtained in the previous experiment [12], with the exception of product 4 (“remarkable design”) that did not display an increase in assessment as it did previously. Afterwards, it was counted how many participants changed their assessment of product’s aesthetics after answering to the rest of the questions. The results are displayed in Table 7.

Table 7

Change in participants’ assessment after thinking about the designed character

| | Product 1 [%] | Product 2 [%] | Product 3 [%] | Product 4 [%] |
|--------------------|---------------|---------------|---------------|---------------|
| Increased the mark | 9.47 | 12.63 | 13.68 | 10.53 |
| Maintain the mark | 84.21 | 69.47 | 78.95 | 78.95 |
| Decreased the mark | 6.32 | 17.89 | 7.37 | 10.53 |

The majority of participants maintained their assessment of products’ aesthetics despite the suggestions that the products’ appearance was designed by a

professional, money was spent for this, etc. Even worst, some participants decreased their marks, especially for product 2.

5. Discussion

The novelty of the research and, in the same time, the author contribution was related to the use of very mundane products (salt and pepper shakers) and to the involvement of average consumers as participants to the experiment. Also, the designed character of products was not indicated directly, but suggested by questions connected to the employment of a professional designer, money invested in product's industrial design and use of product aesthetics in advertising. A new aspect was the investigation of how people perceive the relationship between positive visual features and quality. Finally, the participants were primarily assessed regarding their aesthetic competence.

The research results are in contradiction with the results of Crilly [10] and Da Silva et. al. [11]. The contradiction is explained by the different kind of participants and by the different kind of products used in experiments. This research showed that the average consumer was not influenced in its judgements by the designed character of ordinary products. But she/he was aware about the relationship between superior industrial design and quality.

6. Business implications

In the general discussion of their paper, Da Silva et. al. [11] recommended that manufacturers, marketers, etc. should communicate to their market segment the design intentions, but after carefully selecting the media channels. Because this research obtained different results, the above recommendation should be amended; respectively the manufacturers, distributors, etc. should communicate the design intentions only if their market segment had been proved as being design sensitive. The design intentions brought in by different actors in the product development process (designer, technologist, marketer, investor, etc.), designer's fame, and manufacturer's endeavours should be structured in a proper message aimed at the targeted market segment.

7. Limitations of current research and future actions

Even the author considered that the participants to experiment were representative for the average consumer and the products used were representative for a mundane product, a statement of research limitation should be made. So, the experimental results are surely true for young intellectuals and for non-electric household goods. There are two directions of future research. The first will aim to use in experiments different classes of products.

The second will employ a different approach in measuring the influence of the designed character. Instead of measuring the variation of aesthetic marks, this approach will measure the variation of the price consumers are willing to pay.

8. Conclusions

An experiment was designed and carried-out with the aim of studying the influence of the designed character of products on the average consumer in case of mundane products. The conclusions are the following: i) the average consumer was not sensitive to the designed character of products in case of mundane products. ii) the average consumer was more able to identify correctly the aesthetic features comparing to the functional ones. iii) the average consumer considers that a positive visual feature is correlated with quality. iv) in case of remarkable industrial design, the average consumer can sense the contribution of a professional designer and the financial investment by the manufacturing company.

Conclusions of this small-scale experiment are valid within the limits of group members and the 12-item literature survey.

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