

PSYCHOLOGY BASED DESIGN APPROACH (PSYDA), A PEDAGOGICAL CONCEPT

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ABSTRACT

The means of design and manufacturing require a shift of course to meet with the need of a future sustainable consumption. Innovative design strategies to create emotionally durable products have emerged from the research fields of sustainable design and user attachment. Emotionally durable products can contribute to change the pattern of consumption and therefore restrain manufacturing globally. However, most of these strategies are inadequate as design methods. In order to actuate such strategies into design concepts, new methods are needed. This lead to the research question: How can the combination of research from psychology and design affect designers' ability to create sustainable product concepts? This article introduces the new design approach "psychology-based design approach" (PSYDA) where research from design and psychology are combined.

The expected learning outcome through the use of the PSYDA in design education is to be able to create a design process in order to evoke specific feelings through product concepts. The PSYDA was the basis for a case study arranged for students in product design education. This lead to the definition and illustration of the design parameter named "inclusive exclusivity" i.a., seemingly contradictory values, combined in one solution. The analysis of the case study indicates that the approach can be used as a tool to define and create product concepts that evoke feelings of user attachment. Working with PSYDA seemed to have had a good effect on the learning environment since the approach urged students to think beyond the traditional design process.

Keywords: product attachment, concept development, product lifetime optimization, sustainable consumption, learning outcome, branding

1. INTRODUCTION

Researchers on sustainable design emphasize the necessity to restrain the increase of consumption [1-5] through influencing user behavior. In order to achieve such a sustainable behavior, design research proposes several strategies within the area of product user relations. Examples of such strategies are: evoking feelings of product attachment and emotionally durable products. As an example Ruth Mugge emphasizes in her research on product attachment that "even though the design strategies can be justified theoretically, further research is necessary to determine how the design strategies will affect the product design process and finally the end user" [2]. The task of activating these strategies into product concepts is demanding. Design education has a history of a constant striving to give students methods to apply formal skills into complex product concepts. Blooms taxonomy [6] referred to in the EUA Bologna handbook describes the skill of application as "the ability to use knowledge in new situations, e.g. put ideas and concepts to work in solving problems" [7]. The level "application" within Blooms hierarchy of cognitive domain is level three out of six levels of thinking processes. In this hierarchy each level depends on the student's ability to perform on the previous level or levels. For example, for a student to apply knowledge (stage 3) he or she would need to have both the necessary information (stage 1) and understanding of this information (stage 2) [8].

A collaborating study between a designer and a psychologist specialized in influence psychology, resulted in a combined design process. This was done to investigate if such a process would generate design approaches that enable students to apply theoretical knowledge, into product concepts. On the subject of evoking specific feelings through product concepts meant influence consumer behavior, students are confronted with a new complex dimension to apply in their process. This lead to the following research question: How can the combination of research from psychology and design affect designers' ability to create sustainable product concepts?

2.0 CONSUMER-PRODUCT ATTACHMENT

A model developed by Schifferstaien and Zwartdruis-Pelgrim [10] (figure 1.) gives explanation to consumer-product attachment. The design strategies are listed under "Product meaning".

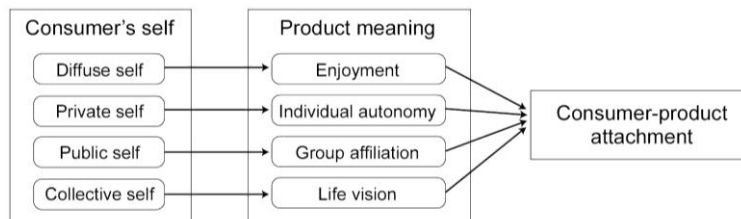


Figure 1. Proposed conceptual model of consumer-product attachment
Hendrik N. J. Schifferstein* and Elly P. H. Zwartkruis-Pelgrim

Additional design strategies that have emerged from research on user attachment are i.a.: 1. "Develop products that are used together with other people" 2. "Design for specific experiences" 3. "Product personalization" 4. "Design meaningful experiences" 5. "Pleasure" 6. "Design for dynamic and flexible products" 7. "Design for product attachment" 8. "Design for repair and maintenance"

2.1 A psychology based design approach (PSYDA)

To make the model of "Consumer-product attachment" (figure 1.) adjusted to practice and useful for potential learning outcome in design education, we propose an additional dimension to the model. The proposed dimension called "Principles of persuasion" is intended to enable designers to develop and construct products that induce feelings of product attachment. "The Principles of persuasion" are created by psychologist R. B. Cialdini [11]. The design tool PSYDA (Figure 2.) combines strategies from the research field of user attachment and psychology [2-4, 10, 16-17].

In addition to serve as extra design strategies the "principles of persuasion" partly confirm and deepen the understanding of the category "product meaning" (figure 1.).

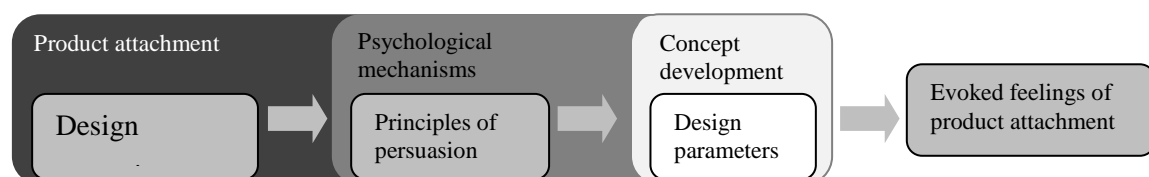


Figure 2. PDA, Psychology - based design approach

2.2 The Principles of Persuasion

Psychologist Robert B. Cialdini has through research defined general principles of persuasion [11] influencing us when it comes to how we behave.

Reciprocation (R) - When people receive something positive such as a gift, favor, attention, compliment etc., they feel obliged to give something back, ex, bringing flowers to a dinner party.

Commitment and Consistency (CC) – Commitments made especially in writing makes you more persistent to keep you promise. The more work you put into an experienced obligation - the stronger the feeling of obligation [12]. Example: In Oslo 7% of all partners with common children split up annually while the ratio of all marriages in Oslo ending in divorce is 1.45% annually [13].

Social Proof (SP) - People decide what is appropriate for them to do in a situation by examining what others are doing. Example: When a group of persons looks up into the sky, bystanders will start looking into the sky to see what the others are looking at [14].

Authority (A) - People tend to obey authority figures, even if they are asked to perform against their own will [15]. Signs and symbols convey information of authority such as uniforms and medals.

Liking (L) – People are easily persuaded by people they like or are alike. Cooperation and similarities triggers the feeling of liking. Tupperware (multi level marketing) is a typical context of influence where one person is selling products to friends and family.

Scarcity (S) - Perceived scarcity will generate demand. Example: increased value because of less availability such as antiques and gold.

In addition to the principles of persuasion Cialdini describes the “contrast phenomenon” as a basis for an experience. The contrast phenomenon illustrates the change of people’s perception through what they have just perceived, for instance in a bargaining situation.

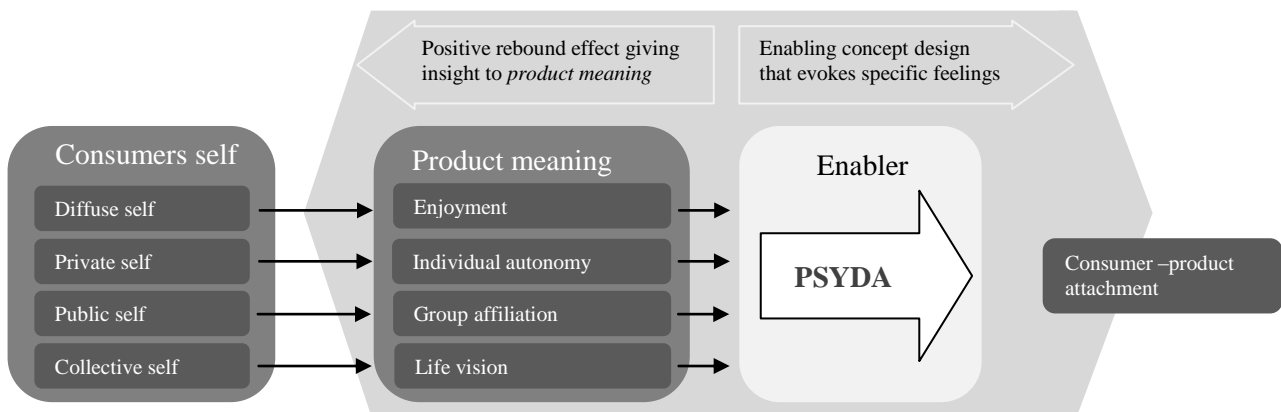


Figure 3. Proposed PSYDA (Psychology - based design approach) as an enabling dimension to design or realize consumer-product attachment

2.21 Mapping of possible functions resembling the principles of perception in NIKE+

As a part of the development of the PSYDA we had a closer look at various functions of NIKE+, the successful collaborative concept of Nike and Apple too see if the system functions could be recognized as comparable to the principles of persuasion. This was done to explore the potential of using the principles as a part of an approach to develop concepts that influence user behavior. Some examples of the NIKE+ functions:

The concept NIKEiD gives the customer (R) the opportunity to customize their own exclusive (S) pair of shoes. The effort of personalizing the shoes (CC) will strengthen the bond between the user and the product [2, 12]. To involve the user even more (CC), Nike has developed a system where the user can track their runs while listening to music (R). The customer commits to Nike and Apple (CC) by buying the extra merchandises necessary that only fit Nike products containing a tracking device that dependent on an iPod music player. iTunes.com (Apple music shop) and Nike.com loads automatically every time the runs are recorded on the web. This context makes it possible for the devoted runner not only to log runs at Nike’s web page but the user is also given the possibility to compare runs with others, set goals for the season (CC) also in cooperation with affiliated runners (L), among other possibilities. When new records are achieved people like Tiger Woods (A) will congratulate and reward you with your achievement (R).

3.0 METHOD

The combination of research from psychology and design is the basis for the development of the PSYDA. A case study were master students in product design used the PSYDA (figure 2.) was carried out. This was done to explore the PSYDA’s potential to enable students to apply the design strategies into new design concepts. The PSYDA was equipped with design strategies from the research field of product attachment. The principles of persuasion were introduced by a psychologist. Additional theory within the field of branding was introduced [18-20]. The students performed interviews in order to collect data about people’s argumentation for why they liked a certain product. Places where people do typical leisure activities such as cross country skiing and snowboarding were locations for the interviews, assuming that people performing a hobby are likely to use products that they cherish. The answers from the respondents were analyzed and characterized within the principles of persuasion.

The findings from interviews in combination with PSYDA made the platform in which the students were to develop a design concept that evokes the feelings of attachment.

4.0 RESULTS

Some product descriptions explaining the experience of exclusivity were recognized to be comparable to the “principle of scarcity” by a group of students. An example from a snowboarder talking about his goggles: “They are my favorites, and I love to use them. The goggles are a limited edition and decorated by a graffiti artist“.

The group decided to design a product that people would experience as exclusive. The principle of scarcity was chosen as the design parameter that should induce this feeling. The concept of “exclusiveness for all” was the result. A concept supposed to be perceived as exclusive by all potential users, and not only by the people that are well off. The exclusiveness is partly activated through limited editions. The limited edition is meant to evoke the feeling of pleasure of having something rare in affiliation with others that have similar “collectors’ items”. The limitation of the production method made it appropriate and affordable to design for small changes while repairing the mould (every 500 pieces). The products would in other words change, and only 500 people will have the (almost) identical object. The objects would not be precisely the same since the series number for one particular item was made visible through a relief on the product surface (figure 5.).



Figure 4. Furniture piece “Inclusive Exclusivity” by K. Bommen & I. Mørk, 2009



Figure 5. “369” Detail of relief visualizing limited editions through numbering on table surface by K. Bommen & I. Mørk, 2009

5.0 DISCUSSION

5.1 The PSYDA as a design method

The model (figure 1.) based on empirical data gives insight to user attachment. User attachment is in this case measured through questionnaires based on users’ feelings towards existing products such as lamps, clocks, cars and ornaments. The concept properties that evoke a feeling however might not solely be found within existing products. Thus there is a need for new product concepts meant to evoke specific feelings, to give new insight to people’s relationship to products.

For the model (figure 1.) to have direct implications for designer’s practice working to evoke feelings of user attachment through design, an added element is necessary. R. B. Cialdinis research indicates that a person’s feeling towards a product is closely related to the context in which the product is experienced [21-22]. This suggests a potential strategy in which to influence user behavior with support of the principles of persuasion.

When designing with the PSYDA to create a specific user experience or feeling, the process might lead in directions of uses or perceptions that are not recognizable within existing products. Thus the PSYDA is a creative tool as well as an analytic tool that can lead to product concepts that challenge the conventions. The PSYDA is flexible since it does not depend on specific design strategies.

Suggested strategies from design research on how to create user attachment vary when it comes how complex they are to implement into the process of developing concepts. Product personalization or concepts relying on joint ownership or use in order to work, seems straightforward to implement as a premise for a design. Strategies such as pleasure [16, 23], memory and “enjoyment through its beautiful appearance”[2, 24], however are too general and demands a brake down of content and

meaning in order to be used as design parameters. The PSYDA can give insight to the content of these emerging parameters.

5.2 The PSYDA in relation to learning outcome

Learning outcomes are described in the EUA Bologna as “statement of what a learner is expected to know, understand and/or be able to demonstrate after completion of a process of learning [7]. This description establishes a transparent learning situation where the student is less dependent on the explicit teachers’ knowledge. In the debate on design education and the understanding of learning outcomes, there are educators that define their own expertise as a sort of a learning outcome believing this to be up to date and relevant. This attitude however can lead to the teachers’ experience becoming the only criteria for evaluation and source of skills that the students meet. As an alternative way of learning, the PSYDA might work as a link between practice, research and theory and give the students a variety of opportunities to partake in the development of their own area of interest in design. The PSYDA does not determine the skills necessary to learn in order to complete a design project; this will be the student deciding what required skills to gain in relation to the characteristics of the project. This pedagogical approach empowers students to define criteria of judgment, and to perform as reflective practitioners.

Design students are often confronted with the expectations that a product should evoke certain user experiences. In order to achieve this, design jargon or terminology such as “sculptural”, “exclusive”, “humorous” and “professional” are often used as criteria for quality. However design parameters based on these types of expressions often misleads the students to believe that the terminology itself contains support for their allegations during the design process. The alleged functions meant to convey associations or to evoke certain feelings lacks support from theory or research. A reason for why this situation occurs is that the students are not introduced to methods that enable them to understand and apply relevant design parameters for their work.

A challenge occurs with the PSYDA. It seemed that design students that worked with research findings as a part of their study, tended to develop concepts that were intangible. The complexity of applying strategies from theory in product design illustrates the need for a method that enables students that are working with perceptual qualities within product concepts.

6.0 CONCLUSION

6.1 PSYDA as an enabling tool

Models emerged from design research that explains user attachment, proposes design strategies that are difficult to change into design methods. An approach to design sustainable product concepts (PSYDA) was created through the combining of research from psychology and design. The design strategies from research on user attachment and influence from psychology constituted the basis for this approach. The student’s project indicates that the “Psychology – based design approach” that was created as a part of this research, worked as an enabling element to apply design strategies of user attachment into product concepts.

The design approach developed by the student’s show that a design process based on combined research from design and psychology enhances the awareness of- and nuances within product experience. The student project demonstrated a process that lead to a definition and illustration of the design parameter “inclusive exclusivity”; seemingly contradictory values, combined in one solution. The feeling of exclusivity was “designed” into the product concept as an emotional function inspired by the principle of scarcity [21].

The PSYDA is an exploratory and creative tool appropriate for design practice. It can affect the coming designers’ ability to apply the design strategies of user attachment into design concepts. Designers that succeed in applying these design strategies will influence the pattern of consumption towards a sustainable behavior [3, 25].

6.2 PSYDA in relation to learning outcome

Study modules containing learning outcomes with the topic of sustainable design dimensions can include the PSYDA in order to enable students to design for user attachment and emotionally durable products. The student project shown in this article illustrates that the PSYDA facilitate the students to design with support from their own research oriented reflection. This is in contradiction to the

approach were an individual teacher embraces their personal area of expertise. The design strategies in the PSYDA are not fixed; this provides the potential of new directions within the topic of inducing feelings of user attachment. The PSYDA creates a transparent learning environment achievable for future students and colleagues to use and modify. The PSYDA was introduced as a design tool for students supervised by a cross disciplinary team with the expertise of design and psychology. This seemed to have had a good effect on the learning environment since the approach urged the students to think beyond the traditional design process.

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