

Product attachment and its relation to sustainability: A study with reference to chair

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ABSTRACT

With increase in the availability of products, consumer's sense of product ownership extends beyond usability. A throwaway culture is created where people dispose products while they are still useable, leading to an unsustainable dependency on products. Users' emotional attachment to their products can slow down product life cycles through retention of products. Sustainability of people's consumption patterns can be increased by extending the lifespan of products owned and used by stimulating the degree of emotional value owners attach towards the products they own and use. This study presents relevant factors that determine emotional life of products and provide knowledge on consumer's sense of product ownership through the concept of emotional product attachment with reference their favourite chairs. The outcomes of the study would benefit product designers and users by providing guidelines for better understanding of the needs and emotions of product users and allow for meaningful product experience which can increase product lifespan, ultimately leading to product sustainability.

Key Words : Product emotion, Product attachment, Product ownership, Product lifespan, Sustainability

INTRODUCTION

Design directed by emotional content is the heart of current design practices, research and education (Demirbilek and Sener, 2003). We all experience emotions in our everyday lives. Emotion is crucial for everyday decision making and is an essential part of life, affecting our experience, behaviour and thought. Emotions reflect our personal experiences, associations and memories (Norman, 2004). A significant part of the emotions we experience is elicited by the products we use every day. Product emotion is the emotion experienced in response to or elicited by seeing, using, owning, or thinking about consumer products (Desmet, 2003; Nam *et al.*, 2007).

Studies have shown that emotional interaction improves user interaction in product design. Consumer satisfaction is an affective behaviour that relies on desires more than needs and depends on aesthetic, semantic and symbolic aspects of cognitive response to design. Schifferstein and Zwartkruis-pelgrim (2008) define product attachment as "the emotional bond a consumer experiences with his/her product". This indicates the existence of an emotional connection between the owner and the product and the importance of that specific product to the owner. Belk (1991) observes that people experience more protective behaviours to products they are emotionally attached with and

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often develop lasting relationships with these products, thereby extending the life of that product.

Relationship of Product Attachment to Product Lifespan and Sustainability: Concept of Product Ownership :

With the rapid introduction of newer products in the market, consumers are faced with increasing pressure to keep consuming at the same rapid pace. Unsustainable pattern of practices in product consumption have been observed. The design, production, distribution, use and disposal of durable products account for a significant proportion of energy and material demand (Norman *et al.*, 2016; Gnanapragasam *et al.*, 2017). When product lifespan is extended, the use of energy embodied in carbon can be reduced leading to product sustainability. Extending the lifespan of product use whether by their original owner or by subsequent owners could contribute to greater resource efficiency. This implies that product lifespan is an integral part of product design, the circular economy and sustainable development.

The disposal of products could be triggered by the product not being functional, out-dated or newer products offer more possibilities or simply because the owner decides to dispose it. Disposal of products is often governed by the owner's motive for replacement. It was observed by van Nes and Cramer (2005) that product lifespan is a result of the owner's decision and not predetermined by design characteristics. This reveals the connection between the owner's emotional attachment to a particular product and its lifespan. To understand the emotional attachment to products, it is important to know what makes us fall in love with the product and how the emotional bond with the product is created. It has been stated that our desire to love lies in our need to value (Branden, 1980, cited in Whang *et al.*, 2004).

Therefore it becomes necessary to explore what factors influence a person's value of the products they own and use. The word value has different meanings in literature of 'marketing strategy' and 'user behaviour'. Value in 'marketing strategy' is the 'customer value' which focuses on buyers' evaluation of products at the time of buying while in 'user behaviour' it is the 'user value' which is concerned with valuation on consumption or possession of products (Lai, 1995). The Compact Oxford Reference Dictionary defines a *consumer* as "a person who buys a product or service for personal use", a *user* as "a person who uses or operates something" and an owner as "a person who owns something". Consumption activities during product ownership involve storing, using, maintaining and repairing. Emotions elicited at the time of purchase is intense and short while emotions elicited by product use and ownership are of longer duration. Life of products relates to ongoing person-product interaction and product attachment varies over the time of ownership (Mugge *et al.*, 2006a; Mugge *et al.*, 2006b; Schifferstein and Zwartkruis-pelgrim, 2008). The present study explores the influence of semantic design on person-product attachment and focuses on emotional attachment during ownership of products. Therefore, product owners are the focus of the study, wherein product owners can include consumers and users who have ownership of the products they buy and use and the words are used interchangeably. The present study was planned with the following objectives:

- To study the influence of product attachment on product sustainability
- To study emotions elicited by chairs that lead to product sustainability

METHODOLOGY

This study was an exploratory research to know people's practices concerning acquisition,

ownership, use, retention and disposal of products with reference to their favourite chair.

Sample :

The study was conducted in NCT of Delhi where the practices concerning ownership, use, retention and disposal of products with reference to the favourite chair was explored for 240 respondents. Snowball sampling technique was used to select the respondents. Privately owned households with four to five rooms were considered for the study and was premised that they belonged to middle income group (MIG) and high-middle income group (H-MIG). People who owned chairs and lived in their own residences were considered for the study as permanence of residence influence selection and retention of products.

Selection of product :

Different product categories may induce different effects on the evolvment of emotional attachment to products and may make it difficult to determine which reasons are specific for a specific category and which are general. Also the selected set of possible determinants can vary across different product categories, where the degree of emotional attachment may not be distributed normally, hampering statistical methods (Mugge *et al.*, 2006b; Schifferstein and Zwartkruis-pelgrim, 2008). Considering these factors, a pre-specified category of product was considered for the study. Favourite chair of the respondents was selected for the study. The chair is high on utilitarian quotient and the element of favourite could add to the emotional quotient of the selected product.

A chair is a piece of furniture with a raised surface used to sit on and is an object available to almost everyone. In chairs more than in any other object, human beings are the unit of measure - like the human body, chairs have legs, arms and backs. At the functional level, a chair makes physical and psychological associations with the user through its form and use of materials. At the same time, it may symbolize meanings and values which connect with the user at an intellectual, emotional, aesthetic, cultural and even spiritual level. Beyond the functional considerations, chairs are also designed and acquired for reasons to do with symbolic content, aesthetics and fashion. Chairs are seen as a sign of civilization and the history of chair design reflects its role as a barometer of culture and how it responds to technological changes. A designer’s entire philosophy can be summed up by their chair and nearly every important designer has made a chair at some point in their career (Fiell and Fiell, 2015).

Considering the importance of chairs in the field of design and innovation and its close relation to the human body, selection of chairs as an object of research focus is appropriate for studying the influence of emotional value on person-product attachment.

Study Tool :

An interview schedule was designed to gather information from the respondents with reference to their demographic profile, practices concerning nature of acquisition, ownership, type, price, ways and duration of use, care and maintenance and future plans for retention or disposal of their favourite chairs.

A standard tool for measurement of people’s emotional attachment to products developed by Mugge *et al.* (2006a) for the study “*A Longitudinal Study of Product Attachments and its Determinants*” was used to explore the level of emotions respondents attach towards their favourite chair. This tool is a five-point Likert scale having fifteen statements used to assess degrees of emotional attachment the respondents had for their products in regard to the determinants of product

attachment; *self-expression* (5 items), *group affiliation* (3 items), *memories* (4 items) and *pleasure* (3 items).

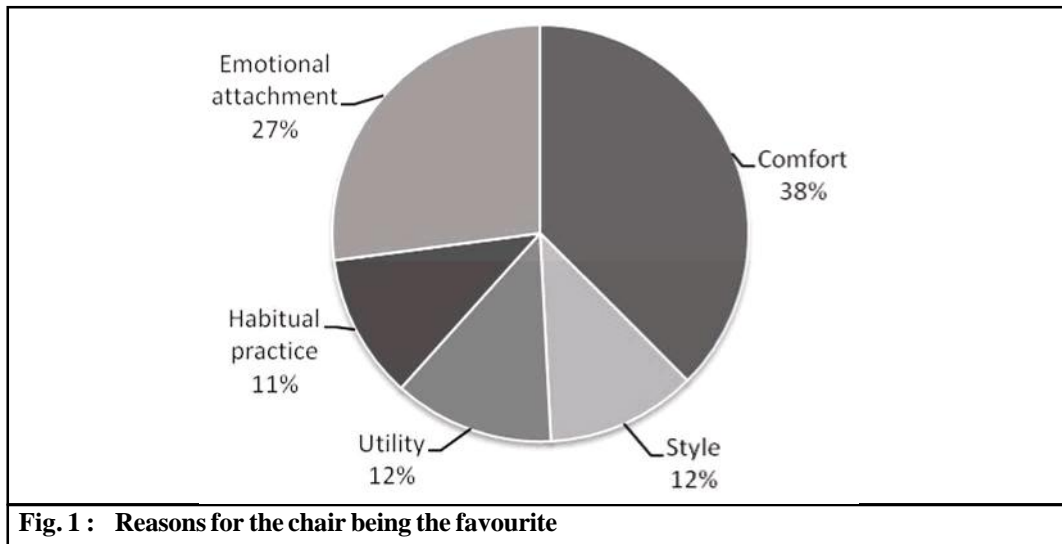
RESULTS AND DISCUSSION

Demographic profile :

The respondents were mostly (86.67%) below 50 years of age and were well educated with most of them being graduates (45%) and post-graduates (39.58%). Most of the respondents were homemakers (47.50%) and others being government (19.58%) and private (27.08%) sector employees.

Practices concerning acquisition, ownership, use, retention or disposal of favourite chair:

The respondents had arm chairs (43%), sofas (36%) and armless chairs (21%) as their favourite chairs. It was observed that almost half (44.17%) of the sample buy new chairs every 5 to 10 years and 23.33% had a purchase frequency of less than 5 years. Some of them (21.25%) bought new chairs every 10 to 15 years while a minority (2.5%) had a buying frequency of more than 15 years. Analysis further showed that even though the respondents bought new chairs frequently, yet a significant percent of them retained old ones when they bought new chairs. The oldest chair was also the favourite chair for 45.83% of the respondents, while it was not so for 54.17%. Respondents attributed to comfort (38%), style (12%), utility (12%), habitual practices (11%) and emotional attachment (27%) for the oldest chair being their favourite chair (Fig. 1).



Most of the respondents bought their favourite chairs readymade (62%), while some got them customized (25%), inherited (9%) or gifted (4%). The price of the chairs ranged from Rs. 5000 to more than Rs. 75,000. Aesthetics, comfort, price and material were ranked most important factors in selection of favourite chairs. Majority of the product owners used their favourite chairs for guest entertainment (62.92%) and relaxation (65.83%). More than half (56%) of the product owners use their favourite chairs for 1 to 3 hours daily.

Wood and wood composites accounted for 90 % of the material used for construction of

favourite chairs while the rest were made of steel and plastic. Fabric was the most common material used for upholstery of the favourite chairs of 60% of the respondents. Dusting was a practice of maintenance of chairs by all product owners. Dusting, wiping, washing and vacuum cleaning were common in-house practices of care and maintenance while dry cleaning, polishing and re-upholstery were commonly outsourced services for maintenance of chairs.

Should their favourite chair come to an end of its emotional life or break down 57% of the respondents planned to extend their lifespan by sharing it with people in need or selling them at a cheaper price, 33% planned to extend their lifespan by retention through repair, recycling or up-cycling. While most of the respondents had sustainable plans for their favourite, 10% of the respondents intended to discard them by just throwing them away.

Table 1 : Result of Likert scale test for product attachment to favourite chairs (n=240)

| Sr. No. | Statements | SA | | A | | N | | D | | SD | |
|--------------------------|---|----|-------|-----|-------|-----|-------|----|-------|----|-------|
| | | # | % | # | % | # | % | # | % | # | % |
| Self-expression | | | | | | | | | | | |
| S 1 | My chair reflects who I am | 19 | 7.92 | 48 | 20.00 | 92 | 38.33 | 57 | 23.75 | 24 | 10.00 |
| S 2 | Other people can tell by my chair what kind of a person I am | 11 | 4.58 | 47 | 19.58 | 89 | 37.08 | 71 | 29.58 | 22 | 9.17 |
| S 3 | My chair fits my identity | 11 | 4.58 | 50 | 20.83 | 92 | 38.33 | 64 | 26.67 | 23 | 9.58 |
| S 4 | My chair suits me | 19 | 7.92 | 68 | 28.33 | 97 | 40.42 | 42 | 17.50 | 14 | 5.83 |
| S 5 | My chair says nothing about me as an individual | 5 | 2.08 | 52 | 21.67 | 104 | 43.33 | 57 | 23.75 | 22 | 9.17 |
| Group Affiliation | | | | | | | | | | | |
| S 6 | My chair indicates my occupational profile | 13 | 5.42 | 39 | 16.25 | 71 | 29.58 | 92 | 38.33 | 25 | 10.42 |
| S 7 | Through my chair, I feel connected to other people in my occupational profile | 10 | 4.17 | 30 | 12.50 | 67 | 27.92 | 94 | 39.17 | 39 | 16.25 |
| S 8 | Through my chair, I belong to the group of my occupational profile | 8 | 3.33 | 28 | 11.67 | 72 | 30.00 | 91 | 37.92 | 41 | 17.08 |
| Memories | | | | | | | | | | | |
| S 9 | My chair reminds me of people or events that are important to me | 29 | 12.08 | 78 | 32.50 | 80 | 33.33 | 41 | 17.08 | 12 | 5.00 |
| S 10 | My chair makes me think back of someone or something that has happened | 32 | 13.33 | 66 | 27.50 | 91 | 37.92 | 40 | 16.67 | 11 | 4.58 |
| S 11 | I see my chair as a reminder of certain people or events | 36 | 15.00 | 77 | 32.08 | 76 | 31.67 | 40 | 16.67 | 11 | 4.58 |
| S 12 | Through my chair I think back to certain people or events | 40 | 16.67 | 86 | 35.83 | 70 | 29.17 | 35 | 14.58 | 9 | 3.75 |
| Pleasure | | | | | | | | | | | |
| S 13 | I enjoy my chair | 46 | 19.17 | 131 | 54.58 | 56 | 23.33 | 6 | 2.50 | 1 | 0.42 |
| S 14 | It is a pleasure to use my chair | 52 | 21.67 | 123 | 51.25 | 58 | 24.17 | 6 | 2.50 | 1 | 0.42 |
| S 15 | I feel good when I use my chair | 55 | 22.92 | 126 | 52.50 | 50 | 20.83 | 9 | 3.75 | 0 | 0.00 |

SA: Strongly Agree; A: Agree; N: Neutral; D: Disagree; SD: Strongly Disagree; #: Frequency

Product attachment of respondents towards their favourite chair :

People tend to retain certain products whereas they easily dispose of other products depending on the attachment they have with them. Studies have shown that people take better care of products they are emotionally attached to thereby increasing their lifespan (Mugge *et al.*, 2006a; Schifferstein and Pelgrim, 2008). In light of product attachment contributing to sustainability by increasing longevity of products, the respondents’ emotional attachment towards their wedding attire and favourite chairs were explored.

Each of the fifteen statements of product attachment scale was considered a specific indicator of emotional attachment the respondents had for their favourite chair. Findings of the study as seen in table 1 showed that responses of the respondents leaned mostly towards the positive and neutral responses for determinants like *self expression*, *memories* and *pleasure*. However, for the determinant *group affiliation*, it was observed that the responses leaned mostly towards neutral and the negative responses. This result is supported by other studies on product attachment which found *group affiliation* to be an insignificant independent determinant of product attachment (Mugge *et al.*, 2006a; Tlhabano *et al.*, 2013). Although *group affiliation* did not contribute independently to product attachment, it was observed that it still contributed to product attachment jointly with the other three determinants. This finding was consistent with the findings on Tlhabano *et al.* (2013). Therefore, scores obtained from Likert scale of statements of all the four determinants were considered to compute the level of emotional product attachment to be used for further statistical analysis discussed in following section.

Product attachment score :

Mean of scores of items within each determinant was computed. Mean of the overall determinants was computed to obtain product attachment score of the respondents. Product attachment scores represented by the computed means of the fifteen statements categorized the level of emotions into different levels ranging from *high positive product attachment* to *high negative product attachment* as shown in Table 2.

| Table 2 : Categorization of product attachment scores based on computed mean | |
|--|----------------------------------|
| Scores | Product Attachment Category |
| 4.21 – 5.00 | High positive product attachment |
| 3.41 – 4.20 | Positive product attachment |
| 2.61 – 3.40 | Neutral product attachment |
| 1.81 – 2.60 | Negative product attachment |
| 1.00 – 1.80 | High negative product attachment |

Table 3 represents the frequencies and percentages of the respondents for each level of product attachment. It was observed that there was some significant negative product attachment. Levels of product attachment towards the respondents’ favourite chairs were low for most respondents with just 2.08% having *high positive product attachment* and 17.92% having *positive product attachment*. The rest of the respondents had neutral to high negative attachment towards their favourite chair. This could be attributed to the reason that comfort, style, utility and habitual practices were reasons for the chair being the favourite for most of the respondents and not the emotional bonds attached with the chair (Fig. 1).

| Table 3: Frequency distribution of product attachment level of respondents (n=240) | | |
|---|-----------|-------|
| Product Attachment Category | Frequency | % |
| High positive product attachment | 5 | 2.08 |
| Positive product attachment | 43 | 17.92 |
| Neutral product attachment | 138 | 57.50 |
| Negative product attachment | 47 | 19.58 |
| High negative product attachment | 7 | 2.92 |

Conclusion :

The current study explored relevant factors that determine emotional life of products and influence meaningful association of users with the products they own and use. Although new chairs were generally bought very frequently, sustainable practice of product ownership was observed with the favourite chair. The respondents reported of plans to extend lifespan of their favourite chair by retention through repair, up-cycling and recycling and by sharing with people by giving to people in need or by selling them at a cheaper price. It can be observed here that the element of favourite contributed to increasing the lifespan of the chair. Looking into reasons for the chair being the favourite, the respondents attributed comfort, style, utility, habitual practice and emotional attachment. The chair being inherited or gifted by loved ones and memories of special moments and loved ones were some of the reasons for emotional attachment with the favourite chair.

Although attributes of utility, comfort, aesthetics and environmental contexts are important factors in product design, the element of product emotion has to be stressed upon. A lack of emotional attachment to the favourite chair for many of the respondents can be observed from the low levels of product attachment.

New design innovation should strive to incorporate elements of emotional attachment such by designing products that boosts user identity through personality enhancement and social recognition, encourages playfulness and memorable product experience while at the same time not comprising on the functionality and utility of products. Boosting emotional attachment of people to their products will help increase product lifespan, thus product sustainability.

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