

Convenience as a Key Driver in Extending the Cumulative Lifespan of Furniture

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Keywords: Furniture; Product Longevity; Emotional Attachment; Value; Convenience.

Abstract

In response to environmental challenges and overconsumption, design strategies focusing on product longevity have emerged. While product longevity is partly determined by physical durability, it is also heavily influenced by the consumer. Therefore, understanding consumer attitudes toward product lifespans is essential for gaining insights into longevity. Specifically, this study investigates how consumers' valuation of furniture impacts its lifespan.

The findings are based on data from semi-structured interviews and a survey provided by AAU Design Lab, analyzed through reflexive thematic analysis. The study introduces two terms to further specify the understanding of product lifespan: individual ownership lifespan and cumulative lifespan.

The study found that emotional attachment is not necessarily essential for achieving prolonged cumulative lifespan of furniture, challenging existing strategies like design for attachment and emotional durability. While these strategies influence individual ownership lifespan, the findings in this paper suggest that convenience is the key driver in extending the cumulative lifespan of furniture by enabling its reuse through accessible disposal methods and platforms. Accordingly, putting a stronger focus on the systems and contexts in which products exist could play an important role in extending their lifetime.

As this is a preliminary study with limited data, these findings should be considered an interesting starting point for further investigation.

Introduction

Furniture is a constant presence in our lives, shaping the spaces where we live, work, and relax. Beyond its practical functions, it often reflects personal identity, social trends, and economic status (Almquist et al., 2016). Yet, while some furniture is cherished for years or even generations, other pieces are disposed of after a short time. A study revealed that 42% of products are discarded while still being fully functional (Haase & Laursen, 2022, p. 5). This raises the research question: *How does the consumers' valuation of furniture affect its lifespan?*

There is a common association that durable furniture is exclusively tied to high economic value, emotional significance, or premium materials (Cox et al., 2013, p. 25; Haase & Laursen, 2022, p. 33; Mugge et al., 2005, pp. 40–41). While these claims might be true, they overlook the complex ways people assign value to their belongings.

Through this study, we aim to explore the values that affect furniture lifespans and how. We will highlight how consumer attitudes and behaviors can redefine the understanding of “long-lasting” furniture, providing additional perspectives on consumer valuation and product longevity.

Theory

Product longevity

In their book “Designing for Longevity”, Haase & Laursen (2022) describe product longevity in terms of products that:

- are **physically durable**
- provide **long-term value** for users (emotional durability)
- represent a **viable business**
- generate a **competitive advantage** for the company

They claim that these factors are equally important and must be present simultaneously to achieve product longevity (Haase & Laursen, 2022, p. 34).

Extensive theoretical research focuses on how designers can achieve physical durability to ensure long lasting products, emphasizing factors such as repairability, the use of high-quality materials, upgradability and modularity (Haase & Laursen, 2022, p. 33; Van Nes & Cramer, 2005, pp. 295–296).

Another key factor is emotional attachment, which plays a pivotal role in extending product lifespan by creating a bond between the consumer and the product (Chapman, 2015, p. 21; Mugge et al., 2005, pp. 40–41). This attachment typically occurs when the product provides enjoyment or pleasure, or holds a nostalgic value, such as inherited items (Frahm et al., 2022, p. 4; Mugge et al., 2005, p. 41). Emotional attachment can also arise from financial investment in a product (Cox et al., 2013, p. 25).

Existing literature on product longevity heavily emphasizes product-person relationships, adaptable constructions, and the use of durable materials (Mugge et al., 2005, p. 41; Van Nes & Cramer, 2005, pp. 295–296). This calls for further exploration of how the lifespans of furniture that lacks emotional durability are affected.

Methodology

Data Collection

This study is based on data collected from semi-structured interviews and a survey provided by AAU Design Lab.

Semi-Structured Interviews

Ten semi-structured interviews were conducted using a prepared interview guide, ensuring focus while allowing participants to share additional insights. The guide was based on “fast furniture” and the initial assumption that conscious consumers would feel guilty about frequently replacing functional furniture, particularly inexpensive pieces with low emotional attachment (Antonetti & Maklan, 2014; Burnett & Lunsford, 1994).

Interviews were conducted both in-person and online to accommodate participants' and researchers' locations. The interviewees were

selected through convenience sampling within social and professional networks of the researchers. All participants live in Denmark, where apartments are typically rented unfurnished, suggesting more frequent furniture replacement compared to furnished rentals.

Survey

A survey provided by AAU Design Lab was distributed to gather insights into consumers' personal belongings and the lifespans of these items. The survey asked participants to select a piece of furniture from their home and respond to questions about, among other things, its history, repair, attachment, and lifespan. Information about the data collected can be found in Table 1.

Due to a low response rate, the data from the survey was analysed qualitatively and incorporated into the analysis. As a result, this study should be seen as a preliminary exploration of the topic.

Method	Quantity	Data type and processing
Interviews	10 (in total 120 minutes)	Audio recordings, transcriptions, notes
Survey	9 answers	Multiple choice, written answers, pictures.

Table 1. Data collection overview

Data Analysis

Interview data was analysed using reflexive thematic analysis as outlined by Braun & Clarke (2019). This approach emphasizes a researcher-driven process for identifying, organizing, and interpreting patterns within qualitative data.

The process involved:

- Familiarization with the data: The researchers transcribed and read the interview transcripts to gain a comprehensive understanding of the participants' experiences and perspectives on the topic and questions.
- Initial coding: The researchers coded the transcripts by tagging segments that reflected potential insights relevant to the research question.
- Clustering of codes into themes: Through an iterative process, codes were grouped into broader categories

to identify relevant themes across the data.

Each researcher was responsible for coding the interviews they had personally conducted, followed by a collaborative clustering of codes into themes across all interviews.

Results

The following presents the findings which emerged from analyzing the data collected.

While the themes of “fast furniture” and guilt served as the starting point for the research, new topics that had not been initially considered in forming the interview guide were uncovered during data analysis.

Prolonging product lifespan

The analysis revealed three main methods that consumers employ to dispose of their unwanted furniture:

Recycling: Taking furniture to a recycling station. Primarily for reuse and *not* material recovery, depending on the physical state of the furniture.

Curbside Disposal: Placing furniture on the street for others to pick up or as part of bulk waste collection.

Donating or Selling: Giving furniture away to friends or relatives or selling it through online platforms such as Facebook Marketplace or Den Blå Avis (a Danish re-selling platform between private citizens).

This illustrates that consumers are disposing of their furniture in ways that allow the items to remain accessible to others, providing an opportunity to extend their lifetime.

Initially, the analysis adopted the definition of *product lifetime* provided by Haase and Laursen. They describe it as “the active lifetime of a product or the product’s ‘service life’ (i.e. its total period in use).” (Haase & Laursen, 2022, p. 33).

The disposal methods identified revealed a limitation in this product lifetime definition, since it does not distinguish between a product’s lifespan with a single owner and its cumulative lifespan across various owners. As such, the terms individual ownership lifespan and cumulative lifespan were established and illustrated in Figure 1:

Individual ownership lifespan: The period a single consumer owns and uses a particular product before replacing, disposing or passing it on.

Cumulative lifespan: The total time a product remains in use across multiple owners or purposes, from initial acquisition to final disposal. Consequently, a product’s cumulative lifespan can consist of multiple individual ownership lifespans.

One Man’s Trash...

When examining why consumers discard their furniture, the analysis revealed that items are often disposed of when they no longer fulfill the consumer’s needs or expectations. This aligns with Van Nes & Cramer’s (2005) established motives for product replacement, which identify four primary reasons for furniture disposal: *Wear and tear, improved utility, improved expression, and new desires.*

These reasons for disposing of furniture all result in ending its individual ownership

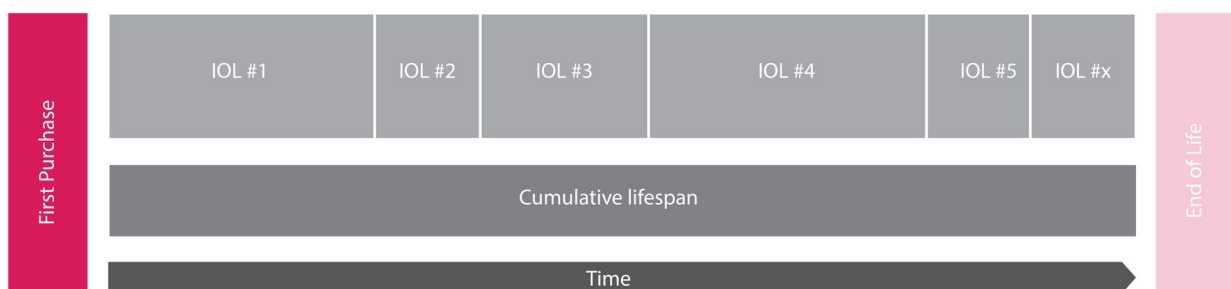


Figure 1. The relationship between individual ownership lifespan (IOL) and cumulative lifespan (CL).

lifespan. However, a product with no or limited value for the current owner can possibly provide value for another – one man's trash is another man's treasure. This is supported by the statement:

"[The last piece of furniture I got rid of was] my dining chairs, because they were falling apart... I gave them away via Facebook."

Even though the chairs had become physically obsolete for the owner, they still had enough value for another to come pick them up. When this is the case, and the product is passed on to the next, it will result in prolonging the cumulative lifespan of the product.

The Relationship Between Attachment and Product Lifespan

As presented in the theory section, emotional durability can play a key role in extending the cumulative lifespan of furniture longevity (Haase & Laursen, 2022, p. 34). On the contrary, another interview revealed that a low level of attachment to a piece of furniture does not necessarily impact its lifespan negatively:

"When I moved into [my apartment] I got a small cabinet under the sink and some curtains that the person who lived there before me had just left up. I think the person who lived there before them also had them hanging. And I've sold some of it to the next person who moved in after me. These are just cheap products that cover basic functional needs. They're so inexpensive that you don't form any attachment to them. If you had spent your own money on them, maybe you would have prioritized taking them with you."

This consumer passed on their furniture to which they felt little to no functional, emotional or monetary attachment. This insight presents an interesting perspective: Low-valued furniture can remain in use when it serves a basic function and is easily passed on. This suggests that a significant level of emotional attachment is not necessary for a piece of furniture to have a long cumulative lifespan.

Convenience in disposal

When disposing of furniture, several interviewees emphasized convenience as a crucial factor by using words like 'easy' and 'quick' and expressing feelings of satisfaction.

One interviewee shared, *"It made me very happy that someone came and helped me remove [the closet] so I wouldn't have to do it myself."*

This highlights how physical assistance in furniture disposal can significantly reduce the effort required, making the process more appealing.

Another interviewee described the speed of the process, stating, *"I can post it on Facebook, for example my old bed. Then somebody came and picked it up (...) after 15 minutes."*

This response underscores how digital platforms enhance convenience in furniture disposal by facilitating quick, hassle-free transactions.

The interviewees expressed that they valued convenience not only in terms of time and physical labor, but also for its psychological impact. As one interviewee explained, *"I thought it was better to resell rather than throw it away, because the wardrobe wasn't that old."*, emphasizing that the consumer considers reselling the more ethical choice because the piece of furniture is still fully functional.

Another interviewee acknowledged the role of avoidance in decision-making: *"It would probably be easiest just to put the dresser somewhere. It might also be a bit of avoiding responsibility because then I don't have to decide to throw it away. Others can decide whether it can be used for something."*

This illustrates how convenience is intertwined with emotional and ethical considerations - leaving furniture available for others to take can serve to avoid the guilt of discarding functional items.

These four statements highlight the convenience of disposal methods like reselling or dumping furniture on the street, which allow consumers to

- a) invest minimal effort in disposing of their furniture
- b) avoid the emotional or ethical burdens of discarding items

This combination of avoidance and convenience lowers the efforts required to enable furniture reuse, ultimately creating opportunities for prolonging the cumulative lifespan of furniture.

This concept is both illustrated and supported by the rising popularity of "byttebokse" (translated: 'swap boxes', Dons, 2024) that can be seen as a symptom of easy and convenient furniture salvaging and disposal, Figure 2. Here citizens can put products they no longer need in one of multiple boxes in the city center for others to pick up free of charge.



Figure 2. "Bytteboks" ('swap box') in Aalborg C.

Discussion

Emotional Attachment vs. Convenience in Prolonging Product Lifespan

It was found that a significant level of attachment is not always necessary to prolong the cumulative lifespan of furniture. This finding contrasts with the several strategies that have arisen to address the challenge of product obsolescence, including design for attachment and design for emotional durability (Chapman, 2015, p. 21; Mugge et al., 2005, pp. 40–41).

As further explained by Haase & Laursen: "The aim of all these strategies is to create an emotional bond between the user and the product, thereby making the user less likely to dispose of the product." (Haase & Laursen, 2022, p. 11).

While the abovementioned viewpoints hold merit, their focus on emotional attachment as the primary driver for prolonging product life does not account for the cumulative lifespan of the product: Emotional attachment primarily affects the individual ownership lifespan of a

product. Similarly, the following individual ownership lifespans cannot be expected to be long, as the product does not necessarily hold an emotional attachment to the new owners. Løvbak Berg & Hebrok (2024) highlight the effects of both physical and emotional durability for product lifetimes but note that all their investigated products, that consumers held onto, retained either their function, held up appearance, had material withstanding use, or provided comfort. This indicates that the cumulative lifespan would mainly be observed in products with high physical durability.

Besides the importance of physical durability (and emotional durability), an overlooked aspect in literature on product lifetimes is the convenience when consumers discard products. We suggest that convenience is the primary driver for prolonging the cumulative lifespan of furniture. In contrast to emotional attachment, which mainly impacts the individual ownership lifespan of a piece of furniture, convenience is the factor that drives its cumulative lifespan, allowing it to enter (and re-enter) the reuse cycle, ultimately prolonging its lifespan – given that the physical durability qualities highlighted by Løvbak Berg & Hebrok (2024) are still intact.

This insight could have a significant impact on the current understanding of product longevity, as the focus should not exclusively be on the product itself and its individual ownership lifespan, but also on the contexts and systems that support its reusability and facilitate the extension of its cumulative lifespan. The "Bytteboks" ('swap box') in Figure 2 can be seen as a strong example of designing a system that caters to the convenience of furniture disposal.

Societal Structure Leads to Frequent Furniture Replacement

The Danish context, where the interviews were conducted, supposedly influences the findings, particularly when comparing the Danish property market to other countries. A comparison with the Italian property market (Table 2) showed a remarkable difference in the share of furnished apartments.

	DK	IT
Share of furnished apartments	4 - 26%	66 - 90%

Table 2. Share of furnished apartments in Denmark and Italy.

This indicates a greater need for temporary furnishment in Denmark. Consequently, the demand for convenience becomes crucial, as tenants face shifting needs when moving into unfurnished properties.

Limitations

The sample size of interviewees and survey respondents was relatively small, which suggests the need for further investigations to verify the implications presented. For this reason, the study should be considered a preliminary study into the topic.

The interviewees were only able to confirm how they acquired their piece of furniture and how they disposed of it or planned to dispose of it. Therefore, the findings in this study are based solely on a segment of the furniture's cumulative lifespan, with the fate of the item after disposal remaining unknown, see Figure 3.

To answer the research question, *How does consumers' valuation of furniture affect its lifespan?* this study found that emotional attachment is not necessarily crucial for extending the cumulative lifespan of furniture. This challenges existing design strategies that emphasize emotional attachment and emotional durability as crucial drivers for product longevity. While these strategies may extend the individual ownership lifespan, they fail to consider the cumulative lifespans that depend on multiple users and rely on physical durability.

This study contributes to this by introducing convenience – both physical and emotional – as the key driver in extending the cumulative lifespan of furniture in the context of furniture disposal. Accessible disposal methods and platforms that support reuse are crucial for integrating products into reuse cycles, extending their cumulative lifespan. Considering convenience as a factor in future design processes or in systems targeting reuse could further promote sustainability.

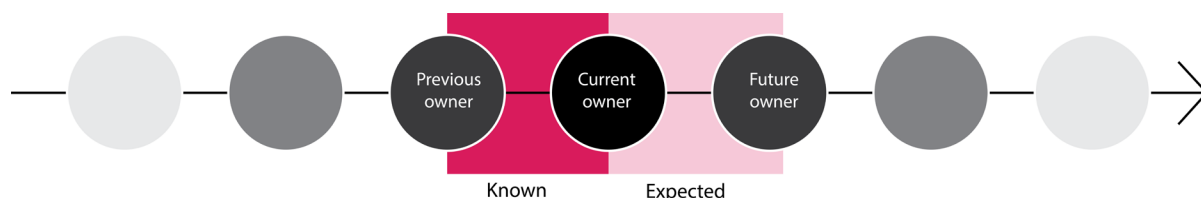


Figure 3. Data limitations in the study.

Conclusion

This study investigated how consumers' valuation of furniture impacts its lifespan. The study did so by collecting and subsequently analyzing data from semi-structured interviews and a survey provided by AAU Design Lab. The findings offer a more nuanced understanding of furniture lifespans through the introduction of two new terms: Individual ownership lifespan and cumulative lifespan. The former refers to the duration a single consumer retains a product, while the latter encompasses the total lifespan of a product across multiple ownership periods.

Despite its contributions, this study has some limitations. While acknowledging these limitations, the insights presented in this paper contribute to a more nuanced understanding of product longevity and furniture reuse. By highlighting the importance of convenience, this study provides new insights into emotional attachment and consumer valuation.

To better understand the potential extension of the cumulative lifespan through multiple owners, further investigation is needed by tracing the entire journey of the furniture, from its initial purchase to its final disposal. Data collection from first purchase to final furniture disposal remains an important step in future research. Such studies could investigate how

long products remain in use, how frequently they are reused, and how many have had "previous lives" before reaching their end of use, further contributing to the understanding of product lifetimes

This could be aided with the coming EU Product Passport (European Commission 2024), which contains detailed lifecycle data to not only help consumers at the end-of-life stage, but also aid research like this – if the digital product passport will be able to be updated. For example, normalizing a usage history similar to used cars. The initial findings in this study could be further cemented by pursuing a life cycle assessment (LCA), partly supplemented with actual usage data to quantify the environmental benefits of long cumulative lifespans.

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