

## Creating a Mess!

### Design Strategies for Managing Visual Complexity in Second-hand Shops

Frahm, Lea Becker; Laursen, Linda N.; Christensen, Bo T.

*Document Version*

Final published version

*Published in:*

Proceedings of DRS2024 Boston

*DOI:*

[10.21606/drs.2024.773](https://doi.org/10.21606/drs.2024.773)

*Publication date:*

2024

*License*

CC BY-NC

*Citation for published version (APA):*

Frahm, L. B., Laursen, L. N., & Christensen, B. T. (2024). Creating a Mess! Design Strategies for Managing Visual Complexity in Second-hand Shops. In C. M. Gray, E. C. Chehade, P. Hekkert, L. Forlano, & P. Ciuccarelli (Eds.), *Proceedings of DRS2024 Boston: Resistance, Reflection, Recovery, Reimagination. Design Research Society International Conference* Design Research Society. <https://doi.org/10.21606/drs.2024.773>

[Link to publication in CBS Research Portal](#)

#### General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

#### Take down policy

If you believe that this document breaches copyright please contact us ([research.lib@cbs.dk](mailto:research.lib@cbs.dk)) providing details, and we will remove access to the work immediately and investigate your claim.

Download date: 04. Jul. 2025

Jun 23rd, 9:00 AM - Jun 28th, 5:00 PM

## Creating a mess! Design strategies for managing visual complexity in second-hand shops

Lea Becker Frahm  
*Aalborg University, Denmark*

Linda N. Laursen  
*Aalborg University, Denmark*

Bo T. Christensen  
*Copenhagen Business School, Denmark*

Follow this and additional works at: <https://dl.designresearchsociety.org/drs-conference-papers>



Part of the [Art and Design Commons](#)

---

### Citation

Becker Frahm, L., N. Laursen, L., and T. Christensen, B. (2024) Creating a mess! Design strategies for managing visual complexity in second-hand shops, in Gray, C., Ciliotta Chehade, E., Hekkert, P., Forlano, L., Ciuccarelli, P., Lloyd, P. (eds.), *DRS2024: Boston*, 23–28 June, Boston, USA. <https://doi.org/10.21606/drs.2024.773>

This Research Paper is brought to you for free and open access by the DRS Conference Proceedings at DRS Digital Library. It has been accepted for inclusion in DRS Biennial Conference Series by an authorized administrator of DRS Digital Library. For more information, please contact [dl@designresearchsociety.org](mailto:dl@designresearchsociety.org).

# Creating a mess! Design strategies for managing visual complexity in second-hand shops

Lea Becker Frahm<sup>a,\*</sup>, Linda Nhu Laursen<sup>a</sup>, Bo T. Christensen<sup>b</sup>

<sup>a</sup>Department of Architecture, Design, and Media Technology, Aalborg University, Denmark

<sup>b</sup>Department of Marketing, Copenhagen Business School, Denmark

\*Corresponding e-mail: Lbfr@create.aau.dk

[doi.org/10.21606/drs.2024.773](https://doi.org/10.21606/drs.2024.773)

**Abstract:** Enhancing the consumer experience in second-hand shopping is essential to support the sustainable reuse of products. Up to 80% of shopping decisions are unplanned, making store design significantly important. However, knowledge of the design strategies utilized in second-hand shops is limited. Second-hand shops grapple with store design challenges due to their vast array of unique products, resulting in high visual complexity and clutter. Current literature links such visual clutter to consumers' feelings of cognitive overload but also shows it connotes creativity. This study investigated the design strategies of professional second-hand retailers through observations (n = 25) and interviews (n = 10). It identified seven design strategies divided into two: clutter-reducing and clutter-reframing strategies. The research offers an overview of strategies for managing visual complexity in second-hand shops and discusses harnessing clutter's creative potential. This work enhances our understanding of design's role in sustainable consumption.

**Keywords:** Store design; second-hand shopping; circular economy; visual clutter

## 1. Introduction

Up to 80% of shopping decisions are unplanned, making visual merchandising and store design significantly important (Abrahams, 1997; Ebster & Garaus, 2011). However, knowledge of these strategies in second-hand markets needs to be improved. Second-hand markets have grown tremendously in the past years (Kim & Woo, 2021) and reached the value of 96 billion US dollars in 2021 (Smith, 2023). Consumers desire new products (Van Nes, 2010), and instead of counteracting this, second-hand markets offer a solution where the products are not new to the world but new to the consumer. Hence, second-hand markets hold the potential to close and slow down consumption loops, which is essential in the circular economy (Bakker et al., 2019; MacArthur, 2013) and for counteracting the current *throwaway society* (Cooper, 2005).



This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International Licence.

While literature on store design and visual merchandising strategies primarily concerns first-cycle products (e.g., Ebster & Garaus, 2011), research has provided several ethnographic descriptions of second-hand contexts (e.g., Appelgren & Bohlin, 2015; Crewe & Gregson, 1998; Gregson et al., 2002; Gregson & Crewe, 2003; Herrmann & Soiffer, 1984; Herrmann, 2004). Studies of second-hand markets provide multiple insights on, e.g., purchase motivation and barriers (Cervellon et al., 2012; Frahm et al., 2023a; Guiot & Roux, 2010; Hur, 2020; Mugge et al., 2017; Roux & Guiot, 2008; Steward, 2020), product transformation (Frahm et al., 2023b; Gregson & Crewe, 2003; Herrmann, 1997; Parsons, 2005), online shopping experience (Swapana & Padmavathy, 2018), and location of second-hand markets (Crewe & Gregson, 1998; Gregson & Crewe, 1994; Gregson et al., 2002; Gregson & Crewe, 2003).

The typical perception of second-hand shops includes prejudices about dirty products, a foul smell, messy store designs (Bardhi, 2003; Bardhi & Arnould, 2005), and disorder (Ross, Bolton & Meloy, 2023). Some studies show this perception is decreasing (Mitchell & Montgomery, 2010), while others indicate consumers still reject second-hand shopping due to the shopping experiences even though matters of sustainability are increasingly motivating to them (Connell, 2010). Consumers get overwhelmed by the store designs in second-hand shops and avoid them due to clutter and a need for strategies to search for specific items (Frahm et al., 2023a; Gregson & Crewe, 2003).

For second-hand retailers, cluttered store environments arise as a consequence of having a large number of unique items on display. Since each item is typically sold at a low price with limited markup, store owners often resort to having a large volume of items on display to try to meet the long-tailed demands of the individual customer. The in-store result is usually a high visual variety, and many things are displayed within limited space, with a resulting sense of disorder, clutter, and visual complexity to the consumer. Dealing with clutter is thus of critical importance to second-hand retailers, and this study aims to investigate the store design strategies used in second-hand shops to handle clutter. Hence, to strengthen the knowledge of how to support and improve second-hand markets, we seek to answer the research question:

- What design strategies do professional second-hand retailers use to manage clutter in their store displays?

## **2. Theoretical background**

First, we present already defined spatialized premises in second-hand shops. This is followed by a literature review of two design strategies to handle in-store visual clutter: clutter reduction vs clutter reframing. Finally, these elements will be synthesized into a theoretical framework for the subsequent analysis.

## 2.1 Second-hand shops

To establish specific regimes, second-hand retailers attempt to spatialize certain shop premises (Nixon, 1996). Gregson & Crewe (2003) define four sets of spatialized premises in second-hand shops (Gregson & Crewe, 2003):

**Gallery-like shops:** In the minimalistic gallery-like spaces, products are presented as masterpieces to be admired. Window displays are used to draw attention. Light is used to create focus on individual products like glassware and ceramics. Art is hanging on the walls. Furniture is arranged to draw attention and takes a 'double role' as both products for sale and displays. Further, some product categories are provided with information like the designer, date, and price, as is known from auction catalogues. These shops look like a mix of galleries and private collections.

**Wardrobe-cum-attic:** Wardrobe-cum-attic types are crammed full attic-like shops encouraging one to touch the products. This kind of store design allows the customer to explore and rummage for great finds as a part of the shopping experience. Even though the products are as carefully curated as in the minimalistic gallery-like shops, this store design encourages customers to use their knowledge and expertise.

**Prop-box:** These are dedicated to a specific style or era (e.g., '70s fashion). Entering one of these shops feels like entering another world. The shopping premise is constituted through irony. The atmosphere encourages laughter, play, and amusement. Thus, these shops have similarities to a prop box or dressing room at a theatre. It celebrates 'trash', kitsch, and outrageous products.

**Conventional/standardized:** The conventional/standardized types mimic traditional retail. Products are organized by product category, colour, and size in a stock display. The shops are mapped out to create an accessible overview and standardized to make shopping easier for the consumer. The items for sale usually include core essential goods. Here, the premise is that second-hand shopping is conducted just as in first-cycle retail.

Each of these types of specialized second-hand premises attempts to deal with the issue of clutter in distinct ways. They apply different design strategies to foster specific visual interpretations of second-hand products.

Table 1 Store design strategies in second-hand stores (authors' interpretation (bottom row) of Gregson and Crewe, 2003 (top row)).

Gallery-like	Wardrobe-cum-attic	Prop-box	Standardized/ conventional
Products are seen as masterpieces.	Crammed full of products.	Dedicated to an era/style.	Mimicking conventional retail.
Focus on each product.	Encouraging treasure hunt.	Fun and ironic.	Shops are mapped out for an accessible overview.
See-no-touch atmosphere.	Consumers must use their expertise.	Dressing room atmosphere.	Products are sorted by category, color, or size.
Products are appreciated for their aesthetic, celebration of 'the authentic', and attempt to recontextualize and revalorize them.		Attempts to commercialize second-hand products.	

While the gallery-like and standardized/conventional types may aim to reduce clutter through store design strategies, the wardrobe-cum-attic and prop-box types instead focus on reframing cluttered environments into nonetheless relevant consumer shopping experiences.

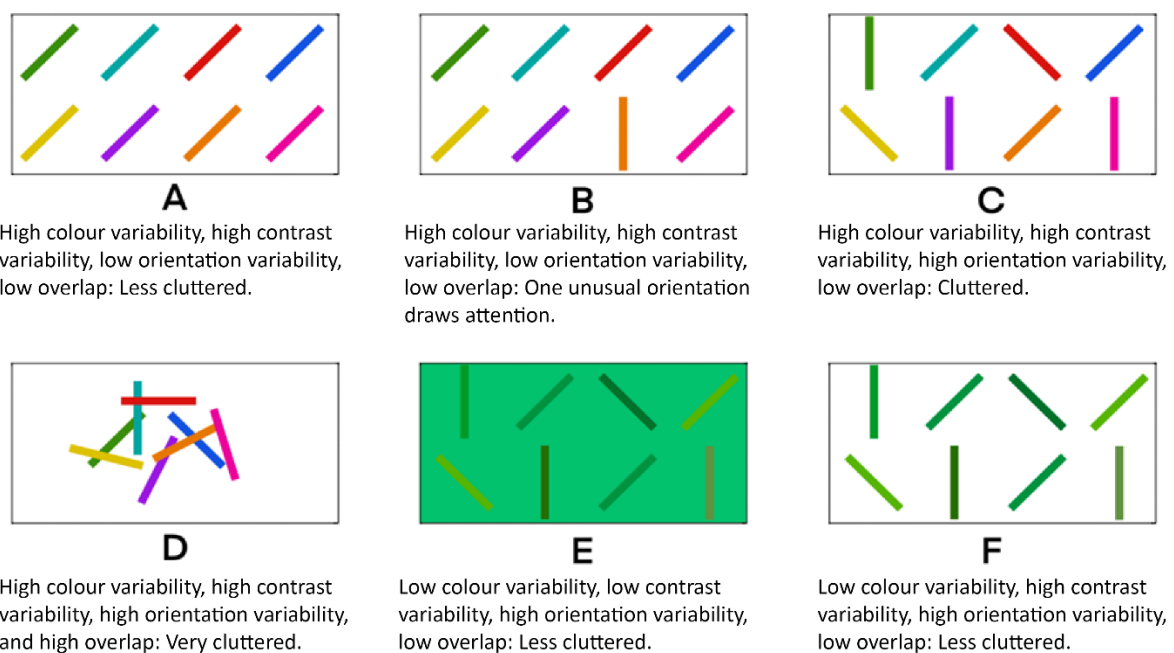
## 2.2 Design strategies for stuffing a thousand items into a tiny space

As discussed above, second-hand retailers may utilize a mix of store design strategies to handle the visual complexity and clutter in second-hand stores. In the following, we build on the design-, creativity-, and psychology literature to identify two distinct and opposing perspectives in handling clutter, respectively: how to reduce and reframe clutter.

## 2.3 Design to reduce clutter

A predominant strategy in design research is the strive towards simplicity. Bauhaus architect Mies van der Rohe famously said: "Less is more"; likewise, Kelly Johnson said: "Keep it simple, stupid" (Rich, 1995). Today, there is a dominant perception that striving for simplicity is crucial to achieving a 'good design' (Eytam et al., 2017; Karvonen, 2000; Maeda, 2006; Mollerup, 2006; Mollerup, 2015; Norman, 2013). While not as extreme, Paul Hekkert (2006) argues for reducing complexity and clutter with his MAYA principle (Most Advanced Yet Acceptable) (Hekkert, 2006). Also, in modern popular culture, we find the desire for simplicity, for example, in Netflix shows such as *Tidying Up with Marie Kondo* and *Sparkling Joy with Marie Kondo*. Here, Marie Kondo, an evangelist of decluttering, guides the viewer in strategies for tidying up one's home. Psychological studies also state that reducing unnecessary elements makes objects perceived as more beautiful and preferred (Christensen et al., 2020).

In the context of the design of second-hand shops, visual clutter can lead to consumers feeling overwhelmed and the shopping experience becoming unpleasant and avoided (Ebster & Garaus, 2011; Frahm et al., 2023a). Conversely, tidy environments are usually associated with positive perceptions of service, merchandise quality, and value (Ross, Bolton & Leloy, 2023; Baker, Parasuraman, Grewal & Voss, 2002). Rosenholz et al. (2007) define visual clutter as: "the state in which excess items, or their representation or organization, lead to a degradation of performance of some task" (Rosenholz et al., 2007). Hence, visual clutter is affected by parameters such as orientation, overlap, contrast to surroundings, and colour. These parameters can have a higher or lower variability, which creates different levels of clutter and makes it harder or easier to search for specific objects (Bravo & Farid, 2004; Rosenholtz et al., 2007; Wolfe et al., 2002), as shown in Figure 1.



*Figure 1 Different levels of visual clutter (built on Bravo and Farid, 2004; Rosenholz et al., 2007; Wolfe et al., 2002).*

As this illustrates, clutter does not arise due to a single parameter but rather the combination of several: the number of items displayed, disorganized object placement, object orientation variety, object dissimilarity to adjacent objects, colour variety among objects, low object to background contrast, partial or whole occlusion of objects, or some combination of these can increase the feeling of clutter.

Retailers aiming to reduce in-store clutter may thus apply a string of store design strategies, including curating items to display fewer, organizing items into well-known categories, sorting items by colour, streamlining object orientation, etc. The nature of second-hand retail (i.e., large quantities of unique items on display, limited possibility to replace sold items with similar ones, the labour costliness of single-item handling, etc.) makes clutter reduction necessary and challenging to second-hand store owners.

## 2.4 Design to reframe clutter

An alternative to clutter reduction is to reframe the shopping experience into a consumption scenario where clutter has value or meaning. Reframing problems is known from literature as a core design strategy to overcome obstacles or challenges (e.g., Dorst, 2015; Dorst & Cross, 2001; Haase & Laursen, 2018). Reframing in design involves reinterpretation and shifting of perspective (Dorst, 2015). That includes the process of co-evolution of problem and solution, which requires designers to shift between different perspectives, which can encompass changes in thinking (Dorst & Cross, 2001).

In a second-hand context, where clutter is hard to escape, this approach may leverage the positive aspects of clutter. This strategic approach to store design thus allows for relatively more significant amounts of in-store clutter and disorder by framing clutter in a way that can lead to positive consumer experiences. From a consumer perspective, reframing can also encompass consumer creativity (Moreau & Dahl, 2005). This might be done by purposefully concentrating items in minimal space, leading to object occlusion, and then inviting consumers to search through the objects manually. This type of display may engender a feeling of treasure hunting, as has been described in past research (e.g., Bardhi & Arnould, 2005; Guiot & Roux, 2010). By uncovering 'hidden treasures' through exploration, the consumer may get a positive experience from clutter.

Another type of clutter-reframing pertains to signal consumer creativity. Psychological research has shown a close connection between visual complexity and judgments of creativity, whether in consumer products (Christensen et al., 2015; O'Quinn & Besemer, 1989), artwork, or abstract visual figures (Christensen et al., 2020). Creative individuals have also been found to prefer complex stimuli (Eisenman & Rappaport, 1967; Ziv & Kedar, 2009).

Finally, disorderly environments encourage breaking with tradition and promote creative activity (Vohs, Redden, & Rahniel, 2013). There are thus several theoretical reasons to assume that in-store complexity, disorder, and clutter may be tied to consumer creativity. However, this has yet to be found in the literature. In a second-hand retail context, such consumer creativity may, for example, relate to the ability to engage in combinatorial creativity (purchasing several items that in combination lead to novel and valuable purchases to the consumer) or consumer-making processes (purchasing second-hand with the intent to repair, repurpose or otherwise remake the item for novel and valuable outcomes). Clutter may thus be theoretically tied to consumer creativity through the activity, such as the search for unique and novel items, through the ability to combine several items, or through remaking items after purchase. However, it is still being determined whether and to what extent second-hand retailers use such creative reframing strategies.

## 3. Theoretical framework

In summary, we explored second-hand retailers' store design strategies to handle clutter to enhance our understanding of store design's role in sustainable consumption (see Table 2).



Our research offers an overview of strategies for managing visual complexity in second-hand shops and discusses harnessing clutter's creative potential.

Table 2 Theoretical framework

	<b>Clutter-reducing strategies</b>	<b>Clutter-reframing strategies</b>
Anticipated strategy impact on the consumer	Seamless second-hand shopping experience.	Changing the perception of clutter in second-hand shopping.
Design theory and solution principles	<p>Reducing complexity, disorder, and clutter from a design by moving towards simplicity (Hekkert, 2006; Karvonen, 2000; Maeda, 2006; Mollerup, 2006; Mollerup, 2015; Norman, 2013):</p> <p>Reduce the number of products. Cluster products in meaningful categories. Sort products by colors. Reduce object occlusion in displays. Increase product contrast to the background. Streamline product orientation.</p>	<p>Reframing problems (Dorst, 2015; Haase &amp; Laursen, 2018; Laursen &amp; Barros, 2022); creative design as a process of co-evolution of problem and solution (Dorst &amp; Cross, 2001); consumer creativity (Moreau &amp; Dahl, 2005):</p> <p>Curating products from the same era/style to create a visual experience. Provide materials for upcycling or repair and encourage product combinations to reframe clutter beyond the shop to creative re-making. Purposefully creating cluttered displays to reframe the shopping experience to treasure hunting.</p>
Relation to spatialized premises of second-hand shops	Conventional/standardized and Gallery-like store design (Gregson & Crewe, 2003)	Wardrobe-cum-attic and Prop-box store design (Gregson & Crewe, 2003)

## 4. Methodology

This study was a non-linear process using systematic combining (Dubois & Gadde, 2002), meaning the literature search, data collection, and analysis of the empirical data informed one another. First, we conducted semi-structured interviews and observations, which were analyzed using the theoretical framework developed from the literature. Then, the analysis results were compared to the literature, which resulted in an overview of design strategies to address clutter in second-hand shops.

#### 4.1 Informants

This research investigates professional second-hand retailers (B2C) as we argue that these have the incentive to refine their sales strategies and, hence, store design. Cases of consumers selling their used goods (C2C) in consignment stores or flea markets are excluded. Further, as this study focuses on the design strategies of shops, we exclude cases of professional second-hand retailers who do not have a permanent brick-and-mortar store and only sell online, in pop-up shops, at markets, etc. The informants were selected based on expectations of the empirical content (Flyvbjerg, 2006; Flyvbjerg, 2020) and thus included store managers and volunteers/employees in public and private second-hand shops.

#### 4.2 Data collection

The data collection contained two methods: semi-structured interviews (Kvale & Brinkmann, 2015; Tanggaard & Brinkmann, 2020) with professional second-hand retailers and observations (Szulevicz, 2020) in brick-and-mortar second-hand shops (see Table 3).

Table 3 Collected data

Method	Informant type	Data type and processing
Interviews	Public shops: Charity shop (x2) (in total 137 mins), Second-hand shop at municipal recycling station (x2) (in total 194 mins), Private shops: Privately owned second-hand shop (x6) (in total 507 mins)	Audio recordings, transcriptions, field notes, photos
Observations	Public shops: Charity shop (x 13), second-hand shop at municipal recycling station (x 2), Private shops: privately owned second-hand shop (x 10)	Field notes, photos, sketches of floor plans with notes

Semi-structured interviews (n=10) were used to investigate the second-hand retailers' considerations and practices regarding the store design of their shops. Semi-structured interviews allow the interviewees to express their thoughts on the topic and support a free-flowing and explorative conversation. The interviews contained questions with two primary focus points: 1) How do second-hand retailers seek to reduce the clutter in their shops, and 2) how do second-hand retailers reframe the clutter in their shops to change the consumers' perception of it? The interviews also included questions about the routine and frequency of changing the designs of the displays.

The interviews were held in the respective second-hand shops, allowing the interviewer and interviewee to point out specific details in the shops. Photos were taken of the store details discussed for reference. All interviews were held in Denmark and conducted in the native language of both interviewer and interviewee. To ensure consistency, all interviews were

held by the same researcher. On average, the interviews lasted 84 mins and were audio-recorded and transcribed.

Alongside the interviews, the empirical data includes observational studies in 25 second-hand shops, including the ones used for interviews (see Figure 2). An observation guide (Szulewicz, 2020) was developed to collect data from observations based on the literature and insights from the interviews. While the interviews provided insights into the thoughts and motives of second-hand retailers, observational studies were used to investigate variations of the identified strategies further.

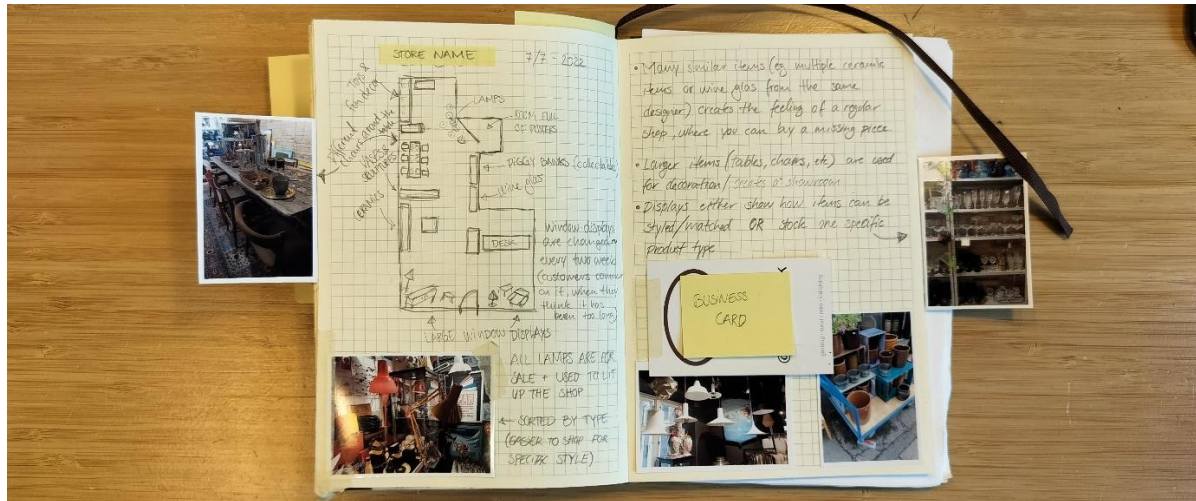


Figure 2 Example of field notes from observational studies.

### 4.3 Data analysis

The interviews were transcribed, and the data was analyzed using Affinity Diagramming (Hanington & Martin, 2019; Kolko, 2011). Fifty photos of store displays were printed and clustered with quotes from second-hand retailers. Based on the literature, the clusters were divided into two groups: the clutter-reducing display strategies and the clutter-reframing display strategies. Under these, seven sub-strategies were identified.

## 5. Results

In the following, we identify seven sub-strategies used in second-hand shops to handle clutter, which presumes different shopping modes or premises for the shopping experience.

### 5.1 Design strategies for reducing clutter

**Function-sorted products:** All second-hand shops observed have, to some extent, categorized their products by product categories. These have been more or less detailed; sometimes, the categories are 'dinnerware' and 'clothing', while in other shops, the categorization has been more fine-grained. Therefore, shoes are further divided in terms of size, and din-

nerware is divided into dessert plates, lunch plates, etc. (see Figure 3). Common is that second-hand retailers report that the categorization makes it easier for both employees/volunteers and customers to navigate:

"No doubt we place things in groups. It makes a difference and makes it easier to help customers find what they are looking for. I can tell them: 'There is a small group of vases around the corner and another group over there'. It makes it easier for me as well" – Informant #8

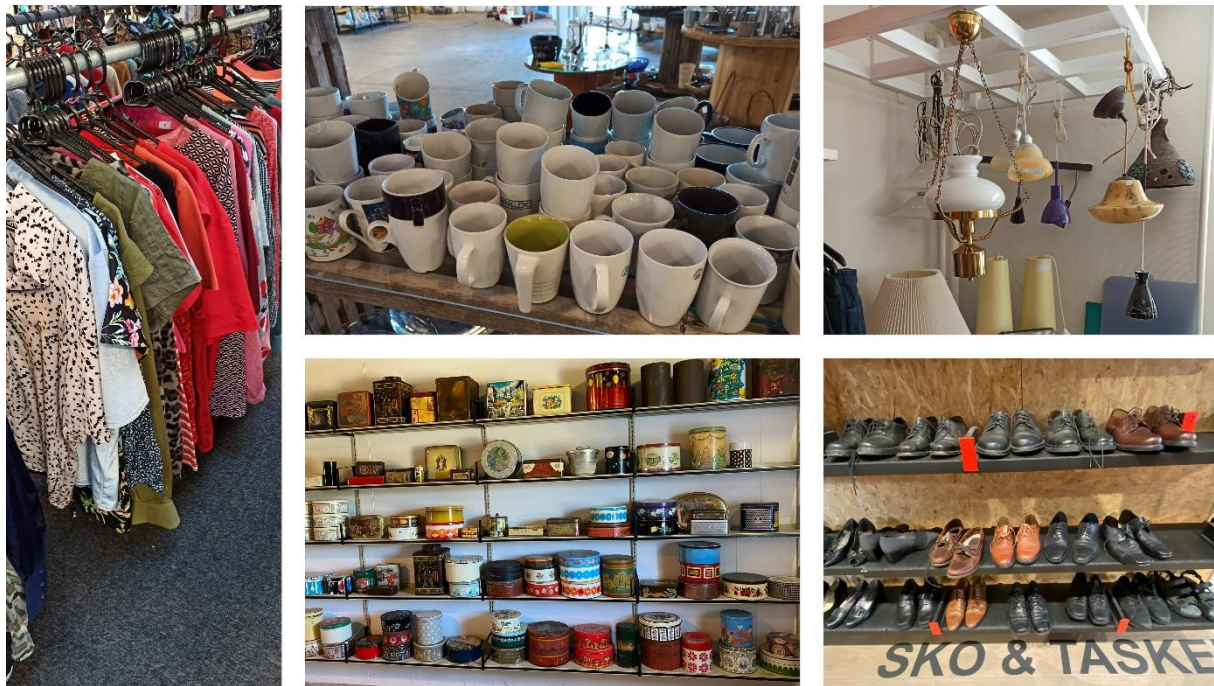


Figure 3 Function-sorted product. T-shirts (left), coffee cups (top centre), lamps (top right), cookie tins (bottom centre), and men's shoes (bottom right).

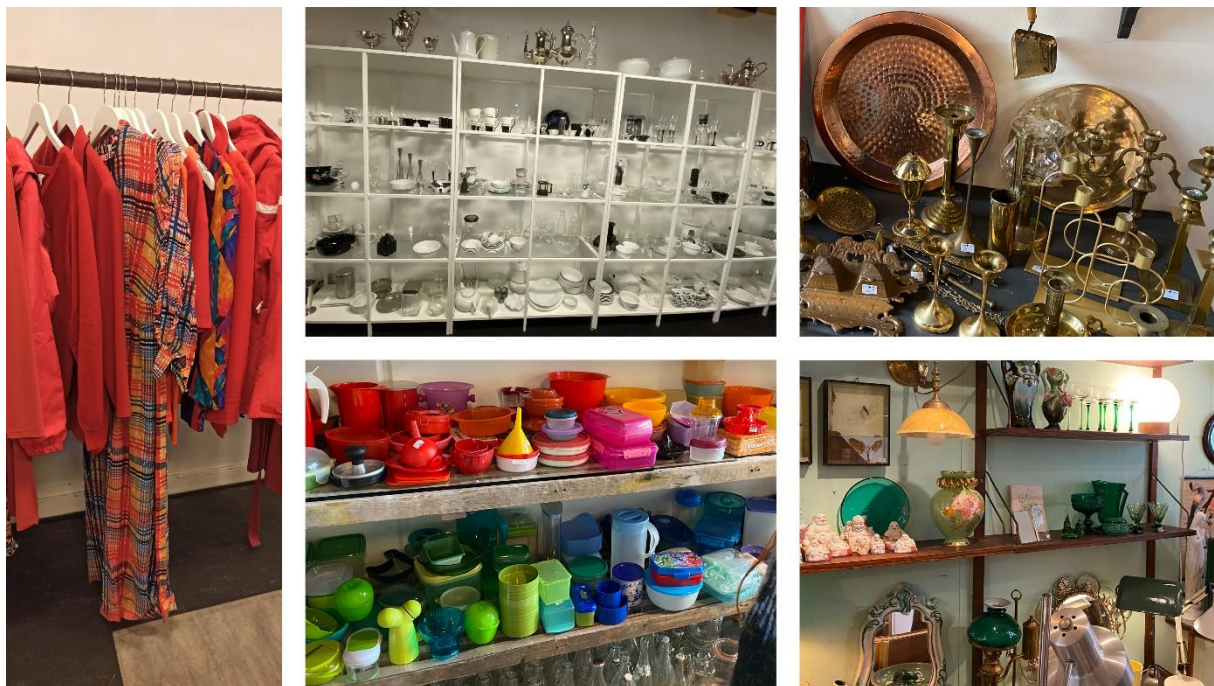
Categorizing products based on functionality can be less or more fine-grained. For instance, clothing can be divided based on gender and into tops and bottoms, which can be further divided into t-shirts, sweaters, pants, and skirts, which can be separated based on sizes or brands. There are multiple ways to do it; however, most second-hand shops that use function sorting only categorize their clothing into t-shirts, sweaters, etc. This makes the sorting and replenishing of goods more manageable for the employees but leaves more work for the customers, who will spend time searching for the correct size. Thus, consumers may experience this as clutter (as this is unusual compared to regular shops). Sorting, e.g., the t-shirts according to size, would require more work from the employees (also regarding maintaining this order throughout the day). However, it will create a shopping experience closer to what you would expect in a regular clothing store, which other studies (e.g., Frahm et al., 2023a) imply is needed to overcome some barriers to second-hand shopping.

Moreover, as shown in Figure 3, many displays have a high item density, leading to overlapping products (coffee cups, lamps, clothing, and cookie tins). This causes different levels of



clutter and makes it harder to identify specific items. However, one may argue that it is easier to get an overview of the clothing and cookie tins than an overview of the coffee cups and the lamps because no products are entirely hidden. All cookie tins and t-shirts are visible, even though you cannot see all parts of them.

**Color-sorted products:** In some places, this is an alternative strategy to the fine-grained product categorization, e.g., clothing sorted by colours instead of jeans/t-shirts/dresses, and plastic kitchenware sorted by colors instead of bottles/lunchboxes/bowls, etc. In other shops, colour sorting is only used at selected displays, while the rest of the shop is clustered in product categories, as exemplified in Figure 4.



*Figure 4 Color-sorted products. Red clothing (left), black/white kitchenware and table decoration (top centre), brass products (top right), plastic kitchenware (bottom centre), and green home decor (bottom right).*

Compared to function-sorting, color-sorting seems visually less cluttered due to the limited amount of color. Looking at the clothing in Figure 3 (t-shirts) and Figure 4 (red clothing): the variability in orientation and overlap is quite similar, but the white background in Figure 4 makes the clothing stand out clearer. The low colour variability in Figure 4 also makes it seem less cluttered. However, everything blurs together (except the dress with a checkered pattern, which differs in colour and length), making it harder to distinguish one product from another. Hence, the initial impression of a less cluttered clothing department comes with the expense of being harder to orientate and search for specific items as a customer.

**Collections:** The collections are distinguished from a product categorization, as the collections are more specific (e.g., 'brooches', not 'jewellery'). Further, the individual products differentiate from one another aesthetically, allowing customers to find their favourites. Independent of each other, several second-hand retailers emphasize the importance of these

collections to give customers a well-curated selection of products (see Figure 5). They explain how they can push trends by having these collections and displaying them all together.

“There is always one, which is the most beautiful. Like candy: there is always a favourite. When you eat it, there is a new favourite among the ones left. If we have three small products somewhere, they will never get sold, but if we have 14, we can sell them. People need to feel like they have a choice, but it needs to be manageable at the same time.” – Informant #8

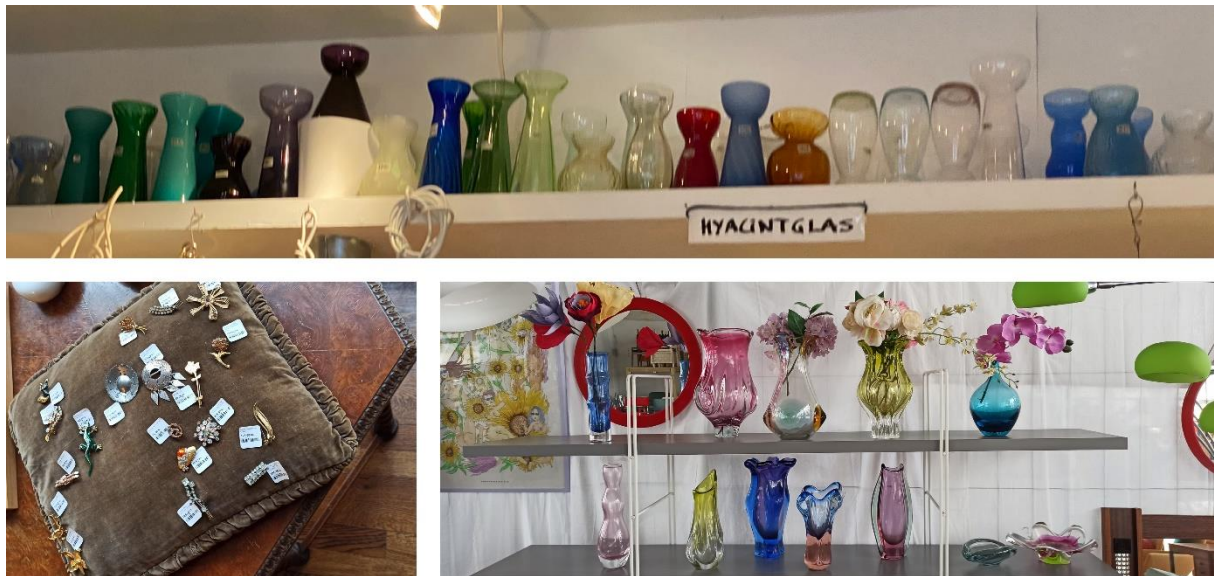


Figure 5 Collections. Hyacinth vases (top), brooches (bottom left), and Italian vases (bottom right).

Across different second-hand shops, the products within a collection are displayed side-by-side (no overlapping products) for an excellent overview. The number of products is limited and slightly colour-coordinated to avoid visual clutter. Especially the private second-hand retailers, whose shops are usually smaller than non-profit charity shops, report that they deliberately choose a few product categories to make collections of. Hence, they position themselves as 'the place to go for X' and avoid the clutter of storing only different products. They usually have more products for the collections in their back room but avoid having duplicates inside the shop. This signalizes rarity.

## 5.2 Design strategies for reframing clutter

**Encouraging treasure hunt:** According to the literature, dump displays signalize bargains (Ebster & Garaus, 2011). In second-hand markets, dump displays allow retailers to store several products in very little space (Figure 6). Some second-hand retailers strongly dislike these displays, as they do not do the products justice. However, other retailers carefully categorize products into dump displays as a part of the other store design. Besides storing several items in the same space, these dump displays encourage customers to rummage and use their expertise to find 'treasures'.





Figure 6 Dump-displays. Buttons (left), brass products (centre), bracelets, and watches (right).

**Reframe to DIY stores:** Some shops attempt to turn the perception of second-hand products into semi-finished products, and hence reframe the shops to DIY (do-it-yourself) stores. Figure 7 shows three attempts to encourage customers to turn second-hand products into a DIY project. The leftmost photo shows a sewing room inside a second-hand clothing store with free sewing supplies like thread, buttons, and zippers. The centre photo is taken in the same second-hand clothing store and shows free and straightforward guides on the most common clothing repairs to bring back home or use with the equipment in the store. The rightmost photo shows a sign saying: "Polish it yourself bargain", encouraging customers to buy the brass products as a cheap project.

"Our shop must also be used for other things (red. than shopping). Next Monday, for example, we will have a workshop for making earrings after closing hours, and we are also planning a knitting event and port-tasting" – Informant #4



Figure 7 Reframe to DIY store. Sewing room with free supplies (left), free upcycling and repair guides (centre), and a "Polish-it-yourself bargain" sign next to brass products (right).

These three photos exemplify varying customer assistance levels. The sewing room offers free equipment and guides but requires prior knowledge of using a sewing machine due to the lack of instructions and personnel (the shop was self-service). However, this enables creativity for knowledgeable individuals. Unlike the first two photos, the rightmost display does not provide a guide or the materials necessary for polishing. Hence, this requires much more customer expertise, who would need to source the correct polishing agent and cloth. Even

though non-profit organizations like the charity shop (in which the rightmost photo is taken) do not have a budget to purchase polishing crème to hand out for free, they could have cut some of their second-hand sheets into smaller pieces and sold them as a complete package with the brass products —furthermore, added a picture or name of what/where to buy polishing crème for brass. These changes would lower the entrance for customers with less knowledge of materials and maintenance.

**Self-mix products:** Figure 8 shows examples of second-hand shops encouraging consumers to participate in combinatorial creativity. The table with cocktail equipment (left) demonstrates how a set of equipment can be put together and encourages customers to combine their favourites. The rightmost table exemplifies table settings with multiple sets of dinnerware and glassware: *"It is quite hard to get people to use the table for prototyping. They are afraid of ruining my decoration"* – Informant #9.



Figure 8 Self-mix products. Different equipment for cocktail-making (left), table for prototyping your own set of dinnerware (right).

Second-hand shops often end up with the 'leftovers' of, e.g., larger sets of dinnerware; hence, to keep these products in use, one must combine different tableware to set a table for several people. Quite a few private second-hand retailers tell us it is crucial to show customers examples of how to style and combine the products (*"show it, don't tell it"*), as they lack the required imagination. Like 'the collections', these products are carefully curated, making it almost impossible for customers to mix sets that do not match, but the quantity of products is large enough to give customers a feeling of a free choice. Combining related products like the rightmost table may also decrease the perceived clutter, as the number of products seems logical. Setting the table for six people with more than one serving would require several plates and cutlery, but putting everything in the correct position (including flowers in the vases and candles in the candlesticks) decreases the clutter.



**Clutter as exhibition:** Figure 9 shows how a purposefully cluttered display of doll heads is installed to attract attention to doll heads as a product category of particular interest. The exhibition is not searchable (as in treasure hunting) but aims to attract attention to other singular doll heads at displays around the shop that may be purchased as home décor.



Figure 9 Clutter as an exhibition. Mannequin parts and doll heads.

As a second-hand retailer explains, it sometimes requires exaggeration to convince customers about the potential in a category of second-hand products (in this case, doll heads): *"You must be very persistent to start a trend. I have probably been a part of creating awareness of using old doll heads as sculptures. For example, style them with a beautiful vase."* – Informant #5.

## 6. Concluding discussion

This study contributes seven design strategies for handling clutter in second-hand shops. These strategies are divided into clutter-reducing and clutter-reframing strategies. The clutter-reducing strategies attempt to create a better overview of the products and cluster products in meaningful groups to ease the search for specific items. These strategies include function- and color-sorting of the products and displays of selected collections. Clutter-reframing strategies strive to change the perception of clutter and turn second-hand shopping into a consumer-creativity experience. Hence, the vast number of unique items is seen as a potential to use one's creativity, taking advantage of the positive aspects of clutter. These strategies include encouraging treasure hunting, reframing to a DIY store, self-mix-products displays, and clutter as exhibitions.

## 6.1 Overview of strategies

We have identified seven strategies for handling clutter in second-hand shops. Table 3 shows how these strategies are divided into clutter-reducing and clutter-reframing strategies.

Table 3 *Design strategies to handle clutter in second-hand shops.*

	Strategies	Short description
Clutter-reducing	Function-sorting products	Sorting products based on their function/use. It can be done with different levels of detail.
	Color-sorting products	Sorting overall product categories based on their color. E.g., clothing is divided into colours instead of specific clothing types.
	Collections	Showcasing highly curated products to provide customers with a manageable choice. Contains only one product type (e.g., hyacinth vases), within which no products are identical.
Clutter-reframing	Encouraging treasure hunt	Large quantities of products, often overlapping and in little space, force customers to rummage in search of products.
	Reframe to DIY store	Provide customers with information or materials to repair or upgrade second-hand products to emphasize that second-hand items are projects rather than finished products.
	Self-mix products	Displays showing several related items and different versions of the same product. Strongly curated products to ensure a successful experience of combinatorial creativity.
	Clutter as exhibition	Displaying several items of the same type exaggeratedly to draw attention to one product type, which is styled elsewhere in the shop.

## 6.2 Suggestions on implication in praxis

This research is valuable for second-hand retailers, as their knowledge about store designs and displays is often limited. Most second-hand retailers interviewed had no education or prior experience with retail or store display designs, hence relying on their ability to develop these competencies. This audience does not usually attend conferences or read scientific papers, so this knowledge must be distributed differently.

Looking at the distribution of design strategies among public shops (charity shops and second-hand shops at municipal recycling stations) vs private shops (privately owned second-hand shops), we find indications that clutter-reducing strategies dominate public shops. They seem less aware of how the store designs affect the shopping experience and express a lack of knowledge on how to improve it. They face challenges in implementing new design strategies, as multiple employees usually work different hours and with various competencies. This problem does not occur in private second-hand shops, as there are usually only 1-3 people. In public shops, especially charity shops, the design strategies were led by color-sorting, which serves as a simple way to have several volunteers restock the displays. However, this may complicate the shopping experience, as it becomes harder to search for specific items.

In the meantime, clutter-reframing strategies have mainly been observed in private shops. They are more conscious about how their store designs affect the shopping experience and changes in sales. Moreover, they use and experiment with different store design strategies and build an experience around what works in their shops, primary customers, and products. This could indicate that the clutter-reframing strategies are easier to implement if the products are strongly curated and not a large pile of incoherent donations.

For public second-hand shops, we suggest the store managers create concrete guidelines with illustrations to exemplify how to set up and restock displays in the desired manner to overcome the barriers of having several employees interact with the same store displays.

### *6.3 Limitations and further research*

This research has raised new questions about how consumers perceive the identified strategies, if some strategies are better suited for some product categories than others, and why second-hand retailers implement some strategies but not others. That, combined with our research, will provide a solid picture of how to design the displays of second-hand shops that accommodate the consumer and the retailer. Furthermore, consumers may differ in their preferences for clutter-reducing vs reframing strategies based on their personal differences and shopping intentions. Hence, research must investigate consumer types and shopping strategies within second-hand shops.

**Acknowledgements:** Thank you to all the second-hand retailers who took the time to let us interview them and show us their shops.

## **7. References**

- Abrahams, B. (1997). It's All in the Mind. *Marketing*, 27, 31-33. DOI: 10.12691/jbms-3-2-3
- Appelgren, S., & Bohlin, A. (2015). Growing in motion: The circulation of used things on second-hand markets. *Culture Unbound*, 7(1), 143-168. <https://doi.org/10.3384/cu.2000.1525.1571143>
- Baker, J., Parasuraman A., Grewal D. & Voss G.B. (2002), The Influence of Multiple Store Environment Cues on Perceived Merchandise Value and Patronage Intentions, *Journal of Marketing*, 66 (2), 120–41. <https://doi.org/10.1509/jmkg.66.2.120.18470>

- Bakker, C., Hollander, M. d., Hinte, E. v., & Zijlstra, Y. (2019). *Products that Last*. BIS Publishers. ISBN13: 9789063695224
- Bardhi, F. (2003). Thrill of the hunt: Thrift shopping for pleasure. *Advances in Consumer Research*, 30, 375-376.
- Bardhi, F. & Arnould E.J. (2005), Thrift Shopping: Combining Utilitarian Thrift and Hedonic Treat Benefits, *Journal of Consumer Behaviour*, 4 (4), 223–33. <https://doi.org/10.1002/cb.12>
- Bravo, M. J., & Farid, H. (2004). Search for a category target in clutter. *Perception*, 33(6), 643-652. <https://doi.org/10.1068/p5244>
- Cervellon, M., Carey, L., & Harms, T. (2012). Something old, something used: Determinants of women's purchase of vintage fashion vs second-hand fashion. *International Journal of Retail & Distribution Management*, 40(12), 956-974. <https://doi.org/10.1108/09590551211274946>
- Christensen, B. T., Ball, L. J. & Reber, R. (2020). Perceptual Fluency Effects in Judgments of Creativity and Beauty: Creative Objects are Perceived Fluently yet they are Visually Complex. *Journal of Cognitive Psychology*, 32 (1), 45-66. <https://doi.org/10.1080/20445911.2019.1689986>
- Christensen, B. T., Kristensen, T., & Reber, R. (2015). Contributions of perceived creativity and beauty to willingness-to-pay for design products. *International Journal of Design Creativity and Innovation*, vol 3(3-4), 164-176. <https://doi.org/10.1080/21650349.2014.981216>
- Connell, K.Y.H. (2010), Internal and External Barriers to Eco-Conscious Apparel Acquisition, *International Journal of Consumer Studies*, 34, 279–86. <https://doi.org/10.1111/j.1470-6431.2010.00865.x>
- Cooper, T. (2005). Slower consumption reflections on product life spans and the “throwaway society”. *Journal of Industrial Ecology*, 9(1-2), 51-67. <https://doi.org/10.1162/1088198054084671>
- Crewe, L., & Gregson, N. (1998). Tales of the unexpected: exploring car boot sales as marginal spaces of contemporary consumption. *Transactions of the Institute of British Geographers*, 23(1), 39-53. <https://doi.org/10.1111/j.0020-2754.1998.00039.x>
- Dorst, K. (2015). *Frame innovation: Create new thinking by design*. MIT press. ISBN: 9780262324311
- Dorst, K., & Cross, N. (2001). Creativity in the design process: co-evolution of problem–solution. *Design studies*, 22(5), 425-437. [https://doi.org/10.1016/S0142-694X\(01\)00009-6](https://doi.org/10.1016/S0142-694X(01)00009-6)
- Dubois, A., & Gadde, L. (2002). Systematic combining: an abductive approach to case research. *Journal of Business Research*, 55(7), 553-560. [https://doi.org/10.1016/S0148-2963\(00\)00195-8](https://doi.org/10.1016/S0148-2963(00)00195-8)
- Ebster, C., & Garaus, M. (2011). *Store Design and Visual Merchandising: Creating Store Space that Encourages Buying*. Business Expert Press.
- Eisenman, R., & Rappaport, J. (1967). Complexity preference and semantic differential ratings of complexity simplicity and symmetry-asymmetry. *Psychonomic Science*, 7, 147–148. <http://doi.org/10.3758/BF03328508>
- Eytam, E., Tractinsky, N. and Lowengart, O., 2017. The paradox of simplicity: Effects of role on the preference and choice of product visual simplicity level. *International Journal of Human-Computer Studies*, 105, pp.43-55. <https://doi.org/10.1016/j.ijhcs.2017.04.001>
- Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry*, 12(2), 219-245. <https://doi.org/10.1177/1077800405284363>
- Flyvbjerg, B. (2020). Fem Misforståelser om Casestudiet. [Five misunderstandings about the case study]. In S. Brinkmann, & L. Tanggaard (Eds.), *Kvalitative Metoder – En grundbog* (3<sup>rd</sup> ed., pp. 621-651). Hans Reitzels Forlag.
- Frahm, L.B., Laursen, L.N. and Boks, C., (2023a). Smells Like Grandparents: Consumers' Barriers and Motivations to Second-hand Shopping. In *PLATE-Product Lifetime And The Environment*.

- Frahm, L.B., Laursen, L.N. and Tollestrup, C., (2023b). Everyone does it: Product-related Resell Strategies of Professional Second-hand Retailers. In *PLATE-Product Lifetime And The Environment*.
- Gregson, N., & Crewe, L. (1994). Beyond the high street and the mall: car boot fairs and the new geographies of consumption in the 1990s. *Area*, 261-267. <https://www.jstor.org/stable/20003456>
- Gregson, N., & Crewe, L. (2003). Second-hand cultures. <https://doi.org/10.2752/9781847888853>
- Gregson, N., Crewe, L., & Brooks, K. (2002). Shopping, space, and practice. *Environment and Planning D: Society and Space*, 20(5), 597-617. <https://doi.org/10.1068/d270t>
- Guiot, D., & Roux, D. (2010). A Second-hand Shoppers' Motivation Scale: Antecedents, Consequences, and Implications for Retailers. *Journal of Retailing*, 86(4), 383-399. <https://doi.org/10.1016/j.jretai.2010.08.002>
- Haase, L. M., & Laursen, L. N. (2018). Reasoning in the fuzzy front end of innovation: framing the product DNA. *International Journal of Innovation Management*, 22(05), 1840001. <https://doi.org/10.1142/S1363919618400017>
- Hanington, B., & Martin, B. (2019). *Universal methods of design: 125 ways to research complex problems, develop innovative ideas, and design effective solutions* (Expanded and revised edition. Ed.). Rockport Publishers.
- Hekkert, P. (2006). Design aesthetics: principles of pleasure in design. *Psychology science*, 48(2), 157-172.
- Herrmann, G. M. (1997). Gift or commodity: What changes hands in the US garage sale? *American Ethnologist*, 24(4), 910-930. <https://doi.org/10.1525/ae.1997.24.4.910>
- Herrmann, G. M. (2004). Haggling spoken here: Gender, class, and style in US garage sale bargaining. *Journal of Popular Culture*, 38(1), 55. <https://doi.org/10.1111/j.0022-3840.2004.00100.x>
- Herrmann, G. M., & Soiffer, S. M. (1984). For fun and profit: An analysis of the American garage sale. *Urban Life*, 12(4), 397-421. <https://doi.org/10.1177/089124168401200402>
- Hur, E. (2020). Rebirth fashion: Secondhand clothing consumption values and perceived risks. *Journal of Cleaner Production*, 273, 122951. <https://doi.org/10.1016/j.jclepro.2020.122951>
- Karvonen, K., 2000. The beauty of simplicity. In: *Proceedings of the ACM Conference on Universal Ease of Use (CUU 2000)*, November 16–17, 2000. Washington, D.C <https://doi.org/10.1145/355460.355478>
- Kim, S., & Woo, H. (2021). Big data analysis of trends in the second-hand apparel market: a comparison between 2014 and 2019. *Research Journal of Textile and Apparel*, 26(2), 138-155. <http://doi.org/10.1108/RJTA-12-2020-0139>
- Kolko, J. (2011). *Exposing the Magic of Design: A Practitioner's Guide to the Methods and Theory of Synthesis*. Oxford University Press. <http://doi.org/10.1093/acprof:oso/9780199744336.001.0001>
- Kvale, S., & Brinkmann, S. (2015). *Interview—det kvalitative forskningsinterview som håndværk [Interview – the qualitative research interview as a craft]* (3<sup>rd</sup> ed.). Hans Reitzels Forlag.
- Laursen, L. N., & Barros, M. (2022). Timely and timeless framing of the new MINI Cooper. *Design Studies*, 82, 101123. <https://doi.org/10.1016/j.destud.2022.101123>
- MacArthur, E. (2013). Towards the circular economy. *Journal of Industrial Ecology*, 2(1), 23-44.
- Maeda, J., 2006. *The laws of simplicity*. MIT press.
- Mitchell, M., & Montgomery, R. (2010). An examination of thrift store shoppers. *The Marketing Management Journal*, 20(2), 94-107.
- Mollerup, P., 2006. Simplicity. *Des. Res. Q.* 2 (1), 7–15.
- Mollerup, P., 2015. *Simplicity: A Matter of Design*. BIS Publishers, Amsterdam, The Netherlands.

- Moreau, C. P., & Dahl, D. W. (2005). Designing the solution: The impact of constraints on consumers' creativity. *Journal of Consumer research*, 32(1), 13-22. <https://doi.org/10.1086/429597>
- Mugge, R., Safari, I., & Balkenende, R. (2017). Is there a market for refurbished toothbrushes? An exploratory study on consumers' acceptance of refurbishment for different product categories. *PLATE: Product Lifetimes and the Environment*, 293-297. <https://doi.org/10.3233/978-1-61499-820-4-293>
- Nixon, S. (1996). *Hard Looks: Masculinities, Spectatorship and Contemporary Consumption*. Palgrave Macmillan US. <http://doi.org/10.1007/978-1-349-61442-4>
- Norman, D., 2013. *The design of everyday things: Revised and expanded edition*. Basic books.
- O'Quin, K., & Besemer, S. (1989). The development, reliability, and validity of the revised creative product semantic scale. *Creativity Research Journal*, 2, 267-278. <https://doi.org/10.1080/10400418909534323>
- Elizabeth Parsons (2005), *Dealing in Secondhand Goods: Creating Meaning and Value*, in E - European Advances in Consumer Research Volume 7, eds. Karin M. Ekstrom and Helene Brembeck, Goteborg, Sweden: Association for Consumer Research, Pages: 189-194.
- Rosenholtz, R., Li, Y., & Nakano, L. (2007). Measuring visual clutter. *Journal of Vision*, 7(2), 17. <https://doi.org/10.1167/7.2.17>
- Ross, G. R., Bolton, L. E., & Meloy, M. G. (2023). Disorder in secondhand retail spaces: The countervailing forces of hidden treasure and risk. *Journal of Retailing*, 99(1), 136-148. <https://doi.org/10.1016/j.jretai.2022.12.002>
- Roux, D., & Guiot, D. (2008). Measuring second-hand shopping motives, antecedents and consequences. *Recherche Et Applications En Marketing (English Edition)*, 23(4), 63-91. <https://doi.org/10.1177/205157070802300404>
- Smith, P. (2023, Secondhand apparel market worldwide 2021-2027. Statista. Retrieved Feb 9, 2024, from <https://www.statista.com/statistics/826162/apparel-resale-market-value-worldwide/>
- Steward, S. (2020). What does that shirt mean to you? Thrift-store consumption as cultural capital. *Journal of Consumer Culture*, 20(4), 457-477. <https://doi.org/10.1177/1469540517745707>
- Swapana, M., & Padmavathy, C. (2018). Effect of online second-hand shopping experience on repurchase intention: Evidence from Indian shoppers. *International Journal of Asian Business and Information Management (IJABIM)*, 9(4), 36-47. <https://doi.org/10.4018/IJABIM.2018100103>
- Szulewicz, T. (2020). Deltagerobservation. [Participatory observation] In S. Brinkmann, & L. Tanggaard (Eds.), *Kvalitative Metoder - En grundbog* (3rd ed., pp. 97-115). Hans Reitzels Forlag.
- Tanggaard, L., & Brinkmann, S. (2020). Interviewet: samtale som forskningsmetode. [The interview: conversation as a research method]. In S. Brinkmann, & L. Tanggaard (Eds.), *Kvalitative Metoder - En grundbog* (3rd ed., pp. 33-63). Hans Reitzels Forlag.
- Van Nes, N. (2010). In Cooper T. (Ed.), *Longer Lasting Products*. Routledge. <http://doi.org/10.4324/9781315592930>
- Vohs, K.D., Redden J.P. & Rahinel R. (2013), Physical Order Produces Healthy Choices, Generosity, Conventionality, Whereas Disorder Produces Creativity, *Psychological Science*, 24 (9), 1860-7.
- Wolfe, J. M., Oliva, A., Horowitz, T. S., Butcher, S. J., & Bompas, A. (2002). Segmentation of objects from backgrounds in visual search tasks. *Vision Research*, 42(28), 2985-3004. [https://doi.org/10.1016/S0042-6989\(02\)00388-7](https://doi.org/10.1016/S0042-6989(02)00388-7)
- Ziv, N., & Keydar, E. (2009). The relationship between creative potential, aesthetic response to music, and musical preferences. *Creativity Research Journal*, 21, 125-133. <https://doi.org/10.1080/10400410802633764>

About the Authors:

**Lea Becker Frahm** is a Ph.D.-fellow at AAU Design Lab, Aalborg University. Her research interests are second-hand consumption, its sales strategies, design properties, consumers' attitudes, motivations, and barriers to purchasing pre-used.

**Linda Nhu Laursen** is Head of Research at the AAU Design Lab and Associate Professor at the Faculty of Industrial Design Engineering at Aalborg University. Her main research interests are design, circularity, and innovation.

**Bo T. Christensen** is a Professor of Design Research at Copenhagen Business School. His main research area concerns the study of creativity in domains such as design, marketing, engineering, cuisine, architecture, and software design.