

**Conceptualizing 'Consumer Repair Consideration' Trough Behavioural Theories**

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## Abstract

Ambitions of governments to scale up the repair sector are necessary for the development of a circular economy and to mitigate environmental degradation. However, literature on consumers' repair behaviour is scarce and often lacks holistic depth. Therefore, this study aimed to map current issues in the repair landscape by identifying consumers' repair motivators and barriers. It furthermore aimed to develop a conceptual model on consumers' repair considerations. We conducted 8 semi-structured interviews, designed with an extensive behavioural framework, and conducted a qualitative thematic analysis. Our findings revealed that attitudes and perceived behavioural control are the most influential in participants' repair decision. Participants indicated an increase in affordability and practicality is essential to encourage repair. Furthermore, an increase in environmental awareness may strengthen moral intentions but due to the impracticability of the repair system, its effect may be limited. In addition, product characteristics, like quality and remaining life-time, were found to impact consumers' repair decision significantly. This suggests that policy interventions that contribute to the development of an efficient repair ecosystem may be optimal as a primary strategy to scale up repair in society.

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## Introduction

The transition to a circular economy (CE) has become an urgent policy priority in response to accelerating climate change, resource depletion, and biodiversity loss. For example, global material use is projected to double by 2060 (OECD, 2018), while the availability of certain key raw materials, such as lithium and cobalt, essential for the green energy transition and technologies, is already under pressure (Rutten, 2024). Additionally, about 60% of global greenhouse gas (GHG) emissions are associated with the production of just three materials: steel, cement, and plastic (OECD, 2025) while a WMO 2025 report already forecasts a 70 percent change that the average warming for 2025-2029 will be more than 1.5 degrees Celsius compared to 1850-1900 levels (WMO, 2025).

Within Potting et al.'s (2017) 9R framework, the repair strategy occupies a pivotal position because it preserves both material resources and product functionality earlier in the life-cycle than recycling or recovery. Successful normalisation of repair could therefore curb global material demand and help reduce the greenhouse-gas emissions that arise from carbon-intensive goods.

Recognizing this potential, the European Union has prioritized repair within its policy frameworks. The European Green Deal, the EU's overarching strategy for sustainable growth, sets a target for all member states to transition to a fully circular economy by 2050 (European Parliament, 2021). In 2023, the EU proposed a Right to Repair directive to ensure consumers have access to affordable, accessible repair options. This directive, adopted in 2024, mandates that products be specifically designed for durability and reparability, and that manufacturers provide repair information and spare parts (European Parliament, 2022). In line with these developments, the Netherlands has released their most up to date Nationaal Programma

Circulaire Economie 2023–2030 (NPCE) to accelerate its transition to circularity. This national program emphasizes strengthening the repair sector as a key strategy (Travaille, 2023). Yet regulatory ambition alone cannot guarantee behavioural change. To succeed, the Dutch government is investing in strategies to normalize repair and make it the easier, cheaper, and more logical option (Travaille, 2023).

However, the literature on repair behaviour is scarce and often fragmented, treating single determinants (e.g. environmental values) in isolation and leaving the mechanisms of the repair decision poorly specified. A clear ambition of the government to promote repair behaviour therefore asks for a comprehensive understanding of the drivers and barriers involved in the decision making process of consumers weighing repair against replacement. This study addressed that gap by giving a holistic account of the repair decision process, to clarify how economic, practical, psychological, and social factors converge. It seeks to do this by exploring consumer perspectives through behavioural models to examine the motivations and inhibitions that govern consumer repair behaviour. It integrates elements from three well-established behavioural theories: the Theory of Planned Behaviour (TPB), Fogg's behavioural model, and the Value-Belief-Norm (VBN) theory. In addition, this paper extends these theories with Van den Berge's replacement behaviour model focussed on the product's role in replacement behaviour. These theories combined create this study's behavioural framework, so the research captures both rational cost–benefit appraisals and the moral drivers of environmentally relevant action.

Within that framework, the thesis pursues two objectives. First, it identifies the principal drivers and barriers that influence whether consumers choose to repair, focusing on economic costs, practical constraints, product characteristics, and normative factors. Second, it develops an explanatory model that shows how these variables interact to shape the repair–versus-replacement decision. Overall, these objectives attempt to provide an answer to the

research question of what motivates consumers to repair their products instead of disposing of them.

## Literature review

This chapter presents a comprehensive review of the theoretical and empirical literature relevant to understanding consumer decisions related to product repair and replacement. Each theory aids the study's understanding of (environmental) repair behaviour from a different perspective.

We start from the understanding that repair motivation is primarily related to “the product, the individual, and the individual's relationship to the products” (Svensson-Hoglund et. al., 2022 p. 1336). For example, Van den Berge (2024) emphasised in her ‘product replacement behaviour model’ that for repair, motivation is primarily based on the different types of values assigned to the product. According to her, a trade-off is made by consumers between the perceived worth of the malfunctioning product and the gained value plus the costs of a new product (Van den Berge, 2024). She suggests that the perceived value of a product is estimated by adding specific values (e.g. functional, emotional, social and epistemic value). For example, a feeling of attachment or irreplaceability may raise the emotional value of a malfunctioning product, making it more worth to repair, while additional features may raise the epistemic value in a new product (Ackermann, 2021; Terzioglu, 2021; van den Berge, 2024). Ultimately, Van den Berge (2024) suggests that this trade-off made internally by the consumer determines retention or replacement behaviour. In addition, she proposes that the perceived value of a product can decrease or increase over time depending on situational factors. For example, products perceived as at the end of their life-cycle may get repaired less, as Ackermann (2021) and Terzioglu (2021) found that products perceived as modular, long-lasting, or aesthetically pleasing are more likely to be repaired than those viewed as disposable or outdated (i.e. low quality, old features and out of style).

Other characteristics of the product have also been found to influence the repair decision. For example, consumers tend to repair high value-per-weight products (i.e. cars & laptops) (May et al, 2025), and products which are upgradeable (Terzioglu; 2021; and Van den Berge, 2024). Literature suggests that products that are seen as indispensable are ultimately perceived as more worthy to repair. Product design is therefore considered crucial to make repair socio-culturally desirable (Svensson-Hoglund et. al., 2022).

In addition to specific characteristics of the product, a feeling of ability or being able to repair is also overwhelmingly identified in literature as an important factor. The Theory of Planned Behaviour (TPB) and Fogg's (2009) behavioural theory highlight this role of perceived ability in the creation of intention (Ajzen, 1991; Fogg's, 2009).

For example, the TPB posits that behavioural intention is the most immediate predictor of action and is shaped by three constructs: attitude toward the behaviour, subjective norms, and perceived behavioural control (Ajzen, 1991). Attitude, as explained by behavioural psychology, is a person's positive or negative evaluation of a behaviour (Klöckner et al., 2013). Within the context of repair behaviour, a person could e.g. feel responsible for the environment, but if repairing a product is unnecessarily difficult, a negative association for the behaviour may develop which may ultimately influence intention. The subjective norm (SN), on the other hand, is a predominant custom in the person's social environment and dictates if a person experiences social and/or external pressures to sustain from or adhere to a certain behaviour. Lastly, perceived behavioural control signifies the amount of control one feels in performing a specific behaviour and is determined by constraining or enabling properties (Nadro et al, 2024). In other words, it refers to a person's confidence in their ability to execute a specific behaviour, which is influenced by available resources and opportunities (Ajzen, 1991). Ultimately, like van den Berge's (2024) replacement model, TPB starts from an idea that individuals determine their behaviours along rational cost-benefit estimations (Steg et al.,

2014). If there is no pre-established positive attitude in consumers, the subjective norm does not support repair behaviour or contextual factors do not provide the means for behaviour, intentions may be inhibited. For example, in the repair context, the subjective norm may obstruct repair intentions. Existing findings indicate that current Western societal standards and economic practices discourage repair behaviour (Lefebvre, 2019; McCollough, 2009; Terzioglu, 2021). In addition, attitudes have been found to impact repair intentions and mediate financial factors, environmental concerns and past repair experiences (May et al, 2025; Nadro et al, 2024; Svensson-Hoglund, 2022). Perceived behavioural control has also been suggested to significantly lack in consumers as they report issues in availability, affordability, reliability of repair services. Furthermore, they report a lack in information, knowledge and skills to support them in their repair decision (Ackermann, 2021; Svensson-Hoglund, 2022; Van den Berge, 2024). Consequently, studies show that repair services are perceived as inconvenient and consumers' attitudes are overall negative (Nadro et al., 2024; Svensson Høglund, 2022; Terzioglu, 2021). Fogg's (2009) behavioural model additionally explains how these issues may pose a problem for repair scale up. His model posits that sufficient ability (e.g., time, money, knowledge), a timely trigger (e.g. advertisements) and an encouraging environment (e.g. culture), are crucial for behaviour to occur, regardless of motivation.

In addition, these two models help to explain why favourable attitudes and intentions do not always lead to repair behaviour if contextual barriers are consistent, a phenomenon known as the intention-behaviour gap (Klöckner, 2013). Repair, as a behaviour that requires planning, resources, and sometimes third-party services, is especially vulnerable to such disconnects. Fogg's model and TPBs emphasis on simplicity and perceived behavioural control is therefore in line with the needs of consumers who are experiencing difficulties in repair.

While TPB and Fogg's behavioural model provide a strong foundation for understanding intention formation and perform well empirically, its explanatory power declines when behaviour is infrequent or emotionally complex (Steg et al., 2014), as is often the case in one-off repair scenarios. Stern's Value-Belief-Norm theory of environmentalism (VBN) aims to cover the role of people's personal morals and altruistic intentions in explaining environmental relevant behaviours (Stern, 2000). According to VBN, specific value orientations, such as self-transcendence (i.e. universalism, benevolence) and self-enhancing values (power, hedonism and achievement), make the formation of environmental beliefs possible. The model measures these environmental beliefs in New Environmental Paradigm (NEP) which is described as believing that "human activity endangers the natural equilibrium, that resources are limited, and that humans are not allowed to dominate nature." (Klöckner, 2013, p. 1030). The model continues that NEP is translated in to personal norms, which give the individual a sense of moral obligation to act in an environmentally friendly way (Schwartz, 1977; Stern, 2000). Values and environmental beliefs are therefore suggested to determine the strength of personal norms, and, consequently, the likelihood of engaging in environmental behaviours like repair (Stern, 2000). Furthermore, personal norms are indicated to have a direct effect on environmental behaviour and intention (Steg et al., 2014). Furthermore, individuals with self-transcendence values, such as altruism and biospheric concern, may be more likely to act in environmentally responsible ways (Svensson-Hoglund, 2022; Travaille, 2023). However, literature on the effect of normative beliefs on repair motivation is mixed. Environmental knowledge and desire to act sustainably are considered a main driver for repair by many sources (Fachbach et al., 2022; Kianpour et al., 2017; Laitala et al., 2021; May et al., 2025; Parajuly et al., 2023; Terzioğlu, 2021) and have been successfully shown to influence repair intention (May et al., 2025). However, other findings indicate an insignificant and unnecessary contribution from moral factors, therefore

suggesting that moral factors may not be a pre-requisite for repair behaviour to exist (Nadro et al, 2024).

In light of these findings, we adopt a theoretical framework which describes behaviour as a complex phenomenon influenced by practical, attitudinal, social and moral factors. Our next step of this thesis is to explore how these factors work together to form inhibitions or motivators for repair behaviour, for which the next chapter will describe its methods.

## Methods

This chapter will serve as a general outline for the method used to achieve the research objectives. It will follow the following sections: research design, sampling, data collection, ethics and analysis.

### Research design

To answer the research question, a mono-method phenomenological approach is adopted in an abductive manner. Phenomenological infers the investigation of a phenomenon by interpreting participants' lived experiences (van Manen, 2021). Abductive means using a combination of inductive and deductive methods to infer the most likely explanation for an observation. The data is gathered through semi-structured interviews with open-ended questions. We primarily aimed at understanding the motivations and barriers for repair behaviour by asking specific questions, and secondly, to explore the influence of specific social-psychological variables on intention.

An interpretivist research philosophy is adopted. A qualitative approach is considered to capture deeper, more detailed and multi-dimensional perspectives. This method is chosen for this study due to the complex nature of current repair considerations as many factors play a role. A thematic analysis is conducted to discover common themes in barriers and motivations and connecting them to behavioural variables. The literature review was used as a theoretical framework for identifying relevant variables.

### Sampling

The participants include eight cisgender men and women from the municipality of Amsterdam. There were no other inclusion criteria other than age and residency in Amsterdam. Age ranges between 18 and 25 years old with a mean of 22.6 (SD= 1.94). Half

of the subjects identified as women. Five of the participants are still studying and three of them are already working. All participants were either fluent in English or Dutch. Participants were recruited via friend circles of the researcher and were self-selected. No compensation was offered and participation was voluntary.

### **Data Collection and Interview Design**

The interviews were face-to-face and took approximately thirty to forty five minutes. To ensure that all participants started from the same premise, interviews began with an educational introduction defining circular economy, relating it to repair behaviour, to control for any pre-existing gaps in knowledge. An explanation of the research aims and questions followed. The interviews consisted of eight open-ended questions with 5 of them including one or more sub-questions. Before data collection two pilot interviews were done, resulting in minor amendments to the interview guide. The final interview guide had two parts: deductive and inductive. The deductive part served to answer specific questions about behavioural variables: “To what extent does [variable] influence your decision?”, and “What would make [variable] stronger”. The variables were put in to simpler words or described to the participants (i.e. personal norm was described as ‘a feeling of moral obligation’) (See Appendix). Participants were asked about perceived behavioural control, social norm, attitude, personal norm and values. The dependent variable was the decision to repair (i.e. intention). The inductive part consisted out of two thought experiments exploring personal experiences with the repair process. The first explored factors guiding replacement while the second explored factors guiding the repair decision. Follow up questions provided more insights. Both the deductive and inductive part served to answer the primary research question.

## **Ethics and Quality**

All ethical protocols were followed in accordance with the University of Groningen's guidelines for human-subject research. Ethical concerns were considered at all times during every interview. Participants were first given information about the study, followed by asking them to sign an informed consent form. Full transparency about the research process was given including the reason for the study. Permission of the participant to be recorded during the interview followed. Integrity was upheld as no interviews were done before all these steps were completed and the consent form was signed. Furthermore, confidentiality of the participants' data was protected at all times.

## **Analysis**

Thematic data analysis was done by analysing interview transcripts made with Otter.io following the six steps developed by Braun and Clarke (2006), including familiarization with the data, initial coding, generating initial themes for the codes, reviewing and refining themes, defining and naming them and lastly producing the report. The primary software used for the analysis and coding was Microsoft OneNote. In detail, the analysis process went as follows. The researcher summarized all transcripts and made notes of every response. Initial common themes were detected after which the researcher began coding under inductive code names. Every quote had a potential comment. After coding three transcripts, initial themes were generated. The researcher highlighted every quote with a distinct colour signifying participants and noted variables mentioned as influencers by participants. Initial themes focussed on categorizing different reasons for replacement and retainment. Next, themes were refined to capture valuable and clear patterns apparent from the data. Codes were then grouped under the refined themes to offer proof. Finally, themes were described and named. Therefore, a systematic approach has been conducted, analysing the data multiple times to capture clear and important insights which describe the current existing experience of

consumers in the repair process. The coding of the analysis had an abductive nature. In essence, two sets of analysis were done: A primary analysis where motivations and barriers were identified in a inductive manner and a secondary analysis where these motivational factors were grouped under the question's socio-psychological variable if applicable. The analyses took a semantic approach describing answers rather than interpreting them, to ensure that the study results accurately depict participants' motivational factors for repair. By doing this, clear connections between motivational factors and behavioural variables could be identified.

## Results

### Cost and Benefit Factors

#### *Price*

Participants reported that financial factors (e.g. cost of repair and financial benefits) are the main barrier for them to choose repair. For example, one participant emphasised, “...*the biggest incentive stays money*” (P1), while another echoed, “*cost would be, yeah, the number one priority*” (P4). In addition, participants overwhelmingly reported financial considerations being the first thing they think about when deciding to repair: “*what went through my head was: ‘how much does it cost to repair? How much does it cost to buy a new one?’*” (P5).

These immediate cost benefit estimations following break-down were described to be “*between the price of repair and the price of a new one*” (P8). Repair considerations and intentions may therefore be primarily economically driven. Consequently, participants reported that a higher availability of affordable repair services would motivate them to repair. P1 mentioned, “*more cheaper repair shops*”, and P8 mentioned if “*it would not be so crazy expensive*” (P8). Thereafter, it was overwhelmingly emphasised by participants how expensive current repair services were perceived. For example, one participant explained “*it was, like, insanely expensive to repair it*” (P5), while another noted, “*it is already very quickly expensive*” (P8). It even went as far as most participants reporting that they perceived replacement options as relatively the same price or even cheaper than repair. For example: “*so often it's cheaper to buy something new than to repair something*” (P3).

Consequently, participants reported that “*repair has to be significantly cheaper than replacement*” (P7) for them to consider it: “*if repair would be so expensive, that a new phone would be 100 more. I would go for a new phone*” (P8). Limits such as 20% of the cost of a new product were reported as acceptable, while a 50% threshold was generally viewed as too high.

### ***Product Value***

Participants further elaborated on the role of product characteristics on their repair decision, and indicated that products with a higher initial purchasing price motivated repair because of the high price of a similar new product: “*I repaired it because a new laptop of the same calibre would be stupid expensive, like over 1000 euros*” (P7). In contrast, participants mentioned that cheap products created the opposite effect and demotivated repair because a replacement model would be relatively inexpensive: “*if it doesn't cost that much to buy a new one then I am just going to buy a new one.*” (P5).

In addition to direct financial considerations, participants' willingness to repair was therefore also shaped by how they evaluated the product itself—its quality, remaining lifespan, and emotional or functional value. For example, participants reported higher trustability in reliable and high-quality products, which made repair more worth it. Participant 4 explained:

*“I knew I was going to be using it for quite a long time.[...] if I don't know how long it's going to hold out still then I'm just not going to bother”* (P4).

Similarly, products which generally still functioned well according to the participant, were also perceived as worthwhile to repair: “*because the phone itself was still functioning perfect I thought, when that is fixed. [...] Nothing else is wrong with it*” (P8).

Furthermore, participants reported that products which fill expectations and provide an enjoyable experience further motivated repair: *“I still wanted to use my own product [...] I just wanted it to be a little bit better”* (P4), and, *“I like these ones. I wanted to keep them”* (P2). This might be because of emotional attachment to the product. For example, one participant reported that their emotional attachment to a product made them override practical considerations: *“I don't like my new phone because it's way bigger than my current phone, so I'm still using my current phone, even though it's really old and slow”* (P6).

In contrast, participants reported product characteristics that potentially led to limited lifetime-expectancy demotivated repair. For example, products which were dependent on updates from the provider were reported by participants as more unlikely to be repaired. In addition, participants mentioned products which they had poorly maintained and which they now perceived as ‘beyond repair’ were generally also not repaired:

*“I think that would have been very hard to convince me not to switch to a new one. The screen was falling off. Was like having bugs all the time. It just wasn't working properly. It hadn't been for months, but it just kept extending it”* (P2).

Consequently, participants overwhelmingly stated that they justified their replacement behaviour because of old age of their products and the drop in performance that is associated with it: *“I had my previous one for about five years. It was getting really slow, so I kind of justified that to be the time for a new phone”* (P1).

### ***Certainty***

Overall, participants therefore indicated that they were concerned about paying for repair services that could end in them losing money. For example, participants reported concerns on receiving “lousy quality” (P6) repair returns, and products that would malfunction again soon after repair: *“you have to pay a lot of money and then it could still*

*malfunction after a while” (P8). Participant 2 echoed this sentiment: “you don't have the certainty when you repair something that it'll work as it used to or that it has the same lifespan as it used to have. For me it's a big thing. You need some sort of certainty that you can still use it for a long time after repair” (P2).*

Therefore, participants reported having significantly higher confidence in new products: *“The new product gives you some kind of promise that it will work” (P1), and, “you are sure to know that the new one stays good for a long time” (P8).*

### **Other**

Interesting to note, participants emphasised that if they were already intending on purchasing a specific newer model, it demotivated them to consider repair as an option. For example, one participant mentioned, *“if I had thought about wanting to buy a new laptop prior to it breaking, I would be way more likely to buy a new laptop instead of having it repaired” (P7).*

### **Convenience and Functionality**

All participants overwhelmingly reported that barriers and enablers of convenience and functionality of the repair process influenced their perceived behavioural control and attitudes of repair. For example, one participant explained, *“If the practicality would increase, it would make my opinion even more positive” (P6), while another echoed, “Something that would positively impact my attitude on repairs would be the direct opposite of effort” (P7).*

Importantly, every participant additionally reported that attitudes and perceived behavioural control had a large impact on their motivations and intentions for repair. For example, two participants reflected on perceived behavioural control, *“I think it's a major*

*influence. If something is easy to repair, then I will always repair it*” (P6), and, *“I think that is one of the main factor for me, besides the price”* (P5). While for example one participant explained about attitude’s influence on the repair decision: *“I think a lot. If you think of yourself ‘oh this is good, this is fun, this is handy’ you would more quickly take action to actually do it”* (P8).

### ***Effort & Time***

Contrary to this, participants reported that they perceive the repair process as timely, difficult and inconvenient to complete. For example, one participant explained, *“It’s just not convenient to repair”* (P3). They overwhelmingly specified that the time and effort necessary for looking up relevant information for the repair decision (e.g. cost estimations, suitable close by services and logistic options) decreased perceived functionality which demotivated repair: *“if you don’t have the energy to look where you should replace your phone, the more energy it takes, the less likely you’re gonna do it”* (P5). In addition, the time and effort necessary to deliver and pick-up the item for repair further decreased perceived functionality: *“Can I bring it somewhere close by, or can it be picked up at my home, so I don’t have to go to another city? I’m very busy”* (P3). Similarly, participants reported long waiting times before products were ready to pick up, which significantly effected the perceived convenience of the process: *“you have to wait for it to be ready, which especially if it’s a weekend can take quite a couple of days”* (P4). This posed an especially significant issue for products which are used every day (e.g. smart devices), which several participants reported obstructed their intentions for repair because they need them to function. For example, one participant highlighted, *“the biggest problem was that I really need my computer [...] I had the option to either get a new laptop or repair, which honestly wouldn’t have been too much work. I just wanted a fast and easy solution”* (P1).

Therefore, participants reported experiencing issues because of a lack of functional repair infrastructure (e.g. pick-up services) which made repair more difficult, and decreased its perceived functionality. For example, one participant explained, “*they couldn't pick it up at my house, so they had to go through a middleman to get it repaired*”(P3), to illustrate why her repair process took so much time.

### ***Knowledge & Support***

Importantly, every participant reported that they lacked general knowledge on where they should repair their products, specifically for products perceived as uncommon to repair (e.g. products other than phones and laptops like vacuum cleaners, water kettles and furniture). For example, one participant mentioned, “*I know there's 20 billion shops around where you can drop your phone [but] I'm not aware of places where I could get a chairs leg fixed*” (P7). Participants therefore acknowledged that they lack essential knowledge to consider repair as an option. However, participants mentioned that if they would receive more information on where they could repair their products, it may increase their perceived behavioural control. For example, one participant explained, “*there isn't a lot of advertisement or general knowledge about repair [...] It's easier to go for an option if you already know about it*” (P2). An other participant echoed this by mentioning, “*How more information you have, the easier you make the decision. This was further extended by participants who suggested that a review system of repair services would further aid perceived control,:* “*if it has like, 4.5 stars, you are way more likely to get it repaired*” (P5).

Important to note, the majority of participant mentioned that a good customer service may relief barriers for convenience and increase perceived behavioural control. For example, participants mentioned that if they would be informed beforehand about the costs, reason of malfunction, longevity and other useful information about the repair, it would increase

convenience and their perceived behavioural control because it provides them support in their decision for repair. For example, three participants mentioned:

*“first of all a good support department [...] they immediately gave me all the information I needed”* (P3), *“Better service. They can give like a professional opinion [...] so you know what your options are”* (P2), and, *“more information, like how much are the costs and is it doable [...] so much % is the battery improved and this is the time it will stay good”* (P8).

Interesting to note, one participant reported how a well-functioning customer service may instil the formation of repeated behaviour :*“they have such good repair service. [...] after that I just really did it every time because of the convenience”* (P3). This suggests that a good customer support department for repair services which guide the consumer through the process may create positive experiences, which may instil habitual behaviour.

Similarly, participants reported that if they would be guided in to and through the repair process, it would further increase the perceived practicality of the process. For example, two participants shared:

*“something on the product like a link [...] and, know, I should repair it here”* (P5), and, *“They gave me, like, a track and trace so I could see where in which stage of the process my laptop was”* (P3).

### ***System Intentions***

Finally, participants reported that companies and systems which increased functionality of the repair process raised their positive attitudes because it indicated to them that the system is designed for repair. For example, one participant gave the example that *“standardized systems for electronic building, like tools, screws and screwdrivers, readily available so that it's easier to repair”* (P7) would give them the intention that repair was

intended. In contrast, participants reported that corporations which promoted unsustainable economical practices, (e.g. where “*they make it as hard as possible for consumers or people not affiliated with the company to repair their products*” (P7)) decreased their attitudes and perceived behavioural control. For example, one participant mentioned how a difficult experience in claiming their warranty lowered their convenience, and shared, “[*Company X*] *made it very hard for me to get my money for the repair*” (P3).

Overall, in contrast to the repair option, participants reported that they perceive replacement services as easy fast and convenient: “*it is very easy to just look on the internet where you could buy a new one [...] It is just easier to replace*” (P8). This gives participants a lot of reason to choose the logical option of replacement, which is expected to save energy and time, as well as provide certainty of a well-functioning product as discussed in theme one.

### **Social Factors**

The majority of participants reported that they did not experience a social norm for repair at home, in friend circles and in the broader culture. For example, one participant highlighted, “*I think there's cultures around the world where that is expected. But I don't think it's the case here*” (P7). These participants reported that because of this, they did not feel an effect on their intentions to repair. For example, one participant explained, “*for me, not that much. I think, especially in my personal life, I don't feel that pressure*” (P4). Importantly, every participant mentioned that an increase of a social norm around them would result in stronger intentions for repair. For example, two participant shared:

“*if they're all repairing, yeah, of course, it's easier to make the decision as well because you won't be like ridiculed*” (P2), and, “*if I did feel like there was a moral obligation,*

*and people were reinforcing that to each other, then I think it would play a decent role in me repairing my stuff” (P7).*

Perceived behavioural control was another variable mentioned by several participants to increase if a social norm for repair behaviour would exist. For example, one participant shared, *“if more people around me would do it, I would also think ‘okey yeah, it is doable”* (P8). This may be because an increase in behaviour of people in society confirms to the consumer that it is possible to conveniently repair.

Participants additionally shared that specific norms in their friend circles determined how and how much they thought about repair. For example, one participant shared how their social circles contributed to their repair behaviour: *“Ever since I went to Rietveld I started thinking about circular economies [...] I met people that find anything they could still use”* (P6); while another emphasised that their friends contributed to them perceiving repair as unimportant: *“I don't think that's part of what people are worried about. Not in my circles anyways”* (P7).

Finally, participants described how attitudes, personal norms and social norms may be interlinked. For example, every participant mentioned that an increase of a social norm around them would increase their awareness of the repair concept. For example, one participant explained *“you think about it more [...] it just comes up again”* (P4). In addition, participants reported that they perceive familiarity with repair during childhood as a determinant for the specific attitude and personal norms people have later in life. For example, one participant emphasised, *“my parents repair everything and then they've taught me how important it is. Now I find it a waste to buy new stuff. [...] they will judge me, and that does influence my decision”* (P3).

Therefore, participants report that the social norm surrounding repair has significant effect on how they view the practice.

### **Moral Variables and Factors**

The influence of personal norms on repair intentions seems to be very dependent on the strength of participants' expressed attitudes and values. For example, participants who reported to hold weaker attitudes and values for repair, reported a lower influence from personal norms: *"I would say moderately, I mean, not too much, but I do think about it"* (P5); while participants with strong self-reported attitudes and values reported a large influence from personal norms: *"A lot. [...] I think it's very important for me personally"* (P3). Two participants in particular reported to have stronger biospheric and altruistic values than the rest. For example, they described themselves as: *"taking care of the planet, not taking everything for granted, [...] leave a small impact"* (P6), and *"I'm the one that's pays most attention to repairing things."* (P3). These participants with strong self-reported attitudes and values for repair additionally reported to feel stronger negative emotions when they failed to abide to their personal norms: *"if I fail to repair something, I feel kind of shitty about having to buy a new thing"* (P6), and, *"if I have a product that can be repaired and I know that that will have a better environmental impact, I feel morally obliged to repair it, [...] if I don't, and I choose the convenient way to replace it, I'll feel guilty about it"* (P3).

In contrast, participants with weaker moral values reported that although they recognized repair as the "better" option when prompted to think about it (e.g., *"morally, I should repair it. I know that"* (P2), and, *"I do think it is better to repair but I don't do it"* (P8)) the topic of repair was not a salient or prominent concern in their everyday routines. These participants reported to *"hear very little about repair"* (P8), that they do not *"have any strong*

*feelings about repairing*” (P7) and that “*most of the times, [they are] not even thinking about it*” (P5).

These conflicting statements point to the presence of a latent or passive awareness: values and preferences supportive of repair exist at a background level, but do not translate into active consideration or behaviour. For example, one participant explained, “*I have those values but as I said, not well enough to make an impact*” (P2).

Importantly, all participants reported that if the negative consequences of overconsumption and the benefits of repair “*would be promoted more in the media*” (P8), for example, “*in videos on Tiktok or Instagram*” (P5), “*documentaries*” (P3), news outlets (P6), or in “*scientific research*” (P7), it would activate a feeling of moral obligation in them to repair. One participant reflected for example, “*you otherwise don't really realize what you are doing*” (P8). Participant 4 echoed the sentiment: “*here in the Netherlands you don't often see that waste*”.

Aside from personal norms, participants additionally reported that an increase in exposure to confrontational information would impact their attitudes and values. For example, one participant explained, “*now that I have seen those things, [...] I am maybe more conscious about it, and the next time I might repair it instead, and I might look at the issue more from the perspective of my values*” (P4).

Interesting to note, participants emphasised that exposure to confronting information has to be on-going to be effective because they would otherwise “*lose the personal connection to it*” (P3). As participant 3 explained, “*for a couple years, I didn't buy any fast fashion. And after four years I lost the motivation*” (P3).

Contrary to these findings, participants overwhelmingly highlighted how contextual barriers still posed a large obstruction for their moral motivations. One participant noted for

example, *“I do care. But I care even more about the convenience and, like, my energy and my time”* (P5). To reemphasise, repair-related attitudes and norms may therefore be better described as *underlying* or *dormant*: *“[they are] buried, because of the convenience of all the other things that are around [them]”* (P3).

Consequently, participants emphasised a “limit” of inconvenience that, when overridden, made repair unworthwhile. For example, one participant explained, *“like it is [important], but there's like a limit to how important that is for me to where, if it takes too much effort, then I'm not gonna do it”* (P5). Similarly, several participants mentioned that they simply lacked the ability to repair because they *“don't have the time and money”* (P1).

Even participants with strong values reported that in many cases they were unable to follow through on their moral intentions. For example, one of the strong-valued participants noted, *“Sometimes I glitch, and then I buy something new”* (P6), while another noted, *“people in general, including me, often do kind of choose the personal win, and you have to train yourself not to and see it as a learning opportunity to do it the next time”* (P3). They explained that in situations where it becomes too practical or illogical to choose for repair, even for them, they are *“forced to buy something new”* (P6). Specifically in contexts where situational factors, such as time constraints, increase the inconvenience of the repair process: *“I just didn't have the time”* (P3). Ultimately, for this group it may therefore also be the case that contextual barriers are significantly obstructing their moral motivations for repair behaviour.

### **Contextual Interventions**

In line with this thinking, participants were asked which category of intervention strategy they perceived as more effective to promote repair behaviour. They were given the

option between context-based intervention, aimed at making the repair process more accessible (e.g. improving convenience and practicality), or value-based interventions (e.g. focused on promoting information, norms and raising awareness). Overall, all participants shared the perception that context-based interventions had a significantly greater impact on their intentions. Their main reasons for this was that context-based strategies had a more immediate and tangible impact on their behaviour. In contrast, value-based interventions were generally not favoured because participants either viewed public awareness campaigns negatively: “*shove environmentalist stuff in people's throats*” (P2); considered a radical shift in values too difficult and ambitious to be effective: “*my values would have to shift, like, pretty drastically to actually make an impact for me*” (P5); or felt that they already had enough awareness: “for me, it's more about the practicality of it and not anymore about the values” (P6).

## Discussion

The findings of this study highlight several key implications for the current repair landscape.

### **Certainty Determines Price Acceptability**

First of all, this study indicates that the cost is perceived as the number one barrier for repair. In addition, it found that financial factors occupy the first thoughts of consumers when facing malfunction. These findings align with prior research describing the key role of repair costs in the creation of repair intentions (Nadro et al., 2024, May et al, 2025). They furthermore connect to TPB, as participants indicated how their attitudes and perceived behavioural control were influenced by repair costs (Ajzen, 1991). Furthermore, Van den Berge's (2024) theoretical model on replacement behaviour was supported by the findings as cost was demonstrated to be a significant part of the trade-off estimation consumers make when deciding to repair.

Ultimately, participants described repair services as too expensive and unreliable compared to buying new. They reported that new products guarantee durability, while repaired products were perceived to malfunction or lack quality. This suggests that consumers may lack confidence in current repair services and perceive them as unreliable, therefore making repair not worth high investments. For example, if a consumer has to pay a relatively similar price for their laptop screen repair as for a new product, and experience a risk of receiving a low-quality repair return, they may much rather opt for replacement. This perception reflects broader consumer behaviour principles: when the outcome of a purchase is uncertain, consumers are less willing to spend money, particularly on services without guarantees (cf. Kahneman & Tversky, 1979; McCollough, 2009).

These results indicate that repair is therefore only considered acceptable when it is significantly cheaper than replacement. According to our findings around 80 percent cheaper,

which aligns with previous research showing that American consumers were only willing to pay around 20% of the original product price for repair (McCollough, 2007; Svensson Høglund, 2022).

Based on this, we identify two possible solutions. The first option is to improve the repair landscape to reduce the risk of low quality repairs and increase a certainty for consumers. This would involve developing a more robust repair ecosystem, including a standardization of tools and spare parts, modular product designs for easy disassembly and regulated service quality, as proposed by existing literature (Ackermann, 2021; Svensson Høglund, 2022; Terzioğlu, 2021; Van den Berge, 2024). Consequently, when consumers can feel confident that their repaired products will last long, they may be more motivated to pay higher prices.

Second, is to lower the price of repair. We suggest that if the price of repair is lower, it mitigates the risk of losing money. If, for example, you paid relatively little for a repair, the disappointment and frustration when facing reoccurring problems may be manageable for consumers. However, we argue that building a functional repair landscape is preferable, because, aside from being more economically viable, negative experiences from low-quality repairs may hinder the formation of habits and positive attitudes, which is shown by prior research of Svensson Høglund et. al. (2022).

### **High-Quality Norms Promote Repair**

Aside from certainty of quality repairs and long life-time expectancy, our findings indicate that specific characteristics of the product further motivate repair. For example, participants indicated that expensive and enjoyed products incentivized repair because of higher replacement costs or potential feelings of attachment to the products. In contrast, low-quality products, often cheap and short-lived, were indicated to motivate replacement.

Consequently, participants indicated to be in a “low-quality consumption cycle” where low-quality products were replaced with other low-quality products at the first sign of malfunction. Examples of these products were vacuum cleaners and electronic water kettles which were cheaply bought and replaced with similar low-quality products. Therefore we suggest that norms of low-quality product consumption undermine long-term product stewardship. These findings align with prior research arguing for intervention strategies in the design sector (e.g., such as designing items that are repairable, upgradeable, and durable) and viewed as essential for making repair socio-culturally favourable (Ackermann, 2021; Van den Berge, 2024; Terzioğlu, 2021). These findings also align heavily with Van den Berge’s (2024) replacement model which posits that an increase in the perceived value of a product motivates consumers to repair.

Ultimately, these findings indicate that consumers may perceive high-quality products as items to hold on to while lower-quality products may be perceived as disposable. As a strategy, this study therefore supports interventions which encourage the consumption of high-quality products. When fast and reliable repair services are additionally available, these strategies may ensure that consumers see repair as the most logical option. Regulatory efforts focussed on making the consumption of high-quality products the norm (e.g. durability and quality standards) may therefore be a step in the right direction to motivate consumers to repair.

### **Product Care Norms Promote Repair**

Similar to the last point, product maintenance practices of participants also appeared to be weak or entirely absent. Several participants described neglecting maintenance to the point where products became non-functional and were then perceived as “beyond repair.” In many

cases, replacement was indicated to be justified simply because products were considered too old or used up.

These findings indicate that current consumption norms of product care may contribute to a cycle: consumers purchase products, use them without maintaining them, and then replace them when wear-and-tear accumulates. This cycle may reinforce the perception that repair is not a viable or worthwhile option, particularly when the product appears degraded through neglect. As discussed earlier, participants were more likely to repair products they perceived as having a long remaining lifespan and which were generally still working well. This study indicated that products that are not maintained well therefore give the impression over time that they are not worthwhile to repair.

These findings point to the importance of shifting societal norms toward product care and long-term use. By normalizing behaviours such as maintenance and preventive care, it may be possible to shift consumer attitudes toward products as assets to hold on to rather than items to discard. This change in mindset could, in turn, increase perceived repairability and prolong product lifespans. Policy efforts that promote maintenance practices, in addition to previously discussed design strategy interventions, may therefore help to promote life-time extension of products.

### **Availability May Create Social Norm**

The findings further indicate that, for most consumers, repair is not an active topic in everyday life. Participants commonly reported that they were unaware of where or whether they could repair many of their products—especially items outside the familiar categories of phones and laptops. This suggests that perceived behavioural control is low for the majority of product types, which is likely to suppress consumers' repair intentions, as suggested by TPB (Ajzen, 1991).

Low perceived ability for less common product categories may result from limited availability of repair services as a consequence of economic infeasibility. For example, a lack of existing repair infrastructure and an ecosystem for repair may make the repair of furniture too costly because of logistical challenges. Therefore, an establishment of a social norm for repair may be obstructed because of a limited availability of viable services to promote behaviour.

Our findings therefore suggest that efforts to cultivate social norms around repair must be supported by investments in infrastructure and service accessibility.

In addition to low availability of services, other practical barriers of time and effort were identified by participants and were indicated to significantly obstruct repair intentions. The findings indicate that consumers perceive the repair system as impractical and highlight the importance of perceived behavioural control to encourage behaviour. Consumers may need to easily and effectively repair their products for them to be motivated. Without a supporting infrastructure, repair becomes inconvenient, inefficient, or economically unviable, further obstructing the creation of a social norm. This aligns with Fogg's (2009) behavioural model and TBP, which suggest that individuals require a feeling of ability to change behaviour (Ajzen, 1991). It additionally aligns with prior research on consumer perspectives suggesting the existence of an impractical repair system and its negative impact on consumers' repair intentions (Nadro et al., 2024; Svensson Høglund, 2022).

Contrary to current gaps in functionality, participants indicated that convenience and practicality may improve through the provision of relevant information (e.g. reviews, price breakdowns and information on the longevity of the repair) and a good functioning customer service. This suggests that investments of practitioners and policymakers in the provision of useful information and support before and during the repair process may motivate consumers to repair. Furthermore, our findings indicate that improving wait times inconveniences, for

example by regulating temporary lease item options for during repair as suggested by Svensson Høglund (2022), may motivate consumers to repair, especially for products that are used frequently. Lastly, promotions on social media or in advertisements were reported by participants to help raise perceived behavioural control because they would get reminded and informed where and how they can repair their products. This suggests that visible promotion campaigns and continuous advertisement strategies may contribute to starting repair considerations in consumers. This is also in line with Fogg's (2009) claim on the important role of triggers to motivate behaviour change.

Overall, these findings highlight potential implementable solutions for practitioners and policymakers to increase convenience and practicality of the repair process. Until availability, accessibility, and reliability improve, both perceived behavioural control and the social norm for repair are likely to remain underdeveloped.

### **Values and Social Norm Determine Threshold for Inconvenience**

In addition to ability, our findings suggest that moral motivations play an important role in repair behaviour. Participants who prioritized self-transcendence values (e.g. such as environmental protection or social responsibility) reported stronger personal norms and, in turn, stronger intentions to repair. This supports the central assumption of the Value-Belief-Norm (VBN) theory (Stern et al., 1999), in which values activate beliefs that lead to moral norms and pro-environmental behaviours.

Several participants indicated that acting against these personal norms would evoke negative emotions such as guilt, which they sought to avoid: "I feel morally obliged to repair it, and if I don't [...] I'll feel guilty about it" (P3). By contrast, participants who emphasized self-enhancement values (e.g. convenience, money, time) were less tolerant of inconvenience and more likely to justify replacement. For example, one participant remarked, "if it takes too

much effort, then I'm not gonna do it. [...] I care about my time [...] I care about money” (P5).

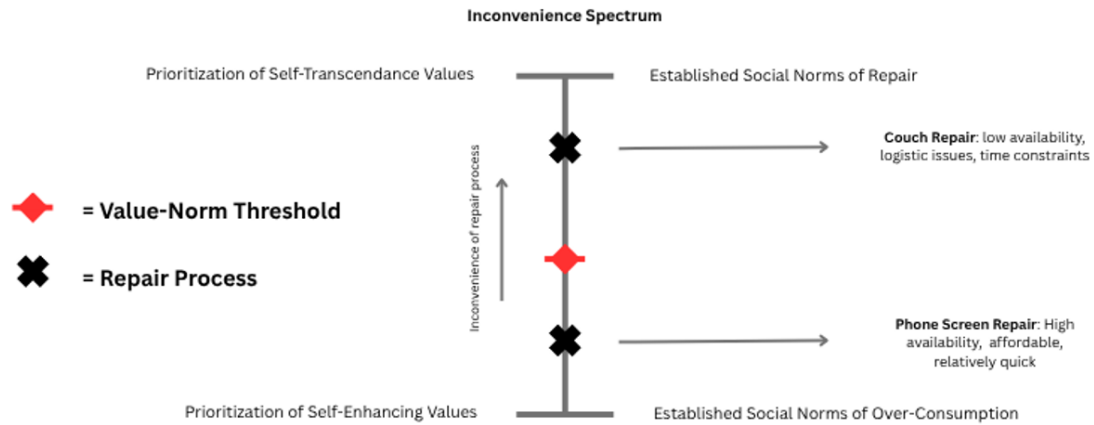
Based on these insights, this study proposes a conceptual model—the Value-Norm Threshold (VNT)—to describe how value orientations influence one’s tolerance for inconvenience during the repair process (see fig. 1). We define the VNT as the point at which a consumer's value system no longer justifies the inconvenience of repair. When the perceived inconvenience of repair (e.g., time, cost, uncertainty) exceeds this threshold, the individual is likely to abandon repair intentions and opt for replacement instead. Conversely, if inconvenience remains below this threshold, the individual is more likely to act in accordance with their personal and social norms.

As illustrated in the figure, consumers who score high in self-transcendence tend to have higher thresholds for inconvenience, allowing them to follow through on repair intentions despite practical or financial barriers. Those who prioritize self-enhancing values are more likely to opt for replacement unless the repair is highly convenient (e.g., phone screen repairs with relatively low cost and high availability).

This model builds on the VBN framework by suggesting that value orientations not only activate norms, but also determine the extent to which individuals are willing to endure inconvenience to act on those norms. The VNT concept also aligns with existing theories of cognitive dissonance (Festinger, 1957) and values-as-truisms (Maio & Olson, 1998), suggesting that people are motivated to act consistently with their values but only up to the point where practical barriers overwhelm that motivation.

## **Figure 1**

*Conceptual Framework for the Value-Norm Threshold*



*Note.* This is a conceptual model of the Value-Norm Threshold (VNT) with two repair processes and one example threshold for inconvenience on an inconvenience spectrum. The position of an individual's threshold is influenced by adopted value orientations and the present social norm. The position of any specific repair process on the inconvenience spectrum may be influenced by levels of effort and time required to complete the process. The measurement of a quantifiable convenience level is outside of this study's scope but may be conceptualized through a structured convenience monitor with suitable indicators.

Finally, our findings imply that established social norms, including those shaped by upbringing, culture, and peer behaviour, can reinforce or weaken the personal norms that determine one's VNT. This suggests a feedback loop: as repair becomes normalized in society, more individuals adopt it as a moral expectation which contributes to their personal norms, thereby raising their tolerance for inconvenience and reinforcing the social norm further. The VNT framework therefore offers an additional conceptual extension to the VBN theory by proposing that personal norms may be directly influenced by established social norms.

### **Raise in Awareness as a Secondary Solution**

Finally, our findings further suggest that environmental awareness may be a significant driver for repair behaviour and may pose a solution to the barrier of passive intentions. All participants indicated that confrontational information, specifically about the consequences of overconsumption and the benefits of repair, activated their feelings of moral obligation to repair and reinforced pro-repair attitudes. Participants furthermore indicated that confronting information additionally activated dormant pro-environmental values. This indicates that confronting information may activate environmental beliefs (NEP) which in turn activate personal norms. These findings align with the VBN, which posits that environmental awareness fosters moral obligations to act sustainably.

Our findings further suggest that upbringing could play a significant role in instilling norms for repair, as familiarity with repair norms in childhood was indicated by participants to be responsible for pro-repair attitudes and personal norms later in life. Therefore, the findings indicate that repair education programmes in school may contribute to the normalisation of repair and the establishment of a social norms, as proposed by prior literature (Svensson Høglund, 2022).

Overall, these findings suggest that raising environmental awareness in consumers may be an effective strategy to activate people's moral norms for repair. It therefore may also heighten VNT in consumers, raising their limit for inconvenience which in turn may raise repair behaviour.

Unique to this study, participants reported that exposure has to be continuous to be effective. This suggests that awareness interventions (e.g. childhood education) may only be suitable as a long-term strategy to increase consumers' values.

To conclude, our findings support literature acknowledging environmental awareness' as a potential driver for repair behaviour (Fachbach et al., 2022; Kianpour et al., 2017; Laitala

et al., 2021; May et al, 2025; Parajuly et al., 2023; Terzioğlu, 2021), while sources claiming its insignificance are challenged (Nadro et al, 2024).

### **Intention-Behaviour Gap Askes for Practicality**

However, while awareness strategies can strengthen moral motivations, our findings indicate that they have limited effectiveness when systemic barriers—such as poor service availability, high cost, and logistical inconvenience—remain unresolved. Without a functioning repair infrastructure, consumers may still feel incapable of acting on their intentions, regardless of their values or personal norms.

The findings strongly indicated that in most participants, practical considerations often times override normative considerations. In addition, participants reported that contextual interventions would have a greater impact on their intentions compared to awareness interventions. These findings point to a significant intention-behaviour gap formed by a lack of perceived behavioural control and pro-repair attitude because of the impracticality of the system.

Therefore, the problem of functionality keeps coming back, which is why we propose that awareness-raising should be viewed as a secondary solution. The primary priority for policymakers and stakeholders should be to improve the repair landscape by investing in accessible, affordable, and reliable services. Once consumers perceive repair as a feasible and logical option, awareness strategies can more effectively reinforce long-term behavioural change.

In summary, we identify two complementary paths for motivating repair behaviour: (1) reducing structural barriers to make repair the most convenient and economically logical choice, and (2) activating moral intentions through awareness to build lasting motivation.

Together, these strategies can promote both the practice and the normalization of repair in society, however practical barriers may have to be solved first.

### **Conceptual Model: Repair Consideration Decision-Tree**

To fulfil the secondary research aim of this study, it introduces a conceptual decision-tree framework of the repair consideration process consumers make when deciding to repair or replace. This model is conceptualized from the findings and lays out a theoretical step-by-step approach (See fig. 2).

To begin, the model posits that in many cases, repair is not considered by the consumer. This is because for many product categories participants indicated to not perceive repair as an option. This suggests that the repair option first has to come to mind before repair behaviour may be considered.

As discussed above, perceived behavioural control and having the knowledge where to repair are essential to start considering repair. This suggests that for specific product categories repair may often not be perceived as an option. Therefore, this model suggests that norms of repairing product categories (e.g. laptops and phones) determine if consumers think of repair as an option.

Furthermore, in line with Fogg's (2009) behavioural model, the findings indicated that promoting repair practices is important to trigger intentions of consumers. These findings suggest that if consumers are not reminded of services or options, considerations may stay out. The model therefore posits that if repair services are not promoted enough, consumers may not consider the repair of products. Lastly, participants reported that if there was a specific new product that they had in mind, it would deter any intention to repair. Therefore, this model suggests that if consumers planned to buy a newer model before break-down, it may diffuse any of their considerations for repair.

However, if the consumer does think of repair as an option, this model suggests that consumers will follow with subsequent financial and practical considerations determining their decision.

As the findings indicated, participants overwhelmingly reported that the monetary price of repair is the most salient factor occupying their minds. Additionally, they reported that the first step of the consideration process after breakdown was formed by a cost benefit estimation of the price of repair compared to the price of replacement. This is why the model suggests that the first step in the consideration process for repair is formed by an internal estimation of the acceptability of the price of repair. The model suggests that if the price is too high and unacceptable, the consumers opt for replacement.

As discussed in the discussion, any certainty of receiving a quality repair may significantly increase the acceptability of higher prices. Therefore, the model suggests that certainty of quality repair will determine consumers' definition of an acceptable price.

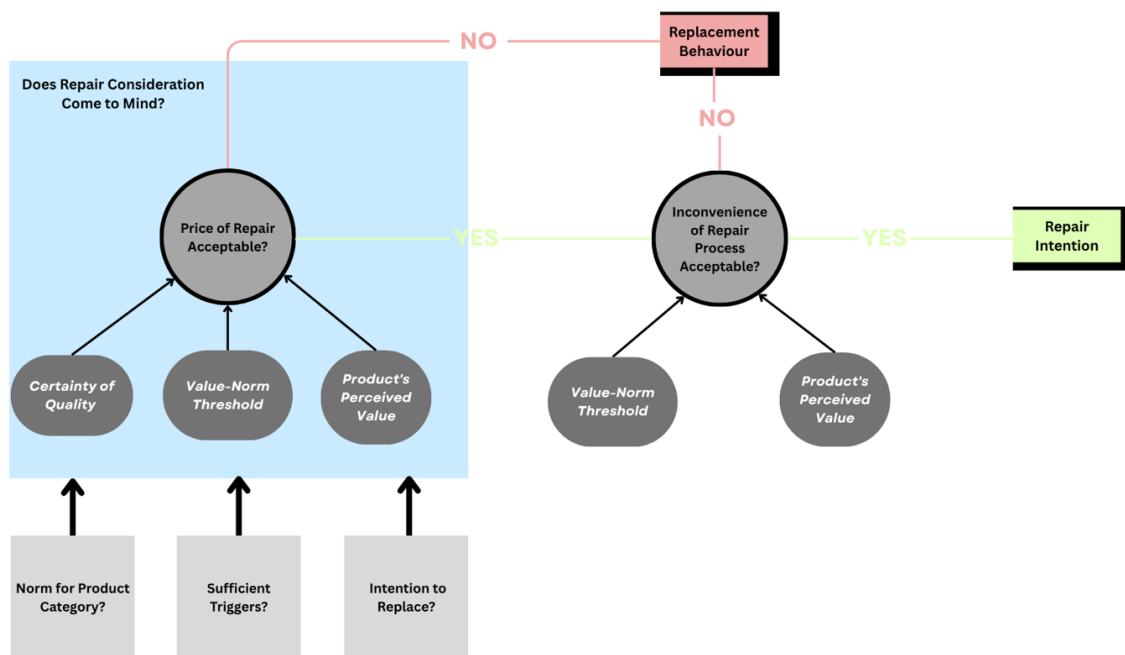
Secondly, the findings indicate that quality products were repaired more than low-quality products. This suggests that product characteristics (e.g. physical state, financial value and emotional value) determine what an acceptable price is for the owner. For example, if a consumer considers to repair a product they perceive as valuable, they may find it more worthwhile to pay a higher price. This model therefore refers to Van den Berge's (2024) model of different product values as part of the repair consideration process. It suggests that the value of the product perceived by the consumer therefore also determines what an acceptable price is for them.

Lastly, we discussed the role of VNT, and how personal value orientations and the social norm may determine the extent to which consumers may endure inconveniences like cost and effort. The findings indicate that individuals with high VNTs are more likely to accept higher prices for repair (e.g. because of internal pressures to adhere to social and

personal norms). The model therefore incorporates the role of moral intentions in the repair consideration process and suggests that the VNT determines what is perceived as an acceptable price for the consumer.

**Figure 2**

*Decision-Tree Model for a Consumer's Repair Consideration*



*Note.* This is a decision-tree model explaining a step-wise approach of the consumer repair consideration.

Overall, the findings indicate that, aside from financial considerations, participants viewed practical factors, which effected their perceived behavioural control, as the second largest barrier for repair intentions. Therefore, this model suggests that if the consumer accepts the price of repair, they continue on to the consideration of the practical acceptability (e.g. expected time and effort) of the repair process. The model suggests that if the process is seen as too much of an inconvenience, the consumer may opt for replacement.

Overall, the model suggests that the acceptability of inconvenience is, similar to the price of repair, dependent on consumers' VNT and the estimated value of the product. Firstly, participants with stronger environmental values indicated to endure more practical inconveniences (e.g. transport issues) and practiced more repair behaviour as a consequence. This model therefore suggests that VNT may play a significant role in accepting practical inconveniences.

Secondly, this model theorizes that the product's perceived value may influence the amount of effort the consumer accepts to make. For example, if a consumer is considering to repair a product that they perceive as valuable, they may tolerate higher amounts of inconvenience (e.g. waiting times) to achieve retainment.

Ultimately, the findings indicated that when participants perceive the price as acceptable and the repair process as manageable, the decision-making process is complete, and, provided no unexpected external factors intervene, there is nothing left to prevent the consumer from acting on their repair intention.

However, this study indicates that, because of the low perceived functionality of the current repair system, unexpected inconveniences may impede consumers to continue behaviour, opting for replacement instead. Therefore, we suggest that the Intention-Behaviour gap may be closed by ensuring convenience and accessibility of the process where possible and providing a streamlined process.

### **Limitations & Future Research**

All participants were from the friend circles of the researcher. They were from the same geographical region and belonged to the age group of young adults. As such, sampling issues might limit the generalizability of the findings to the broader population. Furthermore, the methodology of thematic analysis has potential for subjectivity as the identification and

interpretation of themes can be influenced by the researcher's own perspectives and biases. However, effort has been made to limit this. Interpretive depth was upheld by using a theoretical framework of existing empirical and theoretical studies on environmental and repair behaviour. Personal biases of the researcher and responders were limited by using a semantic approach during analysis as well as conducting pilot interviews to develop questions void of morality and to limit confirmation bias in participants

Contrary to this, we emphasize that further research must be done to confirm the generalizability of the claims. Overall, future research may focus on replication of the findings by using a larger randomized sample of respondents from the same or different geographical location. In addition, other more objective methods may be used to understand the repair landscape.

Furthermore, empirical testing and application of the conceptual models presented by this study could greatly contribute to assessing their generalizability for the larger population. More specifically, future studies exploring whether consumers follow the step-by-step consideration process proposed by the repair consideration decision-tree and whether normative motivations of consumers explain their acceptance to undergo inconvenience of the repair process would greatly contribute to validating the conceptual frameworks resulted from the current study. Furthermore, for services that are already relatively common and convenient (e.g. phone repair), research may be done on which awareness strategies are effective to promote repair behaviour. In addition, research may be done on what customer support services ensure convenience for the consumer during the repair process.

## Conclusion

In the current study, we had two interconnected aims. First, to identify the principal drivers and barriers that shape consumers' decisions to repair their products; and second, to construct a conceptual explanation of how those factors govern the ultimate choice between repairing and replacing. We carried out qualitative interviews with young adults in Amsterdam and an abductive analysis that wove empirical insights together with established behavioural theories.

The findings reveal a landscape in which economic and practical considerations dominate repair intentions. High repair costs emerged as the most influential barrier, with participants indicating they would only contemplate repair when the price was dramatically (i.e. Roughly 80 %) lower than purchasing a replacement. Perceived inconvenience was the second most influential barrier, as it frequently suppressed repair intentions. Time required for searching relevant information, difficulties in transporting items, uncertainty about service quality and availability, and the scarcity or poor promotion of reputable repair outlets collectively deterred consumers. When repair services are invisible or inaccessible, many products never even enter the realm of consideration.

Alongside these constraints, several potent drivers were identified. Consumers were far more willing to repair items they deemed valuable in financial, functional, or emotional terms and that they expected to use for a long period after repair. Strong biospheric and altruistic values likewise encouraged repair, especially when reinforced by visible social norms. Yet the study also confirmed a persistent intention-behaviour gap: moral commitments and pro-environmental attitudes were often overridden when practical obstacles loomed large.

In behavioural-model terms, perceived behavioural control and attitude wielded greater leverage over action than personal or social norms alone.

To synthesise these complex interactions, the thesis advances two original frameworks. The Value-Norm Threshold (VNT) explains that consumers tolerate inconvenience and cost only up to the point at which their internalised values and the social norms surrounding repair offset the appeal of replacement. Once practical impediments exceed this threshold, self-enhancing motives predominate. Complementing the VNT, the Repair Consideration-Tree maps the sequential logic of the decision: an initial awareness trigger is followed by a cost appraisal, then by a feasibility assessment, and only if all three are favourable does behavioural execution ensue. By revealing precisely where and why the intention-behaviour gap widens, these models satisfy the second research aim, providing a coherent account of how cost, convenience, values, personal and social norms, and product attributes converge in the repair-replace dilemma.

The empirical evidence also corroborates and integrates several well-known behavioural frameworks. From the Theory of Planned Behaviour, cost and convenience seem to shape attitude and perceived behavioural control, which in turn guide intention. The Value-Belief-Norm theory is confirmed insofar as heightened environmental awareness can activate personal norms, yet those norms translate into behaviour only when the VNT is not breached. The study further mirrors Fogg's model: motivation arising from pro-environmental values, ability conferred by accessible services, and external triggers supplied by information cues must coincide to yield repair behaviour.

These insights carry clear implications. Because practical barriers so often outweigh normative drivers, policy and business interventions must begin by attacking the material constraints that depress perceived behavioural control. Lower and more transparent pricing, streamlined logistics, standardised spare-part availability, and prominent promotion of

certified repair providers are immediate levers. Once basic ability conditions are improved, norm-building measures (e.g. continuous communication of environmental benefits, public visibility of successful repairs, and peer-to-peer narratives) can more readily take hold.

In summation, this thesis contributes empirically by mapping the salient obstacles and motivations that govern repair considerations, conceptually by introducing the Value-Norm Threshold and the Repair Consideration-Tree, and theoretically by demonstrating how multiple behavioural models intersect in a real-world context. For policymakers, manufacturers, and service providers intent on advancing a circular economy, the central message is unequivocal: moral motivation alone will not foster repair practices at scale. Only when repair is affordable, accessible, and convenient will consumers' pro-environmental values be empowered to translate into consistent repair behaviour.

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## Appendix

### 1. Interview Guide

#### What Would Motivate Consumers's intentions for Circular Behaviours?

#### Interview Questions

##### Intro

- **Ask name, age, gender, occupation.**
  - So I know this can be a bit exciting now that the microphone is on but don't worry. We are in this together and you can't say anything wrong in this interview. Everything you share is valuable. In addition, you can decide to stop the interview at any time if you'd like without any repercussions so please don't hesitate if you feel like you want to stop or if anything else is bothering you. Agree? Any questions?
  - So, i'd like to begin by asking 4 administrative questions about yourself and by telling you a little about my research project: the aim of the research project and the research question. Sounds good?
  - Okey, could you tell me please your name, age, gender and occupation/field of study? [Be nice and ask interesting questions about study]
- **Explanation of the aim of the research and the Interview**
  - Thank you very much. Now I will tell you a little about my research project. Do you know what a circular economy is? If yes, could you describe it to me what it is?
  - A circular economy is "an economic system where we avoid waste by
    - reusing,
    - repairing,
    - recycling,
    - and recovering products and materials.

Instead of throwing things away, we keep resources in use for as long as possible. This happens at all levels — from individual products and companies, to entire cities and countries — with the goal of

- protecting the environment,
- supporting the economy,
- and ensuring fairness for both current and future generations.

Normally, in a *linear economy*, we make products, use them, and then throw them away — a straight line from production to waste. In a *circular economy*, we try to keep products and materials in use for as long as possible by refusing,

rethinking, reducing, reusing, repairing, refurbishing, remanufacturing, repurposing, recycling, and recovering them.

For example, instead of buying a new phone every two years and tossing the old one, you could repair it, reuse parts, or buy a refurbished model. The goal is to create less waste, use fewer resources, and build a healthier economy for everyone, now and in the future.

This video will make the main principle clearer:

[https://www.youtube.com/watch?v=zCRKvDyyHmI&ab\\_channel=EllenMacArthurFoundation](https://www.youtube.com/watch?v=zCRKvDyyHmI&ab_channel=EllenMacArthurFoundation)

- **Questions about the Circular Economy**
  - Do you have some idea now what a Circular Economy is?
    - What is your opinion of the circular economy?
  - Did you know that the Dutch government has the ambition to create a 100 % circular economy by 2050 and that they are developing plans to achieve this?
    - What do you think about this quest?
- **Explanation of the aim of the research and the Interview**
  - Now I am going to tell you about the aim of my research project. The Dutch government has plans ready that focus on making the repair business more attractive for the consumer so they will repair more of their products. There is little research on the perspective of the consumer on what would motivate them to repair. I believe that it is very important to study what motivates and what prevents you to repair your products. Do you have any questions before we begin?

## Questions

1. **So what I would like to know from you is: What would motivate you to repair a product instead of replacing it?**
2. **How much influence does the feeling that you can easily have a product repaired — for example, knowing where to get it fixed, being able to afford it, or it being practically doable — have on your decision to repair something?**
  - a. **What would make you feel like you can easily have a product repaired more strongly or less strongly?**
3. **To what extent does the idea that others — like friends, family, or colleagues — find it important that you repair products, influence your decision to have something repaired?**



- d. **Would there be anything that would make it more difficult for you to decide to repair it?\***
- i. **Anything else?**

8. **What do you think will have more impact for you: value-based interventions or context based interventions?**

9. **Is there anything you'd like to add before we close the interview?**

**I want to thank you very much for participating in this interview. [explain the value of participating and the value of this research]. That was it, thank you again.**

2. **Example of a code during the refinement stage of the analysis under theme 7**

Note. PBC = perceived behavioural control, PN = personal norm,

**Code: Socio-cultural landscape has the potential to motivate**

Quote	Comment
<p>I could feel them more strongly if everyone around me was doing it. The influence from the people around you is very important, not only like kind of the social judgment you feel, but also it's more motivating if other people do the same thing [...]</p> <p>you can tell that it really helps if people either motivate you to do it or kind of judge you if you don't</p>	
<p>if they're all repairing, yeah, of course, it's easier to make the decision as well, because you won't be like ridiculed, in a way, for choosing a more sustainable option.</p>	
<p>If no one does it, or if you hear, like bad stories about it, bad experiences.</p>	[PBC]
<p>maybe you think about it more if you see other people around you doing it as well, yeah, just comes up again. And then you you think more about it.</p>	[values]
<p>I think what we talked about before with the pressure from maybe other people around you, if everyone, if it's like in the culture, to repair everything instead of just throwing it on the landfill. Then I think that I would feel that moral obligation, just if you see that everyone's around you is doing it as well, and sort of, yeah, the standard instead of buying something new. [...]</p>	

<p>social influence [...] just social, social culture, [...] the social pressure [...] around you, [...] you think more about your values and how to repair it instead</p>	
<p>the more often you think about it. [...]if there are maybe videos on Tiktok, for example, or Instagram that like, make you, make you aware of it. [...] seeing, seeing why it is important to... Yeah, I mean, you have to, like, spend more time thinking about it I think. [...] So if you see it more around you, like, if other people, if you see, if you see other people do it more</p>	[PN] [Values]
<p>Maybe also it has a bit about to do with your with your identity[...]. It's like good people. They repair or something, if they're if that is like in a way communicated that it's almost like that you feel bad about yourself if you don't do it. And that not repairing, gets linked to, like bad things or something, you know, for example, on advertisements or something.</p>	
<p>I think if the negative impact of our linear economy would be more in the news or more in the foreground of actuality, then I would feel a larger moral obligation. [...] If there would be more awareness of it in society, I would feel it more strongly.[...]</p>	[PN]
<p>if it's very common to get something repaired, if I know that other people get their headphones repaired, I'll know... There is a bigger chance I'll let them get repaired as well [Also] if it's widely known it is easy to repair it yourself</p>	[PBC]
<p>I talk to people that I know have the same mindset as me, and if I meet people that don't, I judge them a bit for it.</p>	
<p>if there was like scientific or a significant scientific research that showed that repairing your stuff would have very big impacts on the environment, I would probably consider it more.</p>	
<p>if I did have sort of, if I did feel like there was a moral obligation, and people were like reinforcing that moral obligation to each other, then I think it would play a decent role in me repairing my stuff. Yeah. [...] I think there's cultures around the world where that is expected, and they do maintain and repair stuff for as long as possible. But I don't think it's the case here.[...] if that was sort of part of our culture or part of our public morals, or whatever that we would strive to maintain and repair stuff, I'd say, I think so.</p>	
<p>I feel like moral stuff needs to come from your surroundings and the people around you. I think that's only I think that's something more cultural and when you're being raised.</p>	
<p>if it would be promoted more. [...] If it is more in the media, maybe that you think about it more quickly to repair? [...] when they would show it more in the media how bad it is to keep buying new products... [...] Because actually you hear very little about it, to repair and not buy new.</p>	[PN]
<p>if more people around me would do it, that I would also think "okey yeah, it is doable".</p>	[PBC]

<p>so if the benefits are also more highlighted, then it would maybe positively reinforce consumer behavior as well, right? Yeah, I think that would work</p>	
<p>Oh, quite a lot. I think I'm quite big. I'm quite influenced by others in many aspects. So also in this I would be influenced by others</p>	
<p>I think if people around me have very good experiences, it would have the most impact on me and I would do it faster. I think that would have the largest influence.</p>	
<p>the easiest place in the world to find it is social media, right? Because that's where we're being advertised a lot, or shorts or reels, or whatever you want to call them.</p>	<p>Advertisement makes it easy to buy new products because you are reminded by the option, which takes less mental energy</p>
<p>The availability and knowing, like the commoncy of it, how common it is to get your phone, everyone gets their phone fixed when their screen is malfunctioning. But I've never heard of anyone getting new soles on their shoes, or, like deepening the carves in their soles for grip.</p>	