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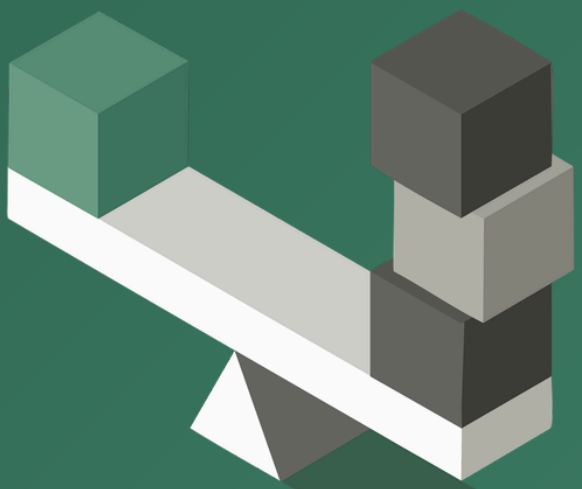
DESIGNING CERTAINTY IN PEER-TO-PEER SHARING

Solving the value-effort imbalance to improve retention on Peerby

Jesse Lokin

Strategic Product Design
Master Thesis



TU Delft

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Solving the value-effort imbalance to improve retention on Peerby

Author

Jesse Lokin
4659139

Master Thesis

Delft University of Technology
Faculty of Industrial Design Engineering
MSc. Strategic Product Design

Graduation Committee

Chair: *Dr. ir. S.S. van Dam*
Mentor: *Ir. J.C.S. van den Hoven*
PhD Candidate: *J. Knabe*

Company

Peerby
Mentor: D. Weddepohl

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It took me months to find a graduation project. I lost count of the emails and calls that led nowhere. Then I had a video call with Sonja and Julia about Peerby, and during the conversation I knew: this is the one. a real platform with real users and a real problem, and the possibility of designing something that could actually be built. That is where I work best: as concrete and realistic as possible. No hypothetical futures, but something that could be built tomorrow. That made this the right match from the start.

That did not mean I knew what I was doing. The first month I sat alone in the university library in Amsterdam, trying to turn a vague sense of direction into an actual research question. Fortunately I had weekly meetings with my supervisors, which meant I had to have something to show at the end of every week. At some point the first insights came, and suddenly the project had a direction. And once I reached the design phase, I was in my element. Building a prototype, spending far too long on a single interaction, getting everything visually just right. That is what I enjoy the most.

I want to thank my supervisory team. Sonja and Jorg, thank you for giving me the space to find my own way through this project. You trusted me to set my own direction, and that freedom shaped both the work and my confidence in it. When you did step in, it was not to tell me I was wrong, but with a quiet suggestion for how something could be sharper, clearer, or better argued. That guidance without interference suited me perfectly. Julia, thank you for your thoughtful and positive feedback, and for your help in shaping and hosting the co-creation session.

Daan, thank you for opening the doors to Peerby and for letting me do my thing without ever pushing me in a direction. Our conversations always felt like genuine collaboration, and your willingness to share both the vision and the constraints of Peerby made this project feel real from the start.

A sincere thank you to everyone who participated in interviews, co-creation sessions, prototype walkthroughs, and the survey. Special thanks to Ronald, who generously shared his time and experience as a power lender. Ingrid brought the showcase video to life by lending her voice and starring in it. And Maxine, thank you for being my sparring partner throughout, doing our SPD graduation projects at almost exactly the same time meant there was always someone who understood the chaos. And thanks to the friends I kept running into at the university library: thank you for making the long days feel a lot shorter.

I am genuinely proud of what this project became, and I hope you enjoy reading it. Though maybe not all sixteen chapters in one sitting.

Jesse Lokin
Amsterdam, March 2026

SUMMARY

The sharing economy offers an alternative to traditional ownership, but most peer-to-peer platforms struggle with the same problem: users try them once and do not come back. Peerby, a Dutch platform for borrowing and renting items locally, is a clear example. Despite sufficient supply on the lender side, the platform keeps losing borrowers after their first experience. This thesis, conducted in collaboration with Peerby, investigates why that happens and proposes a design intervention.

This project follows the double diamond method (Design Council, 2019). The research phase examines the retention problem through four complementary lenses: a 5C analysis, a literature review on behavioural drivers in the sharing economy, semi-structured interviews with eight borrowers, and an online survey (n=82). Together, these lenses converge on a single finding: the primary barrier to retention is not physical effort, sustainability indifference, or social awkwardness. It is mental effort. The uncertainty of not knowing whether an item is available, whether someone will respond, and how to coordinate a pickup creates a cost that outweighs the benefit of cheap access. This dynamic is framed as the value-effort imbalance.

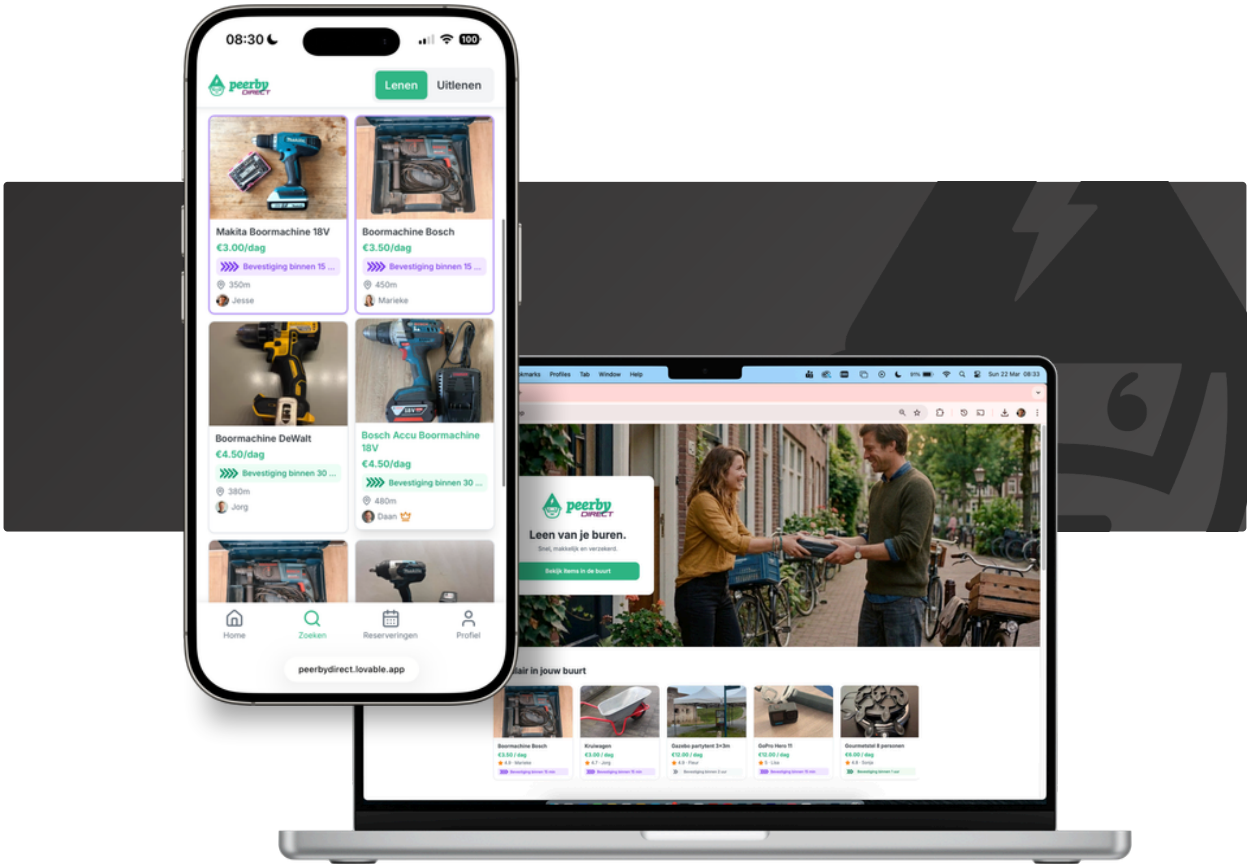
The value-effort imbalance: the effort of borrowing via Peerby currently outweighs the value it delivers.

A co-creation session and a strategic alignment meeting with Peerby's CEO confirmed the design direction: operational predictability. This meant moving away from Peerby's original neighbourly chat model towards a more structured system, which is a significant shift for a platform built on informal community exchange. The goal is to make borrowing feel as reliable as buying from a webshop, without losing the human character of peer-to-peer exchange entirely. Three lender interviews during the design phase validated concept feasibility, as any change to the booking flow inevitably affects both sides.

The resulting concept, Peerby Direct, replaces the current chat-based coordination model with a structured booking flow. Borrowers select time slots, the system contacts lenders with a countdown timer, and if no one responds in time, the request automatically moves to a backup lender. A flexibility bar shows borrowers how their input affects their chances of a match. Lenders participate on their own terms through optional response commitments, and faster responders are rewarded with higher visibility through a Perks system. A secondary concept, Peerby Pouch, addresses the handover moment through a lockable bag that enables fully asynchronous exchange.

Peerby Direct was validated through prototype walkthroughs with nine participants and an online survey (n=68). 76.5% of survey respondents preferred the new system over the current chat-based model, and 70.1% indicated they would be more likely to return to a sharing platform that works this way. Backup willingness reached 88.2%. The walkthroughs confirmed that all participants could complete the booking flow independently, though several mechanisms require further refinement to become fully self-explanatory.

The thesis concludes with a phased implementation roadmap. Peerby Direct forms the foundation, followed by the Peerby Pouch for asynchronous handover, a centralised Rentmeester Hub, and a delivery option. Together, these form a four-horizon strategy for reducing coordination effort across the entire borrowing experience.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INTRODUCTION

Setting the stage: why users leave Peerby and what this project aims to solve.

Users try Peerby once and do not come back.

This chapter introduces the retention problem at the heart of this project. It describes the context of peer-to-peer sharing, the specific challenge Peerby faces, and the research questions that guide the investigation. It also defines the scope, the methodology at a glance, and the role of AI tools throughout the project.

1. INTRODUCTION

1.1 CONTEXT AND BACKGROUND

Over the past decade, the sharing economy has been positioned as an alternative consumption model with potential sustainability benefits (Öberg, 2024). Within this economy, the focus is no longer on ownership but on access: sharing, borrowing or renting items between individuals via digital platforms (Öberg, 2024). This form of access-based consumption offers an alternative to the traditional linear economy, in which products are manufactured, purchased and discarded. By making better use of existing goods, the sharing economy can contribute to more efficient use of resources and lower CO_2 emissions (Hansmann & Binder, 2023). On top of that, peer-to-peer platforms can strengthen local social cohesion through collaboration and trust between neighbours (Marvi et al., 2023).

Despite these advantages, many sharing platforms struggle to realise their potential. A recurring challenge is low repeated use: users participate once and then drop out. While Rossmannek and Chen (2023) identify 26 factors that drive sharing intentions, retention after first use remains an underexplored area in the literature. Without recurring participation, network effects weaken and the value proposition of sharing drops.

Peerby, a Dutch online peer-to-peer platform for borrowing and renting items locally, is a clear example of this dynamic. Users can quickly find neighbours who have the items they need and borrow or rent them for a reasonable price. The platform aims to make local sharing easy, cost-efficient and more sustainable. Peerby's CEO, Daan Weddepohl, describes sustainability not as a goal in itself but as a natural result of smarter, shared use (Peerby, internal communication, 2025). Peerby currently operates with an annual membership model (€29.88/year), which gives a predictable income but also reveals a structural problem: many members use the platform only once.

Low retention weakens the reliability of the network and limits the formation of trust and habit, two essential drivers of long-term sharing behaviour (Hansmann & Binder, 2023; Marvi et al., 2023).

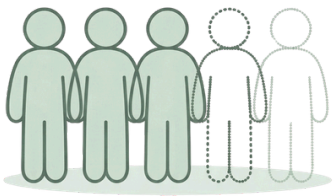


Figure 1: Most users do not return after their first experience

Despite several improvements and try-outs such as app updates, bug fixes, and the Peerby Go delivery service, the platform still struggles to retain users. Previous interventions addressed specific friction points, but the underlying barriers to sustained participation are not yet fully understood. Across the sharing economy more broadly, research tends to focus on adoption rather than retention (Akhmedova et al., 2020). Many people like the idea of sharing, but it does not yet fit into their routine behaviour (Koch & Vringer, 2023) often because the functional convenience does not yet match that of buying new. Behavioural factors-effort, convenience, social norms, trust-play a central role in this intention-action gap (Soyer, 2025; Duwtje & Copper8, 2025). This suggests that the retention problem cannot be solved through small-scale fixes alone.

Throughout this report, two user roles are central. The borrower is the person who searches for and rents an item. The lender is the person who owns the item and makes it available. Most Peerby users fall into one role, though a small group (4-8%) does both.

1.2 RESEARCH QUESTIONS

This project was initiated in collaboration with Peerby to address the retention problem identified above. The aim is to understand what causes borrowers to drop out after their first experience and what prevents them from returning. Apart from diagnosis, the project also aims to deliver a design intervention that Peerby can implement. The insights should help Peerby develop a strategic framework for improving long-term engagement.

This project was guided by the main research question:

'What are the key behavioural and perceptual barriers that limit user engagement and recurring participation at peer-to-peer online sharing platform Peerby?'

This question was broken down into four sub-questions:

1. *What factors prevent users from developing a habit of using Peerby regularly?*
2. *What motivates users to use Peerby, and how do these motivations change over time?*
3. *What factors influence users' trust when borrowing or lending items through Peerby?*
4. *How do usability and social interaction affect users' willingness to engage and return to the platform?*

1.3 APPROACH AND SCOPE

This research focuses on the borrower side of the platform: people who search for, borrow or rent items from someone else. The research phase concentrates on borrowers, as retention is primarily a borrower-side problem (Peerby, internal communication, 2025). Lender perspectives were added during the design phase to validate concept feasibility, as any intervention in the booking flow inevitably affects both sides. The reliability and availability of supply are included throughout, as they directly have an impact on the borrower's uncertainty. The research focuses on the Netherlands, particularly urban environments where platform activity is highest. The focus lies on behaviour and experience: motivation, trust, perceived value, effort and habit formation. Technical or economic factors are not analysed in detail.

The project follows the double diamond method (Design Council, 2019). The Discover phase examines the retention problem through four complementary lenses: 5C analysis, literature review, interviews, and a survey. The Define phase synthesises findings into a validated problem definition. The Develop phase includes co-creation, lender interviews, and concept development. The Deliver phase covers prototype walkthroughs and a validation survey. Research methods are detailed in chapter 2; design and validation methods are described in chapters 8, 9, and 12.

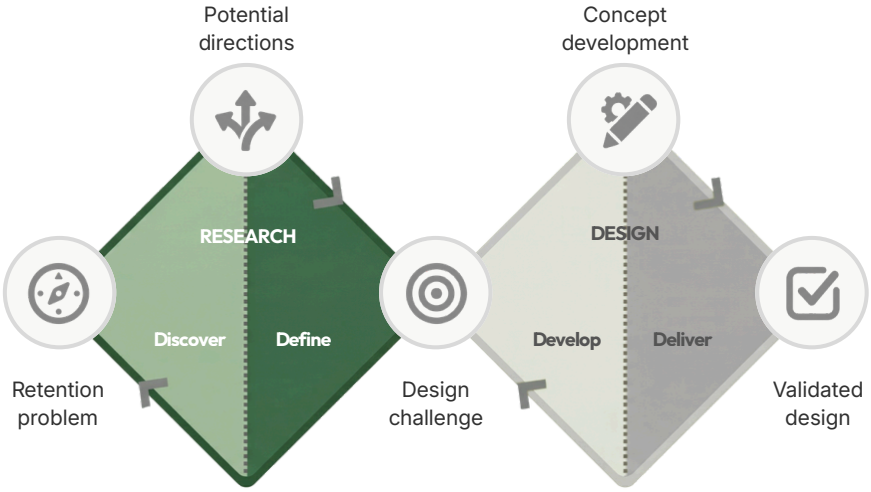


Figure 2: Double diamond process model (Design Council, 2019), applied to this project

1.4 USE OF AI IN THIS PROJECT

AI tools were used in several stages of this project. Elicit was used to identify and screen relevant literature; after this selection, original papers were read and analysed by the author. Gemini, ChatGPT, and Claude were used to validate thematic clustering of the 5C analysis (Appendix C). Atlas.ti was used to organise and code interview transcripts. Codes were assigned manually by the author. ChatGPT and Claude were used to calculate descriptive statistics from survey data. A random sample of calculations was manually verified in Excel to check for errors. For the reference list, ChatGPT generated an initial draft based on the used sources, after which all DOIs were manually verified and corrected. Grammarly was used for language editing. Clipto was used for interview transcription. ChatGPT was used to structure sections of this report and to generate prompts for Lovable, an AI-assisted website builder used to create the interactive prototype. Gemini and Nano Banana were used for quick visual generation. All final decisions on analysis, interpretation, and design were made by the author.

02

METHODOLOGY

How the research was structured across four complementary lenses

2. METHODOLOGY

2.1 RESEARCH APPROACH

This research adopts a qualitative exploratory approach, structured using Kumar's (2019) framework for design research. This framework emphasises iterative cycles of problem identification, data collection, analysis and interpretation. To structure the exploration, four complementary lenses were applied sequentially (Figure 3):

1. Context lens (5C analysis): to map the system context and internal and external factors shaping Peerby's dynamics.
2. Theoretical lens (literature review): to identify relevant mechanisms connected to repeated use, effort, trust and sharing behaviour.
3. Human lens (semi-structured interviews): to deepen and verify insights, capturing user experiences and perceptions in their own words.
4. Validation lens (survey): to validate and quantify patterns that surfaced during the interviews.

These layers ensure that findings do not emerge from a single source but are triangulated across multiple perspectives, for reliability and depth (Carter et al., 2014). The results of each layer inform the next.

Following the research phase, additional methods were done during the design and validation phases. A co-creation session (chapter 8) validated the effort framing and generated solution directions together with participants. Three lender interviews (chapter 9) were conducted to understand constraints on the supply side, as any booking intervention inevitably affects both parties. Prototype walkthroughs with nine participants (chapter 12) tested comprehension and usability, and a second online survey (n=68, chapter 12) measured mechanism preference at a broader scale. These methods are detailed in their respective chapters.

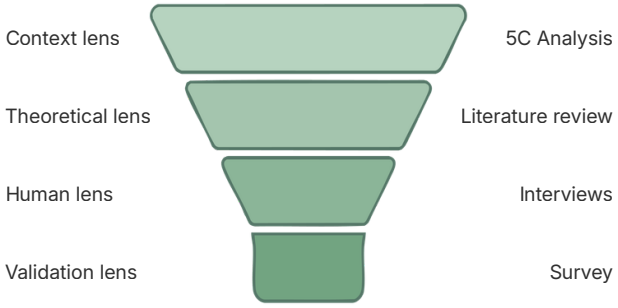


Figure 3: Four-lens research approach.

2.2 5C ANALYSIS

The 5C framework was used to explore Peerby's ecosystem and identify early behavioural and experiential themes. This framework is a commonly used strategic analysis tool in marketing and business research (Jobber & Ellis-Chadwick, 2020). The method served as a structured way to analyse both internal and external factors influencing repeated use. The analysis drew on internal documentation, conversations with Peerby's CEO, competitor platform analysis, and secondary sources including industry reports and academic literature.

The insights from the 5C analysis were clustered into themes using pattern recognition (Kumar, 2019). To validate this clustering, the raw insights were independently coded using three AI tools: Gemini, ChatGPT and Claude. All three identified themes corresponding to four of the five constructs used in this study: Effort, perceived value, trust, and habit formation. Engagement appeared less prominently, suggesting it may function as a secondary factor. The full prompt, individual outputs, and comparative analysis (also AI-assisted) are included in Appendix D.

2.3 LITERATURE REVIEW

The literature review was structured around five behavioural drivers which emerged from the 5C analysis (chapter 3), where early patterns around trust, effort, and value perception first appeared. A scan of sharing economy literature confirmed these as recurring themes in studies on platform retention. The five drivers are:

Trust: the users confidence in the reliability of the other party and the expectation that the transaction will proceed without issues.

Effort: the perceived amount of time, coordination, and mental energy required to successfully arrange a transaction.

Perceived value: the assessment of whether the benefits of borrowing an item outweigh the necessary effort and costs compared to buying new.

Engagement: the level of emotional connection and involvement the user feels towards the platform and the local neighbourhood.

Habit formation: the extent to which using the platform becomes an automatic routine rather than a conscious, once in a while decision.

The literature review was made using a structured search process supported by AI tools. Elicit was used as the primary search tool to identify relevant papers and screen abstracts for relevance. Additional searches in Scopus and Google Scholar were done to ensure broader coverage. After screening, the selected papers were read fully or partially, depending on their relevance. Final inclusion was based on manual verification.

Sources were included when they met the following criteria:

Academic publications that were accessible through the mentioned databases

Relevance to: sharing economy, peer-to-peer platforms, trust, effort, habit formation, reuse behaviour, repeated use/retention, access based consumption

Published within the last 10 years (preferably within the last 5 years)

Frameworks or constructs that contributed to understanding repeated platform use or behavioural drivers

Table A.1 (Appendix A) provides an overview of the search strategy per construct, including search terms and key sources used.

2.4 SEMI-STRUCTURED INTERVIEWS

To validate the theoretical findings and explore the subjective reality of users, semi-structured interviews were conducted. Participants were selected based on specific criteria. The study targeted borrowers within the Netherlands, especially aiming for a mix of two user profiles to understand the drivers of dropout:

Active users: individuals who currently are members and use the platform.

Lapsed users: Individuals who have borrowed an item at least once but have since stopped using the platform.

Participants were recruited through local neighbourhood networks (Nextdoor, Facebook groups) and via Peerby's network. Diversity in age, usage history and living context was aimed for but not strictly sampled due to the exploratory nature. The guide was created based on the themes emerging from the 5C analysis and the literature review: effort, trust, uncertainty, clarity, community connection, value perception and habit formation. Interviews were held via an online call or video call and recorded with permission. Each session lasted 20-30 minutes. Recordings were automatically transcribed using AI and coded thematically using Atlas.ti. Interview findings are presented in chapter 5.

Additionally, three semi-structured interviews with active lenders were conducted during the design phase to validate concept feasibility and understand lender constraints. These followed the same methodological approach.

2.5 SURVEY

To validate the insights from the interviews, a short online survey was designed. The main goal was to see if the specific friction points, especially regarding mental effort and uncertainty, were recognised by a larger group of users. The survey consisted of 6 closed questions, 14 Likert-scale statements, and 2 open questions. Focus areas: perceived effort across the user journey, time and coordination, certainty about item availability, effort related to contacting/arranging pick up, returning.

The survey was distributed via social media groups, neighbourhood networks and Peerby-related channels. Although not representative on a national scale, the goal was pattern validation rather than statistical inference. In practice, the survey turned out more exploratory than planned, as the large majority of respondents had borrowed informally rather than through a platform (see section 6.4 for a full discussion of limitations).

Responses were analysed using descriptive statistics in Qualtrics. Given the exploratory nature and sample size, results are treated as indicative patterns instead of statistically generalisable findings. Survey results are presented in chapter 6.

2.6 VALIDITY, RELIABILITY AND LIMITATIONS

Several measures were taken to ensure the quality of this research. Triangulation across four complementary lenses improved the validity of findings by cross-verifying patterns from multiple sources.

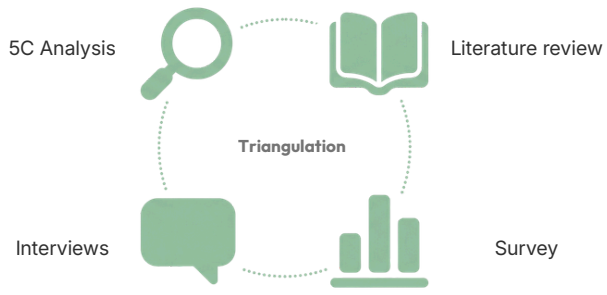


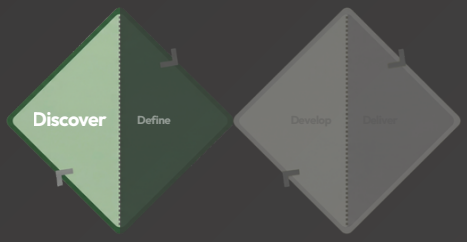
Figure 4: Triangulation across four research lenses

Interview guides built on themes from earlier phases, and preliminary findings were discussed with Peerby's CEO to check plausibility. However, limitations should be acknowledged. The interview sample was small (n=8 borrowers, n=3 lenders added during design phase) and recruited through convenience sampling, limiting generalisability. The survey reached more respondents (n=82) but was distributed through self-selected channels, so statistical representativeness cannot be claimed. The research focused on borrowers; lender perspectives were only added during the design phase.

Additionally, the researcher's dual role as designer and evaluator may have introduced confirmation bias. Limitations specific to the design and validation phases, including prototype constraints, survey comparison bias, and the limited validation of the lender side, are discussed in section 12.4.

03

PHASE 1: DISCOVER



Context Lens:

5C ANALYSIS

Mapping the system Peerby operates in before diagnosing the problem

The real competition is not other platforms, it is buying new.

This chapter applies the context lens to map the world in which Peerby operates. Before addressing the problem, it is necessary to understand the playing field. Who are the users? Who is the real competition? And how does the platform actually work? Using the 5C framework, this analysis creates a clear picture of the current situation. This overview is essential for two reasons: it provides the first building blocks for the design criteria later in the process, and it highlights the key themes that require deeper investigation in the literature review.

3. 5C ANALYSIS

3.1 COMPANY

Peerby is a peer-to-peer platform that enables people in the same neighbourhood to share items with each other, usually by borrowing or renting. The platform shows what is available in the neighbourhood and matches supply and demand without owning a single item itself. Founded in 2012, Peerby is a pioneer of the sharing economy. As one of the earliest platforms, it is part of a bigger movement in which access is becoming more important than ownership, and existing resources are reused instead of buying new (Öberg, 2024). Peerby functions as a local ecosystem in which items circulate within the neighbourhood, without the intervention of a traditional distribution chain.

The platform works via two mechanisms. Users can search for a specific item in the app or on the website and contact the lender directly.

In addition, there is a request function: a user posts a general question, after which several neighbours receive a notification and can respond. This dual structure activates both explicit supply (listings) and latent supply that is not listed. Something Hansmann and Binder (2023) identify as a core feature of peer-to-peer sharing.

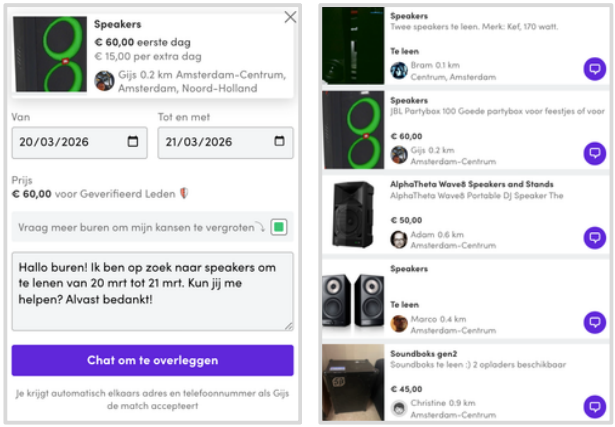


Figure 5: Two platform mechanisms: item search (left) and neighbourhood request (right)

Peerby primarily facilitates the match and automates processes such as notifications, payments, standard chat messages and insurance, while the entire frontstage process, from chatting to arranging and picking up, takes place between users themselves.

The steps involved in this journey are shown in the service blueprint (Figure 6), which visualises the interaction between customer actions, frontstage touchpoints and backstage systems.

	Opens platform	Searches item	Sends request	Waits for response	Selects lender	Coordinates via chat	Picks up item	Uses item	Returns item
Physical evidence	Homescreen	'No item found' or item listings	Listing page / request form	Push notifications	Chat interface	Chat + calendar	Physical item	Physical item	Return moment
Customer actions	Opens Peerby website/app	Search for needed item	Send direct request OR Post neighbourhood request	Response from lender OR Responses from neighbours	Selects preferred neighbour	Coordinate time and place via chat	Pick up item	Use item	Return item
Frontstage interactions	Search bar + homepage UI	Search results OR No item found message	Item page with request button OR Neighbourhood request form	Request sent confirmation OR General request sent confirmation	Overview all responders	Chat, templates + payment			Close request + return reminder + optional thank you message
Backstage interactions	User authentication	Search indexing + item ranking	Listing status check Neighbour matching	Sending targeted notification Broadcast request	Listing neighbour responses	Membership check			
Support processes	User & item database		Notification system	Matching engine	Membership system		Payment infrastructure		

Figure 6: Service blueprint of the current Peerby borrower journey, showing customer actions, frontstage interactions, backstage processes, and support systems across the full transaction flow from search to return

3.1.1 Positioning

In terms of positioning, Peerby presents itself as a local, human and accessible alternative to traditional renting or buying. The platform logic is built around social proximity: users borrow from someone who literally lives around the corner. This local proximity positions Peerby within what Öberg (2024) categorises as 'repeated use of latent resources': a configuration where the product is borrowed temporarily without ownership transfer, requiring coordination between provider and user.

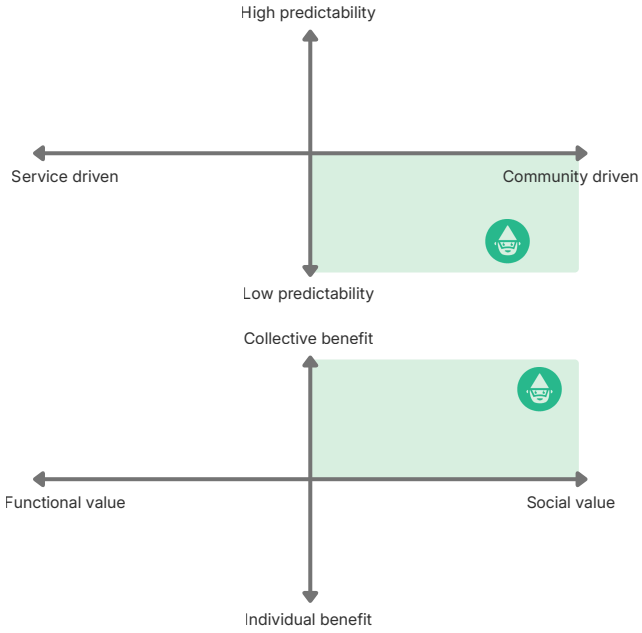


Figure 7: Author's perceived positioning mapping: predictability vs. orientation (top) and benefit vs. value (bottom)

This positioning is reflected in two visuals. The left visual, predictability vs. community orientation (Figure 7). places Peerby in the quadrant where community, human connection and low cost are central: opposite professional rental models focused on predictability and service guarantees. The right visual, benefit vs. value orientation shows a similar pattern: Peerby sits in the domain of social value and collective benefit, while commercial alternatives rather deliver individual functional value. Together, these visuals clarify Peerby's distinct place in the broader sharing and rental landscape.

3.1.2 Platform analysis

A closer look at Peerby's app and website shows several friction points. The website often does not scale properly on different screens, and both app and website have recurring bugs that interrupt the process. This affects the overall feeling of reliability. Before renting anything, users must verify their ID. Even for something as simple as borrowing a drill, this feels like a big ask. Users have to hand over personal data before they have experienced any value from the platform. Many listings lack photos or descriptions, and user profiles are often incomplete. This makes it difficult to trust either the item or the person lending it. It also makes the platform feel inactive or abandoned. Finally, browsing is restricted. The app only shows items within the user's own neighbourhood, with no easy way to explore nearby areas. Unlike platforms such as Funda, where users can scroll freely around a map, Peerby's rigid boundaries make it harder to find items that may be just a few streets away.

Screenshots can be found in Appendix B.

3.1.3 Business model

Peerby operates on an access-based business model, where value is created by connecting local supply and demand without owning any assets itself. To capture this value, Peerby employs a subscription-based revenue model (€29.88/year) combined with a 15% service fee on rented items (Figure 8).

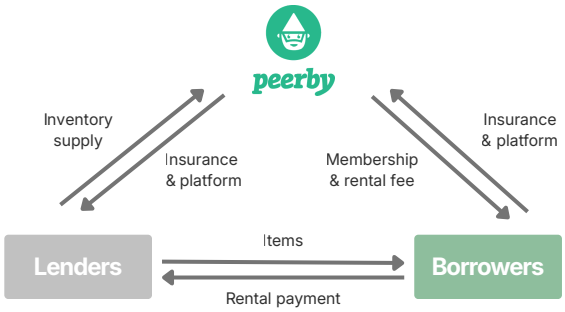


Figure 8: Simplified business model

This revenue model creates a friction point: the recurring fee creates a high psychological hurdle for users who only borrow sometimes (once or twice a year). But Peerby's CEO indicates that this subscription model is the result of a long search for financial viability and is currently the only sustainable revenue stream for the platform (Peerby, internal communication, 2025). Therefore, in this design process, the subscription fee is treated as a fixed constraint. The design challenge is not to change the price, but to change the service quality.

3.1.4 Main takeaways

Peerby relies on neighbours coordinating the full borrowing flow themselves. The platform combines automated backend steps with a human, variable frontstage.

Supply is unpredictable because it depends on nearby neighbours being active.

Positioning emphasises local, informal and community-driven use rather than predictability.

The business model requires recurring use to sustain the network.

The subscription model (€29.88/year) is a fixed constraint for this project.

3.2 CUSTOMERS

3.2.1 User profile and groups

Peerby users do not form a homogeneous target group. In theory, any type of object can be borrowed or rented via the platform, which attracts a broad spectrum of users. Still, based on internal communication (Peerby, internal communication, 2025) and recent literature on peer-to-peer sharing, it is possible to create a profile. Peerby mainly appeals to urban residents with limited storage space, who are used to digital services and live daily lives where time, convenience and cost are central considerations. This aligns with the broader shift towards access-based consumption among urban millennials and Gen Z, where access and flexibility outweigh ownership (Akhmedova et al., 2020).

Within this broader target group, three recognisable subgroups can be distinguished.

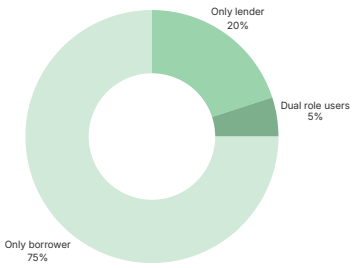


Figure 9: User group distribution

Borrowers (±70-80%): The largest group consists of borrowers. These users come to the platform with a specific need: a DIY project, party, move or one-off event. Motivations differ, but cost savings and convenience tend to dominate.

Lenders (±15-25%): This group makes items available but don't borrow themselves. Their reasons range from putting unused items to good use to strengthening local ties or receiving a small fee.

Dual role users (±4-8%): A smaller group both borrows and lends. Literature describes this segment as the most developed form of peer-to-peer participation, because they score relatively high on social and ecological values (Hansmann & Binder, 2023).

In terms of lifestyle, most Peerby users share some characteristics. They live compact, urban lives, have busy schedules and are digitally savvy enough to quickly use services via apps. Although sustainability and social values may play a role, cost savings, convenience and proximity are the most dominant drivers, consistent with findings from broader sharing economy studies (Akhmedova et al., 2020). An important part of Peerby's appeal is its local character: borrowing within the neighbourhood feels more accessible, faster and less weighty than remote alternatives, a pattern that is also reflected in marketplace and neighbourhood platform studies.

3.2.2 Behaviour and social norms

In most cases, the use of Peerby is episodic. The average user borrows only once or twice a year, often just for a specific project. This episodic consumption pattern is characteristic of peer-to-peer access platforms worldwide. Seasonal patterns reinforce this: in spring and summer, demand for DIY and gardening equipment increases; towards winter, there is more demand for party and decoration supplies. Behaviour on the platform follows a recognisable sequence. Users first search for a specific item. If there is no immediate offer, a general neighbourhood request is posted, which reaches a larger part of the community. The choice of who to ultimately borrow from is mainly determined by proximity, followed by response speed, clarity of communication and the reliability that emerges from someone's profile. For lenders, the threshold is lower: they respond when it suits them and when the request is perceived as reliable or clear.

Because transactions take place within the neighbourhood, the social context plays a major role. Neighbours are generally seen as 'semi-familiar': recognisable, but not personal. There are unwritten behavioural norms such as communicating politely, returning items on time and handling them with care. These norms and the expectation of reciprocity are in line with literature that emphasises that social interaction and normative expectations are at the core of peer sharing (Hawlitschek et al., 2016).

Not every user fits equally well into this ecosystem. Peerby works best for city dwellers who are open to brief contact, can be flexible in their arrangements, and accept the minor uncertainties of peer-to-peer exchange. Less suitable are users who expect complete predictability, immediate availability or instant service. Digital literacy also plays a role: users that have difficulty navigating the platform or understanding the membership model are more likely to drop out (Peerby, internal communication, 2025).

3.2.3 Main takeaways

Peerby users prefer access over ownership and mostly borrow for occasional needs.

The platform appeals because it is local, low-cost, human and informal.

Behaviour is driven by proximity, convenience and digital ease.

Peerby's success depends on the activity and variety of neighbours in each area.

Peerby fits the broader shift toward flexible, community-driven access, where human interaction remains central.

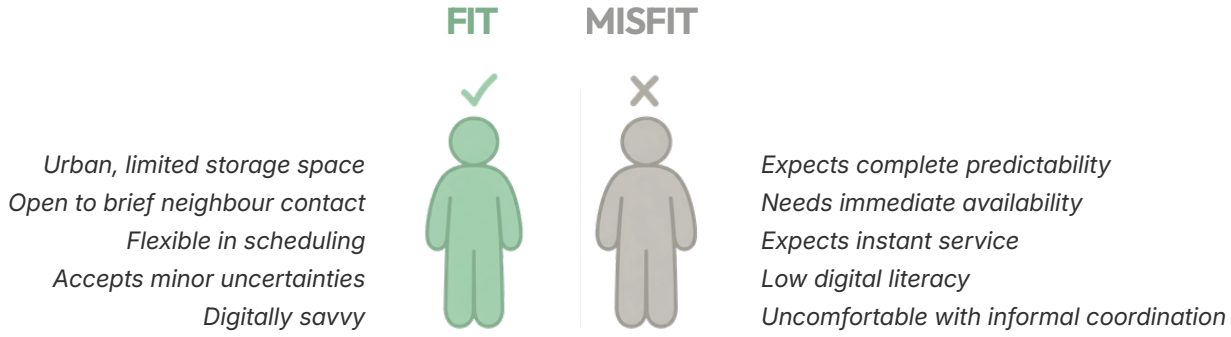


Figure 10: User fit and misfit with Peerby's current model

3.3 COMPETITORS

Peerby does not operate in a traditional competitive market with one clear rival. Instead, it competes with an entire ecosystem of alternative ways to 'get something quickly,' varying from highly professional platforms to informal neighbourhood channels. Internal communication and previous marketplace studies show that users compare Peerby primarily on three dimensions: effort, certainty, and dependency on others (Hawlitschek et al., 2016; Peerby, internal communication, 2025). This creates a layered competitive landscape that can be understood in three concentric zones (Figure 11.1): peer-to-peer benchmarks, neighbourhood-based options, and functional substitutes.

Because transactions take place within the neighbourhood, the social context plays a major role. Neighbours are generally seen as 'semi-familiar': recognisable, but not personal. There are unwritten behavioural norms such as communicating politely, returning items on time and handling them with care. These norms and the expectation of reciprocity are in line with literature that emphasises that social interaction and normative expectations are at the core of peer sharing (Hawlitschek et al., 2016).

3.3.1 Peer-to-peer benchmarks

Within Europe, there are three platforms that most closely resemble Peerby in structure and intention: Hygglo, Sharely, and Poppins Sharely was founded in 2013, making it roughly contemporary with Peerby (2012). Hygglo was founded in 2016 and acquired Fat Llama in 2022; the Fat Llama brand was later fully merged into Hygglo in November 2025. Poppins entered the market in 2025. Despite this range in platform maturity, all three have implemented more standardised, automated transaction processes than Peerby currently offers. In several respects, they have moved faster in addressing core user friction points, not because they are inherently better platforms, but because they have made different design choices that prioritise transactional clarity over social flexibility.

The difference is not philosophical but operational. Where Peerby has an open-ended chat system that accommodates social negotiation but creates coordination overhead, these platforms have chosen to constrain user behaviour in ways that reduce uncertainty and accelerate decision-making. This comes at a cost: less flexibility and less neighbourhood character. But it solves the friction problem more directly.

Figure 11.1: Three layer competitor landscape

Hygglo operates as a large scale peer-to-peer rental marketplace across Scandinavia and the UK and is now expanding to the US and Canada. What makes it feel faster and more predictable than Peerby is information architecture: listings are almost never empty, availability is visible through integrated calendars, and users can send requests without initiating chat first. Verification badges, response time indicators, and ratings are displayed at the listing level. The payment model also differs: Hygglo charges per-transaction fees (20%) rather than requiring upfront membership, removing the barrier to first use.

Sharely, active in Switzerland since 2013, prioritises clarity through explicit rules: lenders have 24 hours to confirm requests, borrowers are only charged if the request is accepted, and free cancellation is available until the day before rental. The platform uses 'Power Lender' badges to signal reliability, and insurance coverage (up to CHF 15,000 / approximately €15,600) is communicated clearly on each listing. Like Hygglo, it charges per-transaction fees (20%).

Poppins, launched in France in 2025, demonstrates that peer-to-peer platforms can match the polish of commercial services. It uses AI-generated images when listings lack photos, ensuring no listing looks incomplete. The interface includes gamified onboarding ('Complete your profile: 75%'), explicit insurance communication ('Poppins Protection' up to €5,000), and visible verification badges. It also charges per-transaction fees (20%).

All three platforms have invested in reducing coordination overhead, listing incompleteness, and response unpredictability problems Peerby still tolerates. They achieve this through enforced completeness, visible availability, explicit time constraints, and lower entry barriers. These are design choices, not inherent advantages, and they come with trade-offs: less flexibility and less neighbourhood character. But they make borrowing feel faster and more predictable.

A detailed interface comparison with screenshots is provided in Appendix B.

3.3.2 Neighbourhood based alternatives

The middle circle consists of informal neighbourhood channels such as Nextdoor, Facebook Groups and WhatsApp neighbourhood chats. These are not sharing platforms in a technical sense, but social networks in which a single message can reach lots of nearby people instantly. For many users, this is the first reflex. The barrier is almost zero: there is no onboarding, no profile, no rules, just a message in a group they already use daily (Peerby, internal communication, 2025). In the more active neighbourhoods, responses can appear within minutes. It feels personal, familiar and free.

However, this model is extremely volatile. There is no database, no insurance, no structure and no guarantee anyone will respond. The value depends entirely on the momentum and social activity of the group. These channels are fast, but chaotic; trusted, but unreliable; accessible, but not scalable. Peerby competes with these options on reliability and organisation, but loses on effort and immediacy.

Table 1: Peer-to-peer rental platform comparison

Platform	Cost model	Insurance coverage	Listing quality	Availability calendar	Response time rules	Verification badge	Interface feel
peerby	€29.88/year + 15% fee	Up to €2,500	Variable (empty listings common)	No	No	No	Community-focused, informal, chat-dependent
hygglo	20% transaction fee	Up to €3,000	High (photos, ratings, descriptions standard)	Yes	Average response time shown	Yes	Marketplace-like, transactional, information-dense
sharely	20% transaction fee	Up to €15,600	High (complete listings, clear conditions)	Yes	24 hour confirmation rule	Yes (& power lender)	Clean, structured, professional
poppins	20% transaction commission	Up to €5,000	Very high (AI-generated images if missing)	Yes	Response time shown	Yes	Polished, modern, app-first, gamified

3.3.3 Functional substitutes

The outer circle of competition consists of solutions that satisfy the same underlying need ('I need something now'), but through completely different mechanisms. Second-hand marketplaces:

Platforms such as Marktplaats and Facebook Marketplace offer vast supply and high response rates. Listings can now be completed with AI-generated descriptions, making the process easier. Users appreciate that items do not need to be returned. Some users also use these platforms to rent out items, blurring the line between buying and sharing. However, these platforms are less sustainable, not neighbourhood-focused and carry a risk of scams.

Commercial rental: Companies like Boels, Praxis and Karwei provide professional equipment, predictable stock, transparent pricing and the ability to reserve online. These options make sense for larger or more precise projects. They are more expensive and not local or circular, but highly reliable. A user renting from Boels knows exactly what they will get, when they will get it, and what it costs. A certainty that Peerby currently cannot match.

Online retail: Buying from Bol.com or Amazon remains the dominant behaviour pattern. Users know what to expect: next-day delivery, low prices, infinite stock and complete independence from others.

This predictability and speed are difficult for any peer-to-peer platform to match, and internal communication confirms that retail is perceived as Peerby's strongest competitor (Peerby, internal communication, 2025). For many users, the thought process is simple: 'For €15, I won't bother with alternatives.'

It is important to note that buying is fundamentally different from sharing. Retail platforms do not offer peer-to-peer transactions or temporary access to goods, so they are indirect competitors rather than direct alternatives. However, in the moment of decision, this distinction may matter less to the user than the simple question: 'How do I solve my problem with the least effort?' When the answer is retail, Peerby loses. Not because retail offers the same thing, but because it requires less effort and provides more certainty.

The matrix (Figure 11.2) shows how alternatives to Peerby compare in terms of speed and human involvement. Retail (Bol, Amazon) and commercial rental score high on speed and predictability, with minimal human interaction. Hygglo, Sharely and Poppins are in the middle: faster and more streamlined than Peerby thanks to complete listings, visible availability and direct payment. Neighbourhood apps, on the other hand, are extremely human-dependent but often surprisingly fast. Peerby is in the quadrant where community, proximity and variability come together. Unique, but less predictable than the 'fast' alternatives.

Figure 11.2: Perceived mapping of speed versus human involvement

3.3.4 What this means for Peerby

This is why Peerby does not compete with a single platform, but with an entire chain of convenient alternatives. The main competitive forces are speed, predictability and effort reduction, rather than any one company. At the same time, Peerby offers a combination that no other option provides: local, social, circular and insured peer-to-peer access. This unique value proposition places Peerby in a distinct position within the sharing economy, but also exposes its vulnerabilities in terms of effort and variability.

3.3.5 Main takeaways

Peerby competes with an entire ecosystem, not one platform.

Users choose based on effort, certainty, and independence. Not ideology.

Peer-to-peer benchmarks have implemented more streamlined transaction processes

These platforms offer lower barriers, clearer availability, and less chat dependency through enforced completeness, visible availability, explicit time constraints, and per-transaction pricing.

Neighbourhood apps are fast but unreliable; users are already active there.

Retail and commercial rental win on speed and certainty but are not sustainable.

Online retail is an indirect competitor. It solves the same problem but is not sharing.

Peerby's value is unique but currently harder to access than alternatives.

3.4 COLLABORATORS

Peerby has surprisingly few structural collaborations. At the moment, they only collaborate with two municipalities. In Veenendaal, there is a collective membership in two neighbourhoods: residents can use Peerby there for free for a year, financed by the municipality.

Figure 12: Peerby's Instagram post promoting the municipality-funded free membership in Veenendaal (September 2025)

This led to a clear increase in activity. Peerby's CEO mentioned an increase of about 8% in new members (Peerby, internal communication, 2025). A similar scheme is running in Ede, but at neighbourhood level. There are virtually no commercial partners. There have been pilot schemes in the past, but these have not resulted in any lasting partnerships. Experiments were conducted with Nextdoor, but these lacked focus and had too little impact to be continued. At Praxis, there was a drop-off point in the shop: a model that worked for Peerby, but did not generate enough volume for Praxis. That is why it was discontinued. A model was tested with Kärcher whereby users could rent high-pressure cleaners via Peerby. Attractive in theory: Peerby provides the leads, Kärcher supplies the equipment. But in practice, the volume was too low to make it profitable.

Collaboration with local authorities clearly works differently. Local authorities can do something that Peerby itself can hardly force: create local critical mass in one go. The letters, local legitimacy and free access ensure more listings, more demand and more transactions. It is a win-win: the local authority scores on circularity and connection, and Peerby gets a neighbourhood that comes to life more quickly.
Outside of these municipal projects, Peerby mainly has operational suppliers: a bailiff and a private detective agency to assist in recovering unreturned items and handling cases of theft or fraud, and a party that answers the phone. However, these are not 'partnerships' in a strategic sense; there is no shared vision or joint ambition.

3.4.1 What this means for Peerby

Peerby is currently simply too small to retain large partners in the long term, unless those partners are highly motivated themselves. The platform cannot yet deliver sufficient consistent volume to keep commercial parties interested. Municipalities are the exception to this, because they derive value from social impact rather than purely from transaction figures. For their retention issue, this means that Peerby should not rely too heavily on external parties. Municipalities can help to start up activity in new neighbourhoods, but sustainable retention will ultimately have to come from the product and the experience itself.

3.4.2 Main takeaways

Peerby has hardly any structural partners. Currently only Veenendaal and Ede.

Commercial pilots failed mainly due to low volume.

Municipalities can create critical mass, but they do not fundamentally solve retention.

Sustainable retention must come from the platform experience itself, not from partnerships.

3.5 CONTEXT

To understand the broader context in which Peerby operates, a PESTEL analysis was conducted. This examines political, economic, socio-cultural, technological, environmental, and legal factors that shape the platform's operating environment. The analysis shows that while external conditions favour sharing in principle, none of these layers automatically leads to higher or repeated use.

3.5.1 PESTEL analysis

Municipalities are playing an increasingly active role in achieving their circularity goals for 2030 and 2050. Dutch policy documents identify local governments as key actors in implementing circular practices and stimulating sharing, repairing and reusing (PBL, 2021; Rijksoverheid, 2023).

This layer could create opportunities for Peerby, but does not directly solve the retention problem.
Cost savings are one of the strongest drivers in the sharing economy (Habibi, 2019; Lamberton & Rose, 2012). But this motivation is episodic: people use platforms to gain temporary access, not to build a routine (Akbar, 2019). Economic factors explain short-term peaks in use, not long-term retention.
Sustainable intentions are growing, but behaviour lags behind. Intention is not the same as action, especially when it involves effort (Piscicelli et al., 2015; White et al., 2019). Peerby fits with what people would like to do, live more sustainably and buy less, but less with what they actually do. Social norms around sharing are positive, but as soon as the process becomes difficult, people fall back on buying (Böcker & Meelen, 2017).

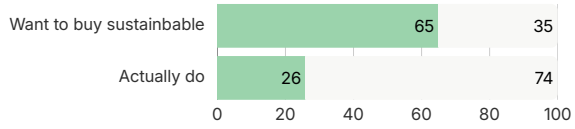


Figure 12: The intention-action gap in sustainable consumption (White et al., 2019)

Municipalities are increasingly active in their circularity goals for 2030 and 2050, identifying sharing and reuse as key strategies (PBL, 2021; Rijksoverheid, 2023).

Platforms across the sharing economy have established user expectations around immediate availability, fast feedback loops, visible reputation systems, and consistent UX (Smilevska et al., 2025). These platforms show the possibilities in peer-to-peer and marketplace contexts. Availability signals, predictable response times, and structured transaction flows. Peerby's current implementation (limited matching, unclear availability, and minimal reliability signals) falls short of these established patterns.

AI enrichment, such as better matching, trust signals, predictions and streamlined flows, is becoming increasingly normal within the sharing economy (Chen et al., 2021; Neifer et al., 2024). This is a logical route to reducing friction, but dependence on neighbours remains a structural factor that will never completely disappear.

Circularity and consumption reduction are becoming increasingly important to society, and Peerby really aligns with this mindset (Henry et al., 2021). Besides, environmental motivation is almost never the primary reason for borrowing. It reinforces a positive attitude, but does not automatically translate into consistent behaviour when extra effort is required. For local authorities, this layer remains relevant: Peerby fits well with their sustainability and circular ambitions.

In the Netherlands and the EU, sustainability regulations are increasing legitimising models that revolve around sharing and reuse (European Commission, 2020). Consumer protection and data transparency are primarily minimum requirements that every platform must meet. This layer is not restrictive for Peerby, but mainly outlines preconditions. Future regulation, such as the EU Data Act and new rules on AI transparency, may become relevant for the use of algorithms, reputation systems and recommendations - especially as explainability becomes an important part of trust in digital systems (Stevens & Bossauer, 2020; Neifer et al., 2024).

3.5.2 Main takeaways

External conditions favour sharing but don't generate retention.

Economic motives spark usage, not habit formation.

High UX expectations from other platforms exposes Peerby's frictions.

Sustainability supports the mission, but only low effort really influences repeated behaviour.

Overall: the context enables sharing, but long-term retention will only grow if the product experience becomes easier, clearer and more reliable.

3.6 KEY FINDINGS

3.6.1 Filtering market insights

The 5C analysis generated many new insights. However, not all of these are directly relevant to the retention problem. Therefore, the insights that actually explain what the reasons are that users do not return to the platform were first filtered out. Only the insights that contribute to this have been included. This selection was made on the basis of five behavioural mechanisms that are further looked into in the literature review: trust, effort, perceived value, engagement and habit formation. To do this, thematic clustering was used, following the synthesis and pattern recognition approaches described by Kumar (2019) and the Delft Design Guide: recognising patterns, grouping overlapping insights and retaining only the core (see Appendix C). This clustering was validated using three AI tools; the full validation process is documented in Appendix D. This clustering has resulted in a compact set of insights, showing that the retention problem is not a problem on its own, but the result of specific tensions between the platform's design and the market reality.

3.6.2 Clustered insights and tensions

Trust vs. systemic uncertainty: while Peerby claims to be effortless, the dependence on neighbours creates unpredictability. Unlike professional rental, supply is not guaranteed. Which hinders the user's ability to form a reliable mental model of Peerby.

Effort vs. convenience of retailers: users do not compare Peerby to other sharing apps, but to the zero-friction experience of retail (Bol.com/Amazon). The market standard for convenience is immediate access, which Peerby currently fails to match because of its reliance on neighbours.

Perceived value vs. transactional mindset: the theoretical value (sustainability/community) is high, but the experienced value drops as soon as friction occurs. The analysis shows that users handle with a transactional and functional mindset, Instead of an ideological mindset.

Engagement vs low perceived pay off: interactions don't feel rewarding enough. social features rely on neighbour to neighbour connection, but most users behave functionally and don't experience a reason to engage other than the immediate transaction

Habit potential vs. episodic reality: there is a big mismatch between the revenue model and their user behaviour. Peerby relies on an annual subscription, which implies that users use it regularly. However, the actual usage is only episodic (once or twice a year)

Since the subscription model is financially necessary for the platform (Peerby, internal communication, 2025), the design must justify this cost by offering a tangible counter-value rather than trying to force frequent use.

3.6.3 Preliminary core problem

The 5C analysis reveals that Peerby operates in a convenience gap. Users want to share, but the market context (dominance of retail) and the platform structure (unpredictable supply) create too much friction. Currently, the effort of coordination outweighs the value of access. However, while the 5C analysis identifies that these tensions exist, it does not fully explain how they influence human behaviour. Why is habit formation so difficult in episodic contexts? And does uncertainty make users less likely to use the platform again? To understand the psychological mechanisms behind these market tensions, the next chapter applies the theoretical lens to investigate the literature on trust, effort, and retention.

04

Theoretical Lens

LITERATURE REVIEW

What the literature says about effort, trust, and retention in sharing

Mental effort predicts dropout more than any other factor.

The 5C analysis defined the market context. This chapter applies the theoretical lens, diving deeper into the behavioural psychology of the user. Following the research steps of Kumar (2019), theoretical factors must be defined before testing them in the real world. By synthesising academic literature on trust, effort, perceived value, engagement and habit formation, this chapter aims to uncover why peer-to-peer sharing so often fails to become a routine, and to identify the drivers and barriers that determine whether a first-time user becomes a returning participant.

4. LITERATURE REVIEW

The five behavioural drivers structuring this review (trust, effort, perceived value, engagement, and habit formation) were not chosen randomly. They emerged from clustering the 5C insights into themes (section 3.6). To validate this clustering, the raw insights were independently coded using three AI tools. All three identified the same four themes: effort, perceived value, trust, and habit formation. Engagement appeared less prominently, suggesting it may function as a secondary factor but was included to ensure full coverage. Academic research on sharing platforms confirmed these as recurring factors linked to retention.

The search strategy per driver is detailed in section 2.3 and Appendix A.

4.1 TRUST

4.1.1 Defining trust in peer-to-peer contexts

Trust is a key factor in overcoming uncertainty and mitigating risk in peer-to-peer transactions (ter Huurne et al., 2017). In the sharing economy, that trust is crucial, because it revolves around transactions between strangers. Certainly in urban contexts, where neighbours often do not even know each other, sharing is not self-evident (Marvi et al., 2023). Trust therefore acts as the lubricant that makes interaction possible in the first place (Marth et al., 2022). Without that basic sense of security, sharing simply does not happen. The literature distinguishes between two forms of trust: interpersonal trust and platform trust (Li & Wang, 2020; Berg et al., 2020). Interpersonal trust is about trust between users, whether someone returns their items in good condition and keeps their agreements. Trust in other people is a significant predictor of peer platform usage, with uncertainty about the reliability of others, quality, and payments acting as key barriers (van der Cruijsen et al., 2018). These two forms of trust are strongly connected. Trust in the sharing economy is hierarchical: high trust in platform providers positively influences trust between users, and vice versa.

This spill-over effect can also work negatively. A lack of trust in the platform undermines trust between peers (Möhlmann, 2016). Trust is closely tied to perceived risk: the higher the trust, the lower the sense that something might go wrong (Marth et al., 2022). Trust serves as a mechanism to navigate uncertainty in interactions with strangers, encompassing both psychological and sociological dimensions (Räisänen et al., 2021). Platforms cannot remove all risks, but they can create conditions in which users feel safe enough to share (Li & Wang, 2020).

4.1.2 Trust and retention

Trust lowers barriers, reduces risk and makes participation possible in the first place (Akhmedova et al., 2020). It is necessary for both first-time and repeated use. High trust ensures that users return more quickly, while a lack of trust often leads to one-time participation. This has an impact on the entire ecosystem: more trust means more activity, and more activity improves the credibility and reliability of the platform (Marvi et al., 2023). It functions as a reinforcing loop (Figure 13). For platforms such as Peerby, this network effect is essential. Without active trust, the system collapses.

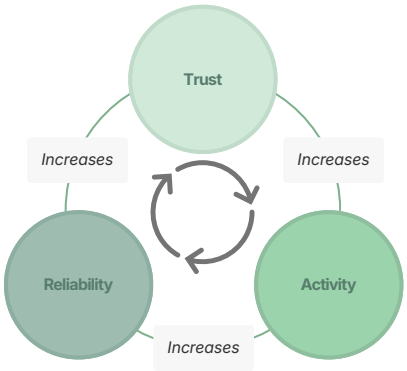


Figure 13: Trust-activity reinforcing loop

Sharing platforms use various mechanisms to stimulate trust. The most important are reputation systems and reviews, identity verification, insurance or guarantees, transparent communication and community interaction (Li & Wang, 2020; Marth et al., 2022). Reputation systems work especially well when there is enough and honest feedback. But in reality, reviews are often too positive or too scarce to be representative (Berg et al., 2020). Local proximity and familiarity between sharing partners promote trust, as traditional face-to-face sharing involves greater reciprocity than online sharing (Hansmann & Binder, 2023). In smaller communities, trust has traditionally been built through familiarity, where people know each other personally (Berg et al., 2020). Trust also develops over time. For potential consumers, platforms need to create an initial sense of trustworthiness through their website and communication before participation can occur (Marth et al., 2022). However, it is only after positive experiences that stable trust develops: knowledge about sharing and positive emotions during sharing are consistently related to repeated participation (Hansmann & Binder, 2023). This second type of trust is important for retention: users do not stay because they hope that things will go well, but because they know that things are going well.

4.1.3 Key insight

Trust is often seen as the foundation of the sharing economy, but Peerby's current design actually works against it. Right now, the platform tries to force trust by putting up barriers, like mandatory ID checks. This creates a 'trust deficit': users have to hand over sensitive private data before they have even experienced any value or reliability. Research shows that in a neighbourhood, trust is not built by bureaucracy, but by recognition. It is simple: seeing a real, human neighbour feels much safer than dealing with an anonymous profile. Therefore, Peerby needs to turn it around. Instead of demanding trust at the front door (verification), it should focus on making that first interaction easy, human, and low-risk. Trust is not something you can gatekeep. It is something you have to earn through a smooth experience. Verification and insurance still have a role. The problem is not their existence but their placement: as visible signals during the interaction they support confidence, as mandatory barriers at the start of the funnel they block entry.

4.2 EFFORT

4.2.1 Types of effort

Effort is about more than just a button working or a page loading fast. In the literature, it is seen as one of the strongest predictors of whether someone will actually stay on a platform. The concept breaks down into two distinct layers. The first: technical ease. Does the system work? Is it fast, stable and bug-free? This is the baseline quality that Ye et al. (2024) identify as having a significant positive impact on perceived ease of use, which in turn influences users' adoption intentions. The second layer is mental effort. This is the more significant barrier (Blut & Wang, 2024). It refers to the mental load: the energy it takes to search, the uncertainty of waiting for a reply, and the puzzle of coordinating a pickup time. As discussed in the previous section on trust, a smooth experience makes users feel safe. But when mental effort increases, for example when a user has to wonder 'will they reply?' or 'is this available?', the satisfaction drops immediately.

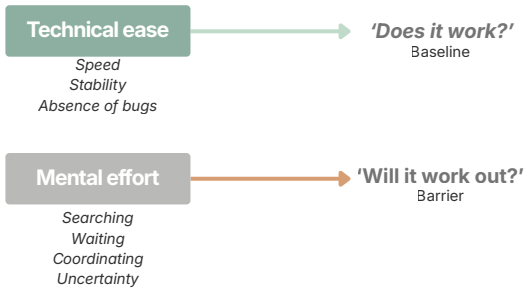


Figure 14: Two layers of effort in peer-to-peer sharing

This ease of use is important because sharing faces an unfair fight. It almost always requires more effort than buying. We live in a world where webshops like Amazon and Bol.com have standardised the zero-friction experience: super fast purchases and same-day delivery. (Amazon, 2025). Against this, sharing requires multiple steps: searching, contacting, coordinating, picking up, using, and returning. As Diego Pavía Bardají noted in his keynote speech at the Conferentie Circulaire Consumptiegoederen (2025), consumer behaviour is highly dependent

Figure 15: Diego Pavía Bardají presenting at the Conferentie Circulaire Consumptiegoederen (2025).

on habit and reward: the easier and faster something is, the faster the behaviour forms. People have grown up in a linear buying culture and have a low tolerance for hassle. Platforms that do not make that process as smooth as possible risk to lose their users after just one experience.

Importantly, this mental effort is not only driven by actual delays, but also by perceived uncertainty. Recent research on peer-to-peer platforms distinguishes between informational uncertainty and subjective uncertainty (the feeling of not knowing) (Pérez López et al., 2025). The authors argue that 'not knowing what awaits might be experienced even more acutely than not having information about something in particular.' For Peerby, this means that a user waiting with a clear status indicator experiences less mental load than a user waiting without knowing whether anyone will reply. Even if the actual wait is shorter.

4.2.2 Effort and participation

Effort acts as a gatekeeper. According to the technology acceptance model (Figure 16) (Davis, 1989), perceived ease of use is the primary driver of intention. If it feels hard, people simply won't do it. Later studies confirm this applies heavily to the sharing economy: high effort makes the transition from trying it once to doing it again almost impossible (Perišić Prodan et al., 2025)

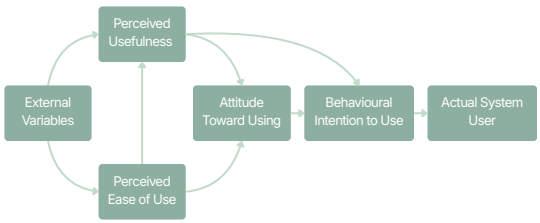


Figure 16: Technology Acceptance Model (Davis, 1989)

Ease influences behaviour in two ways. Directly, less friction simply means more usage. Indirectly, a smooth flow signals safety. Users unconsciously link a bad interface or a slow process with unreliability. A system that works seamlessly automatically feels safer and more trustworthy (Ye et al., 2024; Blut & Wang, 2024). Hansmann and Binder (2023) confirm this: saving time and effort is a significant motivator for sharing economy participation, alongside ecological, social, and economic benefits. System quality increases perceived ease of use, which positively affects adoption intentions (Ye et al., 2024). Low computer skills also reduce perceived ease of use, meaning platforms must be intuitive even for less digitally experienced users (Hsiao et al., 2018). In practice, this translates to features such as speed, instant matches, automation, clear status updates, transparency and simple communication flows. To win, a platform must offer these consistently. However, Davlembayeva et al. (2020) warn that when platforms focus too much on efficiency, the social and emotional dimension of sharing may disappear. A platform that feels overly transactional loses the human quality that might define peer-to-peer exchange.

4.2.3 Key insight

This analysis shows Peerby's biggest vulnerability. The platform is not just competing with other sharing apps, but with the zero-friction ease of buying new (like Bol.com). Research confirms that users are cognitive misers: even with green intentions, they will always choose the path of least resistance. For Peerby, reducing friction is therefore not just an upgrade, but a survival necessity. As long as the mental effort of borrowing is higher than simply clicking 'buy', borrowers will not return. This load comes not only from actual waiting, but also from simply not knowing what will happen next. The design challenge is to automate the hassle until borrowing becomes almost as convenient as retail.

4.3 PERCEIVED VALUE

4.3.1 Value dimensions

Perceived value in the sharing economy is the overall judgment users make: what do I get, and what does it cost me in time, money, effort, and risk? (Gadeikienė & Svarcaite, 2021; Moghimian Borujeni et al., 2022). Unlike traditional shopping, this value has many dimensions. Studies show four recurring dimensions: functional, economic, social, and emotional value (Gadeikienė & Svarcaite, 2021). Economic value is considered the most important driver, while functional value, covering convenience, reliability and flexibility further shapes the user's assessment (Gadeikienė & Svarcaite, 2021). Moral or sustainable value plays only a complementary role and becomes more important when users are already motivated (Hansmann & Binder, 2023).

A sharing experience is considered valuable when the benefit clearly outweighs the total effort invested. Functional value comes from finding the right item quickly, without friction, and at a fair price (Zhang et al., 2021). Emotional value comes from a smooth, relaxed experience without unnecessary uncertainty (Cueva et al., 2022). Social values come up through pleasant, respectful and predictable interactions (Moghimian Borujeni et al., 2022). The mix of these different determines if sharing feels worth it.

4.3.2 Value and satisfaction

As discussed in (4.2), effort and uncertainty directly reduce perceived value. Users quickly lose value when they face unclear availability, slow responses, waiting, mismatches or confusion about damage handling (Hansmann & Binder, 2023). These frictions undermine functional value and raise mental effort. This aligns with Zhang et al.'s (2021) findings that functional value depends on reliability, convenience and flexibility. Inconsistency reduces perceived value even more. When some experiences are smooth and others disappointing, satisfaction becomes unstable (Cueva et al., 2022). Although Cueva et al. focus on hospitality platforms, the same mechanism applies to peer-to-peer contexts: inconsistency creates uncertainty, and uncertainty lowers value.

Satisfaction is the evaluation afterwards: was it worth it? Cueva et al. (2022) show that satisfaction is linked to perceived quality and trust. In this study, this translates to a smooth process without unexpected issues. Zhang et al. (2021) show in peer-to-peer accommodation that perceived value positively influences repeat purchase intention. Other studies confirm the same mechanism for sharing platforms. Because sharing platforms involve more uncertainty than regular online shops, the threshold for dropping out is lower. A single negative experience can permanently reduce perceived value.

Value communication is often too abstract. Many platforms emphasise rational benefits while missing on the social and emotional value. Even though these are strong predictors of repeated use (Hansmann & Binder, 2023; Moghimian Borujeni et al., 2022).

4.3.3 Key insight

This section shows that Peerby's problem is mainly about reliability, not idealism. Borrowers judge the platform in a very practical way: is the benefit of borrowing worth the time, effort, uncertainty, and risk I have to put into it? When it feels like too much hassle, the value drops immediately. Platforms often talk about social or sustainable benefits but users (mostly) want certainty and convenience. For Peerby, this means people only return when the experience is consistently smooth. So to improve retention, Peerby must make the process predictable and without any frictions. Only then will users feel that the effort pays off, and that the transaction is worth it to repeat.

4.4 ENGAGEMENT AND COMMUNITY

4.4.1 Defining engagement

Engagement in a sharing network is about whether the platform feels like a natural part of a user's life. Engagement is a mix of mental, emotional and behavioural involvement (Marvi et al., 2023). Someone is considered engaged when the platform becomes part of their routine. So when they need something, they think of the platform immediately and feel comfortable using it.

Community in peer-to-peer platforms is built on humanity and proximity. Users want to feel they are dealing with real neighbours, not anonymous marketplace profiles. Recognisable profiles in combination with local context and just light quick positive interactions can help create that sense of 'we're in this together' (Marvi et al., 2023). Transparency strengthens community. Photos, names, verifications and visible activity of other users reduce possible uncertainty and make interactions feel predictable (Marth et al., 2022). Local proximity increases this because borrowing from someone around the corner feels socially safe and familiar (Hansmann & Binder, 2023). Fast and friendly communication also helps. Responsiveness indicates that the platform is alive.

4.4.2 What undermines engagement

Engagement drops quickly when user profiles are empty or missing photos. Being anonymous increases uncertainty and makes people less likely to participate (Marth et al., 2022). A cold or business-like atmosphere has a similar negative effect: when interactions feel too formal, the sense of community disappears. Social friction plays a big role too, things like not knowing the social rules, awkward chats, fear of conflict or damage, and simply not wanting to socialise for a small time can all lower the willingness to participate. Hansmann and Binder (2023) confirm that distrust of other sharers and concerns about dependence are significant barriers to participation. Low activity is another risk: few responses or slow conversations create the impression that the platform is dead which quickly reduces engagement (Marth et al., 2022).

Engagement, community, and trust work together in a self-reinforcing loop. Community builds trust because it helps users see exactly who they are dealing with. Trust then boosts engagement, because when things go smoothly and pleasantly, people are more willing to come back. Finally, that engagement strengthens the community by creating more activity and visibility for everyone. Studies describe this cycle simply: more community -> more trust -> more engagement -> more community. (Marvi et al., 2023). This loop is powerful but very fragile. One weak link can break the cycle.

4.4.3 Key insight

Engagement in peer-to-peer networks can feel binary to users: when a platform appears inactive, motivation to participate drops sharply. The literature shows that a sense of community and trust create a self-reinforcing loop. However Peerby currently risks breaking this cycle due to anonymous or inactive profiles. When users see empty profiles or have to wait for slow responses, the platform signals that no one is home, which immediately kills the motivation to participate. This means that Peerby cannot treat community features as just optional extras. Visible humanity is actually a functional requirement. Encouraging recognisable profiles and fast, friendly responses is the only way to remove the cold, transactional feeling that stops users from bonding with the platform. If the neighbourhood does not feel active and welcoming within the first few seconds the engagement is simply lost.

4.5 HABIT FORMATION

4.5.1 Why habits do not form

Habit formation in the sharing economy is far from automatic. A habit is behaviour that activates without conscious thought when the right situation appears (Soyer, 2025). Sharing however, is episodic. That means that people only borrow when a specific situation arises, and those situations are irregular and dependent on the context. This lack of stability and repetition makes routines almost impossible to build.

Buying on the other hand is fast, familiar and most importantly, deeply embedded in our culture. It is frictionless and supported by a strong infrastructure. Sharing is none of those things. It requires more steps and coordination, and heavily depends on other people. All factors that can disrupt habit formation. Habits need repetition in stable conditions so the brain can lock in a behavioural route (Putnam-Farr et al., 2023). Unpredictability undermines this, which makes it difficult for peer-to-peer platforms to create regular patterns. Studies on circular behaviour show the same mechanism. Habits will only form when behaviour is repeated, when it is low in friction and consistently rewarded (Soyer, 2025; Zimmermann et al., 2024).

4.5.2 What habit formation requires

Behavioural science lists several conditions for habits. Context stability is essential: you need the same behaviour in the same situation. And then repeated often (Grilli & Curtis, 2021). Low friction is also important. People only form habits for behaviours that require minimal mental effort. Practical barriers such as cost and convenience impede the adoption of circular behaviours (Koch & Vringer, 2023). On top of that, cues play a big role. Putnam-Farr et al. (2023) show that rightfully timed reminders do contribute significantly to sustainable behaviour. Immediate reward is another requirement. Quick and predictable outcomes then strengthen the habit loop. When outcomes feel far away in time or effort, people are less likely to develop consistent habits (Soyer, 2025). Peer-to-peer platforms struggle with this. Responses can be fast or slow. Sometimes a transaction goes well, but sometimes it is uncertain.

Inconsistency in service provision creates a significant barrier to habit formation. When results vary, users never feel that sharing just works. Social and psychological factors also interfere. Social cues help normalise behaviour (Zimmermann et al., 2024), but if few people share openly, it feels unusual rather than natural. Social risk, etiquette uncertainty and reliance on strangers all increase mental effort, which increases mental load and disrupts the automatic nature of habitual behaviour. Frequency is maybe the core challenge for habit formation in sharing: borrowing behaviour simply happens too rarely to build momentum.

The literature identifies several factors that make habit formation difficult in low-frequency contexts: uncertainty, variation, delayed rewards, and unpredictable experiences. Not knowing if something is available creates uncertainty that blocks routine formation. Inconsistency in quality prevent the brain from learning a predictable pattern. Delayed results then weaken the habit (Soyer, 2025). Yet habit formation is possible under the right conditions. Low effort and fast processes are essential for repeated behaviour, as practical barriers impede circular consumption (Koch & Vringer, 2023). Predictable experiences create the stability required for routines (Grilli & Curtis, 2021). Also normalisation and showing that others share too really helps shift behaviour from unusual to natural (Zimmermann et al., 2024). Emotional reward also plays a role. When sharing gives a positive feeling, it is more likely to do it again (Soyer, 2025). Habit formation therefore depends on the right combination of low friction with predictability, timing, visibility and meaning. As long as sharing remains episodic and inconsistent, habits will not form.

4.5.3 Key insight

Maybe the most important strategic shift is habit formation. Habits need stable repetition and consistency to grow (Grilli & Curtis, 2021). However, borrowing a drill or a party tent only happens once in a while. As a result, trying to create a habit in the scientific sense is a strategic dead end for Peerby. Instead of trying to force a daily or weekly routine, Peerby must design for

mental availability: ensuring that the platform is the first thing that comes to mind when a need arises. The goal is not to make users browse Peerby every day, but to make the connection strong enough to replace the automatic reflex to buy something new.

4.6 SYNTHESIS LITERATURE REVIEW

To identify the core problem behind low retention, the key insights from each literature theme were compared. Each section concluded with a key insight specific to Peerby's context. Table 2 summarises these findings.

Table 2: Key insights per literature theme

Theme	Key Insight
Trust	Trust cannot be forced through verification. It is earned through smooth experiences.
Effort	The real barrier is not physical effort but mental effort: uncertainty, waiting, coordinating.
Perceived value	Users think practically. If borrowing feels like hassle, the value disappears instantly.
Engagement	When the platform feels dead, users lose motivation immediately.
Habit formation	Borrowing happens too rarely to become a habit. Focus on being top of mind when the need rises.

When placed side by side, these insights point to the same underlying weakness in the peer-to-peer model: systemic instability. Systemic instability refers to the structural unpredictability that arises when a platform depends on the voluntary availability of individual neighbours rather than controlled inventory. Because supply is variable and responses are not guaranteed, the platform cannot deliver consistent outcomes. Three connections explain how this instability affects retention:

Trust depends on consistency. It must be reinforced through repeated positive experiences (Hansmann & Binder, 2023), but because neighbour availability varies constantly, the platform cannot guarantee this consistency.

Habits require stability. They need repetition under stable, low-friction conditions to form (Soyer, 2025; Grilli & Curtis, 2021). Since borrowing is episodic and irregular, the predictable triggers needed to build a routine are missing.

Value drops under friction. Perceived value depends on reliability and convenience (Zhang et al., 2021; Gadeikienė & Svarcaite, 2021). When the process becomes unpredictable or requires substantial effort, perceived value declines and repeat intention weakens.

4.6.1 Systemic instability model

When combining these insights, a concept model can be formed (Figure 17) The lack of consistency of the platform forces the user to invest more mental energy (checking availability, waiting for responses, and coordinating logistics). Therefore, the literature suggests that mental effort is the likely mechanism that causes users to drop out. When the platform experience feels unpredictable, the effort required to borrow an item simply outweighs the perceived value.

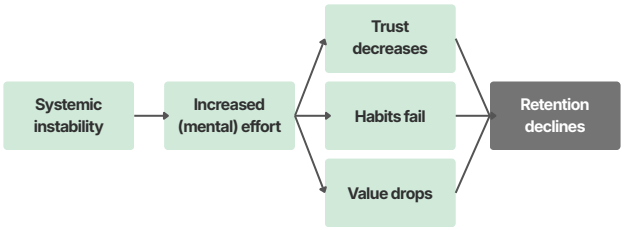


Figure 17: Systemic instability model

Systemic instability increases (mental) effort, which undermines trust, habit formation, and perceived value, leading to low retention. This model is a design framework, not a tested causal model.

Based on this model, a hypothesis develops for the next phase. The literature suggests that the effort caused by multiple different factors is the main driver of dropout. This leads to the guiding question for the interviews in Chapter 5: does this theoretical barrier match the real life experiences of Peerby users?

05

Human Lens

EMPIRICAL RESEARCH

What borrowers actually experience, in their own words

'I just want to know if I'm going to get it.'

The 5C analysis and literature review identified systemic instability as a potential barrier to retention. But a theoretical model is not enough to design from. Kumar (2019) emphasises that before quantifying a problem, it is essential to explore it qualitatively. This chapter applies the human lens, testing through interviews whether that barrier matches the lived experiences of Peerby users. What does instability actually feel like in practice? And what is the specific trigger that causes someone to drop out?

5. EMPIRICAL RESEARCH

5.1 METHOD

Semi-structured interviews were conducted following the framework by Kallio et al. (2016). Using this method, the participants were guided through the interview with a clear structure, but gave them enough freedom for different inputs. The interview guide (see Appendix E) was not filled with direct questions about mental effort. Instead, participants were asked to describe their experiences in their own words. This approach enabled identification of moments of difficulty or effort, based on how participants talked about their borrowing process.

The study focused only on borrowers. Peerby has sufficient supply (lenders) but struggles with retention of borrowers (Peerby, internal communication, 2025). Therefore, the retention problem is primarily a borrower issue. To gain a broad understanding, a group of 8 participants was recruited. The sample included both active and inactive users who had stopped using the platform, but at least used it once.

Table 3: Borrower interview participants

Participant	Age	Gender	User status	Context
B1	27	M	Active user	Mixed use (borrowing & lending), motivated by recurring usage.
B2	25	M	One time user	Price sensitive, dropped out after first use due to the subscription fee.
B3	38	M	Occasional	Motivated by convenience, low frequency user.
B4	30	M	Active Borrower	Value driven: prefers Peerby over rental companies due to lower cost.
B5	54	F	Stopped	Switched to free alternatives after paywall introduction.
B6	29	F	Occasional	Project based user, high need for specific tools.

5.2 KEY FINDINGS

The interviews revealed a clear disconnect between how Peerby presents itself (social/community) and how users experience it (transactional). The following patterns emerged regarding effort and retention.

Physical effort is not the barrier. Users indicated that cycling to a neighbour or transporting an item is acceptable and expected. As B1 put it: 'Picking up a product, I have no problem with that. I do not even consider it a threshold.' Physical logistics were almost never given as a reason to quit.

Mental effort is the bottleneck. The real friction lies in the mental effort required to coordinate. Users described the process of messaging, not knowing, waiting, and aligning schedules as the most exhausting part. B6 described it clearly: 'That is where most of the thinking power goes. Finding the item is easy, you just type it in. But then you have to message back and forth with that person and arrange the return as well.' This uncertainty creates a high mental effort that discourages repeated use.

'I use it ad hoc. I want it NOW.'

Speed equals reliability. Users often operate in an ad hoc mode: they are working on a project now and need the item now. B5 was direct about this: 'Reactions were sometimes very slow. Then it just does not work. Because I use it ad hoc. I want it NOW.' B4 confirmed the same pattern from a lender perspective: 'If it does not go fast enough and you do not get a reaction within ten minutes or within a day, you just do not do it. People forget about it and go to the petrol station to rent a trailer instead.' If a response takes too long, users switch to commercial alternatives immediately.

Transactional over social. Contrary to the platform's mission, most borrowers view Peerby as a functional tool, not a community builder. B2 reflected: 'Looking back, I think it is a great mission, but that was not my drive to rent something there. It was purely because I needed something.' Forced social interaction via chat was sometimes even experienced as inefficient. B1 noted: 'I found chatting with others a bit clunky. It all felt a bit clunky.'

The episodic mismatch. Users confirmed they only need items sporadically, once or twice a year. The annual subscription fee feels like a mismatch for this low frequency. B5 summarised the hesitation: 'I do not want that. I use it too little. I am afraid I will pay thirty euros for years without realising it.' This acts as a psychological barrier to return.

5.3 THE EFFORT-RETENTION MATRIX

The interviews confirm the hypothesis from the literature, but with a crucial nuance. The barrier to retention is not the physical effort of sharing, but the mental effort around it. This distinction is visualised in the effort-retention matrix (Figure 18). While users accept physical hurdles, mental effort acts a high barrier to retention.

As shown in the matrix, physical effort (bottom-left) has a surprisingly low impact on dropout. Users indicated that cycling to a neighbour or transporting an item is seen as a logical part of the deal. However, mental effort (top-right) acts as the killer. The uncertainty of waiting for a response, not knowing if the item will be available and the mental energy required to coordinate time and place are the decisive factors that drive users back to commercial alternatives like Boels or Bol.com.

5.4 TOWARDS QUANTIFICATION

The interviews identified mental effort as the core problem. But this is still a broad concept. To design an effective intervention, it is necessary to pinpoint exactly where in the user journey this mental effort becomes too high. Is it the uncertainty during searching? The social awkwardness of chatting? Or the logistics of the handover?

Therefore, a quantitative survey was designed to break down this mental effort into four specific phases. By measuring the friction at each touchpoint, the next chapter will validate these qualitative findings across a larger group of users.

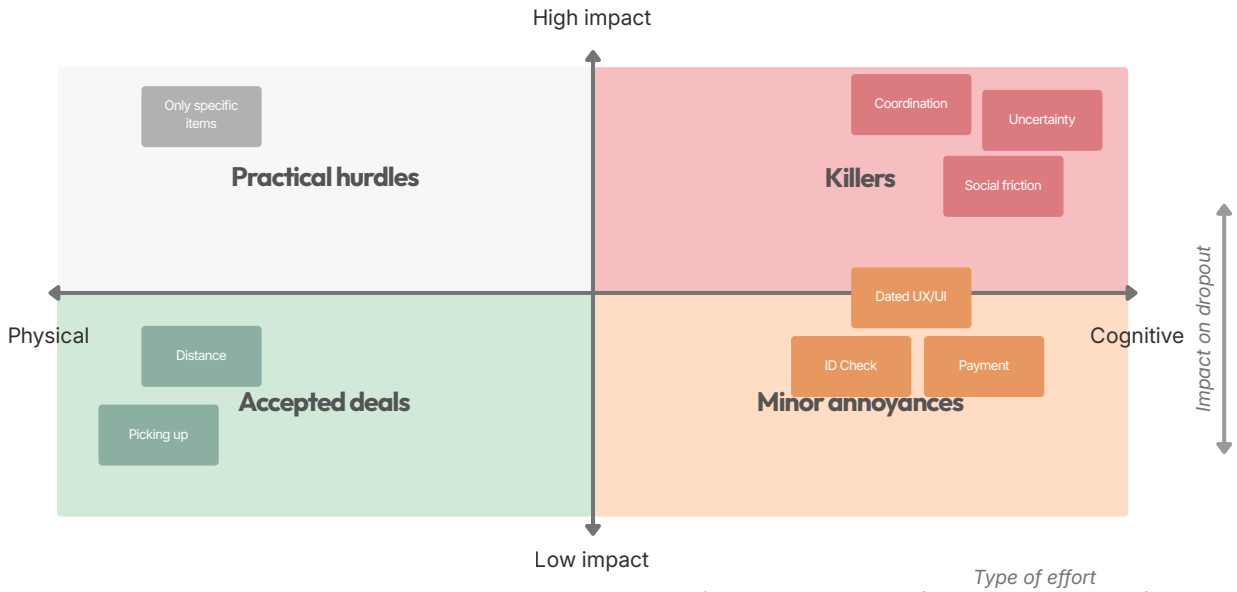


Figure 18: Effort-retention matrix mapping friction points by type (physical vs cognitive) and impact on dropout, based on interview findings

06

Validation Lens

QUANTITATIVE RESEARCH

Pinpointing where effort peaks across the borrowing journey

The bottleneck is not the pickup, it is everything before it.

The interviews identified mental effort as the primary barrier to retention. This chapter applies the validation lens, using a survey to move from exploring the nature of this barrier to measuring its impact. Simply knowing that it takes effort is not precise enough for a design intervention. It is necessary to identify exactly which type of effort weighs the heaviest. Is the bottleneck the uncertainty of finding an item? The social awkwardness of asking? Or the logistical puzzle of arranging a time? The goal of this survey was to dissect the user journey into four specific phases and quantify the friction at each step.

6. QUANTITATIVE RESEARCH

To break down mental effort into measurable components, the borrowing journey was divided into four phases, each representing a distinct type of coordination:

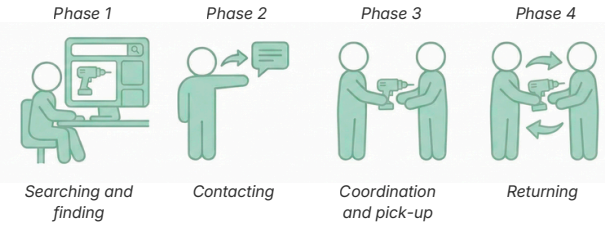


Figure 19: Four phases of the borrowing journey used to structure the survey

For each phase, three Likert-scale statements (1-5) measured perceived friction. Two additional items captured overall effort and perceived speed. Two open questions asked respondents to describe what worked well and what was difficult. The full survey design can be found in Appendix F.

6.1 METHOD

The survey included demographic questions, channel selection, and twelve Likert-scale statements (1-5) measuring friction across the four journey phases. Two additional items measured overall effort and perceived speed. Two open questions asked respondents to describe what worked well and what was difficult. The survey targeted people who had borrowed items from others in the past 18 months, regardless of the channel used. This broader scope was deliberate: users do not choose between Peerby and nothing. They choose between Peerby and whatever else is available, such as asking friends, posting in a WhatsApp group, or using neighbourhood apps like Nextdoor. By including multiple channels, the survey aimed to identify general friction patterns in peer-to-peer borrowing rather than platform-specific issues. The survey was distributed via social media, neighbourhood networks, and Peerby-related channels in late November 2025 over a period of one week. Responses were exported from Qualtrics as a CSV file. Descriptive statistics (means and standard deviations) were calculated using ChatGPT and Claude, based on the raw CSV data. Advanced statistical testing was not pursued, as the goal was pattern validation rather than hypothesis testing. A random sample of results was verified manually in Excel to confirm accuracy. The prompt used for this analysis is included in Appendix G.

6.2 RESPONSE OVERVIEW

A total of 177 people started the survey. Of these, 146 completed it. However, 64 respondents indicated they had not borrowed anything in the past 18 months and were filtered out after the first question. This left 82 respondents with recent borrowing experience of whom 81 completed all Likert items. Within this group, the large majority (n=71) had borrowed informally, via friends, family, or WhatsApp groups. Only 11 respondents indicated they had borrowed via an online platform.

This distribution reflects how dominant informal channels are in current borrowing behaviour, but it also limits the ability to draw platform-specific conclusions. The survey also collected data on borrowing frequency and item types, but given the sample size and the focus on friction validation, these variables were not analysed further. Table 4 summarises the sample.

Table 4 Survey sample

Description	n	%
Total started	177	-
Completed	146	100,00
Filtered out (no borrowing experience)	64	44%
Usable responses with likert data	81	56,00%
Borrowed via online platform	11	13%
Borrowed via informal channels	71	87%

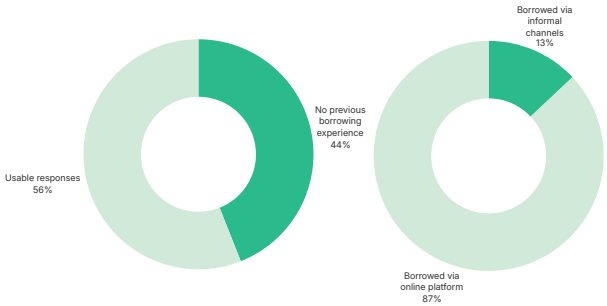


Figure 20: Survey response (left) and borrowing channel distribution (right) n=146

6.3 RESULTS

To compare friction across the four phases, the mean scores of the three items per phase were calculated. Figure 21 shows the results. All items were measured on a 5-point scale (1 = strongly disagree, 5 = strongly agree). Higher scores mean more friction (n=81). Phase 1 (searching and finding) scored highest (M=2.61), followed by phase 3 (coordination, M=2.13). Phase 2 (contacting, M=1.94) and phase 4 (returning, M=1.89) scored lowest.

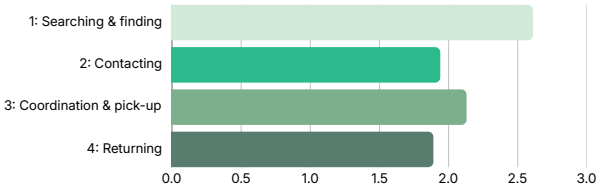


Figure 21: Mean friction scores across four borrowing phases (n=81)

Looking at individual items (Figure 22), the three highest-scoring friction items all relate to uncertainty and planning: not knowing whether the item would be available (M=2.98), not knowing whether someone would respond (M=2.64), and having to adjust planning for pick-up (M=2.48). The lowest-scoring item was 'the contact felt socially awkward' (M=1.85), suggesting that social discomfort is not a major barrier for most borrowers.

These findings match what participants said in the interviews, where waiting and guessing were described as the most tiring part of the process. Respondents rated overall effort at M=2.20 (SD=0.98), meaning borrowing was generally seen as low to moderate effort. The statement 'the process was faster than expected' scored M=3.35 (SD=1.10), suggesting most experiences met or exceeded expectations.

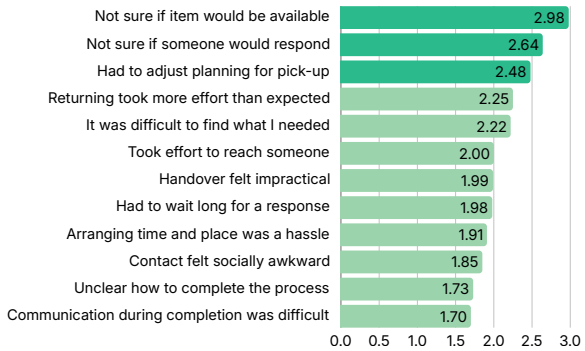


Figure 22: Individual friction items ranked by mean score (n=81)

The open questions added useful context. When asked what worked well, respondents frequently mentioned speed, familiarity, and knowing the other person: 'Quick contact via WhatsApp', 'That I usually know the person', and 'It was simple.' When asked what was difficult, coordinating schedules came up most often: 'Scheduling pick-up and return', 'Sometimes you have to wait for someone to respond, which is difficult when you need something quickly', and 'It always remains the question whether someone is home at that moment.' Others mentioned the effort of returning items, and one respondent described switching to WhatsApp because Peerby required creating an account with mandatory payment before being able to continue. These responses reinforce the quantitative finding that uncertainty and coordination, not social discomfort, are where friction concentrates.

6.4 LIMITATIONS

Several limitations affect how these results should be read. Most respondents (87%) were informal borrowers. Only 11 had used an online platform, which means the results show general peer-to-peer borrowing friction rather than platform-specific experiences. The survey also grouped friends, family, and neighbours together. Looking back, borrowing from a close friend (high trust) is quite different from borrowing from a neighbour you barely know (lower trust, more similar to platform dynamics). Separating these would have allowed a sharper comparison. Additionally, 64 respondents who had not borrowed recently were filtered out right away. This group might have offered useful insights about why people do not borrow. Questions about awareness of sharing platforms or reasons

for not participating could have filled this gap. Finally, the sample came through social media and neighbourhood networks, so it is not representative. The high share of urban respondents (91%) and the younger age profile may not reflect the broader population.

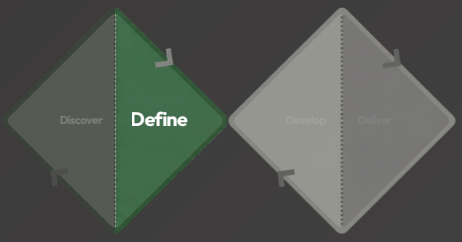
Because of these limitations, the survey results are treated as indicative patterns, not as hard statistical evidence. They help triangulate and support the themes from the interviews, but do not stand alone as proof. Additionally, no tests for statistical significance were conducted. The differences between phases and individual items should therefore be read as descriptive patterns, not as confirmed effects.

6.5 CONCLUSION

Despite its limitations, the survey helps to specify the main finding from the interviews. Where the interviews identified mental effort as the primary barrier, the survey reveals which type of mental effort weighs heaviest. The two highest-scoring friction items both relate to uncertainty: not knowing whether something will be available or whether someone will reply. Meanwhile, social awkwardness, which could also be seen as a form of mental effort, scored the lowest of all effort items.
These patterns appear across both platform users and informal borrowers. This suggests that uncertainty is a basic feature of peer-to-peer exchange, not just a platform problem. The finding sharpens the design direction: reducing uncertainty should take priority over reducing other types of friction.

07

PHASE 2: DEFINE



SYNTHESIS

Converging four lenses into one diagnosis: the value-effort imbalance

The value-effort imbalance: when coordinating costs more than the item is worth.

The previous chapters examined retention through four separate lenses. However, individual findings do not answer the research question yet. This chapter identifies which barriers are consistently confirmed across methods, and which assumed barriers are contradicted by user reality. The outcome is a validated problem definition that frames the solution space for the design phase.

7. SYNTHESIS

7.1 TRIANGULATION MATRIX

To synthesise the findings, the method of triangulation was applied: cross-referencing results from all four lenses to identify consistent patterns. Given that the survey was more exploratory than intended, quantitative results are treated as indicative signals rather than statistical confirmation. The survey validated effort patterns across peer-to-peer borrowing in general, while the other three lenses provided Peerby-specific confirmation. An insight is considered validated only when findings from all four lenses converge (Figure 7.1)

The matrix in Figure 7.1 shows the elimination process. The assumptions that were made regarding sustainability and community were rejected because they were directly contradicted by the user reality in the interviews. Engagement was not confirmed as an independent barrier either. Across all four lenses, it appeared to be a result of trust and platform activity instead of a driver of retention on its own, which is consistent with its weaker presence in the AI-assisted thematic validation (Appendix D). The survey focused only on the friction points, which confirmed that uncertainty and effort indeed are the decisive factors for the retention problem at Peerby.

7.2 RESEARCH FUNNEL

Following the data comparison, the problem was narrowed down using the four strategic lenses. Each lens zooms in closer. Moving from the broad market to the specific problem for the user.

Context lens: Peerby competes with the minimal friction standard of retail (e.g., Bol.com). On top of that, the subscription revenue model is fixed (Peerby, internal communication, 2025). This means the service quality must be high enough to justify the subscription cost for episodic use.

Theoretical lens: as shown in the systemic instability model (section 4.6), the structural unpredictability of peer-to-peer sharing increases mental effort. This supports the framework that systemic instability drives the value drop, though this causal chain has not been empirically tested in this study.

Human lens: this lens validated the effort-retention matrix (chapter 5). While physical effort is accepted, the mental effort acts as the killer barrier. Users use Peerby with a transactional and functional mindset and are mostly indifferent to circularity.

Insight	Context	Theory	Human	Survey	Result
Sustainability drives use	Macro trend ⚠	Intention-action gap ⚠	Transactional ✗	N/A	REJECTED
Social connection matters	Platform mission ⚠	Trust theory ⚠	Felt as friction ✗	N/A	REJECTED
Uncertainty prevents use	Unpredictable supply ✓	Systemic instability ✓	Insecurity about outcome ✓	Highest barrier score ✓	VALIDATED
Effort outweighs value	Retail benchmark ✓	Friction mechanism ✓	Mental effort ✓	Planning hassle ✓	VALIDATED

Figure 23: Triangulation matrix showing how four research lenses converge on two validated barriers and reject two assumed drivers

Validation lens: the data confirms the magnitude. Uncertainty (phase 1) is the single highest friction point. Crucially, uncertainty is a form of effort: the fear of 'not knowing if I will get it' outweighs the functional benefit of cheap access.

This narrowing process is visualised in Figure 24 It illustrates how the research moved from a broad market observation to a single pain point.

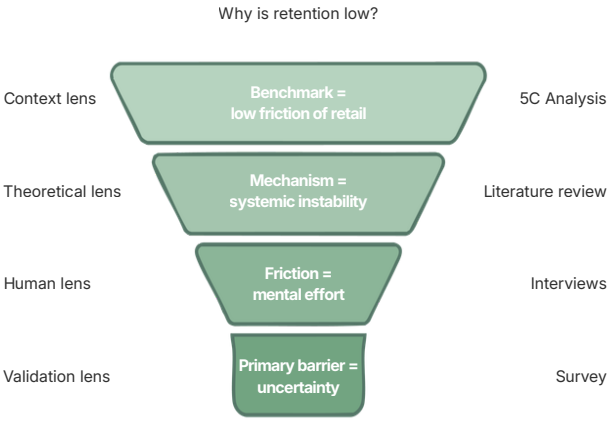


Figure 24: Research funnel leading to the value-effort imbalance

7.3 THE VALUE-EFFORT IMBALANCE

The core retention problem has now been identified. It is defined as the value-effort imbalance. There is a major mismatch: the value Peerby delivers does not justify the effort it demands from the borrower. Value is lower than assumed: users are mostly indifferent to the social or circular mission. They simply want a working platform that offers functional convenience. And, effort is higher than acceptable: the mental effort caused by uncertainty, waiting, and arranging is simply too high for such a small transaction.

This creates a fundamental conflict. Peerby is designed as a social platform that relies on the user's patience and goodwill. But the users operate with a transactional mindset. They come to the platform to rent an item, not to make friends with neighbours or to be circular.

Currently, the mental cost of uncertainty weighs heavier than the functional benefit of cheap access. Especially given the fixed membership fee, the proposition fails to convince the borrower.

Figure 25: The value-effort imbalance. The (mental) effort of using Peerby currently outweighs the value it delivers

As long as borrowing feels like work, the borrower will simply return to the linear economy. A new direction is required to solve this imbalance. Since the platform cannot rely on users idealistic motivation, as it is nonexistent for the majority, and the subscription fee is fixed, the only available lever to fix the value equation is to reduce the mental effort to near zero. The focus must shift from designing for community connection to designing for operational predictability.

7.4 BEYOND THE INTERFACE

The retention problem is not a matter of outdated visuals or missing features. Peerby already contains the functional components: chat, payment processing, and verification. The problem lies deeper. A useful analogy: the platform as an onion. The outer layers represent visible interface elements: buttons, calendars, chat windows. If the core has rotted, adjusting outer layers will not help. The core issue is the mismatch between what users pay for (reliable service) and what the system can structurally deliver (peer-dependent, variable availability). This is not a UI problem but a fundamental transaction logic problem.

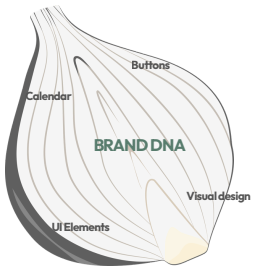


Figure 26: The onion metaphor. Surface interventions cannot resolve problems rooted in the platform's core transaction logic

Any intervention that only polishes the interface without addressing underlying uncertainty will fail. The design challenge must target the core mechanism, not the surface.

7.5 FROM SYNTHESIS TO DESIGN

The four research lenses identified uncertainty-driven mental effort as the primary retention barrier. Users abandon Peerby because mental coordination effort outweighs perceived value. The subscription model amplifies this: paying users expect reliability that peer-to-peer structures cannot guarantee.

Figure 27 visualises the intervention logic. The design intervention sits at the centre, informed by two inputs: platform issues on the left (speed, effort, predictability) and user insights on the right (what borrowers perceive as easy, useful, and reliable). The intervention must improve both simultaneously. On the platform side, it reduces friction and increases predictability. On the user side, it builds trust and makes the platform top of mind.

Only when both align does behavioural change occur, driving retention. The loop reinforces itself: a more predictable platform generates more activity, more activity improves matching data, and better matching further increases predictability.

With the core problem defined as a value-effort imbalance, the Discover and Define phases are complete. The next chapter validates this strategic direction through a co-creation session with sharing economy professionals and a strategic alignment meeting with Peerby's CEO, before concept development begins.

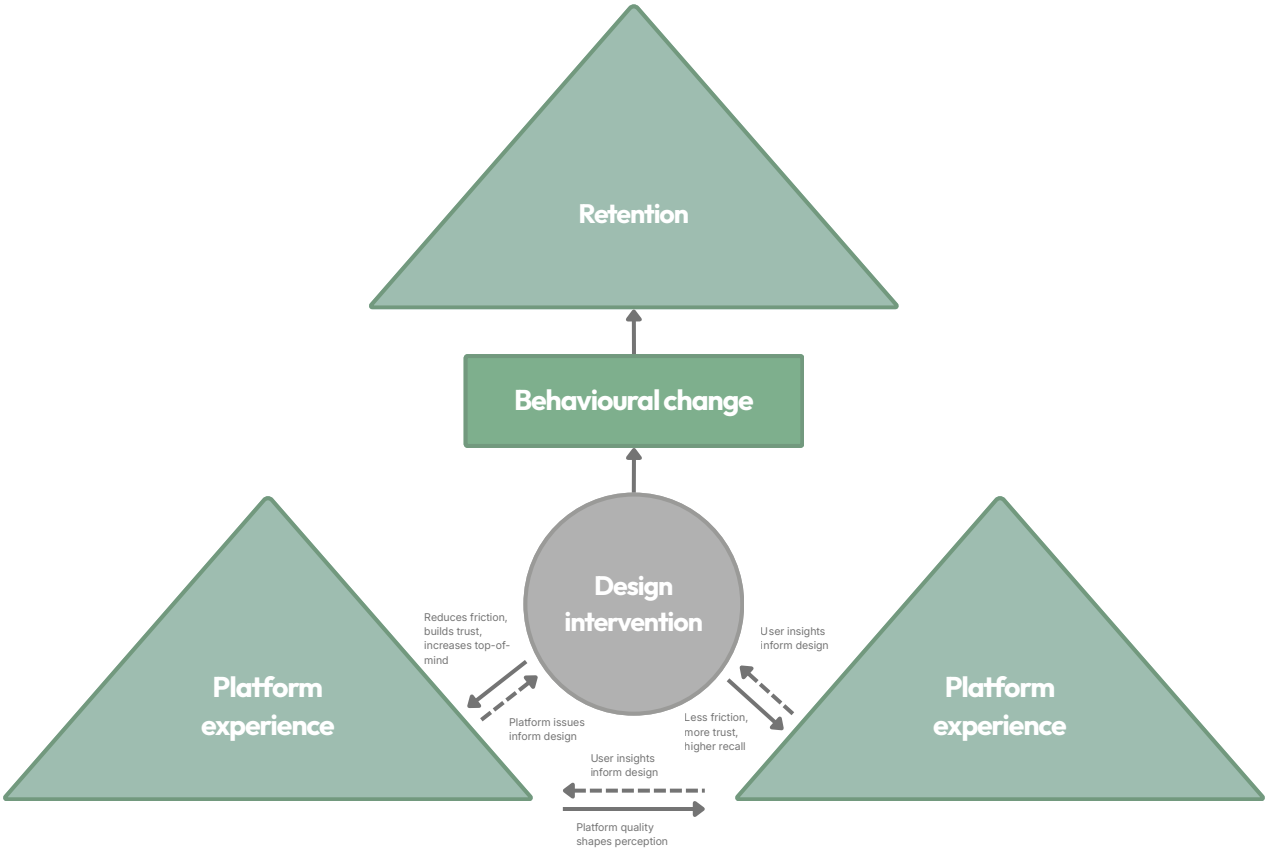
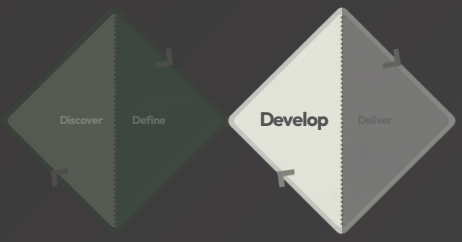


Figure 27: Strategic framework: the design intervention targets platform experience and user perception to enable behavioural change

08

PHASE 3: DEVELOP



STRATEGIC DIRECTION

Validating the effort framing, generating solution directions, and aligning with Peerby

'If it becomes as easy as Bol.com, it wins the masses'

Before developing design interventions, the strategic direction emerging from Chapter 7 required validation. This chapter presents three validation steps: a co-creation session testing whether the effort framing resonates with users, a strategic positioning discussion with Peerby's CEO establishing the design mandate, and the resulting design challenge that guides concept development.

8. STRATEGIC DIRECTION

8.1 CO-CREATION SESSION

To validate the effort framing emerging from the research (chapter 7) and to generate initial solution directions, a co-creation workshop was organised at CRCL Park as part of the ShaRepair Networking and Learning Event, a gathering of researchers, policymakers, platform founders, and practitioners working on circular consumption. Ten participants joined the workshop, including PhD researchers, professors, and a car sharing company owner. Peerby's CEO also participated. The group was international, mixed in gender, and ranged in age from mid-twenties to around fifty. All had prior knowledge of or involvement in the sharing economy, which means the sample reflects informed perspectives rather than typical end users. The session was developed and hosted with the support of PhD candidate Julia Knabe. The workshop had two objectives: to test whether the identified friction points resonated beyond the existing user base, and to explore possible interventions before committing to a strategic direction. The outcomes informed the upfollowing strategic discussion described in section 8.3.

Figure 28: Set up co-creation session. More images are provided in Appendix H.

To avoid creative blocks, the workshop used the 'worst possible idea' technique (Interaction Design Foundation, n.d). According to the Interaction Design Foundation, the pressure to find good ideas immediately risks stifling creativity. By explicitly asking for bad ideas, that pressure is removed, allowing participants to explore extreme scenarios without fear of failure. This method was chosen because exaggerating friction helps pinpoint exactly where the user experience breaks down, directly connecting to the value-effort imbalance identified in chapter 7.
The session had four steps:

Warm-up: In pairs, participants ranked 8 types of effort in the borrowing experience on a matrix (vertical: want to work on this today; horizontal: effect on sharing platforms). This served as validation of the synthesis findings.

Worst idea: In pairs, the participants got a specific type of effort and had to find the worst possible idea for it.

Make it brilliant: These worst ideas were then flipped into smart solutions aimed at reducing effort.

Wrap-up & discussion: Evaluating the ideas and finalising the workshop.

Figure 29: Four Steps during the co creation session

8.2 FINDINGS

The ranking phase confirmed the analysis from chapter 7. All effort moments were placed in the 'will increase sharing practices' quadrant, indicating participants recognised effort reduction as an important factor. The three highest-ranked effort points were:

1. Having to coordinate pick-up and return moments

2. Not knowing if the item will be available when needed

3. Feeling uncomfortable contacting someone from the neighbourhood

This aligns directly with the value-effort imbalance (section 7.3): uncertainty and coordination effort are the central barriers. It is worth noting that the third point, social discomfort, was ranked as a high friction factor during the co-creation session but scored lowest in the later survey (M=1.85). This tension may reflect a difference between how people talk about friction in a group setting and how they rate it individually. In the workshop, social discomfort may have been amplified by group discussion. The survey results suggest it is not a major barrier for most borrowers in practice. The design direction therefore prioritised the first two points: coordination effort and availability uncertainty.

The worst idea rounds generated high energy and exposed frustrations regarding communication delays and uncertainty. The ‘make it brilliant’ phase produced ideas that clustered around three themes: expectation management and neutral zones for social friction, direct booking and fixed availability windows for uncertainty, and asynchronous pickup solutions (secure boxes, smart locks) for coordination. The co-creation validated that the effort framing resonates with users and generated concrete solution building blocks that informed the concept development in chapter 9.
While most participants prioritised speed and efficiency ('I'm here for the drill, not the coffee'), some valued the social exchange ('I still remember the girl who rented my karaoke set'). This variation reinforced the design principle that social contact should remain possible but not required.

8.3 STRATEGIC POSITIONING

The analysis in chapter 7 revealed a critical insight: Peerby's challenge is not only a matter of minor usability issues or an outdated interface. The core problem is that using the platform requires too much effort relative to the value it provides. As discussed during the midterm evaluation, simply refining the current design would not resolve the user retention problem. Before starting the design phase, it was necessary to determine whether the CEO would be open to fundamental change. Specifically, validation was needed on whether a shift away from the current ‘neighbourly chat’ model towards a more structured, efficient system would be acceptable.

To present strategic choices efficiently without investing weeks in detailed designs, a prototype Brand Charter GPT was used, developed by mentor Jorg van den Hoven. This tool is trained on the components of Brand, Identity, and Table Stakes as part of the strategy phase in the Design-Driven Brand Building (DDBB) process. Research data from the interviews, the 5C analysis, and the effort model were provided to the GPT, which generated three distinct brand charters representing future strategic scenarios for Peerby. This approach made abstract strategies concrete enough for the CEO to make an informed decision. See appendix I for the Brand Charter GPT outputs.

8.3.1 Strategic directions

The Brand Charter GPT resulted in three different ways to fix the platform. Each direction was presented to the CEO with a visual mood board.

Urban prestige (The Exclusive Club)

This direction eliminates uncertainty by filtering the user base. It focuses on exclusivity and high quality inventory, effectively turning Peerby into a lifestyle brand for the elite. While this guarantees trust, the major trade-off is that it excludes the general public and contradicts Peerby's inclusive mission (see Appendix J for full size moodboards).

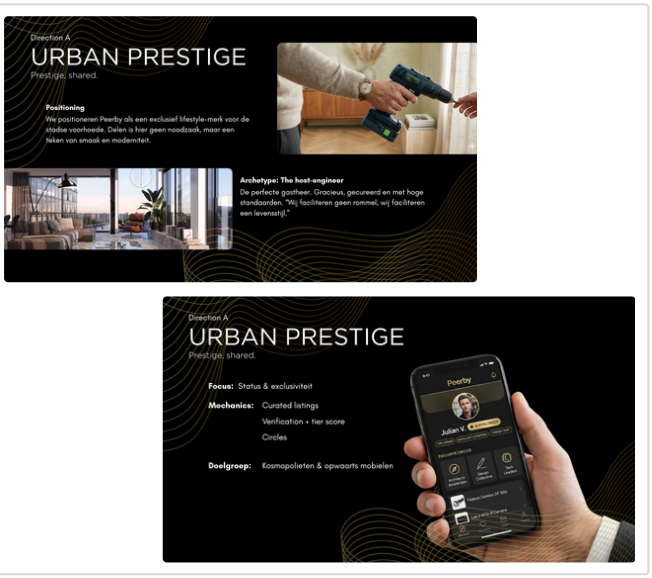


Figure 30: Urban Prestige moodboard

Universal certainty

This direction professionalises the platform by imposing strict standards on lenders. It focuses on enforcing reliability through mandatory 'Instant Booking' and strict penalties. Although this creates a predictable experience for borrowers, the trade off is that the pressure can overwhelm voluntary neighbours, risking that lenders leave the platform.

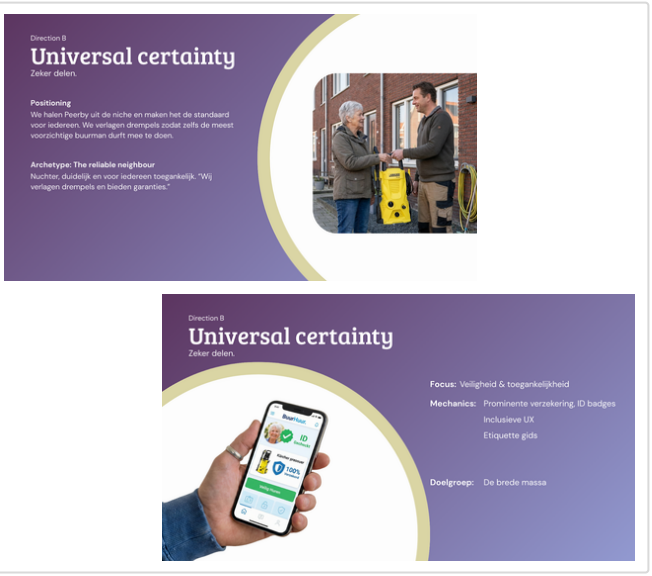


Figure 31: Universal Certainty moodboard

Operational predictability

This direction solves uncertainty by fixing the system, not the people. It focuses on convenience, speed, and predictability through live availability indicators, instant booking options, and smart coordination tools. All three directions share the goal of moving away from chat-based coordination. What distinguishes Operational Predictability is how it achieves this. Rather than filtering users (option 1) or enforcing lender behaviour (option 2), it redesigns the system itself. The platform manages coordination through availability signals, timed confirmations, and fallback mechanisms. Lenders participate on their own terms. Social interaction remains possible but is no longer a prerequisite for completing a transaction. The trade-off is that this requires rebuilding the core booking logic, not just adding features on top of the current system.

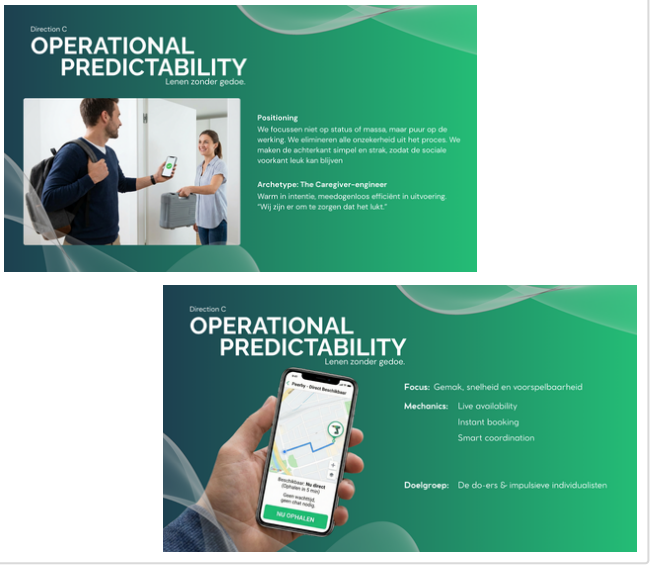


Figure 32: Operational Predictability moodboard

These three directions were presented to the stakeholder. The objective was not to select a specific design, but to form the guiding principles for the design phase. The CEO rejected the first option (Urban Prestige), noting that an exclusive model contradicts the platform's inclusive mission. The second option (Universal Certainty) was received with interest; he acknowledged that stricter agreements could increase reliability. However, his strongest endorsement was for option three: Operational Predictability.

Figure 33: Chosen direction

The CEO saw this direction as the most logical evolution for the platform. The priority, he stated, should be creating a system as reliable as retail without sacrificing the social character. As he noted during the session: 'The real value lies not necessarily in making everything look prettier, but in removing that doubt' (Peerby, internal communication, 2025). The ambition to match commercial retail standards was validated as essential for broader adoption: 'Frankly, if it becomes as easy as bol.com, it wins the masses.' (Peerby, internal communication, 2025).

8.4 CONCLUSION & DESIGN CHALLENGE

The outcome of this meeting was a shared agreement to move away from the current chat-based coordination model towards a predictable booking model. The primary direction is Operational Predictability (option 3), with elements of option 2 (stricter lender agreements) as potentially useful additions. This confirmed that the intervention targets the underlying transaction logic, not just the interface.

The design phase was scoped to the search-and-book flow, because the synthesis in chapter identified this as the point where uncertainty hits hardest. Figure 34 shows the full borrower journey as it currently works: a need arises, the borrower searches, sends a message, waits for a reply, negotiates a time, picks up the item, uses it, and returns it.

Figure 34: Current borrower journey

Three steps carry the highest friction: sending a message, chatting and waiting, and scheduling. The aim is to compress these into a single, structured booking action. Instead of open-ended coordination, the borrower selects availability and the system handles the rest.

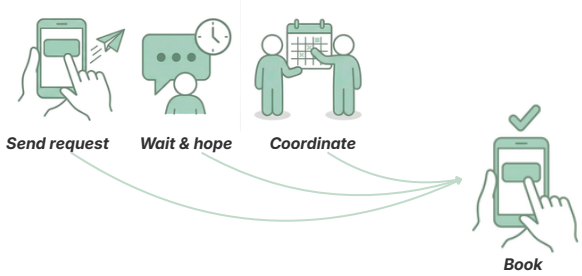


Figure 35: Three coordination steps compressed into one structured booking step

The intervention must shift the mechanism from 'request and wait' to 'select and book,' moving coordination from the borrower (through chat) to the system (through the interface). This is not meant to remove social contact, but to ensure it is no longer required to complete a transaction.

Based on this rationale and the strategic alignment with the CEO, the final design challenge is defined as:

> *'Design an intervention in Peerby's **search-and-book flow** that enables borrowers to reserve an item **immediately and with confidence**, with **minimal delay in confirmation**, by making availability and coordination **predictable**, thereby approaching **retail level predictability**.'*

Throughout this report, predictability refers to the system's ability to deliver consistent outcomes, while certainty refers to the user's experience of confidence that things will work out.

09

DESIGN

From lender research and design criteria to six concepts and a final selection

Borrowers want predictability. Lenders want zero hassle. The design must serve both without forcing either.

The strategic direction established in chapter 8 provided a clear mandate: design for operational predictability. However, one gap remained. The research thus far had focused on borrowers, while any intervention in the booking flow inevitably affects lenders too. This chapter addresses that gap, then moves through design criteria, ideation, and concept selection.

9. DESIGN

9.1 LENDER RESEARCH

The design challenge defined in section 8.4 focuses on the search-and-book flow, aiming to create immediate booking with minimal delay. However, this flow involves two parties: borrowers and lenders. While chapter 7 established the borrower perspective, the lender side remained underexplored. This gap became critical once the strategic direction shifted towards operational predictability. Any intervention that increases booking speed or reduces chat-based coordination directly affects lenders. For instance, enabling instant booking requires lenders to commit to availability in advance. Before designing such mechanisms, it was necessary to understand: what motivates lenders, what barriers they experience, and under what conditions they would accept higher commitment levels.

9.1.1 Method

Three semi-structured interviews were conducted with active Peerby lenders. Participants were recruited through the online neighbourhood platform Nextdoor (2) and personal networks (1). The selection focused specifically on active users who lend regularly, as these users would be most affected by changes to the booking system and could provide informed perspectives on what would motivate continued or increased participation.

Table 5: Lender interview participants

Participant	Gender	Age	Lending frequency	Context
L1	M	52	Once a week	Highly active lender. Motivated by sustainability and social contribution.
L2	M	34	Once every 2 months)	Sporadic lender. Motivated by reducing waste, availability is situational.
L3	M	41	Once a month	Regular lender. Values clear agreements and minimal hassle.

The interviews followed a semi-structured format as described by Kallio et al. (2016), allowing for consistent topic coverage while leaving room for emergent themes. Sessions were conducted online and lasted between 30 and 55 minutes. Topics covered current lending practices, motivation, barriers to activity, and responses to proposed concepts such as direct booking, calendar management, and physical pickup solutions. The interview guide is included in Appendix K.

9.1.2 Findings

The lender interviews validated several assumptions from borrower research while revealing new constraints. Table 6.1 shows the confirmed assumptions, Table 6.2 the new constraints that emerged from the lender side.

Table 6.1: Validated assumptions from lender interviews

Validated assumptions
Uncertainty and coordination effort are pain points for lenders, not just borrowers
Reducing chat-based coordination is desirable, though chat should remain possible
Predictability in the transaction loop benefits both parties
Solutions must require minimal lender effort to be viable
Booking transparency builds lender confidence

Table 6.2: New constraints from lender interviews

New constraints
Instant booking cannot be default, lender availability is situational
Lenders will not maintain weekly availability calendars
Higher commitment only works if optional and rewarded
Platform signals can create predictability without active lender input
Native chat is being bypassed, lenders prefer WhatsApp

A notable finding was the asymmetry in motivation: borrowers prioritise convenience and speed, while lenders are driven by social contribution, environmental values, and the desire to be helpful without excessive effort. This means solutions appealing to borrower efficiency may not automatically motivate lender participation. These findings directly informed the design criteria in Section 9.2, particularly the requirement for zero maintenance defaults and optional commitment possibilities.

9.2 FINAL DESIGN CRITERIA

Based on the triangulation of borrower needs (chapter 7), the strategic direction (Section 8.3), and the lender constraints (Section 9.1), the final design criteria were established following the programme of requirements method (van Boeijen et al., 2020). These criteria define the boundaries of the solution space, addressing the central tension between the borrower's need for certainty and the lender's need for low effort.

Table 7: Core design criteria

Criterion	Source	Description
Predictable confirmation	Borrower research (Ch. 7)	The system must provide certainty about whether a booking will succeed: either immediate confirmation, or a clear timeframe with a fallback mechanism if confirmation does not occur.
Linear booking flow	Borrower research (Ch. 7)	The user journey must follow a Search -> book -> confirm sequence. eliminating the current chat -> negotiate -> wait loop.
Zero maintenance default	Lender research (9.1)	The system must function without requiring lenders to actively maintain availability calendars. Passive signals (response history, activity patterns) should generate predictability where active input is absent.
Optional commitment	Lender research (9.1)	Features requiring higher lender commitment, such as instant booking approval, must be opt-in and rewarded. Lenders who do not opt in must still be able to participate.
Asynchronous coordination	Strategic direction (8.3)	The design must enable logistical coordination without requiring real-time chat or simultaneous availability of both parties.
Platform-first implementation	Strategic direction (8.3)	The core booking intervention must function through software mechanics and interface design. Supporting concepts may involve physical elements but can not be prerequisites for the primary flow.

The full programme of requirements, including functional specifications and wishes, is included in Appendix L.

9.3 CONCEPT GENERATION

The ideation phase built on three inputs: the design criteria, solution themes from the co-creation session and constraints identified in the lender interviews.

To structure the exploration, 'how might we' questions were derived from the core design criteria:

How might we *help borrowers feel confident they will get what they need?*

How might we *make arranging a pickup effortless?*

How might we *encourage lenders to respond quickly?*

How might we *let people exchange items without meeting?*

Individual brainstorming generated 28 ideas, captured on post-it notes and rapidly sketched to keep concepts tangible (Figure 36 and Appendix M). Ideas ranged from interface features to physical infrastructure to incentive mechanisms. Not all ideas responded directly to the HMW questions. Some were opportunistic additions: mechanisms that seemed potentially useful without addressing a specific criterion. These were included to keep the ideation open and avoid premature filtering.

Figure 36: Rapid sketched ideas

The clustering phase grouped ideas based on which mechanisms could work together as coherent interventions. The guiding question was: which ideas reinforce each other and address the same aspect of the coordination problem? This resulted in six concept directions, each representing a distinct approach to reducing uncertainty and coordination effort. Table 8 shows the six directions with their primary focus and how many of the 28 brainstorm ideas were combined into each cluster. A higher number does not imply a stronger concept; it reflects the breadth of mechanisms that fitted together under one direction.

Table 8: Overview of six concept directions emerging from ideation

#	Concept	Focus	Ideas
1	Peerby Flex	Dynamic system	9
2	Peerby Pouch	Physical tool (+async at home)	4
3	Peerby Direct	Software/booking flow	8
4	Peerby Skills	Knowledge + help	4
5	Peerby Go 2.0	Delivery (+async at home)	3
6	Rentmeester Hub	Central point (+async)	6

To quickly communicate each concept, a brief description was written and visualised using Nano Banana, an AI image generation tool. These visuals served as impressions to facilitate discussion and comparison, not as final designs.

Peerby Flex makes the platform react to real-time patterns in supply and demand, rather than waiting for users to act.

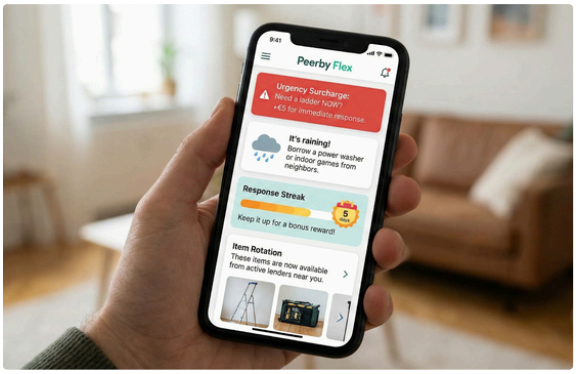


Figure 39: Peerby Flex concept visualisation (mockup created with Nano Banana)

For example, borrowers with urgent needs could pay a small surcharge for priority visibility. The platform could suggest items based on context, such as rain gear when bad weather is forecast. Items that sit idle with one lender could rotate to more active ones. Lenders who respond consistently could earn streak bonuses.

The Peerby Pouch tackles the handover problem. Instead of requiring both parties to be present, a lockable bag at the lender's door allows fully asynchronous pickup and return.

Figure 40: Peerby Pouch concept visualisation (mockup created with Nano Banana)

The lender places the item in the bag and confirms via the app. The borrower then receives an access code and picks up the item at a time that suits them. After use, the borrower returns the item to the bag and confirms in the app. Neither party needs to be home at the same time.

Peerby Direct replaces open-ended chat with a structured booking flow where the borrower knows when they will get an answer.

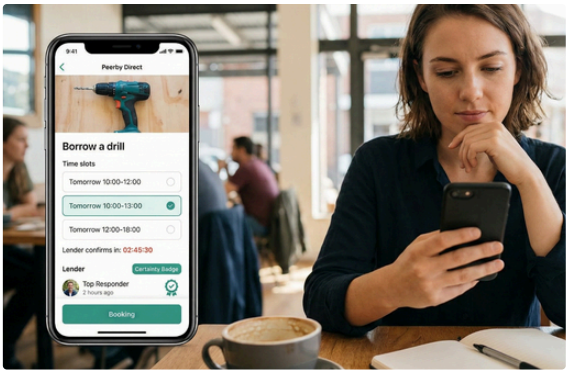


Figure 41: Peerby Direct concept visualisation (mockup created with Nano Banana)

Borrowers select time slots when they are available. Lenders receive a countdown timer to confirm or decline. If they do not respond in time, the system automatically moves to the next available lender. Indicators on search results show how quickly each lender typically responds, so borrowers can compare before booking.

Peerby Skills turns the handover moment into a learning opportunity by pairing items with short demonstrations from the lender. Lenders can offer a short demonstration or tutorial when handing over an item, for example showing how to use a specific drill bit or adjust a sewing machine.

Figure 42: Peerby Skills concept visualisation (mockup created with Nano Banana)

The idea is that this adds value to the interaction, reduces the chance of misuse, and gives lenders a reason to stay engaged beyond the transaction itself.

Peerby Go 2.0 removes the need for borrowers to travel by adding a delivery layer to the platform.

Figure 43: Peerby Go 2.0 concept visualisation (mockup created with Nano Banana)

Options range from lender self-delivery to a shared neighbourhood cargo cart or integration with existing courier services. One variant, 'delivery as storage', would let items stay with the courier until the borrower is ready, removing the need to align schedules for handover entirely.

Rentmeester Hub centralises items at a fixed neighbourhood location with set opening hours, so borrowers always know where and when to pick something up.

Figure 44: Rentmeester Hub concept visualisation (mockup created with Nano Banana)

A local partner, such as an active community member or a neighbourhood business, manages a collection of items from multiple lenders. Borrowers pick up and return at this single location during set hours. This removes the need for one-on-one coordination and makes supply visible and predictable. The Hub concept builds on an existing initiative. Peerby is currently piloting a Rentmeester programme, in which selected neighbours receive items from Peerby to lend from their homes during set hours. This pilot provided a practical reference point for the Hub direction, though the concept extends the model to include fixed pickup locations managed by local partners.

Importantly, these concepts are not mutually exclusive alternatives. They address different aspects of the coordination problem and could potentially coexist as components of a broader ecosystem. Therefore the selection process in Section 9.5 focused on identifying which concepts to develop fully within the scope of this project, while preserving others as strategic recommendations.

9.4 CONCEPT SELECTION

To evaluate the six concepts, a Harris Profile analysis was conducted (van Boeijen et al., 2020). The evaluation criteria were derived from the design requirements established in Section 9.2, addressing three dimensions: borrower impact, lender feasibility and implementation characteristics. Each criterion was scored from -- to ++. Full scoring justifications are provided in Appendix N.

The profile shows clear differentiation between the concepts. Peerby Direct and Peerby Pouch score consistently positive. Peerby Skills and Peerby Flex score poorly: Skills increases lender burden, Flex introduces a big amount of complexity. Both were excluded from further consideration. The four remaining concepts were discussed with Peerby's CEO.

During this meeting, the CEO introduced a practical framing to compare the concepts. He proposed mapping each concept on two axes: how much change is needed to implement it (referred to here as 'delta', meaning the gap between the current platform and what the concept requires) versus how much it could improve retention.

Peerby Direct positions top-left: highest potential, lowest delta. It requires no physical infrastructure and directly addresses the booking flow where friction is highest. The CEO confirmed this as the logical foundation (Peerby, internal communication, 2026).

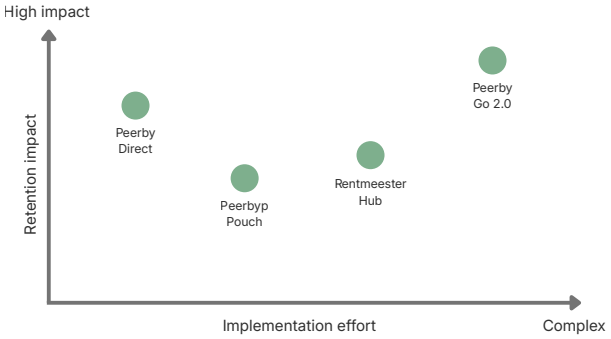


Figure 45: Implementation effort vs retention impact, positioning four concepts based on stakeholder discussion

Any future concept would integrate into the Direct interface. Peerby Pouch positions left-centre. Potential is moderate (it solves a problem Direct cannot: fully asynchronous handover), and delta is relatively low. To estimate compatibility, Peerby provided a confidential list of the 100 most frequently rented items (Peerby, internal communication, 2026) including data. Based on dimensions, fragility, value, and suitability for outdoor placement a calculation was made and approximately 20% were deemed Pouch compatible. Rentmeester Hub positions centre-right. Potential is medium high due to fixed hours and predictable locations, but delta is substantial because of three sided coordination (borrower, lender, host). Peerby's existing rentmeester pilot reduces this barrier. Peerby Go 2.0 positions top right: highest potential but also highest delta. Delivery could significantly reduce coordination friction, but implementation requires courier partnerships and logistics infrastructure. Previous attempts by Peerby failed due to insufficient volume.

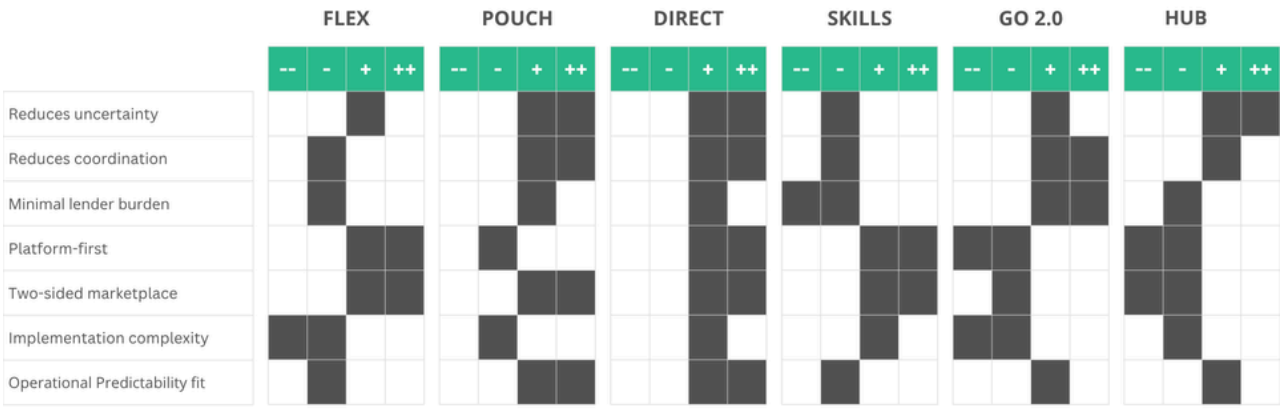


Figure 46: Harris Profile evaluation of six concept directions

Two principles came up from the discussion with the CEO. First, concepts requiring only two-sided coordination (borrower-lender) were prioritised over three-sided models; adding a third party introduces additional complexity and requires designing an entirely new interaction flow. Second, concepts with a small delta relative to their potential were prioritised.

Based on this prioritisation, Peerby Direct was selected as the primary concept: highest potential, lowest delta. Peerby Pouch follows as a complementary concept for asynchronous scenarios. Rentmeester Hub and Peerby Go 2.0 were deferred to the implementation roadmap (chapter 13) due to their higher implementation complexity.

Peerby Direct was designed in detail and built as a working prototype for validation. Peerby Pouch was developed at concept level. Both are presented in the following chapters.

10

PEERBY DIRECT

The structured booking system designed to make borrowing predictable

peerby DIRECT

Scan to try the prototype

From chat and hope to select and book.

This chapter presents Peerby Direct: the structured booking system that came out of the research and design process. The name reflects the core promise: from the moment a borrower submits a request, they directly know what is happening and when they will get an answer. All screenshots are taken from the working prototype, built in Lovable and accessible via the QR code on the left. The prototype is fully responsive and works on both desktop and mobile since Peerby users access the platform through both the website and the app. The design was developed against the programme of requirements from section 9.2.

10. PEERBY DIRECT

10.1 DESIGN OVERVIEW

The research in chapters 3 through 7 converged on a single finding: users leave Peerby not because sharing is physically difficult, but because the mental effort of coordinating through chat outweighs the perceived value of access. Peerby Direct addresses this by shifting uncertainty from the user to the system. Instead of requiring borrowers to negotiate availability through open-ended messaging, the platform provides signals, structures, and a fallback mechanism that make outcomes predictable.

The system achieves this through four integrated mechanisms. Confirmation times communicate lender responsiveness before a booking is initiated. Time slot booking replaces open-ended availability questions with a structured calendar grid. A countdown timer with automatic fallback guarantees that borrowers receive an outcome within a known timeframe. Peerby Perks rewards responsive lenders with higher visibility, keeping the supply side active.

These mechanisms are not invented from scratch. Similar patterns exist in platforms that have addressed coordination uncertainty: Sharely's 24-hour response rule, Hygglo's availability calendars, Poppins' verification badges (section 3.3), and even dating app Breeze, which replaces chat entirely with structured availability input. Peerby Direct adapts these patterns for a neighbourhood sharing context, where the lender is not a professional host but a neighbour with a drill, and participation is voluntary instead of commercial.

As the prototype was built iteratively using an AI-assisted website builder, minor visual inconsistencies may appear in some screenshots. These do not affect the functionality or logic of the design. The design was developed against the programme of requirements in section 9.2. chapter 12 evaluates which criteria the final design meets.

10.2 BORROWER JOURNEY

The borrower journey follows a linear flow: search, book, wait, confirm, pick up, use, return, complete. This replaces the current fragmented process of search, chat, wait, negotiate, confirm.

Figure 47: New borrower journey

The system is also designed for when things do not go as planned. If a lender does not respond within their confirmation time, the system automatically switches to the next backup lender. The borrower does not need to take any action. The journey stays exactly the same, only one step is added between booking and pickup , and it is handled entirely by the system.

Figure 47 : New borrower journey with fallback

The borrower sees a brief status update, but their experience does not change. There is no need to send another message, search again, or start over. Whether the first lender responds or the third, the outcome is the same: a confirmed booking with a time and address. The system absorbs the failure so the borrower does not have to.

10.2.1 Search results

When a borrower searches for an item, the results appear as a grid of item cards (Figure 10.1). Each card shows the item photo, name, price per day, distance to the lender, the lender's name and rating, and the confirmation time.

The confirmation time is the most significant addition. It addresses the question the current platform leaves entirely open: how long will I have to wait before I know if I get this item? The survey identified this uncertainty as the highest scoring friction point across the entire borrower journey (chapter 6). Each card displays 'Bevestiging binnen X' with a chevron speed indicator. The chevrons light up based on response speed: four for the fastest lenders, fewer for slower confirmation times. Items with 15-minute confirmation receive a subtle purple border, creating a visible premium tier for the most responsive lenders (Figure 49).

All items use one of seven standardised confirmation times: 15 minutes, 30 minutes, 1 hour, 2 hours, 4 hours, 8 hours, or 1 day. Standardisation enables direct comparison between items and eliminates the mental load of interpreting arbitrary values.

On first use, a dismissible tip featuring Peerby's gnome mascot appears above the results, briefly explaining how the confirmation system works (Figure 50). It appears once per session and then disappears.

10.2.2 Item detail and booking

Selecting an item opens a combined detail and booking page. The top section displays item information, the lender's profile with rating and review count, and a response reliability percentage (Figure 51). Reviews from previous borrowers sit directly below, providing concrete feedback beyond a star rating.

Reviews and reliability are presented at this level because the research showed that trust on peer-to-peer platforms is built through consistent experiences instead of upfront verification (section 4.1). A percentage showing that a lender confirms on time in 98% of cases communicates reliability more effectively than an abstract badge.

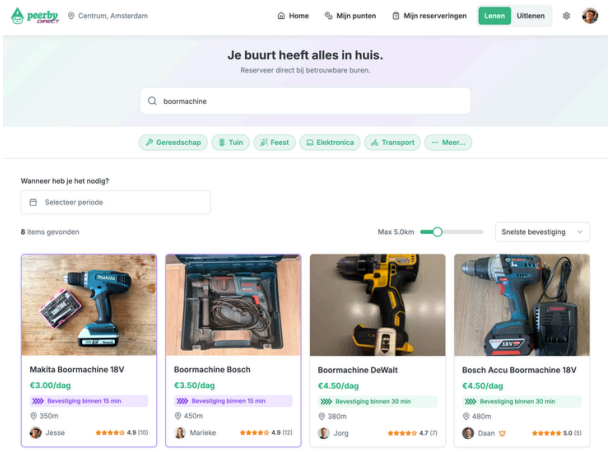


Figure 48: Search results page showing item cards with confirmation times

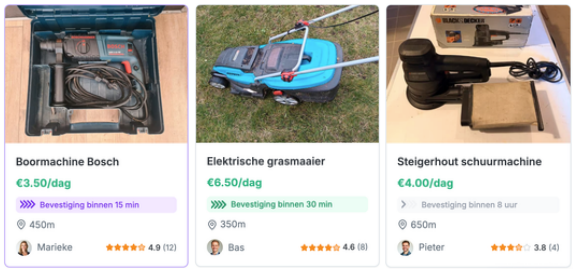


Figure 49: Close-up of item cards with different confirmation times and chevron states

Figure 50: Gnome mascot tip explaining the confirmation system

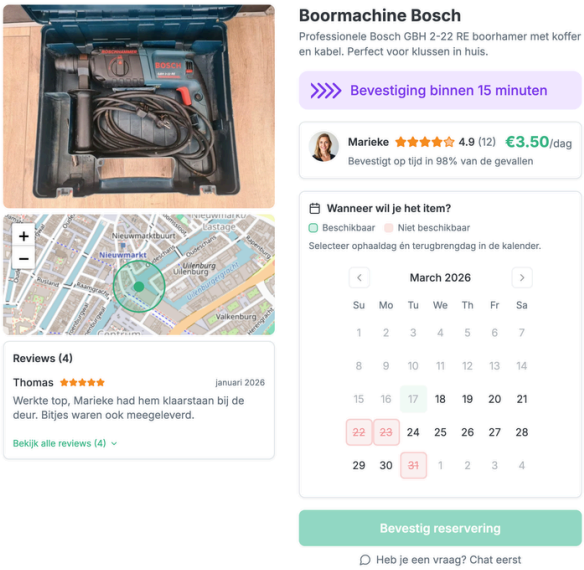


Figure 51: Item detail page with lender profile, response reliability, and reviews

Below the item details, the booking flow begins. The page asks 'Wanneer kun je het ophalen?' and instructs the borrower to 'Selecteer je volledige beschikbaarheid'. An hourly grid appears, running from 08:00 to 22:00 (Figure 52). The borrower taps every hour they could be available. A 'Selecteer alles' button fills the entire day. A 'Meer uren tonen' link extends the grid to include hours before 08:00 and after 22:00.

This is an inversion of how most booking systems work. Rather than the borrower choosing a specific time and hoping the lender agrees, the borrower indicates when they are free and the lender selects from that range. The more hours selected, the more options the lender has, and the higher the probability of a successful match.

Lenders who opt in to sharing their general availability patterns enable an additional layer. Hour blocks where the lender is typically available appear slightly greener than the rest (Figure 53). When the borrower selects a matching hour, a message appears below the grid: 'Marieke is vaak beschikbaar tussen 17:00–22:00'. This nudges borrowers towards times with higher confirmation probability without signalling that other times are problematic. Non-matching hours appear neutral, never negative. This feature is opt-in for lenders and not required for participation.

The borrower must select at least one hour to proceed. One hour is sufficient to submit a request. However, the system actively encourages more through the flexibility bar (Figure 55). This sticky bar at the bottom of the screen, labelled 'Jouw flexibiliteit' (your flexibility), responds to every action the borrower takes. It starts in orange. With a single hour selected, it barely moves. At two hours, it transitions to green and reaches the 'Goed' benchmark. From there, every additional hour, extra day, and backup selection pushes the bar further through 'Sterk' (strong) and 'Uitstekend' (excellent). The bar never reaches 100%, because no peer-to-peer system can guarantee a match.

An 'Ik kan ook op.' button allows borrowers to add an additional pickup day, further increasing flexibility (Figure 54). A price warning appears when an extra day is added.

Figure 52: Monthly calendar grid including unavailable days

Figure 53: Hourly calendar grid in default state

Figure 54: Calendar grid with green-highlighted lender availability

Figure 55: Four states of the flexibility bar, from orange to green

The gnome mascot appears at three moments during the booking flow with brief contextual tips: at the calendar, at the flexibility bar, and at the backup selection (Figure 10.9). Each tip appears once per session, auto-dismisses after ten seconds, and follows a sequential logic so the borrower never sees more than one at a time.

Figure 56: Gnome mascot tip during the booking flow

10.2.3 Backup selection

After selecting time slots, the borrower is presented with an optional backup screen showing up to three alternative items of the same type from other lenders (Figure 57). Each alternative displays the item name, lender with rating, price, distance, and confirmation time with chevrons. Borrowers can select up to three backups in ranked order. If no comparable items are available, this screen is skipped.

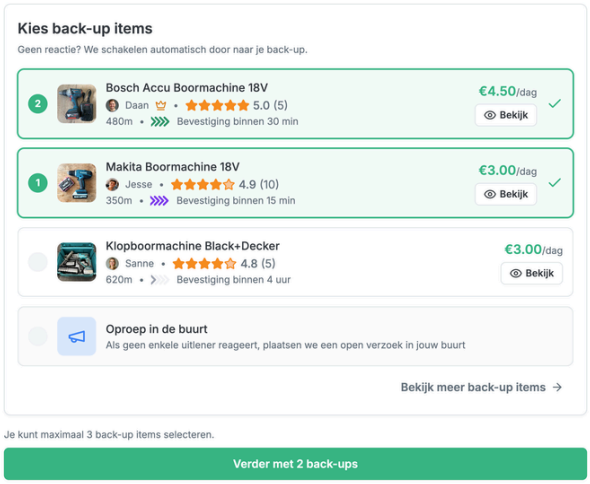


Figure 57: Backup selection screen with three alternatives

The backup mechanism is the most effective uncertainty-reducing feature in the design. Interview participants described abandoning the platform entirely after a single failed attempt (chapter 5). The backup cascade prevents this. If the first lender does not respond within their confirmation time, the system automatically contacts the next lender in the sequence. With three backups selected, the borrower has four chances of success instead of one, without taking any additional action. This is also why backup selection produces the largest jump in the flexibility bar. On the same screen, borrowers can opt in to a broadcast request as a final fallback. If all selected lenders fail to respond, the system automatically places a neighbourhood-wide request on the borrower's behalf. This mechanism builds on Peerby's existing broadcast feature and was added following a suggestion from the CEO during the stakeholder session (section 8.3).

10.2.4 Confirmation summary

Before the request is submitted, the borrower sees a summary screen showing all booking details: item, lender, selected hours, price calculation, and backup items with their individual prices (Figure 58). Three guarantee indicators are displayed: the confirmation timeframe, the automatic fallback if nobody responds, and the fact that payment only occurs after confirmation.

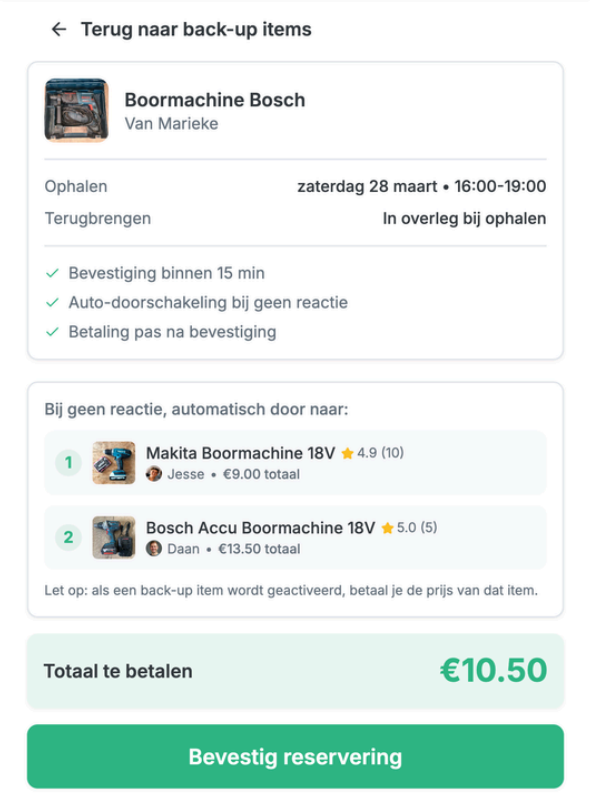


Figure 58: Confirmation summary with booking details and guarantee indicators

10.2.5 Waiting with timer

After submitting, the borrower enters the waiting screen (Figure 59). A vertical cascade displays each lender in sequence. The first lender has an active countdown timer. If they do not respond in time, their status updates to 'Heeft niet op tijd gereageerd' (did not respond in time) and the system activates the next lender automatically. The borrower sees exactly where in the cascade they are at every point.

Above the cascade, a concrete end time is shown: 'Je weet uiterlijk om 17:56 of je hem hebt' (you will know by 17:56 whether you got it). Below the cascade: 'Geen reactie? We schakelen automatisch door' (no response? we switch automatically).

Lenders can also actively decline a request. In that case, the cascade moves on immediately without waiting for the timer to expire. Figure 59 shows the standard waiting state with one active lender. Figure 60 shows the cascade in progress: one lender timed out, one declined, and the system has automatically moved to the third.

A chat button is available but explicitly positioned as optional. The interface states that the request continues regardless of whether the borrower sends a message. This addresses the research finding that borrowers wanted the option to chat but resented being required to negotiate through it (chapter 5).

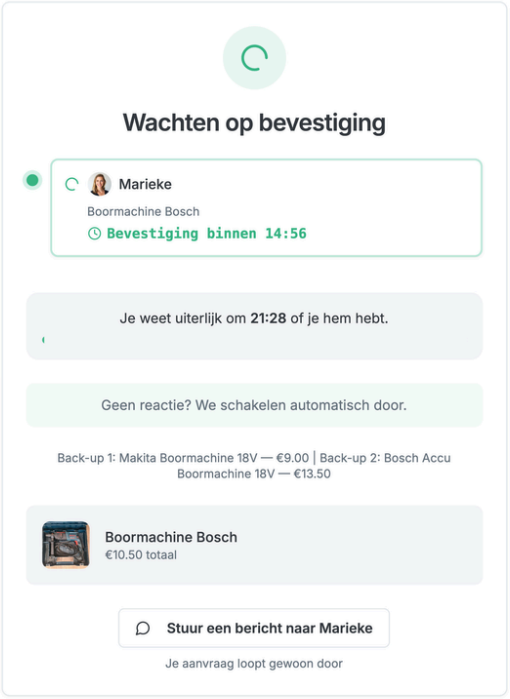


Figure 59: Waiting screen with lender cascade and active countdown timer

Figure 60: Cascade in progress: one lender timed out, one declined, third lender now active

10.2.6 Booking confirmed

When a lender accepts, the borrower sees the exact pickup time, a partially obscured address, and an optional message from the lender with practical details (Figure 61). No further coordination is required.

Figure 61: Booking confirmed screen with pickup time, address, and lender message

10.2.7 When nobody responds

If the borrower opted in to the broadcast request, this activates automatically after the last backup lender times out. The system places a neighbourhood-wide request, giving nearby lenders who were not in the original cascade a chance to respond. If a match is found, the

borrower is notified and the booking proceeds as normal. If the broadcast also produces no result, the borrower reaches a final screen stating 'Je aanvraag is helaas niet bevestigd' (Figure 62). Comparable items are shown below, allowing the borrower to try a different listing without starting from scratch. Before the broadcast activates, the borrower is asked how much additional time they want to allow (Figure 62), with options ranging from 30 minutes to 24 hours.

This is not the ideal outcome, but it is a controlled one. The borrower was never left guessing. They knew the timeframe, saw the cascade progress, and now have a clear next step. That is fundamentally different from sending a message and hearing nothing.

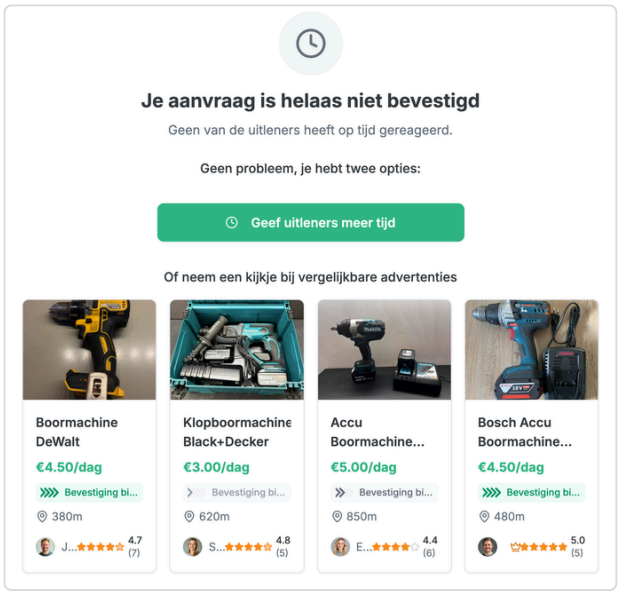


Figure 62: Request not confirmed screen with comparable items

Figure 63: Extended wait option when no lender has responded

10.3 LENDER JOURNEY

The lender journey is designed around a core principle from the lender research (section 9.1): minimal effort by default, higher commitment only for those who choose it. The system functions without lenders actively maintaining anything. Those who opt in to faster response times receive better visibility. No lender is penalised for slower responses.

10.3.1 Setting response commitments

During setup, lenders choose how quickly they can typically respond (Figure 64). Five presets are available, from 'Standaard' (everything at 24 hours) to 'Altijd bereikbaar' (everything at 30 minutes). Lenders who want more control can expand into a detailed weekly grid to set response times per day and time block (Figure 65). Lenders who skip setup entirely receive a default of four hours, based on the validation survey (section 12.2). This data feeds directly into the confirmation time borrowers see on search results.

The system asks for response commitments, not availability schedules. The lender interviews showed that maintaining calendars is not something lenders will do (section 9.1). 'How fast can you react?' is a lighter ask that matches how people actually think about their time.

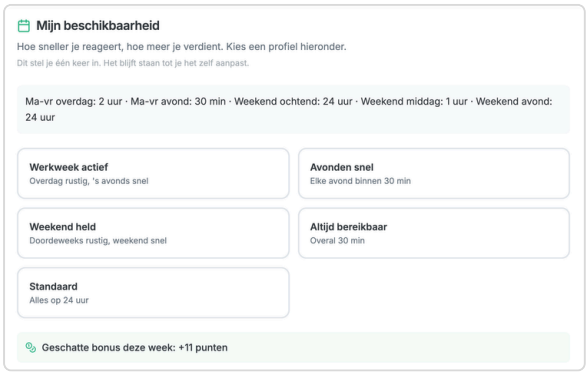


Figure 64: Response profile presets

Figure 65: Expanded weekly grid for manual customisation

10.3.2 Receiving and accepting a request

10.3.2 Receiving and accepting a request
When a booking request arrives, the lender receives a notification. The request screen presents everything needed on a single page (Figure 66): the item, the borrower's profile and rating, the requested period, potential earnings, and a countdown timer showing the remaining response time. Below the timer: 'Geen reactie? Gaat automatisch door' (no response? moves on automatically). The earnings are shown upfront because the lender interviews indicated that knowing the financial outcome immediately supports quick decision-making.

The borrower's available hours are broken into 15-minute intervals at the bottom of the same screen. One tap on a time slot, one tap on 'Bevestig ophaaltijd' (confirm pickup time), and the booking is confirmed. An optional message field allows practical instructions.

10.3.3 Counter-proposal

If the borrower's available hours do not work, the lender can propose an alternative via 'Ander tijdstip' (different time) (Figure 67). The lender selects a day and marks available hours, following the same calendar grid as the borrower's booking flow. The counter-proposal is limited to one per booking. The timer continues running during the proposal. If the borrower rejects, the system proceeds to the next lender in the cascade.

The single-proposal limit is deliberate. The lender interviews revealed that declines were often caused by timing rather than unwillingness (section 9.1). One alternative is sufficient to resolve that. Allowing more would recreate the open-ended negotiation the design aims to replace.

10.3.4 Counter-proposal

Lenders manage their listings through a dashboard where they can add items, edit descriptions and photos, set prices, and toggle availability. The dashboard also displays lending history and active bookings.

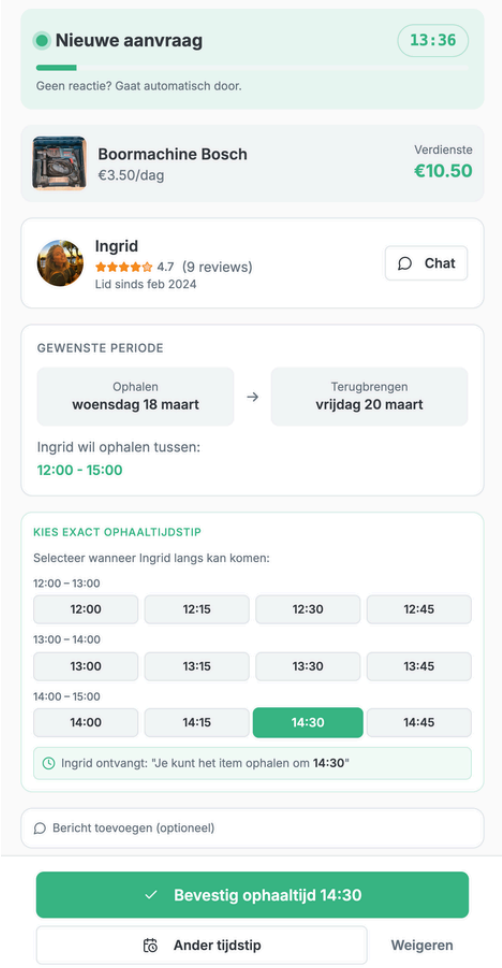


Figure 66: Lender request screen with borrower info, earnings, countdown, and pickup time selection

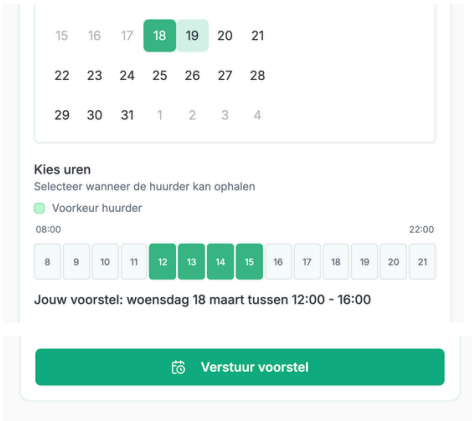
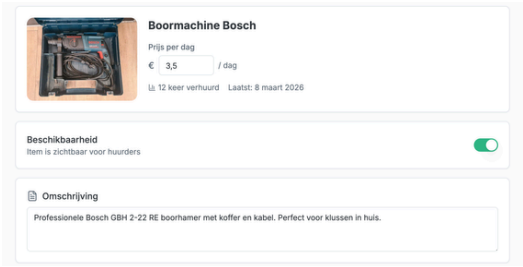


Figure 67: Counter-proposal screen



10.4 PEERBY PERKS

Peerby Perks is the reward system that keeps lenders motivated to respond quickly. Lenders who set a shorter confirmation time rank higher in search results. Timely responses and completed transactions earn points, which can be exchanged in a rewards shop for real-world rewards (Figure 68).

The mechanism creates a positive loop: faster responses lead to higher ranking, which generates more requests, which earns more points. Lenders who respond more slowly are not penalised. Their items simply appear lower in results but remain visible. The incentive is positive, never punishing.

The specific reward structure was not validated in this project. The prototype shows partnership-based rewards as a direction, but which partners and rewards would work best requires real-world testing. The recommendation in chapter 13 is to start with non-monetary rewards such as visibility and recognition, and explore partnership rewards only after the base system has proven itself.

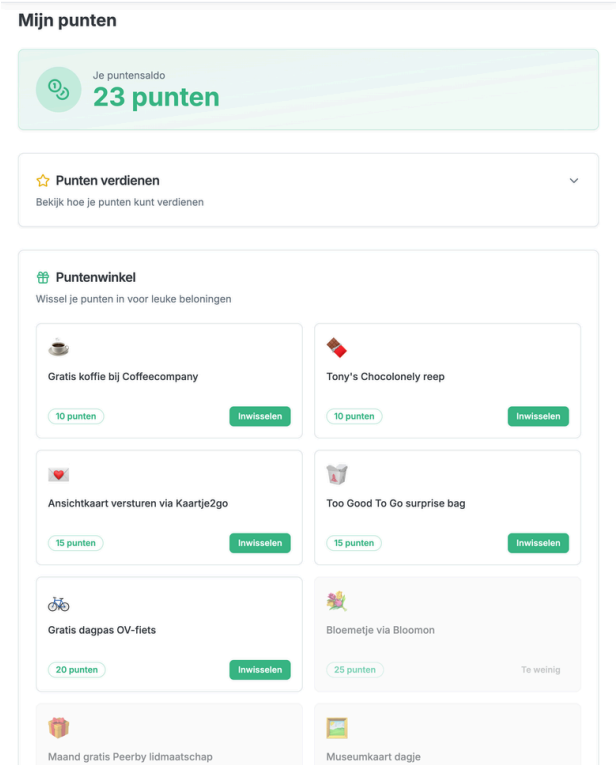


Figure 68: Peerby Perks points shop with redeemable rewards

10.5 THE NEW PEERBY EXPERIENCE

In the current system, the borrower sends a message and hopes for the best. There is no timeframe, no fallback, and no way to know what will happen next. Peerby Direct replaces that with a structured flow where every step has a clear outcome. The borrower searches, selects hours, picks backups, submits, and waits for an answer that will come within a known timeframe. If the first lender does not respond, the system moves on. If nobody responds, the borrower gets alternatives. At no point is the borrower left guessing.

That is what this project set out to do: design certainty into a system that is inherently uncertain. By reducing the mental effort of not knowing, the perceived effort of borrowing drops. And when effort drops, the value of cheap, local access starts to outweigh the hassle again. That is the value-effort imbalance being corrected, not by making sharing more valuable, but by making it feel less like work.

11

PEERBY POUCH

A physical handover concept for fully asynchronous exchange

No shared schedule needed, just leave it in the bag.

Peerby Direct solves the booking, but not the handover. The borrower and lender still need to physically meet for the exchange. This chapter presents the Peerby Pouch: a portable, lockable bag that enables fully asynchronous pickup and return. It covers the design, a compatibility analysis based on Peerby's rental data, the planned pilot with Lokko, and a distribution model for scaling up.

11. PEERBY POUCH

11.1 DESIGN OVERVIEW

The Peerby Pouch is a portable, lockable bag that lenders hang at an accessible spot, such as a front fence, bike shed, or porch. The lender deposits the item and confirms via the app. Only then does the borrower receive an access code and the pickup location. They pick up the item whenever it suits them, use it, and return it to the Pouch the same way. The lender retrieves the item at their convenience and checks the condition. At no point do the two need to be in the same place at the same time. The system integrates into Peerby Direct through a Pouch badge on compatible listings, a filter for asynchronous pickup in search results, and an asynchronous option during booking.

11.2 COMPATIBILITY ANALYSIS

The Pouch does not work for everything. It only works for items that are small enough to fit in a bag, sturdy enough to hang outside and where the Pouch's security level matches the item's value. To estimate how large the Pouch's scope could realistically be, Peerby provided a confidential list of their 100 most frequently rented product categories, including order volumes (Peerby, internal communication, 2026). Each category was assessed on whether the item fits within roughly 40×30×20 cm and whether its value is proportional to the Pouch's security level. This is a rough estimation, not a tested classification.

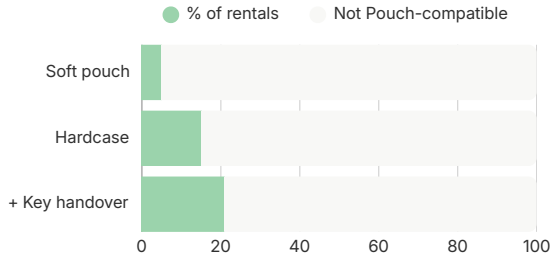


Figure 69: Share of Peerby's top 100 rental categories compatible with the Pouch across three scenarios

This resulted in three scenarios (Figure 69). In its simplest form, a soft, weather-resistant bag, the Pouch works for small power tools like angle grinders, sanders, multitools, and tackers. This covers roughly 5% of all rentals. A sturdier hardcase version expands that to drills, jigsaws, projectors, and cameras, reaching approximately 15%. The third scenario adds key handover: instead of placing the item itself in the Pouch, the lender places a key. The borrower picks up the key and unlocks a cargo bike, e-bike, or scooter parked nearby. This brings the compatible share to around 21%.

11.3 BORROWER AND LENDER JOURNEYS

The borrower selects a Pouch-compatible listing, recognisable by a badge in the search results. During booking, they pick the asynchronous pickup option. Once the lender places the item in the Pouch and confirms in the app, the borrower gets an access code and the pickup location. They pick up the item whenever it suits them, use it, and return it to the Pouch the same way. The lender picks it up when they have time and checks the condition. The two never need to be in the same place at the same time.

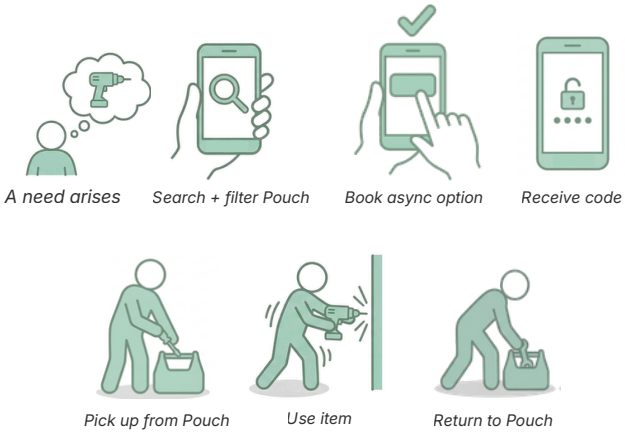


Figure 70: borrower journey Peerby Pouch

11.4 PILOT DESIGN

Rather than developing custom hardware, this project planned to use Lokko: a Dutch startup producing portable lockable bags originally designed for bicycle helmets. The bag features an integrated cable that threads through the contents, preventing theft even if the outer material is cut. Lokko's founder agreed to provide a prototype for testing. The bag retails at €29, with cost price well below that.

Figure 71: Lokko lockable bag (Lokko, 2025)

The bag did eventually arrive (Figure 71), but too late to organise a pilot with lenders. Since Peerby Direct was the primary deliverable and the Pouch was always a supplement, remaining time went into refining and validating Peerby Direct. A small-scale lender pilot is recommended in chapter 13.

Figure 72: The Lokko bag after delivery

11.5 DISTRIBUTION

At Lokko's cost price, several ways to get the Pouch to lenders are realistic. Peerby could reward active lenders with a free Pouch, keeping costs tied to users who generate value. A deposit model (around €25, refundable but rarely returned) creates predictable income, similar to how Turff distributes their student house tablets (Turff, n.d.). Or Peerby could distribute them for free as marketing: green bags on fences across the city as visible brand signals, comparable to how Swapfiets turned a blue tyre into a citywide billboard. These options can be combined and scaled as the pilot grows.

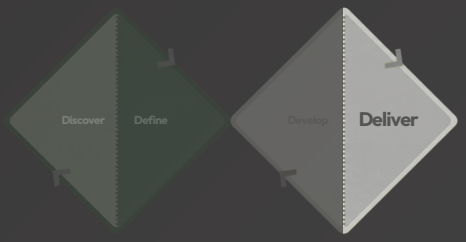
Figure 73: Swapfiets' blue tyre as street-level branding

11.6 FUTURE DIRECTION

During a meeting with Peerby's CEO, a different idea came up. Instead of helping neighbours hand items to each other, Peerby could put its own tools in branded hardcases and let those circulate between borrowers, similar to how shared bikes work. No lender needed. This removes coordination entirely, but turns Peerby from a sharing platform into a rental service, which means investing in inventory. That falls outside this project, but is worth exploring in the future.

12

PHASE 4: DELIVER



VALIDATION

Testing whether the design works: walkthroughs, survey, and what still needs fixing

76.5% preferred the new system. But preference is not comprehension.

This chapter evaluates whether the mechanisms designed in chapter 10 achieve their intended effect. Two instruments were used: prototype walkthroughs to test comprehension and usability in depth, and an online survey to test mechanism preference and design parameters at a broader scale.

12. VALIDATION

The validation focused on Peerby Direct. Peerby Pouch was not validated within the project timeline due to delayed delivery of the physical prototype. It remains positioned as an exploratory concept with recommendations for future testing in chapter 13

Three criteria guided the evaluation. First, at least 70% of survey respondents should prefer Peerby Direct over the current system. Second, at least 70% should indicate higher reuse intention with the new mechanism. Third, no critical usability issues should remain unresolved after the walkthrough iteration cycle.

12.1 PROTOTYPE WALKTHROUGHS

12.1.1 Method

Prototype walkthroughs were conducted to surface comprehension issues and friction points that survey data cannot capture. The method follows the Product Usability Evaluation approach from the Delft Design Guide (van Boeijen et al., 2020), combined with a think-aloud protocol (Nielsen, 1993). Every participant received the same task: 'You need a drill this weekend. Find one and book it.' No further guidance was given.

Nine sessions took place in two rounds. Round one tested the initial prototype with two participants. Their feedback was processed and the prototype was updated before round two, which included five more participants. Two additional sessions are reported separately in section 12.1.5: one expert evaluation with a power lender, and one stakeholder session with Peerby's CEO. Seven regular participants falls within the range Faulkner (2003) recommends for formative usability testing. All sessions were recorded with screen capture and audio. The author took written notes during each session, marking moments of hesitation or confusion in real time. Findings were compared across sessions to distinguish recurring patterns from individual preferences. All participants were based in Amsterdam.

Table 9: *Walkthrough participants*

Code	Age	Gender	Back-ground	Peerby experi-ence	Round	Duration
P1	30	M	Technical	Never used	1	45 min
P2	27	F	Design	Used Peerby	1	60 min
P3	32	M	Marketing	Used once	2	25 min
P4	26	F	Design	Never used	2	15 min
P5	40	F	Hospita-lity	Never used	2	15 min
P6	25	F	Legal	Used Peerby	2	30 min
P7	38	M	Events	Never used	2	25 min
E1	52	M	Active Peerby lender	Power lender	Expert	70 min
E2	44	M	CEO Peerby	Platform owner	Stake-holder	45 min

12.1.2 Round one findings

Round one tested two prototype variants with P1 and P2. Both showed concrete confirmation times on search results. Variant A added certainty badges with labels like 'highest certainty' to signal lender reliability. Variant B dropped the badges and introduced a flexibility bar that responded to borrower input instead. Both were well received, but each brought up issues that shaped the final design (Figure 74)

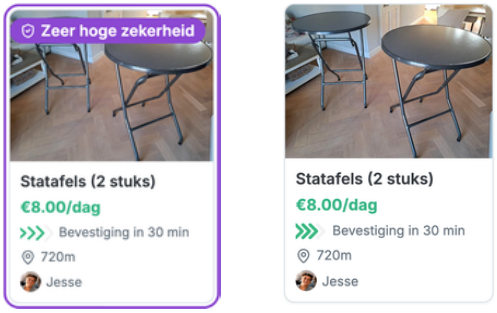


Figure 74: *Item card in variant A (left) and variant B (right)*

Figure 74.2: *Listing information in variant A with certainty badge and confirmation times (left) and variant B with confirmation times and flexibility bar (right)*

A key finding was what is referred to here as the certainty paradox. P2 pointed out that putting a certainty label on something can make people worry about uncertainty they had not considered before. She compared it to a hotel receptionist telling a guest not to worry when the guest had no concerns in the first place. In variant B, this did not happen. The flexibility bar got a similar idea across without ever mentioning certainty. P2 described it as intuitive even though she could not fully explain what it did, which suggested that framing the mechanism around what the borrower does rather than what the platform promises avoids the paradox. This matched earlier supervisor feedback, where both committee members read the confirmation time as a reaction estimate rather than a guarantee.

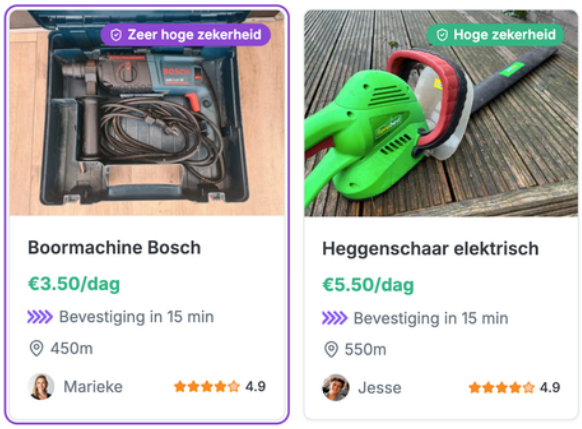


Figure 75: *Certainty badges on search results (variant A, round one)*

P1 said 'hoge zekerheid' (high certainty) meant nothing to him as a label and suggested showing concrete response metrics instead, the way other platforms do. In variant B, the confirmation times made sense to both participants straight away. A number of interface problems came up across both variants. The progress bar went unnoticed and its link to time slot selection was not obvious.

The time slot selector offered a dropdown with two-hour windows, a 'lange slots' toggle nobody understood, and an 'eigen tijd' toggle that opened manual time fields.

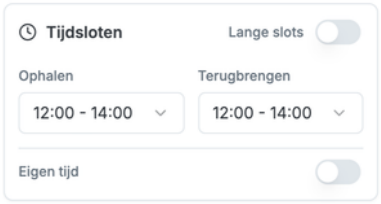


Figure 76: *Round one time slot interface showing dropdown selector, 'lange slots' toggle, and 'eigen tijd' manual input*

Neither participant grasped the difference between these three options. Both ended up toggling 'eigen tijd' to type their own times. When the system was explained, both independently suggested a simpler model: a calendar grid where you just tap the hours you are free and let the platform sort out the match. The backup cascade was liked but its sequential logic was not clear at first glance. Both participants appreciated that chat was available but not required.

12.1.3 Design iteration

The prototype was updated before round two based on what round one revealed.

The certainty badges were removed. The certainty paradox showed that naming certainty explicitly risks creating the anxiety it tries to prevent. The progress bar was kept but relabelled to ‘jouw flexibiliteit’ (your flexibility), reframing it from a platform promise to something the borrower controls.

Confirmation times replaced the badges as the main search indicator, following P1's suggestion that concrete metrics work better than abstract labels. The time slot input was completely redesigned: both round one participants had ignored the predefined options, so the dropdown and toggles gave way to an hourly calendar grid with a live summary of the selected window.

Figure 77: *Time slot input after iteration: dropdown replaced by hourly calendar grid*

Peerby's gnome character was introduced to deliver brief tips at key moments, responding to a tension from round one: the mechanisms need explanation, but nobody reads instructional text. Table 10 lists all key changes.

Table 10: Key prototype changes between round one and round two

Component	Issue	Change
Certainty badges	Label unclear, triggered paradox	Removed, replaced by confirmation times
Progress bar	Unnoticed, certainty framing	Relabelled to 'your flexibility', new colour scheme
Time slot input	Dropdown and toggles not understood	Replaced by hourly calendar grid
Guidance text	Instructional text skipped	Gnome character with dismissible tooltips

12.1.4 Round two findings

Round two tested the updated prototype with P3 through P7. The certainty paradox did not come back. Nobody was confused by the word 'flexibility' or read it as a warning about unreliability. The terminology change worked.
All five participants got through the booking task on their own.

P6 was an interesting case: she skipped every piece of text on screen and navigated purely by tapping green buttons. She still completed the task, but her behaviour made clear that the interface has to work for people who simply do not read. Both expert evaluators made the same point later.

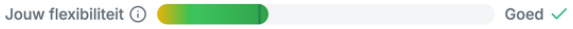


Figure 78: *The flexibility bar*

The flexibility bar got more attention than in round one, but the picture was mixed. Some participants understood it, others thought it was a progress bar showing how far along they were in the booking process, and one participant missed it entirely. Once explained, it clicked for everyone, but it does not yet explain itself. The hourly calendar grid worked better than the old selector, though some participants treated it as choosing a pickup time rather than indicating availability. That is a meaningful difference: 'I want to come at 11' is not the same as 'I could come anytime from 11 onwards.' The design means the latter, but the interface does not make that distinction clear enough.

The backup mechanism (Figure 57) landed better than before. One participant firstly thought that all backups would be contacted at once but understood the sequence after seeing the simulation play out. Others flagged edge cases: what happens if the timer runs out and you did not pick a backup, do the same pickup times apply to backup items, and why was a price difference between primary and backup items not made more obvious.

The confirmation timer 59 was received well across all sessions. One participant said the countdown meant he could stop thinking about it and come back later.

Another thought 15 minutes was almost too fast, but liked the predictability. Not everyone interpreted the timer correctly though. One participant read 'bevestiging binnen 15 minuten' as how long the lender typically takes to respond, not as a hard deadline. The same misreading had come up in supervisor feedback earlier. This matters because the whole point of the timer is that it is a guarantee, not an estimate.

Sorting preferences went in different directions with no consensus. Text density was flagged by several round two participants independently.

12.1.5 Expert evaluation and stakeholder alignment

E1 (L1 in the lender interviews), the power lender, spent about 70 minutes with the prototype. On the borrower side, he confirmed that the timer and backup work as intended and that the timer creates urgency without pressure. On the lender side, he found the accept flow (Figure 66) one step too long, the availability settings (Figure 65) too rigid for real-life schedules, and the text too dense. Beyond interface feedback, he suggested a lending history overview, borrower anonymisation after a set period, a gamified response indicator, and a dashboard giving Peerby operational data. He pointed to Booking.com's A/B testing practice as the model to follow. These recommendations are discussed further in the next chapter.

E2, Peerby's CEO and the project's client, spent 45 minutes evaluating the prototype from a strategic and implementation perspective. He confirmed the conceptual direction as strong and noted that the flexibility bar successfully places control in the borrower's hands.

His central concern was whether the interface remains comprehensible for users who click through without reading, a point that aligned with P6's behaviour in round two. On implementation, he suggested incorporating the existing broadcast request system as an automatic fourth fallback, pausing the timer during night hours, and introducing a deposit model for backup price differences.
He also identified an opportunity to build the UX components as modular blocks within Peerby's upcoming chat-based platform, and saw potential for AI-assisted lender onboarding. These items are picked up alongside E1's recommendations.

12.1.6 Final prototype adjustments

A last round of changes went into the prototype after round two and the expert sessions. Text was cut across multiple screens. The lender accept flow went from two steps to one. The minimum time slot dropped to one hour with a tip suggesting two. Not everything could be addressed in time.

A detailed availability page for lenders, an dashboard, return coordination and the night-hour timer pause require more fundamental rework and are carried forward as recommendations in chapter 13.

Table 11: Final prototype adjustments

Component	Source	Reason
Screen text	Skipped or ignored by multiple participants	Reduced across all screens
Lender accept flow	Two steps seemed unnecessary	Simplified to one step
Minimum time slot	Two hours is too many as minimum	Reduced to one hour
Backup page	No option when timer expires without backup	‘More time’ checkbox added and screen if no one responds

12.2 SURVEY

12.2.1 Method

An online survey was sent out to test whether the proposed mechanisms are understood and preferred over the current system. It used screenshot comparisons so respondents could evaluate interface elements without needing to know Peerby. The survey was built in Qualtrics and designed to take under five minutes, in line with the project's focus on keeping effort low. Distribution followed the same route as the earlier research survey (chapter 6): social media, neighbourhood networks, and personal contacts over one week. The survey deliberately tested perception and preference rather than usability. Comprehension and friction were covered by the walkthroughs. Survey responses were exported from Qualtrics as a CSV file. Descriptive statistics were calculated using Claude, based on the raw data. A random sample of results was verified manually in Excel to confirm accuracy.

68 people completed the survey. The largest group was 25-34 (37%), with solid representation up to 65+ (16%). 87% had borrowed or rented something informally from another person at least once. The full question set is available in appendix O.

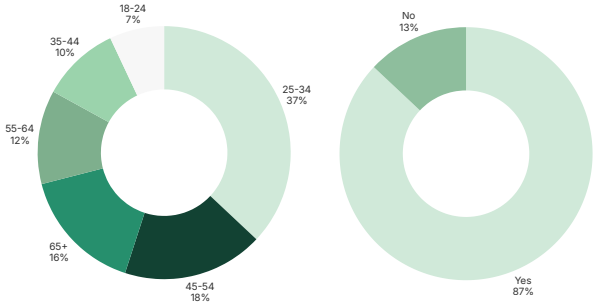


Figure 79: Respondent profile: age distribution (left) and prior borrowing experience (right) (n=68)

12.2.2 Findings

System preference: The key comparison showed two post-booking situations side by side: a chat screen representing how Peerby works now, and a timer screen with fallback information representing Peerby Direct. 76.5% chose the timer-based version.

That clears the 70% threshold. The preference held across most age groups, though the 55-64 bracket went the other way, leaning towards chat or reporting no difference. Whether this is about valuing social contact, being used to chat-based platforms, or simply not wanting to learn a new system is hard to tell from this survey's data alone.

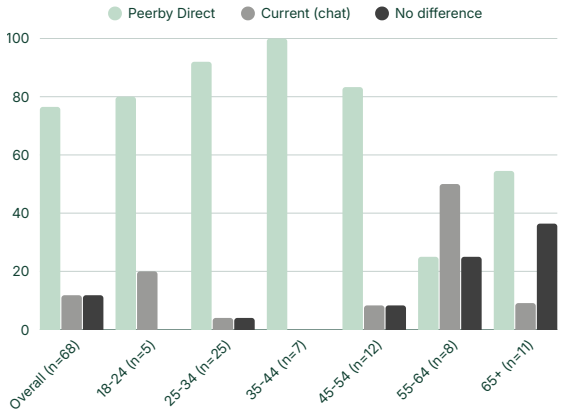


Figure 80: System preference overall and by age group (n=68)

Reuse intention: 70.1% said they would be more likely to use a lending platform again if it worked like the timer-based system. That just meets the second criterion. Among people who preferred Peerby Direct, it jumped to 86.5%. Among those who preferred chat, not a single person agreed. That clean split suggests this is a real preference, not just a reaction to a nicer-looking screen.

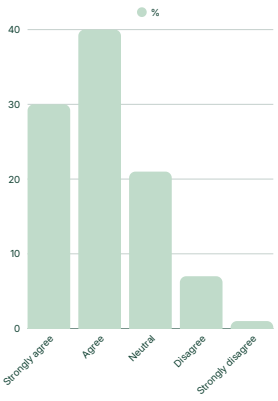


Figure 81: Reuse intention (n=68)

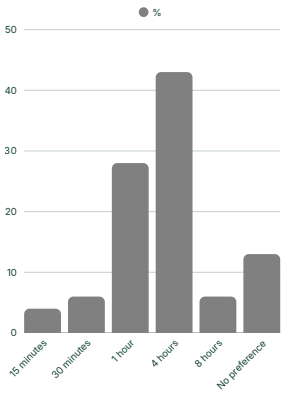


Figure 82: Maximum acceptable confirmation wait time (n=68)

Maximum wait time: 42.6% were fine with up to four hours, 27.9% preferred one hour, and just 4.4% thought 15 minutes was the right maximum. The current default of 24 hours is considerably longer than most borrowers are willing to wait. The data suggests a shorter baseline would better match expectations, while lenders who want to stand out can still set shorter times to rank higher in search results.

Backup willingness: 88.2% would pick one or more backup items before confirming a booking. Strongest number in the whole survey and this confirms that the automatic fallback mechanism addresses a real need.

Sort preference: This was spread across multiple options, with distance most popular, followed by a recommended mix, price, fastest confirmation, and best reviewed last. Notably, fastest confirmation, the current default sort in the prototype, ranked fourth. This suggests that while borrowers value knowing when they will get a response, it is not what they sort by first. Badge colour and chevron design also showed no clear winner.

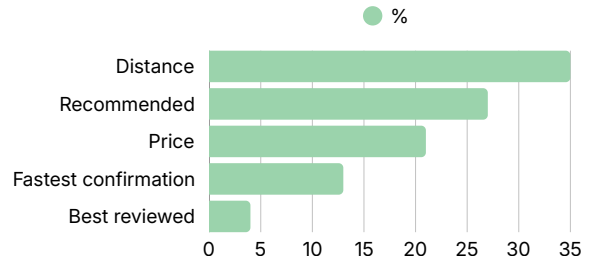


Figure 83: *Sort preference distribution (n=68)*

Other parameters: 70.6% wanted in-platform chat for questions, which confirms chat belongs in the system as an option but not as the booking mechanism. A full daypart was the most popular pickup window (39.7%), backing up the calendar grid from the prototype. Badge colour and chevron design both came back without a clear winner, which means those decisions need A/B testing with real users.

12.3 SYNTHESIS

The validation tested three criteria. Two were met, one partially.

70% prefers Peerby Direct	76.5%	✓
70% higher reuse intention	70.1%	✓
No critical usability issues	Partially met	⚠

Figure 84: Validation criteria and results

76.5% of respondents preferred Peerby Direct over the current system, clearing the 70% threshold. 70.1% indicated higher reuse intention, scraping past the second criterion. Every walkthrough participant completed the booking flow on their own, and backup willingness came in at 88.2%. The concept is validated. But the third criterion, no critical usability issues remaining, was only partially met. The iterative approach did prove itself. The certainty paradox from round one vanished after the terminology change.

The time slot redesign got rid of the confusion from round one, although some participants still read it as a pickup preference rather than an availability window. What both instruments showed, though, is a pattern worth being honest about: users liked what the system did for them without always grasping how it worked. The flexibility bar was mistaken for a progress bar or skipped entirely by nearly half of walkthrough participants. The chevrons went unnoticed in walkthroughs and got muddled with rating signals in the survey. And the confirmation timer, the most praised mechanism, was not always read as a guarantee. Some took it as an average response time. That is exactly the distinction that makes this system different from chat, and the interface does not land it clearly enough yet. These issues might have the same reason: the mechanisms are new, they need some explanation, but users skip anything that looks like instructions. Making the system self-evident rather than explained is where the real implementation work lies.

The survey gave useful direction but settled few parameters. Sort order, badge colour, and chevron design all need A/B testing. The current 24-hour default timer appears too long based on survey data, with most respondents expecting a response within four hours. The specific default value is discussed in chapter 13. But those are decisions for a live platform, not a pre-launch survey. Table 12 on the next page summarises the validation status of each mechanism. The system is preferred and would be reused. But preference does not equal comprehension. Closing that gap is where the work continues.

These results trace back to the design criteria in Section 9.2. All borrower must-requirements were met: confirmation times before booking (F1.1), date and hour selection (F1.2), visible request status (F1.3), and automatic fallback (F1.4). Lender requirements were also met: no calendar upkeep (F2.1), autonomy to decline (F2.2), and chat optional (I3.1, I3.2). The survey showed most respondents prefer in-platform chat, making WhatsApp integration a nice-to-have rather than a necessity (I3.5). Push notifications (I3.3) and retention measurement (S4.3) require live implementation and are picked up in chapter 13.

Table 12: Validation overview

Mechanism	Walkthrough	Survey	Status
Confirmation timer	Understood by most, but guarantee vs. estimate confused some	76.5% prefer over chat	Validated, needs clearer communication
Backup cascade	Understood, edge cases found	88.2% would use	Validated
Booking flow	All completed task	70.1% higher reuse	Validated
Flexibility bar	Misread by 3 of 7	Not directly tested	Needs redesign
Chevron indicators	Overlooked	Confounded by rating	Not validated
Chat as optional	Appreciated	70.6% prefer in-platform	Validated
Timer default	24h too long	1-4 hours preferred	Adjust default
Text density	Flagged by majority round 2	Not tested	Persistent issue

12.4 LIMITATIONS

The prototype runs on simulated data, not a live platform. The survey tested reactions to screenshots, not real behaviour. Both samples came partly from personal networks. The walkthrough group (n=7 plus 2 experts) is big enough to find usability problems but too small to generalise from. The survey (n=68) points in a direction but does not prove anything statistically. The survey setup also has a built-in tilt. Respondents saw a polished new system next to a bare chat screen and were asked which they preferred. The prototype runs on simulated data, not a live platform. The survey tested reactions to screenshots, not real behaviour. Both samples came partly from personal networks. The walkthrough group (n=7 plus 2 experts) is big enough to find usability problems but too small to generalise from. All walkthrough participants were based in Amsterdam, a dense urban area where Peerby is most active. The design assumes short distances and high lender density. Whether the mechanisms work equally well in smaller towns or rural areas, where fewer lenders are nearby and supply is thinner, remains untested. The survey (n=68) points in a direction but does not prove anything statistically. The survey setup also has a built-in tilt. Respondents saw a polished new system next to a bare chat screen and were asked which they preferred.

That comparison naturally favours the new design. Asking about reuse intention right after showing the concept primes a positive answer. These numbers should be read as indicators, not proof that the system will improve retention in practice.

The lender side is the thinnest part of the validation. Full behavioural testing through A/B experiments on a live platform is the logical next step and is discussed in the next chapter.

13

RECOMMENDATIONS

What to refine, what to build next, and how to get there

Bounded uncertainty is not the same as no uncertainty.

The validation in chapter 12 showed that users prefer Peerby Direct and would be more likely to return to a platform that works this way. But it also showed that there is still a gap between concept and the final product. Several mechanisms were appreciated without being fully understood, key parameters remain open, and the lender side needs more work. This chapter addresses those gaps.

13. RECOMMENDATIONS

The recommendations are structured in four parts: design changes, implementation, broader applicability, and general advice for Peerby as a platform.

13.1 DESIGN CHANGES

13.1.1 Interface refinements

These are changes to the current design that come straight from the walkthroughs and survey. They do not require new infrastructure or business decisions.

The flexibility bar was misread as a progress bar by nearly half of walkthrough participants. The shape needs to change, or the bar should be replaced by a text-based message that updates as the borrower adds time slots. Either way, the current version is not ready to ship.

The confirmation timer was appreciated but not always understood as a guarantee. Some read 'bevestiging binnen 15 minuten' (confirmation within 15 minutes) as an average, not a deadline. The prototype already leads with a concrete end time, but the walkthrough showed this is not always enough. The recommendation is to test different wordings and formats to find what makes the guarantee clear for every user.

The timer default of 24 hours is too long. The survey showed most borrowers expect a response within four hours. A shorter baseline, with the option for lenders to set it even shorter for higher ranking, would be a better fit.

The default sort order should change from fastest confirmation to distance first. The survey ranked confirmation speed second to last as a sorting preference. Distance or a recommended mix would feel more natural.

It is worth exploring whether the timer could be set automatically from lender behaviour data rather than manual input. New lenders get a generous default, and as response history builds up, the system adjusts. This fits the zero-maintenance principle from the lender research.

Return coordination is the one gap in the booking flow. Pickup is handled, return is not. A lightweight solution would let the borrower propose a return window during pickup confirmation.

Text density was noted across nearly all sessions. The gnome mascot helped but did not solve it. A screen-by-screen review should replace text with visual cues wherever possible. The goal is a flow that works for someone who reads nothing.

13.1.2 System extensions

These are features that would complete Peerby Direct but need new infrastructure or business decisions that fell outside the project scope.

The broadcast request was added to the prototype as an automatic fourth fallback following the stakeholder alignment session. The mechanism is implemented but was not included in the walkthrough rounds and therefore needs validation in a live context.

Peerby Perks was designed but not validated. The recommendation is to start small: non-monetary rewards first, such as badges, lending milestones, and search ranking boosts. A Power Lender status for highly active lenders could come with tangible benefits, such as a lower commission rate, similar to how Booking.com rewards high-performing hosts.

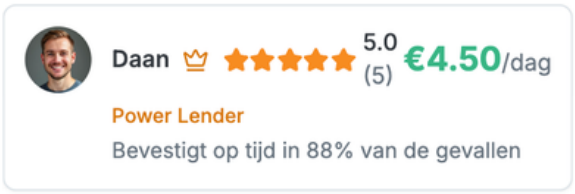


Figure 85: Impression of a Power Lender profile with badge

A lender who completes 20 transactions at a slightly lower rate still generates more revenue than someone who lends twice. The exact thresholds need financial modelling that was beyond this project.

Right now, Peerby only has insight into what happens inside the chat. Everything before and after is a black box. Peerby Direct would change that by generating data across the entire booking flow: from search to confirmation to fallback to completion. A dashboard (Figure 13.X) would make this visible and actionable, allowing Peerby to spot problems and track whether design changes actually affect behaviour. The power lender from the expert evaluation made the point that this kind of data would let Peerby make precise decisions based on what actually happens, instead of guessing.

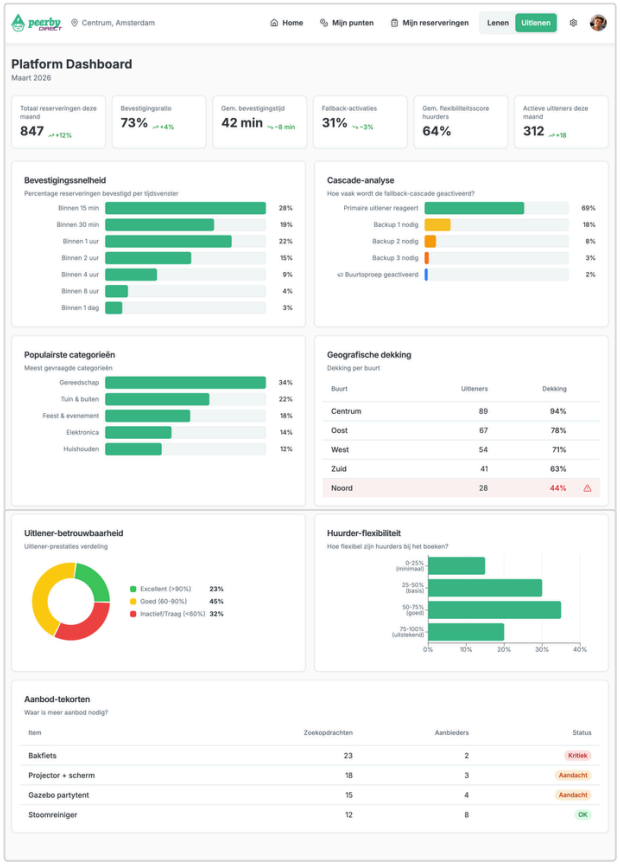


Figure 86: A platform dashboard with booking data, lender reliability, geographic coverage, and supply gaps (was later added in prototype)

A few smaller points came out of the validation: the timer should pause at night, backup price differences need a deposit mechanism, lender availability should be settable per day, lenders want to see their lending history, and borrower names should be hidden after a set period. AI-assisted onboarding for lenders was also suggested. These are listed in appendix P.

13.1.3 Platform integration

Peerby is currently rebuilding its entire platform. A central element in that rebuild is a chatbot-based interface, where features work as interactive blocks within a conversational flow. During the stakeholder session, the CEO indicated that if Peerby Direct fits into that architecture, implementation could happen within a few months (Peerby, internal communication, 2026). That makes compatibility with the new platform a practical condition for getting built.

This creates an interesting tension. Peerby Direct exists because chat-based coordination is the problem. Putting structured interactions back inside a chat risks bringing back the exact friction this project set out to remove. But there is an important distinction: chat as a container is not the same as chat as the interaction. Imagine typing 'I need a drill this weekend' and the system automatically walks through the Peerby Direct steps: showing available items, presenting the calendar grid, suggesting backups, and handling the timer. The borrower types one message and the structured flow takes over. No back-and-forth, no negotiation, just guided booking inside a chat window.

The Peerby Direct flow fits this well. Each step is already a separate action that maps onto a clickable step. The recommendation is to develop each step as an independent block, but to protect the linear flow. The user should never have to leave the guided path to type a message in order to complete a booking. This probably will also make future iteration easier: individual components can be swapped or tested without touching the rest.

13.2 IMPLEMENTATION

13.2.1 Roadmap

Implementing Peerby Direct all at once is not realistic with a two-person development team and a platform rebuild already underway. The roadmap splits into two levels: five phases for getting Peerby Direct live, and three future horizons for the concepts that build on top of it. The phasing is based on two factors: what can be done independently of the new platform, and what depends on it (Figure 87).

Phase 1 implements the interface refinements from section 13.1: reworking the flexibility bar, adjusting the timer wording, reducing text, and updating the sort order. These are design decisions, not development tasks. They can be prepared as ready-to-build specifications while the developers focus on the platform rebuild. This phase has no platform dependency and can start immediately.

Phase 2 is where Peerby Direct enters the new platform. The calendar grid, timer, and fallback cascade are rebuilt as independent blocks that fit into the chatbot function. This is the hardest phase. The calendar grid and timer should come first, because together they form the simplest version of a working booking flow. Backups and the flexibility bar can be added once that base is in place.

Phase 3 adds the supporting layers from section 13.2: the Perks reward system, the platform dashboard, lender availability patterns, and live validation of the broadcast fallback. These make the system smarter and give Peerby data it currently does not have, but they are not required for a first version to work.

Phase 4 is a soft launch with a just a small group of users in one or two active neighbourhoods. This is where assumptions become data. Timer defaults, sort preferences, badge design, and the biggest unknown of all, whether lenders actually respond within their self-set timeframes, can only be tested with real bookings.

Phase 5 is the full launch, followed by continuous iteration based on what the data shows. The Pouch pilot can start alongside, using the Lokko bags that are already available.

These timelines are estimates. If the platform rebuild moves faster, phases can overlap. The key principle is: first get the core booking flow live, then add the other layers on top

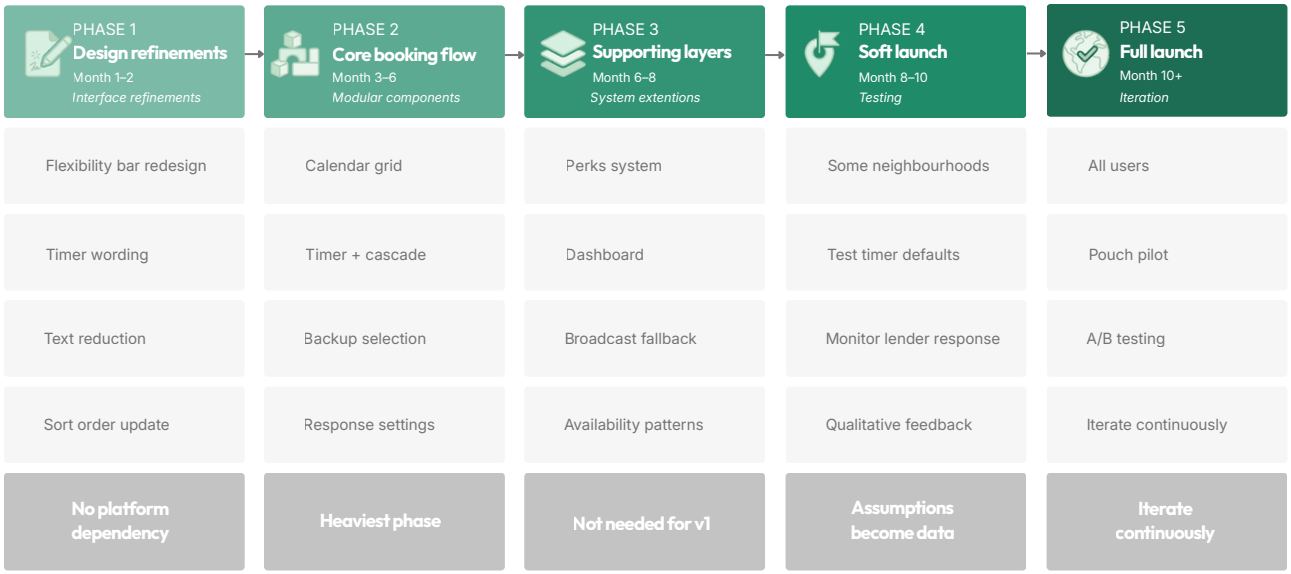


Figure 87: Peerby Direct implementation roadmap

13.2.3 Beyond Peerby Direct

Peerby Direct is the foundation, but not the only concept this project produced. Three more build on the same booking flow. The Peerby Pouch adds asynchronous handover through a physical lockable bag, with a small lender pilot starting alongside the full launch. The Rentmeester Hub introduces a centralised pickup point managed by a local partner, requiring partnerships rather than design work. Peerby Go 2.0 adds delivery so borrowers never have to travel at all, but only makes sense once Direct and Pouch have proven themselves. This sequence follows the prioritisation from section 9.4: lowest implementation effort and highest retention impact first. Direct provides the booking flow. Pouch adds flexibility. Hub centralises supply. Go removes the last barrier.

13.2.4 Risks

Two risks need monitoring from the start. The first is lender responsiveness. The entire system depends on lenders reacting within their self-set timeframes. If too many miss their timers, the fallback becomes the default experience instead of the safety net, and borrowers end up with organised failure instead of predictability.

The second is the cold start problem. Peerby Direct will get better as more people use it: more bookings mean better response data, smarter defaults, and more reliable matching. In the early phases, limited data may make the system feel less reliable than intended. Both risks will decrease when usage increases, but they need attention from day one.

13.2.5 Retention impact

Peerby Direct is a software intervention that requires no physical infrastructure. The main cost is development time. The revenue logic is simple: Peerby runs on annual subscriptions (€29.88/year) and service fees (15% per transaction). Every member who stays generates recurring income. Given that most users currently borrow only once or twice a year and many do not return, even a small improvement in retention would directly affect revenue. Beyond direct income, retained members strengthen the network: more activity means faster responses, better matching, and a more reliable experience for everyone. This reinforcing loop is what makes retention the single most valuable metric for a subscription-based platform.

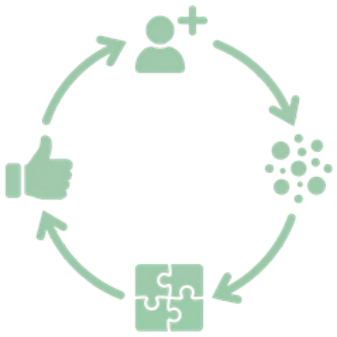


Figure 88: The retention loop. Retained members strengthen the network, which in turn improves the experience for everyone

13.3 BEYOND PEERBY

The chat-free booking mechanism designed for Peerby Direct could be useful beyond Peerby. What it solves is something basic: getting two people to show up at the same place at the same time, without endless messaging. That problem is everywhere. Selling a couch on Marktplaats. Scheduling an apartment viewing. A repair café trying to match a broken blender with someone who can fix it. A freelancer confirming a shoot. Even dating apps struggle with this: matching is easy, but actually meeting up is where it falls apart.

The pattern is very similar. Someone reaches out, the other person responds whenever they feel like it, and the whole thing runs on hope and good timing. The three mechanisms behind Peerby Direct, a timer that gives the wait a clear end, a fallback that moves on automatically, and an indicator that rewards flexibility, are not specific to sharing platforms. They work anywhere two people need to agree on a moment and the current default is sending a message and waiting.

The insight is simple: people do not mind waiting. They mind not knowing how long.

13.4 RECOMMENDATIONS FOR PEERBY IN GENERAL

Throughout this project, several things came up that go beyond Peerby Direct but matter for the platform's future. These are not validated through the research in this project, but they are grounded in what the interviews and stakeholder conversations revealed.

Peerby has a visibility problem. Multiple interview participants mentioned they had forgotten the platform existed, even after a positive experience. With a new platform launching, there is a chance to reintroduce the brand. The momentum around sustainability and circular economy provides a natural angle to build on. A consistent social media presence, neighbourhood launch events, and partnerships with local initiatives could help. The key word is consistency: showing up regularly rather than once.

The subscription model came up repeatedly as a barrier. Borrowing and lending is episodic. People need a drill once a year, a party tent twice a summer. Paying a monthly fee for something used occasionally feels like a mismatch, and several participants said exactly that. This does not mean subscriptions cannot work, but the current model may not be the best fit. Pay-per-use with a small platform fee, seasonal passes, or tiered packages where heavier users pay less per transaction are all worth exploring. The goal is to match the payment rhythm to the usage rhythm.

Listing quality varies widely. Some listings have detailed descriptions and clear photos, others have a blurry image and no context. This makes the platform feel unreliable even when individual lenders are perfectly fine. Better guidance during the listing process, such as photo requirements, suggested descriptions, and category-specific prompts, would raise the baseline without burdening lenders. Platforms like Vinted have shown that structured listing flows lead to better content.

Value communication needs work. Multiple participants questioned why they were paying and what they got in return. The value of Peerby, access to things you rarely need from people nearby, is strong, but it is not made clear enough at the moment of payment. Showing what the fee covers, whether that is insurance, platform maintenance, or trust mechanisms, would reduce friction at the point where many users currently drop off.

If chat remains part of the system, its quality must match what borrowers expect from messaging apps. The lender interviews showed that the native chat is already being bypassed in favour of WhatsApp.

A complete list of all feedback, suggestions, and smaller recommendations collected throughout the project is provided in appendix P.

14

DISCUSSION

What the findings are worth, where the design falls short, and what remains untested

Bounded uncertainty is not the same as no uncertainty.

This chapter steps back from the results and looks at the project as a whole. The previous chapters presented what was found, what was designed, and how it was validated. This chapter asks different questions: what are the findings actually worth, where does the design fall short, and what should be read with caution. It also addresses the structural tensions that the project could not resolve, the limits of the validation, and the assumptions that remain untested.

14. DISCUSSION

The literature already established that effort is a barrier in the sharing economy. That is not new. What this project adds is specificity: it narrows effort down to uncertainty-driven mental effort in the booking phase, localises it in the search-and-coordinate flow, and proposes a concrete intervention. The four research lenses converged on the same finding. Users do not leave because sharing is physically hard. They leave because they do not know if it will work. The value-effort imbalance captures this dynamic. When the mental cost of coordinating outweighs the functional benefit of access, users default to retail. The systemic instability model connects existing constructs, effort, trust, perceived value, into a single mechanism specific to peer-to-peer sharing with voluntary supply. Whether that model holds beyond Peerby is untested. It should be treated as a design framework, not as a validated causal model.

That said, the diagnosis is stronger than the solution, the research builds a convincing case across four lenses. The design responds to that case. But the gap between diagnosing a problem and proving that a specific interface solves it is larger than this project can bridge. Peerby Direct was validated through walkthroughs and a survey, both of which measured stated preference, not actual behaviour. Users said they preferred the new system. They said they would come back. But saying and doing are different things, and the entire project is built on the insight that intentions do not predict behaviour. The same intention-action gap that explains why people like sharing but do not share, also applies to validation data about a prototype. The 76.5% preference and 70.1% reuse intention are encouraging, but they were measured under conditions that favour the new design: a polished interface compared against a bare chat screen, with reuse intention asked immediately after exposure. These numbers indicate direction, they do not prove retention improvement. On top of that, the survey assumes people understood what they were looking at. They saw screenshots of mechanisms they had never used. If the timer or fallback were not fully clear, the preference might just mean the new screen looked better.

Peerby Direct tries to promise retail-level predictability on a system that structurally cannot deliver it. That tension deserves a closer look. The timer does not eliminate uncertainty, it bounds it. The fallback does not prevent failure, it catches it. The flexibility bar does not increase supply, it increases the chance of a match with existing supply. Each mechanism shifts uncertainty from user to system. But the system still runs on neighbours who may or may not respond in time. Figure 89 visualises this tension.

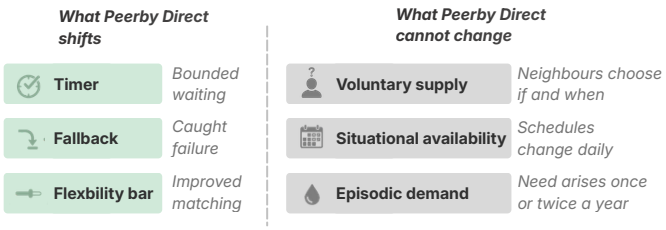


Figure 89: What Peerby Direct shifts versus what it cannot change

This is not necessarily a flaw. Bounded uncertainty is genuinely different from open-ended uncertainty, and the validation confirmed that users experience it that way. But it does mean the system is only as strong as its weakest link: lender responsiveness. If enough lenders miss their timers, the fallback becomes the default experience rather than the safety net. At that point, borrowers are not getting retail-level predictability. They are getting slightly more organised failure. The validation also tested preference, not confidence. Users said they liked the system. Whether they actually feel more sure they will get the item is a different question, one that needs real bookings to answer.

One finding that emerged during validation has implications beyond this project. During the first walkthrough round, a participant pointed out that labelling something as 'high certainty' made her worry about uncertainty she had not considered before. She compared it to a hotel receptionist saying 'don't worry' when nobody was worried. This certainty paradox led directly to the replacement of certainty badges with a flexibility bar framed around borrower actions. The paradox is a framing effect: naming a positive quality can prime awareness of its absence. For peer-to-peer platform design, the implication is that confidence should be demonstrated through system behaviou, not declared through labels. This misreading was not limited to walkthrough participants. During the green light presentation, both supervisors independently interpreted the confirmation time as an estimate of typical response speed instead of a guaranteed deadline. The fact that this happened with people who had full context about the project reinforces that the current wording does not communicate the mechanism clearly enough.

The lender side is where the project is weakest. Three interviews and one expert evaluation are enough to surface constraints. They are not enough to validate an incentive system. The motivation asymmetry between borrowers and lenders, speed versus social contribution, was identified but not resolved. Peerby Perks was designed but not tested. The zero-maintenance default assumes lenders will respond within self-set timeframes without reminders or consequences. That is an optimistic assumption. If it proves wrong, the core mechanism collapses. This is not a minor gap. It is the single biggest risk to everything this project proposes. The subscription model was treated as a fixed constraint, which was the right call for a graduation project. The project's main logic is that reducing effort increases perceived value, which in turn makes the subscription feel more justified. If Peerby Direct works as intended, borrowers get a faster, more predictable experience. That is a tangible improvement in what the subscription buys. But the research also showed that multiple participants described the annual fee as a mismatch for episodic use, and that friction is not the only reason they question the price. A user who borrows once a year and has a flawless experience still paid thirty euros for a single transaction. Peerby Direct raises the ceiling of what the subscription is worth. Whether it raises it enough for people who only borrow once a year is something this project cannot answer. That is probably not something interaction design alone can fix., like different pricing options or a pay-per-use model.

Finally, how far do these findings reach? The core finding, that not knowing whether something will work out matters more than the physical effort of sharing, showed up across both platform users and informal borrowers in the survey. That suggests it is a basic feature of borrowing from other people, not just a Peerby problem. But the specific solutions, the timer, the fallback, the flexibility bar, were designed for borrowing everyday items from neighbours. Other types of sharing, like accommodation or car sharing, involve higher stakes, longer commitments, and different social dynamics. The underlying problem may be the same but the solutions would likely look different.

15

REFLECTION

Looking back at the project, the process, and the lessons learned

What you take for granted as a designer is not obvious to the user at all.

This chapter is a personal account of how the project unfolded. It covers what went well, what did not, and what would be done differently next time. It is written in first person.

15. REFLECTION

This project started broad. In my first conversation with Daan we talked for two hours about Peerby, his vision, my skills, what we both wanted. The week after I presented a number of directions and we landed on retention and fulfilment, with the idea that I would make a real choice along the way. That is what happened. Listing quality dropped off early because it felt like a surface-level fix, a small problem rather than the core problem. Fulfilment rate felt connected to retention: if people do not come back, fulfilment does not happen either. Retention was the overarching problem. The eCO integration also did not materialise. None of this felt like a loss. It was a natural process of narrowing down.

What did shift was the role of AI. My brief stated that I wanted to explore AI as a design direction. In the end AI became a tool, not the design itself. That was not a deliberate choice, it just happened that way. But I did use AI intensively as a designer. Transcription tools, visualisation tools, prompt generation, building a complete website in Lovable. It raised the quality of my work significantly. Jorg also encouraged this by pointing me to specific tools. I genuinely improved at using AI as a skill, and I noticed in my environment during graduation how important that skill is becoming.

The first part of the project was difficult. A lot of floating, not knowing what to do, no clear way to build a skeleton or find a starting point. I worked alone every day in a university library in Amsterdam and had to motivate myself to keep showing up. I did not know if what I was doing was good enough, or if it was even the right direction. But at some point I realised: it does not matter what I do exactly, as long as I stand behind it and can explain why I am doing it. Once the problem became sharper, I started enjoying it more. And once I got to the design phase, I loved it. I like making things concrete.
I am a very critical designer by nature, and that does not always work in my favour. I come up with something, immediately find a reason why it would not work, and throw it away before I have put it on paper. The Peerby Pouch is a good example. My first reaction was: a lockbox in your front garden, that will never work, it cannot go everywhere, it is ugly, the municipality will not allow it. Until I forced myself to put everything down anyway. Sparring with fellow students, friends and just people helped enormously. That is genuinely the best way for me to ideate: not staying inside my own head.

What also shook me was the walkthroughs. I considered many things completely obvious, while participants had an entirely different perspective. That might be the most important lesson from the validation: what you take for granted as a designer is not obvious to the user at all. It seemed all so logical to me.

The collaboration with Daan was good, but different from what I expected. In the beginning we had a lot of contact. But as I gathered more feedback and criticism on Peerby, it sometimes felt uncomfortable to present that to him. Partly because he is the expert and my observations could easily be assumptions. Partly because Peerby feels like his life's work, which makes criticism feel personal. Not that he could not handle it, but it felt like a barrier. So I deliberately chose to keep a bit more distance as the project progressed, so I could go my own way and come back with a strong end result. Daan was always positive, cooperative, and a great sparring partner when I needed him.

With Sonja and Jorg it took some time to find the right way of working together. The project felt very independent to me, which I didn't mind however. The weekly meetings with Jorg, and the biweekly sessions that included Sonja and Julia, worked really well. They forced decisions and kept momentum going. I would recommend that structure to anyone. Beyond those moments I could work on my own terms and flag things when needed. Sometimes I would have liked more feedback, but I could have been more proactive in asking for it. Julia was very helpful in setting up and hosting the co-creation session and also gave useful feedback during supervisor meetings.

Looking back, I would do a few things differently. The lender side came late, not because I forgot about it, but because I chose early on to design for borrowers. Daan had also pushed for that: focus on borrowers, they are by far the largest group. I probably should not have followed that so uncritically, because more does not necessarily mean more important. I could have thought earlier about the fact that lenders are involved in every intervention I design. The Pouch was not validated because the physical prototype was not delivered in time. That was ambitious, and I made the choice to invest that time in refining Peerby Direct and the report instead. The research could have used a tighter plan. I moved from the 5C analysis to interviews, to the first survey, to lender research, to validation in quick succession, and more structure would have prevented mistakes. The first survey is a clear example: it received over a hundred responses, but the opening question filtered out anyone who had not borrowed, ending their session immediately. All those people could have provided useful data if the survey had let them continue. It should have been checked by my supervisors before distribution. I also could have asked Peerby earlier about the new website they were developing, so I could have aligned my concept more closely with where the platform was heading.

More generally, in a next project I would talk to people sooner, approach experts earlier, and above all start writing earlier. Writing forces decisions.

I had a bit of a fear beforehand that I would end up at my graduation presentation with something I was not proud of. That has happened before during my studies, presenting designs I did not fully believe in. But not this time. I am super proud of what I have created. I believe it could genuinely work and that it would help Peerby move forward.

16

CONCLUSION

Answering the research questions

Users leave because they do not know if it will work.

This chapter answers the research questions based on the findings from all four lenses, the design intervention, and the validation results.

16. CONCLUSION

This project set out to understand why users do not come back to Peerby after their first experience.

Main research question: What are the key behavioural and perceptual barriers that limit user engagement and recurring participation at peer-to-peer online sharing platform Peerby?

The answer, confirmed across four research lenses, is mental effort. Users do not leave because sharing is physically hard or socially awkward. They leave because not knowing if an item is available, whether someone will respond, and how to coordinate a pickup costs more energy than it is worth. The survey specified where this effort peaks: uncertainty about availability and response. This project framed that dynamic as the value-effort imbalance. In response, Peerby Direct was designed: a structured booking flow with a confirmation timer, automatic fallback, and a flexibility bar. 76.5% of survey respondents preferred this system over the current one. 70.1% said they would be more likely to return to a platform that works this way.

Sub-question 1: *What factors prevent users from developing a habit of using Peerby regularly?*

Borrowing happens once or twice a year. That is not enough to build a habit, and every transaction feels different because the platform cannot guarantee consistent outcomes. The more useful goal is mental availability: making sure Peerby is the first thing people think of when a need arises.

Sub-question 2*: What motivates users to use Peerby, and how do these motivations change over time?*

Borrowers come to Peerby to save money, because it is nearby, and because it is easy. Lenders are driven by putting unused items to use, helping neighbours, or earning a small fee. The interviews suggest that motivations do not change, but a single negative experience with waiting or coordination is enough to stop someone from acting on them. The problem is not motivation. It is friction.

Sub-question 3: *What factors influence users' trust when borrowing or lending items through Peerby?*

Trust is built by smooth experiences, not by upfront checks. A transaction that goes well builds trust. A message that goes unanswered breaks it. Verification and ID checks are necessary, but consistent, predictable interactions are what bring people back.

Sub-question 4: How do usability and social interaction affect users' willingness to engage and return to the platform?

The chat-based coordination model is the biggest usability problem. It puts users in an open conversation where they do not know what will happen or when. Social interaction itself is not the issue. The issue is that chatting is currently the only way to complete a booking. When social contact becomes optional instead of required, it stops being a barrier.

The research framed the retention problem through three connected models. Systemic instability showed that unpredictable supply increases mental effort. The value-effort imbalance captured the core tension: borrowing costs more effort than it delivers in value. The strategic framework showed that design must improve both platform experience and user perception. Peerby Direct responds to all three. It does not fix systemic instability, because supply remains voluntary and unpredictable. What it does is absorb that instability at the system level, so the borrower no longer has to deal with it. The timer bounds uncertainty. The fallback catches failure. The flexibility bar turns borrower input into matching probability.

The instability is still there. The borrower just does not feel it anymore.

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APPENDICES

Supporting materials, instruments, and data referenced throughout this report

A. LITERATURE SEARCH OVERVIEW

Table A.1: Overview of the search strategy per construct

Construct	Search terms (indicative)	Sources used	Key references
Trust	trust, sharing economy, peer-to-peer, platform trust, interpersonal trust	10	Hansmann & Binder (2023), Li & Wang (2021), Marth (2022)
Effort	effort, ease of use, transaction costs, cognitive load, sharing platform	10	Ye et al. (2024), Davlembayeva et al. (2020), Blut & Wang (2024)
Perceived value	perceived value, sharing economy, satisfaction, value co-creation	7	Gadeikienė (2021), Cueva (2022), Zhang et al. (2021)
Engagement	engagement, community, peer-to-peer, platform participation	4	Marvi et al. (2023), Marth et al. (2022), Akhmedova et al. (2020)
Habit formation	habit, circular behaviour, repeated use, behaviour change	7	Soyer (2025), Grilli & Curtis (2021), Putnam-Farr et al. (2023)

B. PLATFORM & COMPETITOR ANALYSIS

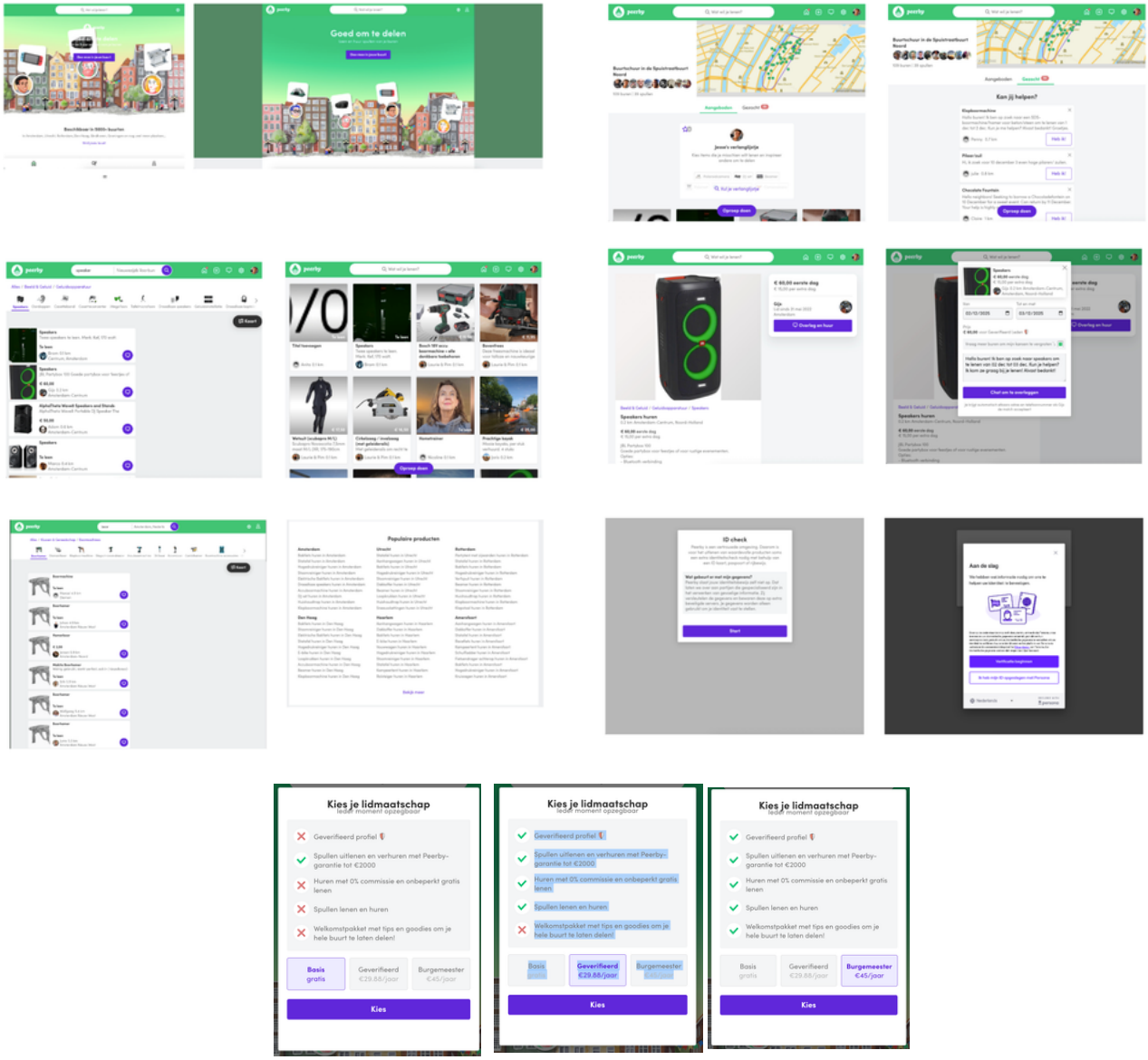


Figure B1: Screenshots of the current Peerby website

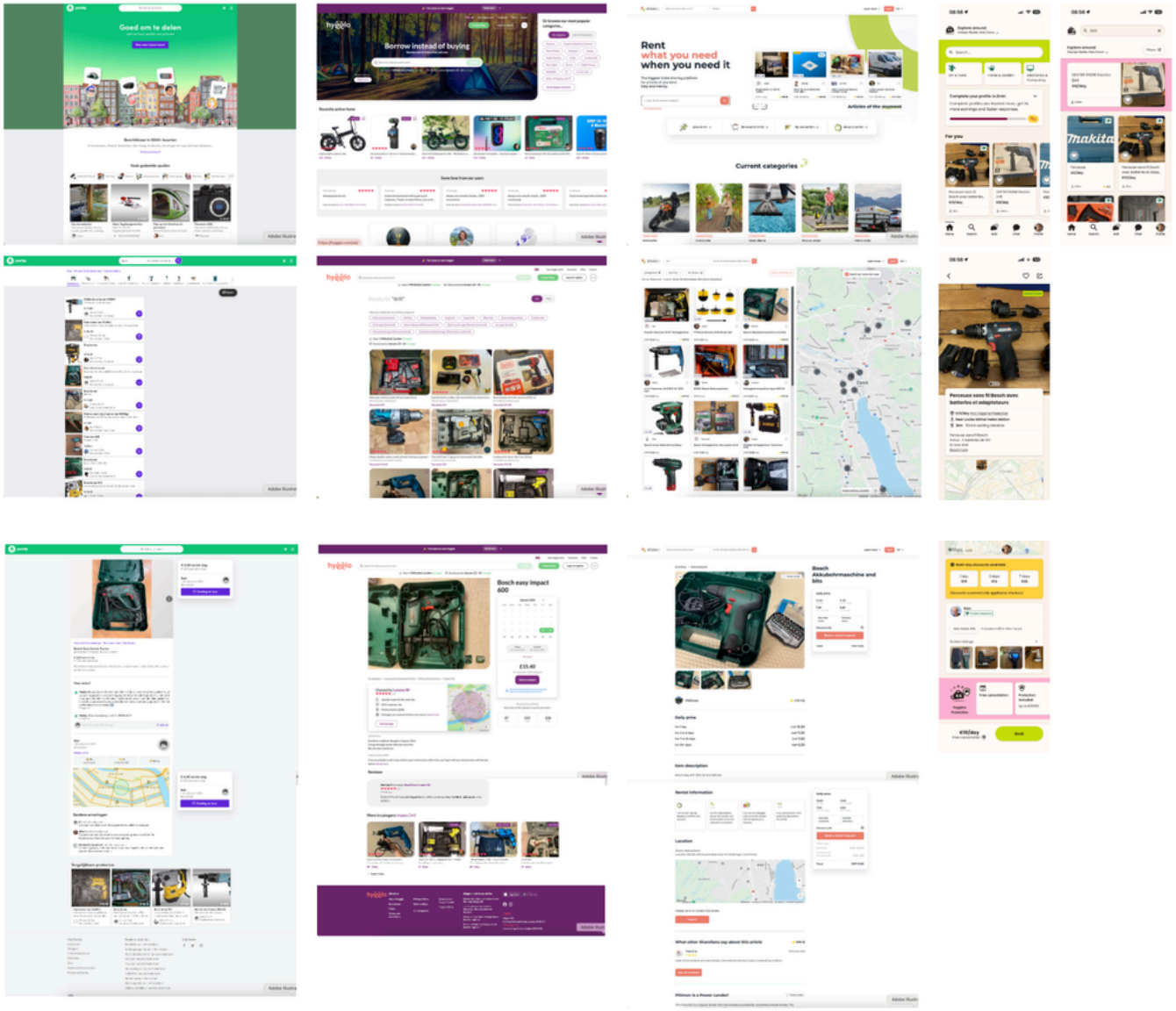


Figure B.2: Screenshots of similar platforms to Peerby: Hygglo (left), Sharely (middle) and Poppins (right)

C. TAKEAWAY CLUSTERING

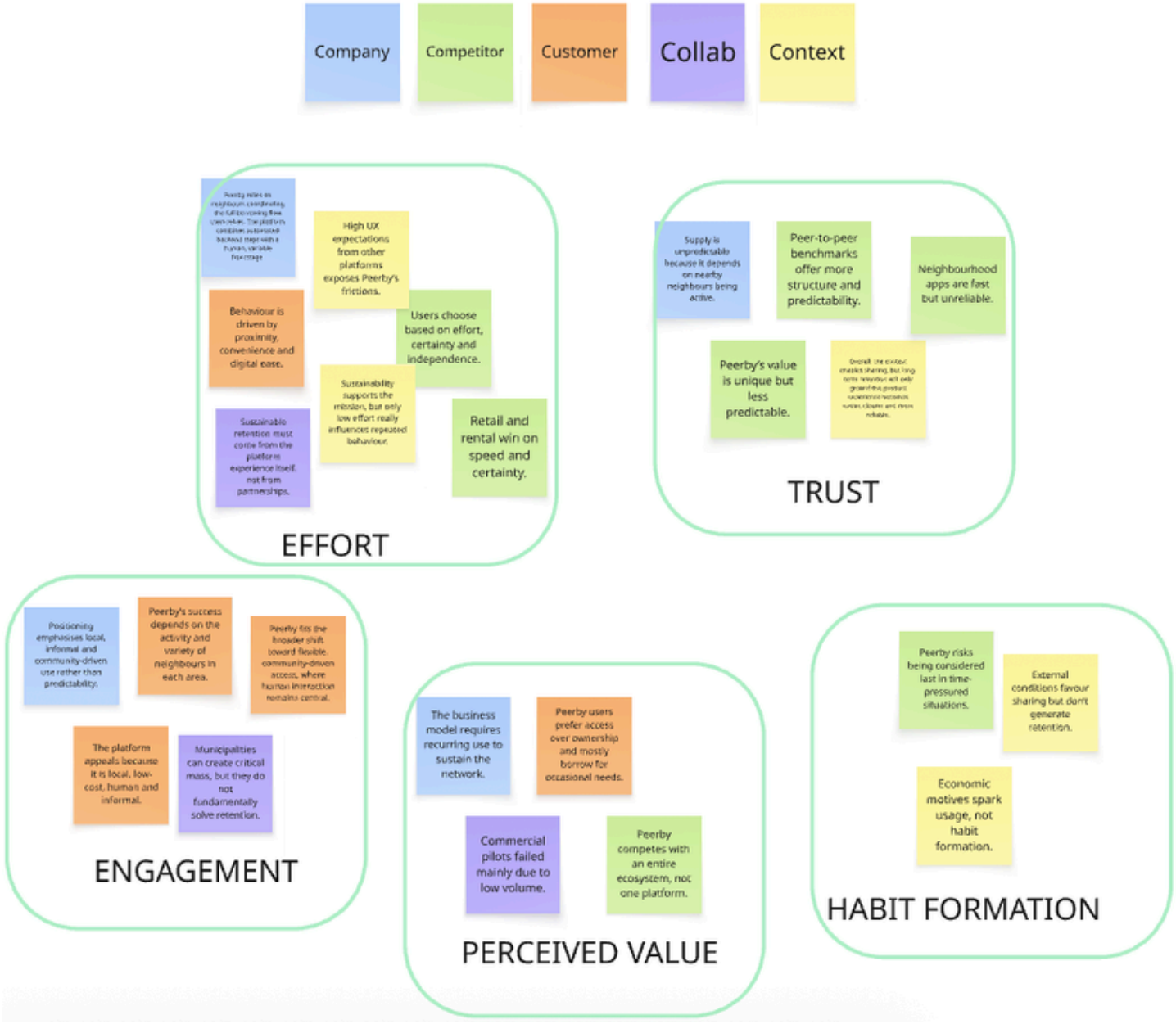


Figure C.1: Takeaway clustering into five different mechanisms

D. AI-ASSISTED THEMATIC VALIDATION

The following prompt was used identically across three AI tools (Gemini, ChatGPT, Claude):

I am conducting qualitative research for my master thesis. I have collected insights from a 5C analysis (Company, Customers, Competitors, Collaborators, Context) about a peer-to-peer sharing platform called Peerby.
Your task:
1. Read all the insights below
2. Code each insight: assign a short descriptive label (1-3 words) that captures the core meaning
3. Group the codes into themes: cluster related codes into broader themes
4. Name each theme and list which codes belong to it
Do not use my existing categories. Start fresh from the raw insights.

The prompt was followed by 28 main takeaways insights from the 5C analysis

Results comparison

Table D.1: Overview of the search strategy per construct

Research construct	Gemini	ChatGPT	Claude	Alignment
Effort	The Convenience Gap: Users demand speed and certainty, but Peerby relies on high-friction human coordination	Friction in the Sharing Flow: The process requires too much mental and communicative effort compared to alternatives	Coordination Burden: The platform offloads transaction work onto users, creating effort that competitors have eliminated	Strong: all three identify effort/friction as central theme
Perceived Value	Pragmatism Over Ideology: User behaviour is driven by cost and ease, not sustainability or community values	Convenience Beats Ideology: People choose what works fast and easy, not what is "good"	Pragmatic User Calculus: Users weigh effort against certainty and choose the path of least resistance	Strong: all three identify pragmatic/transactional motivation
Trust (supply reliability)	The Critical Mass Dilemma: The platform cannot survive without density, but struggles to generate volume	Local Dependency Risk: The system is highly sensitive to local activity and scale problems	Structural Unpredictability: Supply and outcomes depend on variables the platform cannot control	Strong: all three identify supply variability and uncertainty
Habit Formation	The Retention Puzzle: Acquisition is easy due to external trends, but retention fails because the experience doesn't build habits	Retention Must Be Designed: Growth comes from product design that makes reuse easy, not from context or partners	Retention is Internal: External factors generate trials but cannot sustain use; retention is an experience problem	Strong: all three identify retention as product/experience dependent
Engagement	Not identified as separate theme	Not identified as separate theme	Positioning-Performance Gap: Brand promise is relational, but user need is transactional (partial match)	Weak: none identify engagement explicitly; Claude touches it indirectly

Conclusion
The AI-assisted validation confirms that four of the five research constructs (Effort, Perceived Value, Trust, Habit Formation) emerge independently from the raw data. Engagement is less prominent as a standalone theme, which may indicate it functions as a secondary outcome rather than a primary driver of retention. The consistent identification of competitive benchmarking across all three tools suggests this could be added as a contextual factor in the framework.

E: BORROWER INTERVIEW GUIDE

Introductie
Bedankt dat je even tijd hebt om mee te doen. Dit gesprek gaat over jouw ervaring met Peerby: wat je ervan vindt, hoe je het gebruikt, en wat je er wel of niet mee doet. Er zijn geen goede of foute antwoorden, het gaat gewoon om jouw ervaring. Mag ik het gesprek opnemen?
Eerste ervaring & verwachtingen

Kun je me vertellen hoe jij voor het eerst met Peerby in aanraking kwam?

- Wat maakte dat je besloot om het te proberen?
- Wat verwachtte je ervan voordat je het gebruikte?
- Hoe was die eerste ervaring? Wat viel op of bleef je bij?
- Wat voelde goed of juist onhandig aan het proces?

Gebruik daarna
Hoe is dat daarna gegaan? Heb je Peerby later nog gebruikt?
- Wat bepaalde of je het nog een keer gebruikte of niet?
- Zijn er momenten geweest waarop je eraan dacht, maar het toch niet deed? Waarom niet?
- Wanneer zou jij zeggen: 'ja, dan zou ik het weer gebruiken'?
- Hoe past Peerby in je dagelijks leven, of juist niet?
- Zijn er momenten geweest waarop je peerby had kunnen gebruiken en dat niet hebt gedaan?

Ervaring met het platform
Hoe vind je het platform zelf om te gebruiken?
- Wat vind je van de app of website qua duidelijkheid en gebruiksgemak?
- Is er iets dat je ooit heeft tegengehouden om het te gebruiken?
- Hoe ervaar je het contact met andere gebruikers via Peerby?
- Wat vind je van de manier waarop Peerby werkt met abonnementen of betalingen?

Waarde & gevoel bij het platform
Wat haal jij eruit als je Peerby gebruikt? Wat levert het je op, los van het product dat je leent?
- Wat maakt dat het de moeite waard voelt, of juist niet?
- Voelt het meer als een praktische tool of als iets met betekenis (community, duurzaamheid)?
- Heb je ooit het gevoel gehad dat het delen iets 'goeds' was? of voelde het meer als een gedoe?
- Hoe zou Peerby moeten aanvoelen zodat jij het vaker zou gebruiken?

Motivatie
- Waarom zou jij überhaupt Peerby willen gebruiken? Wat is voor jou de belangrijkste reden om iets te lenen in plaats van te kopen?
- Speelt gemak, geld besparen, duurzaamheid of het sociale aspect voor jou een rol - en welke het meest?
- Zijn er momenten geweest waarop je wél motivatie voelde om het te gebruiken, maar dat het alsnog niet gebeurde?
- Wat moet er gebeuren voordat jij denkt: oké, hier doe ik het voor?

Afsluiting
Is er iets wat we nog niet hebben besproken, maar wat volgens jou meespeelt in of je Peerby wel of niet gebruikt?
Einde interview

F: SURVEY STRUCTURE

Table F.1: Complete survey structure

Code	Question	Type	Response options
Q1	Heb je in de afgelopen 18 maanden iets geleend of gehuurd van een ander persoon?	Single choice	1 = Ja, via een online platform / 2 = Ja, op een andere manier / 3 = Nee
Q3	Via welke manier(en) heb je spullen geleend/gehuurd?	Multiple choice	1 = Online platform (Peerby, etc.) / 2 = Buurt-apps (Nextdoor) / 3 = Commerciële verhuur (Boels, Praxis) / 4 = Vrienden, familie of buren / 5 = WhatsApp of Facebook
Q2	Hoe vaak heb je iets geleend/gehuurd?	Single choice	1 = 1 keer / 2 = 2-3 keer / 3 = 4-5 keer / 4 = 6-10 keer / 5 = Meer dan 10 keer
Q4	Wat voor soort item(s) heb je geleend/gehuurd?	Multiple choice	1 = Gereedschap / 2 = Keukenapparatuur / 3 = Tuingereedschap / 4 = Feest- en evenementspullen / 5 = Elektronica / 6 = Anders
Q5	Waar woon je momenteel?	Single choice	1 = Grote stad / 2 = Randgemeente / 3 = Kleinere stad / 4 = Dorp of platteland
Q6	Wat is je leeftijd?	Single choice	1 = 18-24 / 2 = 25-34 / 3 = 35-44 / 4 = 45-54 / 5 = 55-64 / 6 = 65+
Q7.1	Fase 1: Het was lastig om te vinden wat ik nodig had	Likert 1-5	1 = Helemaal mee oneens / 5 = Helemaal mee eens
Q7.2	Fase 1: Ik wist niet zeker of het item beschikbaar zou zijn op het moment dat ik het nodig had	Likert 1-5	1 = Helemaal mee oneens / 5 = Helemaal mee eens
Q7.3	Fase 1: Ik wist niet zeker of iemand zou reageren op mijn verzoek	Likert 1-5	1 = Helemaal mee oneens / 5 = Helemaal mee eens
Q10.1	Fase 2: Het kostte veel moeite om iemand te bereiken	Likert 1-5	1 = Helemaal mee oneens / 5 = Helemaal mee eens
Q10.2	Fase 2: Ik moest lang wachten op een reactie	Likert 1-5	1 = Helemaal mee oneens / 5 = Helemaal mee eens
Q10.3	Fase 2: Het contact voelde sociaal ongemakkelijk	Likert 1-5	1 = Helemaal mee oneens / 5 = Helemaal mee eens
Q13.1	Fase 3: Een tijd en plek afspreken kostte veel gedoe	Likert 1-5	1 = Helemaal mee oneens / 5 = Helemaal mee eens
Q13.2	Fase 3: Ik moest mijn planning aanpassen om het item op te halen	Likert 1-5	1 = Helemaal mee oneens / 5 = Helemaal mee eens
Q13.3	Fase 3: De overdracht voelde onpraktisch	Likert 1-5	1 = Helemaal mee oneens / 5 = Helemaal mee eens
Q16.1	Fase 4: Het terugbrengen kostte meer moeite dan verwacht	Likert 1-5	1 = Helemaal mee oneens / 5 = Helemaal mee eens
Q16.2	Fase 4: Het was onduidelijk wat ik precies moest doen om het leenproces correct af te ronden	Likert 1-5	1 = Helemaal mee oneens / 5 = Helemaal mee eens
Q16.3	Fase 4: De communicatie tijdens het afronden verliep moeizaam	Likert 1-5	1 = Helemaal mee oneens / 5 = Helemaal mee eens
Q20.1	Het totale leen/huurproces verliep sneller dan ik had verwacht	Likert 1-5	1 = Helemaal mee oneens / 5 = Helemaal mee eens
Q21.1	Hoeveel moeite kostte het lenen/huren van spullen voor jou over het algemeen?	Likert 1-5	1 = Zeer weinig moeite / 5 = Zeer veel moeite
Q22	Wat werkte prettig of soepel tijdens het leen/huurproces?	Open	-
Q23	Wat verliep moeilijk of minder soepel tijdens het leen/huurproces?	Open	-

G: SURVEY RESULTS

AI prompt for CSV extraction:
I am sending you a CSV file from a Qualtrics survey. Analyse this data as follows:
Filtering:

- Use only rows where Finished = 1
- Use only rows where Q1 = 1 OR Q1 = 2
- Skip the first 2 metadata rows (rows 2 and 3 contain labels, not data)

Calculate for these columns: Q7_1, Q7_2, Q7_3, Q10_1, Q10_2, Q10_3, Q13_1, Q13_2, Q13_3, Q16_1, Q16_2, Q16_3, Q20_1, Q21_1
For each column:

- Mean (M), rounded to 2 decimal places
- Standard deviation (SD) using STDEV.S / sample standard deviation, rounded to 2 decimal places
- n (number of non-empty responses)

Ignore empty cells (do not treat them as 0).
Return the result as a table with columns: Question, M, SD, n

Table G.1: Descriptive statistics for all likert questions (n=81)

Code	Item	M	SD
Q7.1	Het was lastig om te vinden wat ik nodig had	222	87
Q7.2	Ik wist niet zeker of het item beschikbaar zou zijn op het moment dat ik het nodig had	298	114
Q7.3	Ik wist niet zeker of iemand zou reageren op mijn verzoek	264	118
Q10.1	Het kostte veel moeite om iemand te bereiken	200	89
Q10.2	Ik moest lang wachten op een reactie	198	97
Q10.3	Het contact voelde sociaal ongemakkelijk	185	104
Q13.1	Een tijd en plek afspreken kostte veel gedoe	191	96
Q13.2	Ik moest mijn planning aanpassen om het item op te halen	248	134
Q13.3	De overdracht voelde onpraktisch	199	113
Q16.1	Het terugbrengen kostte meer moeite dan verwacht	225	120
Q16.2	Het was onduidelijk wat ik precies moest doen om het leenproces correct af te ronden	173	84
Q16.3	De communicatie tijdens het afronden verliep moeizaam	170	87
Q20.1	Het totale leen/huurproces verliep sneller dan ik had verwacht	335	110
Q21.1	Hoeveel moeite kostte het lenen/huren van spullen voor jou over het algemeen? (1=zeer weinig, 5=zeer veel)	220	98

H: CO CREATION SESSION IMAGES

Figure H.1: Set-up

Figure H2: Final wall with bad and good ideas

Figure H.2: Co-creation session impressions

I: BRAND CHARTER GPT OUTPUTS

The three scenarios below were generated using the Brand Charter GPT, a proprietary tool developed by J. van den Hoven as part of the Design-Driven Brand Building (DDBB) process. Research data from the 5C analysis, interviews, and survey were used as input. The outputs served as strategic directions to discuss with Peerby's CEO (section 8.3). They are included here as generated; no manual edits were made.

Scenario 1: Functional & Frictionless
Focus: Reducing cognitive effort and uncertainty.
Identity
Vision Make borrowing from neighbours feel as certain and effortless as buying new—so that access routinely beats ownership.
Mission Reduce cognitive effort in local sharing to near-zero by designing for operational predictability: instant clarity on availability, fast matching, simple coordination, and visible safeguards.
Ambition (3–5 years)
- Lift repeat use by systematically removing uncertainty across the four journey phases (find → contact → coordinate → return).
- Build "mental availability" so Peerby becomes the first reflex when a need arises—despite episodic use.
- Set the neighbourhood standard for "zero-friction sharing" in key cities.

What / How / Why
- What: A neighbourhood platform to borrow/rent items locally without owning inventory.
- How: Dual supply activation (listings + requests), plus automation (notifications, payments, insurance) while removing mental load in coordination.
- Why: People prefer the path of least resistance; to win against retail and rental, sharing must feel fast, safe, and predictable.

Brand
Culture Obsess over effort reduction; judge every feature by "does this lower uncertainty and thinking work?".
Archetype The Caregiver-Engineer: warm and neighbourly, but engineered for reliability and speed. (Transactional expectations dominate; warmth supports trust, not chit-chat.)
Core Values
- Predictability over serendipity.
- Clarity over complexity.
- Neighbourly, not needy (no forced social hoops).
- Safety that speeds you up (verification/insurance without drag).

Brand Personality Clear, calm, competent, nearby.
Pay-off (tagline options)
- "Borrow, without the guesswork."
- "Neighbour-fast."
- "Certain by design."

Positioning For urban doers who need stuff now, Peerby is the neighbourhood borrowing platform designed to remove uncertainty—so you can get what you need quickly and confidently—unlike informal chats (fast but unreliable) or pro rental/retail (reliable but costly and less local).
Experience Principles (what good looks like)
- Know in seconds: Live availability signals reduce "is it there?" anxiety (the #1 friction).
- Commit fast: Near-instant confirmations; "book-now" flows where possible.
- Coordinate without chat: Smart pick-up windows, default locations, and timers; chat as a fallback, not a requirement.
- Visible trust: Upfront verification, insurance status, and profile completeness (trust is built by consistency and platform cues).
- Polished + predictable: Consistent UX quality signals safety and reliability.

Communication Style Plain-spoken, time-respecting, status-first ("Available today 16:00–21:00 • 350m away • Insured"). Emphasise functional and financial value; keep sustainability as a bonus, not the lead.
Visual Style (directional) Clean UI with "availability green" states, countdowns, and schedule chips. Photos first; badges for "Verified", "Insured", "Auto-confirm". (Addresses empty listings / trust gaps.)
Evidence
Constraints
- Episodic demand undermines habit-loop formation; aim for salience at trigger moments, not daily engagement.
- Subscription revenue is fixed/necessary; perceived value must justify low frequency.

Threats
- Retail's zero-friction benchmark (Bol.com/Amazon) resets expectations.
- Informal neighbour channels win on immediacy/effort (WhatsApp/Nextdoor), despite chaos.
- Pro rental wins on predictability/reservations.

Brand Promise "Peerby makes borrowing locally feel certain." This directly tackles the mental-effort driver of churn (uncertainty about availability, waiting, scheduling).
Functional Benefits
- Faster, clearer matches; visible availability and ETAs.
- Fewer back-and-forths; default coordination flows.
- Transparent safeguards (ID/insurance surfaced once, reused thereafter).

Emotional Benefits
- Confidence ("this will work").
- Relief (less planning strain).
- Quiet pride in choosing access over ownership—without extra hassle.

Table Stakes
- Reliable app performance; photo-complete listings; consistent UX quality (signals trust).
- Clear fees and timing; simple dispute/damage path.

Key Users
- Task-driven borrowers (primary churn risk): Need ad-hoc tools now; low tolerance for waiting/ambiguity.
- Occasional planners: Accept next-day if certainty is high.

Stakeholders Borrowers, lenders, city partners, and internal ops/product—the trust loop strengthens as consistency rises (reviews, verification, visible rules).
Problem diagnosis (for alignment)
- Physical effort is not the barrier; mental effort from uncertainty/coordination is—causing drop-off and "switch to Boels/Bol.com."
- Survey confirms the peak friction is not knowing if it's available; social awkwardness is low—users want functional speed.
- With usage episodic and a fixed subscription model, the only lever is effort reduction to restore the value-effort balance.

Scenario 2: Urban Prestige
Focus: Aspirational status, high standards, and civic pride.
Identity

Vision Make sharing a mark of urban excellence—so Amsterdam, Rotterdam, Utrecht and Den Haag become cities where the most admired citizens are the ones who circulate value locally.
Mission Engineer a premium, low-effort sharing experience that turns idealism into social prestige: recognised, rewarded, and visibly easy.
Ambition (3–5 years)
- Establish "community status" as a new urban currency: recognition for lending, reliable borrowing, and neighbourhood impact.
- Become the default for high-intent, time-pressed users who want both elegance and effectiveness.
- Prove that the smartest lifestyle (less owning, more sharing) is also the most desirable.

What / How / Why
- What: A premium neighbourhood platform to borrow and lend quality items—fast, safe, beautifully coordinated.
- How: Pro-grade verification, instant availability signals, auto-confirm on popular items, insured transactions, and prestige mechanics (badges, tiers, curated circles).
- Why: Urban elites respond to status cues and frictionless design; when sharing looks and feels first-class, idealism becomes aspirational.

Brand
Culture Civic pride meets design discipline. We celebrate neighbours who raise the standard—reliability, etiquette, and generosity—because that's what makes city life work.
Archetype The Host-Engineer: gracious, cultured, impeccably organised. We make others look good by making everything run smoothly.
Core Values
- Prestige through contribution: Status is earned by making the community function.
- Civility & clarity: Polite by default; never vague.
- Responsible abundance: Less owning, richer access.
- Predictability as luxury: Certainty is the new convenience.

Personality Understated, modern, competent, neighbour-proud. Quiet confidence > loud virtue.
Tagline directions (EN/NL)
- EN: "Prestige, shared." • "Certain. Neighbourly. Remarkable."
- NL: "Stadse klasse, gedeeld." • "Zeker delen." • "Slim. Sociaal. Zeker."

Positioning For higher-educated urban professionals who curate their lifestyle and care about their city, Peerby is the premium way to lead by example: you get what you need with certainty, and you earn recognition for making your buurt work—without the hassle of old-school coordination.
Experience Principles
- Prestige by design: Verified profiles, quality photos, item condition standards, and "Community Capital" scores that spotlight reliable lenders/borrowers.
- Clarity in seconds: Live availability, distance, pick-up window chips, insurance status, and "auto-confirm" badges.
- Effortless coordination: Default time slots, smart reminders, one-tap extensions/returns; chat is optional, not mandatory.
- Assurance upfront: ID-check, deposit/insurance flows, and a crystal-clear remedy path; confidence is visible before commitment.
- Civic delight: Personal impact cards (CO_2, euros saved, neighbours helped), street- or buurt-level leaderboards, and annual city impact reports.

Communication Style Concise, design-literate, status-aware. Lead with certainty and social grace (availability, timing, insurance), then the civic upside. Tone: "urban host," not "earnest activist." Bilingual where useful; default Dutch in city campaigns.
Visual Style (directional) Dutch modernism: generous white space, cool neutrals, one confident accent (e.g., "availability green"). Serif-sans pairing for sophistication. Circular prestige badges (Verified, Auto-Confirm, Top Lender), neighbourhood crests, subtle animations for confirmations and countdowns.
Evidence
Audience Insight (this segment)
- Seek frictionless competence (time is scarce, standards are high).
- Value recognition that signals taste, reliability, and contribution.
- Idealism resonates when it is elegantly executed and socially legible.

Promise "Peerby maakt delen prestigieus en zeker." You look good because you make the city work—swiftly, safely, stylishly.
Functional Benefits
- Faster, clearer matches (live status, auto-confirm).
- Minimal coordination cost (smart slots, default locations).
- Built-in protection and fair remedies.

Emotional Benefits
- Urban esteem: Admired for being the neighbour who elevates the street.
- Calm confidence: No awkwardness, no uncertainty.
- Civic pride: Tangible, shareable impact.

Table Stakes
- Premium-grade UX performance; high-quality listings; consistent service levels.
- Transparent fees/timing; no-surprise policies.

Segment-Specific Mechanics & Programs
- Verified+ Tier: ID + payment + track record unlocks auto-confirm and lower deposits.
- Curated Circles: Invite-only groups (e.g., building, block, alumni, co-working) with shared standards.
- Community Capital Score: Weighted by on-time coordination, item quality, helpful reviews.
- Ambassador Hosts: Respected locals seed circles, set norms, and unlock perks for their straat/buurt.
- Impact Ledger: Personal and neighbourhood dashboards (emissions avoided, € saved, items circulated).
- Concierge Options: Optional courier/pick-up lockers for time-pressed members.

Go-to-Market (G4 focus)
- Amsterdam (Zuid, Oost, Centrum), Rotterdam (Kralingen, Centrum), Utrecht (Binnenstad, Oost), Den Haag (Statenkwartier, Centrum).
- Launch with 50–100 flagship Circles per city; recruit visible hosts (architects, chefs, designers, academics).
- Partnerships: municipalities, housing associations, cultural institutions, and premium sustainable brands for co-badged items/events.

North-Star & KPIs
- North-Star: Community Capital per 1,000 residents (blends repeat use, reliability, and local spread).
- Health Metrics: Repeat rate of Verified+; % auto-confirm transactions; median time-to-confirm; on-time return rate; share of transactions in Circles; NPS of lenders; city-level CO_2/€ savings.
- Prestige Signals: % profiles displaying badges; Circle activation/retention; ambassador pipeline.

Scenario 3: Motivaction Mentality Model
Focus: Universal brand charter tailored to 8 Dutch mentality segments.
Note: Based on Motivaction's Mentality model and its eight Dutch segments with their shares and defining values.
Identity
Vision Turn local sharing into a normal, trusted part of Dutch daily life—regardless of lifestyle or worldview.
Mission Make borrowing and lending in your buurt feel zeker, eenvoudig, en passend bij jouw waarden—through clear availability, low coordination effort, and visible safeguards.
Ambition (3–5 years)
- Become the de facto neighbourhood standard for "zeker delen" across all eight Mentality milieus.
- Lift repeat use by reducing uncertainty (availability, coordination) and matching motivations per milieu.

Golden Circle
- What: A platform to get and share things nearby—reliably.

Brand
Positioning Peerby is de zekere manier om spullen in de buurt te regelen—met de stijl, zekerheid en betekenis die bij jouw leefstijl past.
Archetype De Gastheer-Engineer: warm, behulpzaam, en perfect georganiseerd. (Sociale waardigheid + operationele zekerheid.)
Values (universal)
- Zekerheid: Predictability is luxury.
- Duidelijkheid: Status-first info: beschikbaar, tijdslot, afstand, verzekering.
- Respect & etiquette: Heldere afspraken → minder mentale moeite.
- Gemeenschapsnut: Je buurt functioneert beter door jou.

Personality Kalmpjes competent, vriendelijk, nuchter, betrouwbaar.
Tagline directions (NL/EN)
- NL: “Zeker delen.” / “Slim. Sociaal. Zeker.”
- EN: “Borrow, without the guesswork.”

Experience Principles
- Weet het in seconden: Live beschikbaarheid + “auto-bevestigd” badge.
- Afspreken zonder gedoe: Voorgestelde tijdvakken, standaardlocaties, 1-tap verlengen.
- Zichtbare zekerheid: Verificatie, verzekering, borg/alternatieven.
- Buurtwaardig gedrag: Etiquette-checklist, herinneringen, duidelijke herstelroute.
- Motivatie op maat: UI-accenten (impact, status, gemak, traditie) per doelgroepcampagne.

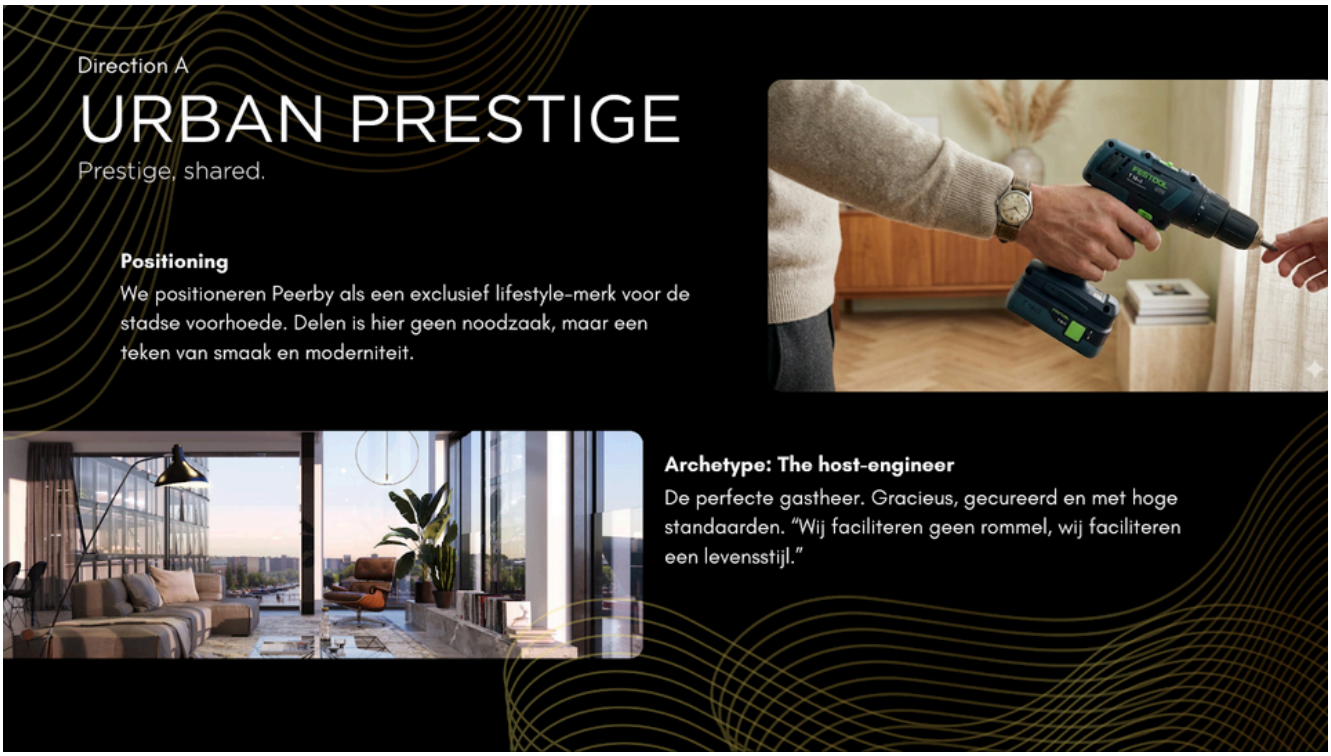
Evidence
Why a universal frame works Motivaction toont acht profielen met uiteenlopende drijfveren (kosmopolitisch, traditioneel, status- of belevingsgericht), maar allemaal reageren ze op gemak + voorspelbaarheid. De nuances verschillen; de kernbehoefte niet.
Retention lever Lagere mentale moeite + minder onzekerheid in coördinatie → hogere herhaalratio, ongeacht milieu.
Mentality-wide calibration (what to emphasize per segment) (Use the same product, change emphasis in copy/visuals/benefits. Shares below are Motivaction’s indicative distribution.)
- Kosmopolieten (18%) – Impact & kwaliteit
  - Angle: premium, verantwoord, efficiënt.
  - Proofs: CO_2/€ bespaard, keurige UX, verzekerde transacties.
- Nieuwe conservatieven (8%) – Orde & eigenaarschap
  - Angle: netjes geregeld, juridisch helder, buren met reputatie.
  - Proofs: verificatie/verzekering, on-time scores, duidelijke regelset.
- Traditionele burgerij (8%) – Zekerheid & fatsoen
  - Angle: vertrouwd in de buurt, duidelijke afspraken, veilig.
  - Proofs: “bekende buurtgenoten”, etiquette, telefonische/low-tech opties.
- Moderne burgerij (21%) – Waarde & status
  - Angle: slim besparen zonder gedoe; netjes & verzorgd.
  - Proofs: kwaliteitseisen foto’s, staat-van-het-item, keurmerk “Zorgvuldig Lenen”.
- Impulsieve individualisten (13%) – Snel plezier
  - Angle: “Vandaag nog fixen” met auto-bevestiging.
  - Proofs: tijd-tot-bevestiging, nabije items, eenvoudige retour.
- Opwaarts mobielen (12%) – Prestige & innovatie
  - Angle: de slimme stedelijke norm; techy, badges, auto-confirm.
  - Proofs: Verified+, performance, integraties (wallet/ID).
- Postmaterialisten (11%) – Idealistisch & eerlijk
  - Angle: samen minder bezitten, eerlijk delen, lokale impact.
  - Proofs: buurt-impactkaart, repair/duurzaamheids-partners.
- Postmoderne hedonisten (9%) – Beleving & vrijheid
  - Angle: spontaan regelen voor je volgende plan.
  - Proofs: last-minute beschikbaarheid, flexibiliteit, speelse visuals.

Peerby x Mentality: one charter, eight executions
- Core message (constant): “Peerby regelt spullen in je buurt—zeker, simpel en netjes.”
- Variable proof blocks (swap per segment):
  - Zekerheid: Live beschikbaar, auto-bevestigd, verzekerd.
  - Social proof: Buurtbadges, on-time scores, echte profielen.
  - Waarde/impact: Euro’s/CO_2/ruimte bespaard, buurtbijdrage.
  - Stijl/gevoel: Premium look vs. speels vs. traditioneel rustig.
- Tone sliders by segment (examples):
  - Formeel ↔ informeel (Traditioneel → Hedonist)
  - Impact ↔ gemak (Postmaterialist → Impulsief)
  - Prestige ↔ nuchter (Opwaarts mobiel → Moderne burgerij)
- Visual system (modular):
  - Constant: Helder grid, “beschikbaar-groen”, badges (Verified, Auto-Confirm).
  - Variable: Fotografie-stijl (premium, huiselijk, speels), typografie-accent (serif/sans) per campagne.
- KPIs (market-agnostic + segment cues):
  - Universeel: Time-to-confirm, % auto-confirm, on-time return, repeat rate.
  - Segment: Badge-adoptie (status-gevoelig), impact-kaartgebruik (idealisme), “instant borrow” share (impuls).

Ready-to-use copy pillars (universal → segment knob)
- Zeker geregeld
  - Base: “Beschikbaar vanavond • 350 m • Verzekerd.”
  - Kosmopolitisch/Opwaarts: “Premium geregeld—auto-bevestigd.”
  - Traditioneel: “Netjes met duidelijke afspraken.”
- Slim voor jou, goed voor je buurt
  - Base: “Waarom kopen als je ’t kunt delen?”
  - Postmaterialist: “Minder bezit, meer betekenis.”
  - Moderne burgerij: “Besparen zonder gedoe.”
- Zonder sociaal gedoe
  - Base: “Vaste tijdvakken, duidelijke etiquette.”
  - Impulsief/Hedonist: “Regel het nu, klaar.”
  - Nieuwe conservatief: “Heldere regels en zekerheid.”

Implementation quick wins (applies to every group)
- Surface live availability + auto-confirm early.
- Default time slots; pre-filled pickup location; one-tap extend/return.
- Prominent Verified/Insured badges + on-time score.
- Optional impact card and status badges; toggle per audience/campaign.
- Campaign kits: Eight ad sets sharing one layout, swapping headline/proof block per segment.

J: BRAND CHARTER MOOD BOARDS



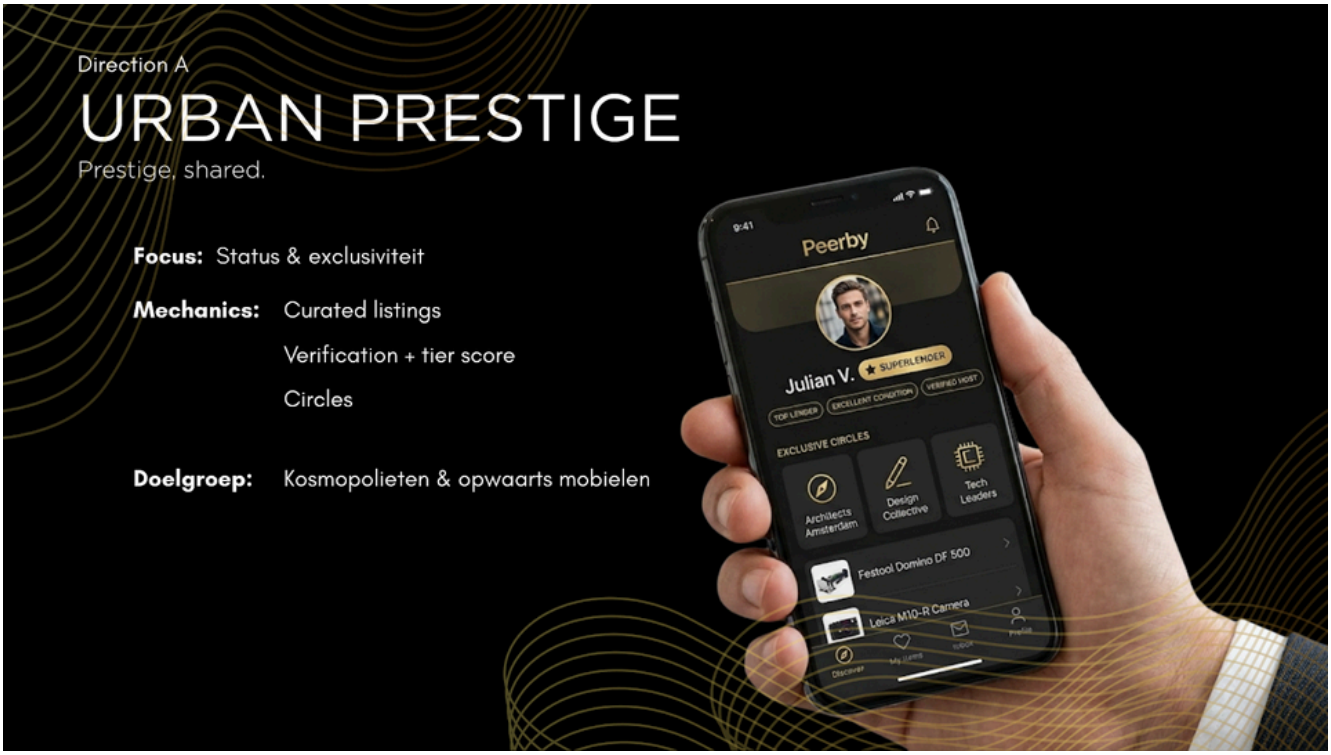


Figure J.1: Moodboard Urban Prestige

Direction B

Universal certainty

Zeker delen.

Focus: Veiligheid & toegankelijkheid

Mechanics: Prominente verzekering, ID badges
Inclusieve UX
Etiquette gids

Doelgroep: De brede massa

Direction B

Universal certainty

Zeker delen.

Positioning
We halen Peerby uit de niche en maken het de standaard voor iedereen. We verlagen drempels zodat zelfs de meest voorzichtige buurman durft mee te doen.

Archetype: The reliable neighbour
Nuchter, duidelijk en voor iedereen toegankelijk. "Wij verlagen drempels en bieden garanties."

Figure J.2: Moodboard Universal Certainty

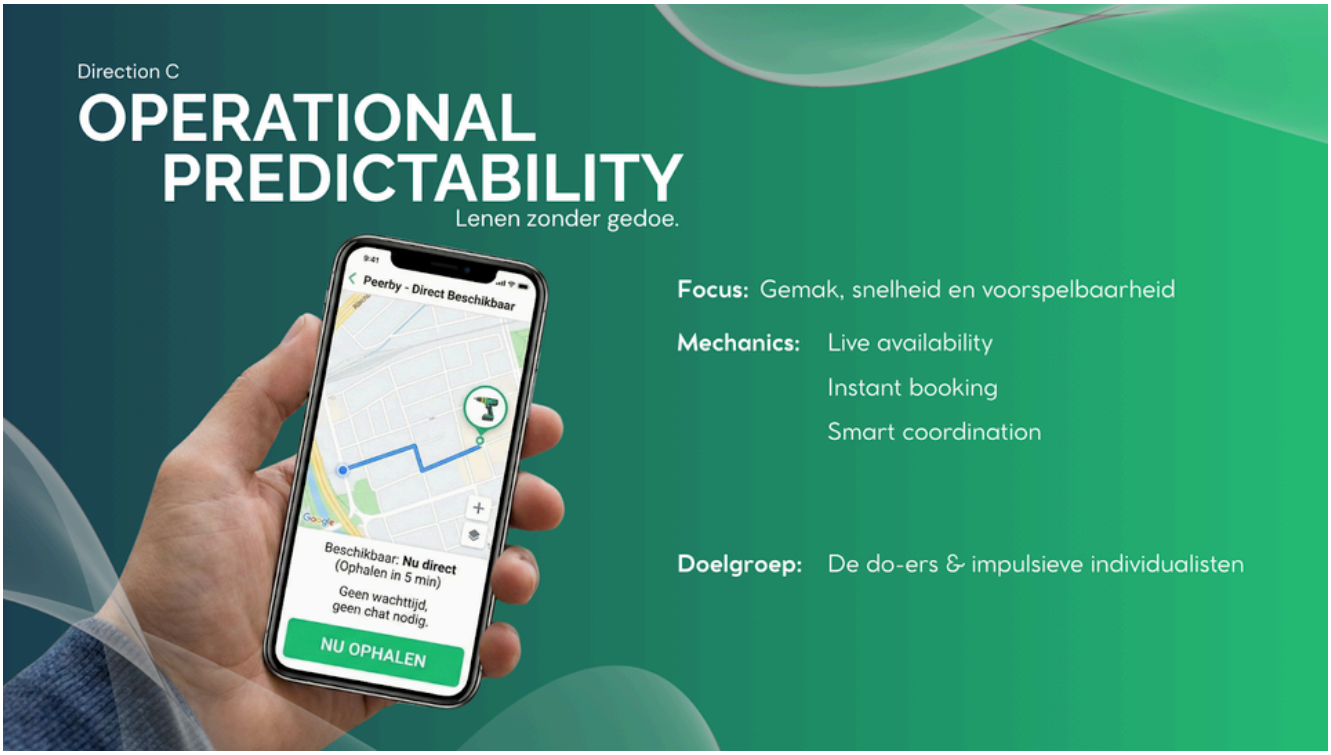


Figure J.3: Moodboard Operational Predictability

K: LENDER INTERVIEW GUIDE

Introductie
Bedankt dat je even tijd hebt om mee te doen. Dit gesprek gaat specifiek over jouw ervaring als aanbieder op Peerby. Ik ben bezig met een onderzoek naar nieuwe manieren om het verhuren makkelijker en sneller te maken en ik ben heel benieuwd naar jouw kijk daarop. Er zijn geen goede of foute antwoorden, het gaat puur om jouw mening. Mag ik het gesprek opnemen?
Huidige situatie & proces
Kun je me eerst eens vertellen hoe het verhuren via Peerby er op dit moment voor jou uitziet?

- Hoe vaak komt het voor dat je een verzoek krijgt of iets verhuurt?
- Vind je dat aantal precies goed, of zou je het liever vaker of juist minder vaak willen?
- Als je een aanvraag krijgt, hoe verloopt dat proces dan meestal van begin tot eind? Welke stappen zet je?
- Hoe ervaar je de communicatie en de overdracht op dit moment? Loopt dat soepel of zijn er dingen die stroef gaan?

Huidige motivatie & drijfveren
Kun je me vertellen waarom je ooit besloten hebt om je spullen op Peerby te zetten?

- Wat levert het verhuren jou persoonlijk op?
- Als je terugdenkt aan de laatste keer dat je iets verhuurde, hoe verliep dat proces voor jou?
- Wat maakt voor jou dat een verhuur de moeite waard voelt?
- Heb je wel eens het gevoel gehad dat je er mee wilde stoppen? Wat was daar de reden voor?

Drempels & Activiteit
Ik ben benieuwd wat ervoor zorgt dat iemand heel actief is of juist niet.

- Wat houdt je op dit moment tegen om vaker verzoeken te accepteren of meer spullen aan te bieden?
- Zijn er momenten waarop je een verzoek afwijst, terwijl het item wel beschikbaar is? Waarom doe je dat dan?
- Wat zou er moeten veranderen in jouw situatie of in de app, waardoor jij actiever zou worden als verhuurder?

Concept: Direct Boeken
Stel je voor: we introduceren een optie waarbij buren jouw item direct in je agenda kunnen prikken, zonder dat ze eerst een chatverzoek hoeven te sturen. Je krijgt gewoon een notificatie: ‘Pim komt morgen om 14:00 de boor halen’.

- Wat is je allereerste gevoel bij dit idee?
- Wat zou er voor jou nodig zijn om je hier comfortabel bij te voelen
- Welke voorwaarden zou je stellen aan Peerby of aan de huurder voordat je dit aan zou zetten?

Verleiding & Beloning
Stel dat we dit systeem van directe boekingen willen invoeren om de beschikbaarheid te vergroten. Hoe kunnen we jou verleiden om hieraan mee te doen?

- Zou een financiële prikkel voor jou werken? Bijvoorbeeld een hogere vergoeding bij directe boekingen?
- Hoe kijk je aan tegen een beloning in status of spelvorm, zoals een badge voor Topverhuurder of Buurtmeester? Zou je daar harder voor gaan lopen?
- Zouden voordelen buiten het platform je motiveren? Denk aan kortingen bij winkels of partners als je vaak verhuurt.
- Is gemak voor jou een beloning op zich? Bijvoorbeeld nooit meer hoeven chatten over tijden door vaste blokken in te stellen?

Toekomst & Hulpmiddelen
Wat zou er praktisch moeten veranderen om dit voor jou werkbaar te maken?

- Zou je bereid zijn je beschikbaarheid (kalender) wekelijks bij te werken als dat zorgt voor minder chatverkeer?
- Stel dat er slimme kluisjes of sloten zouden zijn waardoor een huurder het item kan meenemen zonder dat jij thuis hoeft te zijn. Zou je dat gebruiken?

Afsluiting
Als jij één ding mocht veranderen aan Peerby om het voor verhuurders aantrekkelijker te maken, wat zou dat zijn?

- Is er iets wat we nog niet hebben besproken, maar wat volgens jou meespeelt in hoe actief je bent?

Einde interview

L: PROGRAMME OF REQUIREMENTS

Table L1: Programme of requirements

ID	Type	Requirement
Functional requirements: borrower		
F1.1	Must	The system displays availability status or availability likelihood before the user initiates a request
F1.2	Must	The borrower can select a preferred date and time slot when booking
F1.3	Must	The system provides immediate feedback on request status (pending, confirmed, declined)
F1.4	Must	The system provides a fallback mechanism if confirmation does not occur within a set timeframe
F1.5	Should	The system suggests available alternatives if the primary choice is unavailable
Functional requirements: lender		
F2.1	Must	The system functions without requiring manual calendar maintenance from lenders
F2.2	Must	Lenders retain autonomy to decline requests without mandatory justification
F2.3	Must	Lenders can view borrower profile and rating before accepting
F2.4	Should	Lenders can set default availability windows or preferred handover times
F2.5	Should	Lenders who opt into higher commitment features receive visible benefits
Interaction requirements		
I3.1	Must	Coordination of pickup and return can occur without synchronous chat
I3.2	Must	Chat remains available for edge cases and social interaction, but is not required for transaction completion
I3.3	Must	The system must provide reliable, timely notifications that reach users regardless of whether the app is open
I3.4	Should	The system supports asynchronous handover methods (flexible pickup times, third-party locations)
I3.5	Should	The system should support integration with external messaging platforms (e.g. WhatsApp) or match their responsiveness

Table L.2: Programme of requirements

ID	Type	Requirement
Strategic and business requirements		
S4.1		
S4.2		
S4.3		
S4.4		
Technical constraints		
T5.1	Must	The core solution is implementable within Peerby's current mobile first architecture
T5.2	Must	The primary booking flow functions without physical infrastructure
T5.3	Should	The system should allow optional Whatsapp integration for transaction notifications and coordination

M. COMPLETE RECOMMENDATION LIST

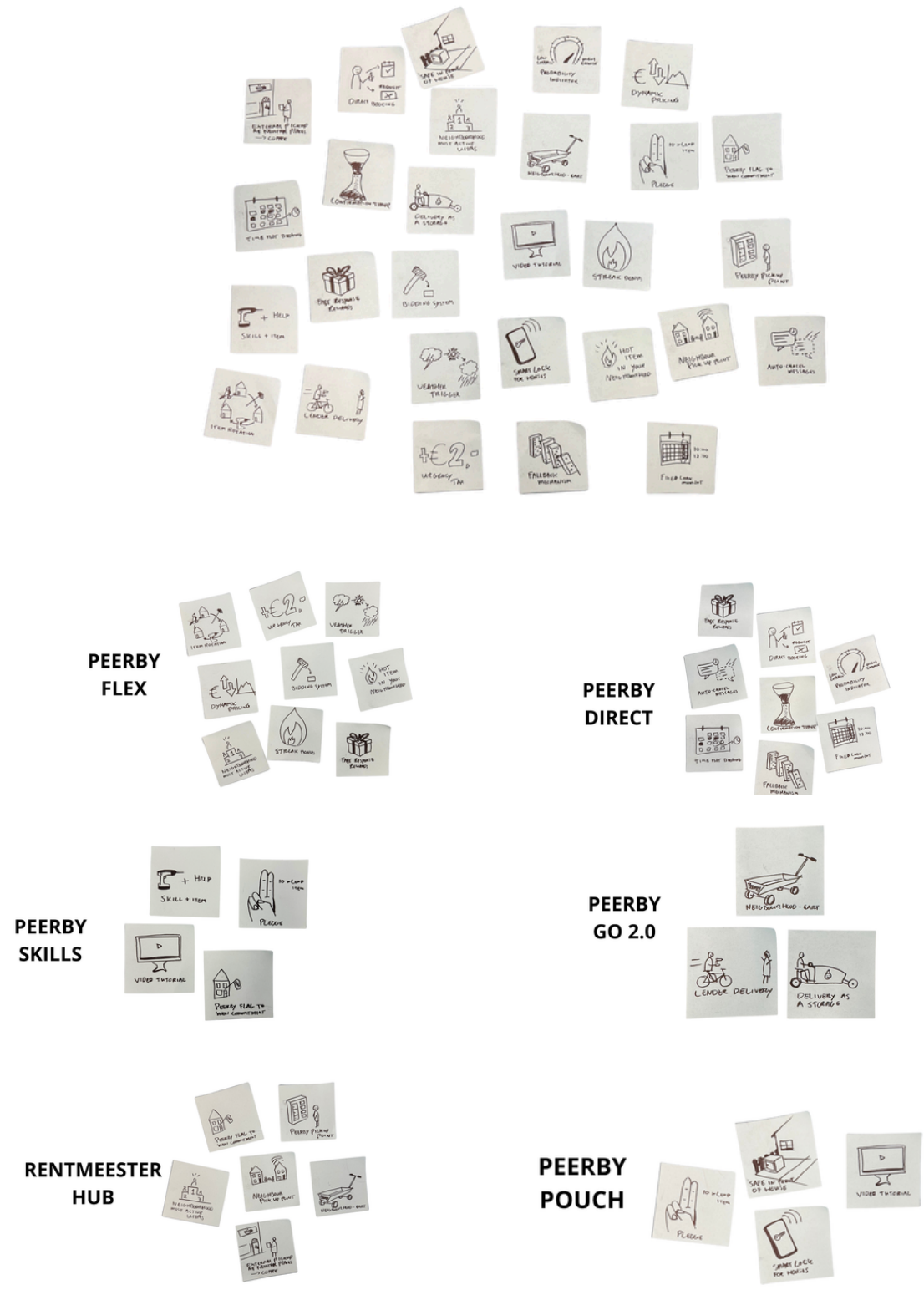


Figure M.1: Concept generation by rapid sketching

N: HARRIS PROFILE & JUSTIFICATIONS

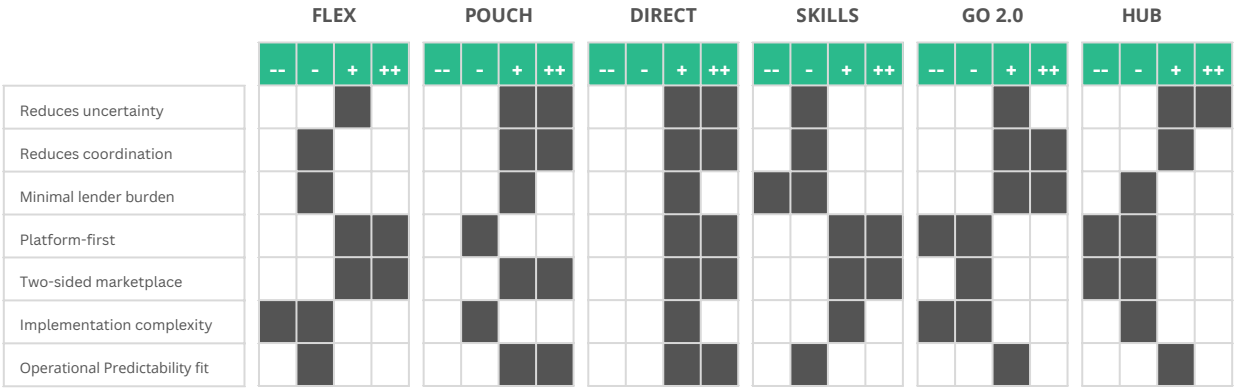


Figure N.1: Harris-profiles for the six concepts

Table N.1: Justifications of Harris-profiles

Concept	Score	Justification
Reduces uncertainty: does the concept help borrowers feel confident they will get the item?		
Flex	-	Dynamic pricing signals demand but does not guarantee availability
Pouch	+	Item is physically present and accessible; certainty is high for compatible items
Direct	++	Confirmation timer, fallback mechanism, and certainty badges directly address uncertainty
Skills	-	Focus on knowledge transfer, not availability; does not reduce booking uncertainty
Go 2.0	+	Delivery confirms handover but uncertainty remains until courier collects item
Hub	+	Fixed hours create predictability; item presence at hub is guaranteed
Reduces coordination: does the concept minimise back-and-forth between borrower and lender?		
Flex	-	Dynamic mechanisms do not change the coordination model
Pouch	++	Fully asynchronous; no simultaneous presence required
Direct	++	Time slots and structured flow replace open-ended chat
Skills	--	Requires scheduling a demonstration; increases coordination
Go 2.0	+	Courier handles logistics but coordination shifts rather than disappears
Hub	+	Fixed hours reduce negotiation but borrower must align with hub schedule

Table N.2: Justifications Harris profile

Minimal lender burden: can lenders participate without significant additional effort?		
Flex	-	Streak bonuses and rotation require active engagement
Pouch	+	One-time setup; deposit item and done
Direct	+	Opt-in commitment tier. Baseline requires no extra effort
Skills	--	Requires preparing and delivering demonstrations
Go 2.0	+	Courier collects item. Minimal lender involvement
Hub	-	Hub hosts carry significant responsibility
Platform-first: can the concept be implemented without physical infrastructure?		
Flex	+	Software only. Dynamic pricing and triggers are platform features
Pouch	-	Requires physical lockable container
Direct	++	Entirely platform-based; no physical requirements
Skills	+	Video tutorials are digital. In person demos are optional
Go 2.0	--	Requires courier network and logistics infrastructure
Hub	--	Requires physical locations and hub host agreements
Two-sided marketplace: does the concept maintain the borrower-lender model without third parties?		
Flex	+	Operates within existing two sided model
Pouch	++	Borrower and lender only. Pouch is a tool, not a third party
Direct	++	Pure two sided. Platform facilitates but does not intermediate
Skills	+	Two sided, though demonstration adds complexity
Go 2.0	--	Three sided: borrower, lender, courier
Hub	-	Three sided: borrower, lender, hub host

Table N.3: Justifications Harris profile

Implementation complexity: how difficult is development and deployment?		
Flex	--	Requires dynamic pricing logic, weather integration, rotation algorithms
Pouch	-	Requires product sourcing, distribution, and app integration
Direct	+	Interface redesign with existing data. No new infrastructure
Skills	+	Video hosting is straightforward.Limited development required
Go 2.0	--	Courier API integration, pricing model, liability agreements
Hub	--	Location scouting, host recruitment, scheduling system
Operational predictability fit: does the concept align with the strategic direction?		
Flex	-	Dynamic elements may reduce predictability for users
Pouch	+	Fixed location and code access create predictable pickup
Direct	++	Core expression of operational predictability strategy
Skills	--	Focus on social engagement contradicts efficiency first direction
Go 2.0	+	Delivery creates predictable handover if logistics are reliable
Hub	+	Fixed hours and location align with predictability goals

O: VALIDATION SURVEY STRUCTURE & PROMPT

AI prompt for CSV Extraction:

I am sending you a CSV file from a Qualtrics survey (validation survey, "Validatie Peerby Direct"). Analyse this data as follows:
Filtering:

- Skip the first 2 metadata rows (rows 2 and 3 contain labels/import IDs, not data)
- Exclude rows where Status = "Survey Preview"
- Use only rows where both Q14 and Q18 are non-empty

For each of the following closed questions, calculate frequency count per answer option, percentage distribution (rounded to 1 decimal place), and n (number of non-empty responses): Q16 (age), Q17 (borrowing experience), Q5 (fastest confirmation item), Q6 (badge variant), Q7 (sort preference), Q8 (hours indicated), Q9 (maximum wait time), Q10 (backup willingness), Q12 (contact channel), Q14 (system preference)
For Q18 (reuse intention, Likert scale: Helemaal oneens to Helemaal eens), calculate:

- Frequency count and percentage per answer option
- Mean (M), rounded to 2 decimal places, using: Helemaal oneens = 1, Oneens = 2, Neutraal = 3, Eens = 4, Helemaal eens = 5
- Standard deviation (SD) using STDEV.S / sample standard deviation, rounded to 2 decimal places
- n (number of non-empty responses)

For Q14 (system preference), also calculate a cross-tabulation by Q16 (age group): for each age bracket, show the count and percentage choosing Situatie 1, Situatie 2, and Geen verschil.
Ignore empty cells (do not treat them as 0). Return each question as a separate table.

Table O.1: Survey structure

Code	Question	Type	Response options
Q1	Wat is je leeftijd?	Single choice	18-24 / 25-34 / 35-44 / 45-54 / 55-64 / 65+
Q2	Heb je ooit iets geleend of gehuurd van een ander persoon?	Single choice	Ja / Nee
Q5	Welk item verwacht je het snelst bevestigd te krijgen?	Single choice	Item 1 / Item 2 / Item 3 / Geen idee
Q6	Welke weergave heeft je voorkeur?	Single choice	Item 1: paars / Item 2: groen / Geen verschil
Q7	Hoe zou je de zoekresultaten het liefst sorteren?	Single choice	Afstand / Aanbevolen / Prijs / Snelste bevestiging / Best beoordeeld
Q8	Hoeveel uren zou je opgeven als beschikbaar voor ophalen?	Single choice	1-2 uren / 3-4 uren / Heel dagdeel / Verspreid / Zoveel mogelijk
Q9	Hoelang zou je maximaal willen wachten op bevestiging?	Single choice	15 min / 30 min / 1 uur / 4 uur / 8 uur / Maakt niet uit
Q10	Zou je back-up items selecteren?	Single choice	Ja / Nee
Q12	Via welk kanaal zou je een vraag stellen aan de uitlener?	Single choice	Platform chat / WhatsApp / Maakt niet uit
Q14	Bij welke situatie heb je het meeste vertrouwen?	Single choice	Situatie 1 (chat) / Situatie 2 (timer) / Geen verschil
Q18	Zou je het platform vaker gebruiken als het werkt zoals situatie 2?	Likert 1-5	Helemaal oneens tot helemaal eens
Q19	Heb je nog opmerkingen?	Open	-

Table O.2: Survey data n=67

Question	Response	n	%
Q16: Age			
	18-24	5	7.5%
	25-34	24	35.8%
	35-44	7	10.4%
	45-54	12	17.9%
	55-64	8	11.9%
	65	11	16.4%
Q17: Prior borrowing experience			
	Ja	58	86.6%
	Nee	9	13.4%
Q5: Fastest confirmation item			
	Item 3	36	54.5%
	Item 2	13	19.7%
	Item 1	12	18.2%
	Geen idee	5	7.6%
Q6: Badge variant preference			
	Paars	30	44.8%
	Groen	30	44.8%
	Geen verschil	7	10.4%
Q7: Sort preference			
	Afstand	23	34.3%
	Aanbevolen (mix)	18	26.9%
	Prijs laag > hoog	14	20.9%
	Snelste bevestiging	9	13.4%
	Best beoordeeld	3	4.5%
Q8: Hours indicated for pickup			
	Een heel dagdeel	27	40.3%
	1-2 uren	13	19.4%
	3-4 uren	9	13.4%
	Uren verspreid over de dag	9	13.4%
	Zoveel mogelijk	9	13.4%
Q9: Maximum acceptable wait time			
	Maximaal 4 uur	28	41.8%

Table O.3: Survey data

	Maximaal 1 uur	19	28.4%
	Maakt niet uit (melding)	9	13.4%
	Maximaal 8 uur	4	6.0%
	Maximaal 30 minuten	4	6.0%
	Maximaal 15 minuten	3	4.5%
Q10: Backup willingness			
	Ja, één of meerdere back-ups	59	88.1%
	Nee, zonder back-up	8	11.9%
Q12: Preferred contact channel			
	Chat in het platform	47	70.1%
	Maakt niet uit	15	22.4%
	WhatsApp	5	7.5%
Q14: System			
	Situatie 2 (timer + fallback)	51	76.1%
	Situatie 1 (chat)	8	11.9%
	Geen verschil	8	11.9%
Q18: Reuse intention M=3.90, SD=0.97)			
	Helemaal eens (5)	20	29.9%
	Eens (4)	27	40.3%
	Neutraal (3)	14	20.9%
	Oneens (2)	5	7.5%
	Helemaal oneens (1)	1	1.5%

Note: One respondent completed the survey but left Q14 and Q18 blank. Frequency tables in this appendix are based on n=67. Percentages reported in the main text (n=68) include this respondent for demographic and parameter questions.

P. COMPLETE RECOMMENDATION LIST

Table P.1: Complete recommendation list

Recommendation	**Why**
Flexibility bar redesign	Misread as progress bar
Timer wording: end time instead of duration	Duration read as estimate
Timer default: 24h to 1-4h	Survey data supports shorter baseline
Automatic timer from behaviour data	Removes manual lender setup
Default sort: distance first, confirmation as tiebreaker	Confirmation speed ranked last in survey
Return coordination flow	Gap in current booking flow
Text reduction across all screens	Text consistently skipped
Progressive disclosure instead of static text	Users ignore paragraphs
Validate broadcast request fallback'	Implemented in prototype, not yet tested with users
Perks: non-monetary first, monetary later	Test badges before real rewards
Power lender commission model	Reward high-volume lenders
Aggregated dashboard for Peerby	Platform needs operational data
Night-hour timer pause	Requests at 22:00 should not expire overnight
Deposit model for backup price differences	Users need consent for higher price
Granular lender availability per day/daypart	Current weekday block too rigid
Lending history overview for lenders	Lenders want to see their activity
Borrower anonymisation after set period	Prevent unwanted contact over time
AI-assisted lender onboarding	Skip manual form, use conversation
Gamified response indicator for lenders	Visual feedback on own responsiveness
Chevron indicator redesign or removal	Not understood, confounded by rating

Table P.2: Complete recommendation list

Recommendation	**Why**
Day names prominent over dates in calendar	Users think in weekdays not dates
Start/end date input above calendar	Expected by users familiar with booking sites
Visual consistency across colour-coded elements	Green blocks used inconsistently
Reduce scrolling on lender screens	Flagged by power lender
Time slot label: availability not preference	Users read it as pickup time choice
Map-based browsing for discovery	Browsing like Funda/Airbnb for engagement
Simultaneous vs sequential fallback testing	One participant preferred simultaneous
Payment communication clarification	Ambiguous wording on confirmation vs payment
Marketing: social media, top-of-mind presence	Users forget Peerby exists after one use
Reconsider subscription model	Episodic use mismatches monthly fee
Better listing guidance and quality standards	Inconsistent listings reduce trust
Clearer value communication at payment	Users question what they pay for
Peerby Pouch pilot execution	Not validated, Lokko prototype available
B2C tool case model	CEO pivot suggestion, eliminates lender coordination
A/B testing framework	Survey could not resolve key parameters
Chat integration: structured flow preserved	Chat as container, not as interaction
No-show protection	No recourse for lenders when borrowers do not show up
Measure perceived certainty	Preference was tested, actual certainty was not

Q: PROJECT BRIEF

DESIGN FOR our future

TUDelft

Personal Project Brief – IDE Master Graduation Project

PROJECTTITLE,INTRODUCTION,PROBLEMDEFINITIONand ASSIGNMENT
Complete all fields, keep information clear, specific and concise

Project title Designing interventions to improve retention and fulfilment in neighbourhood sharing (exploring AI as an enabler)

Please state the title of your graduation project (above). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

Introduction

Describe the context of your project here; What is the domain in which your project takes place? Who are the main stakeholders and what interests are at stake? Describe the opportunities (and limitations) in this domain to better serve the stakeholder interests. (max 250 words)

This graduation project takes place in the context of community sharing, with a focus on Peerby and the upcoming eCO platform. Peerby enables neighbours to borrow and rent items, aiming to reduce consumption, save costs, and strengthen social ties. The platform is active in the Netherlands and generally well received, but actual use is low: data from Peerby indicate that most members borrow or lend only once or twice per year. Improving this continuity is crucial as Peerby prepares for further growth and as eCO is being developed to connect multiple initiatives in community sharing.
The main challenges lie in two areas: first, a low retention rate, where a majority of users do not return after their first interaction; and second, a low fulfilment rate, where only about 40% of borrowing requests succeed, meaning roughly 60% remain unfulfilled. During the borrowing journey from searching, to finding a listing, to trusting the offer, to completing the exchange, a significant share of users drops out. Incomplete and inconsistent listings and limited trust signals reinforce this. These issues affect both borrowers, who seek accessible and reliable options, and lenders, who need simple and intuitive ways to offer items.
In this project I will initially keep several directions open, exploring listing quality and consistency, trust and social proof, and community growth and onboarding. A possible fourth angle is to examine AI more directly as an accelerator for community sharing. Peerby is already experimenting with AI, and while it will not be the main goal of this project, it will be explored as an enabler that could strengthen interventions in the chosen direction.

→ *space available for images / figures on next page*

Project planning and key moments
*To make visible how you plan to spend your time, you must make a planning for the full project. You are advised to use a Gantt chart format to show the different phases of your project, deliverables you have in mind, meetings and in-between deadlines. Keep in mind that all activities should fit within the given run time of 100 working days. Your planning should include a **kick-off meeting**, **mid-term evaluation meeting**, **green light meeting** and **graduation ceremony**. Please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any (for instance because of holidays or parallel course activities).*

Make sure to attach the full plan to this project brief.
The four key moment dates must be filled in below

Kick off meeting	7 Oct 2025
Mid-term evaluation	5 Dec 2025
Green light meeting	30 Jan 2026
Graduation ceremony	27 Mar 2026

In exceptional cases (part of) the Graduation Project may need to be scheduled part-time. Indicate here if such applies to your project

Part of project scheduled part-time	✓
For how many project weeks	2
Number of project days per week	5,0

Comments:
Dayoff17 Oct(compensatedduring weekend)
Christmas break: 2 weeks parttime
Holiday 31 Jan – 17 Feb

Motivation and personal ambitions
Explain why you wish to start this project, what competencies you want to prove or develop (e.g. competencies acquired in your MSc programme, electives, extra-curricular activities or other).

Optionally, describe whether you have some personal learning ambitions which you explicitly want to address in this project, on top of the learning objectives of the Graduation Project itself. You might think of e.g. acquiring in depth knowledge on a specific subject, broadening your competencies or experimenting with a specific tool or methodology. Personal learning ambitions are limited to a maximum number of five.
(200 words max)

I chose this project because Peerby is an ambitious and sustainable company with a lot of potential, but also has clear opportunities for improvement. In my first conversation with Daan Weddepohl, I was inspired by how he spoke about Peerby's vision and future plans. It made me see that Peerby's direction is concrete and thought-through.
My main learning goal is to become more skilled in applying AI within strategic design. I already have some experience, but I want to deepen this knowledge and translate it into practical interventions. I also want to strengthen my co-creation skills by working closely with users and stakeholders. I want to prove my ability to deliver solutions that are not only conceptual but also concrete, validated, and implementable. My ambition is to develop an intervention that Peerby could realistically adopt, while geetting deeper AI expertise, building a strong portfolio case, and learning how to create real impact in an ambitious organizational setting.

DESIGN FOR our future

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Personal Project Brief – IDE Master Graduation Project

Problem Definition

What problem do you want to solve in the context described in the introduction, and within the available time frame of 100 working days? (= Master Graduation Project of 30 EC). What opportunities do you see to create added value for the described stakeholders? Substantiate your choice.
(max 200 words)

Peerby faces the challenge of increasing both user retention and fulfilment. Although first-time experiences are often positive, most members only use the platform once or twice a year, and a majority do not return after their first interaction. The reasons for this are not fully understood, which makes it difficult to improve. At the same time, the fulfilment rate is low: only around 40% of borrowing requests result in a successful match, meaning roughly 60% fail. Even when listings exist, many transactions fall through because information is missing, trust is low, or users do not respond.
These two issues (low retention and low fulfilment) are closely connected. They create friction for both borrowers and lenders, and they limit Peerby's ability to grow as a (community) platform that actively strenghten social ties and neighbourhood interaction. As Peerby and the envisioned eCO platform prepare for broader integration of community sharing initiatives, these problems risk becoming even more pressing. The opportunity lies in understanding where in the borrowing journey the biggest barriers occur, and in designing interventions that make sharing smoother, more trustworthy, and more frequent.

Assignment

This is the most important part of the project brief because it will give a clear direction of what you are heading for. Formulate an assignment to yourself regarding what you expect to deliver as result at the end of your project. (1 sentence) As you graduate as an industrial design engineer, your assignment will start with a verb (Design/Investigate/Validate/Create), and you may use the green text format:

Design and validate interventions that improve listing quality, trust, and fulfilment in order to increase user retention on Peerby, while exploring how AI can support these interventions as an enabling tool.

Then explain your project approach to carrying out your graduation project and what research and design methods you plan to use to generate your design solution (max 150 words)

Research phase: literature review on digital platforms, trust and user retention; initial scan of Peerby data; quick review of user feedback; semi-structured interviews with borrowers, lenders and Peerby employees (pilot, transcription, coding, thematic analysis); competitor analysis; customer journey mapping; small AI pilots.

Ideation phase: co-creation workshops with users and stakeholders; generate interventions; explore AI as supporting tool

Prototyping and validation phase: development of low- and mid-fidelity prototypes; user testing with Likert-scale surveys, behavioural observation and short interviews, iterative refinement; systematic analysis of results leading to design recommendations.

Process support: weekly fixed meeting with Jorg; regular check-ins with Sonja and Julia; involve Daan and colleagues to broaden perspectives.

Figure Q: Project brief