

# *Designing for financial access: building towards financial capability for children aged 7 to 12*



**Master Thesis**

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*"In the midst of chaos, there is also opportunity"*

- Sun Tzu, The Art of War

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# Executive summary

In today's financial landscape, children grow up in a world where managing money is increasingly digital, seamless, and less tangible. While this creates convenience for parents, children lack direct access to their digital savings accounts, creating a gap that limits their early financial awareness and autonomy. At the same time, traditional banks face growing competition to capture the attention of younger generations early on, making it vital to establish brand relevance before consumer habits become fixed.

This thesis explores how it can create an environment for children where they can explore being financially autonomous within a safe environment. The goal of this thesis is to create a proposition that Rabobank can implement in the near future in order to attract more clients of younger generations (aged 7 to 12). The project is guided by the following research question: How can we encourage early financial participation for Dutch children?

This project follows a triple diamond approach, switching between diverging and converging phases. To answer the research question, multiple methods were applied. Desk research and internal analysis provided insight into the financial landscape and Rabobank's strategic positioning. In addition, methodological triangulation, combining comprehensive literature research, workshops, and deep qualitative user testing, enabled a deep understanding of parental and children's pain points, values, and needs.

The findings reveal a readiness gap within Dutch households: while essential financial habits are defined by age 7, parents routinely delay financial socialisation due to a lack of information and tools. While children aged 7 to 12 begin to understand logical rules, parents play a decisive role through modelling and open communication, but because children lack direct access to digital savings, financial management remains hidden behind the parent's device.

To overcome this, parents actively seek solutions that grant children structured autonomy and a tangible grasp of finite resources, without compromising parental oversight or boundary control.

Based on these insights, the final concept, Rabobank Samen Groeien, translates the need for financial access, structure, and family involvement into a tangible, semi-digital experience permanently mounted in the heart of the home. Validation sessions resulted in:

- An adaptable interface: A digital platform that scales content according to the child's cognitive growth (from visual milestones to more complex concepts like interest), paired with a parental portal that supports negotiating tasks, automated savings, rules, and promoting the feeling of relatedness with friends.

- An operational implementation strategy: A phased plan managed by Rabobank's Innovation Team could be implemented, detailing the following steps for this proposition and how Rabobank can benefit from this in the future.

The project concludes that Rabobank can secure early brand loyalty by moving beyond a transactional banking relationship and physically positioning itself as an active educational partner in the daily lives of Dutch families.



The final solution was validated on desirability, feasibility and viability with both internal experts and user groups. While promising, its long-term effectiveness depends on integration within a broader corporate strategy, including active marketing, continuous alignment with behavioural scientists, and ongoing backend system optimisation. In conclusion, this thesis provides Rabobank with a clear, actionable guide for future implementation, establishing a definitive path forward to strengthen its market position and capture long-term generational loyalty.





# Table of contents

<b>1 Introduction</b> .....	<b>9</b>	<b>DEVELOP</b> .....	<b>51</b>
1.1 Rabobank .....	11	<b>5 Ideation</b> .....	<b>53</b>
1.2 Physical and digital money .....	13	5.1 Ideation method .....	55
1.3 Project aim and objectives .....	13	5.2 Idea screening .....	55
1.4 Research question .....	14	5.3 Screened concepts .....	62
<b>2 Project approach</b> .....	<b>16</b>	5.4 Concept selection session .....	63
2.1 Research methodology .....	17	<b>DELIVER</b> .....	<b>67</b>
2.2 Ethical considerations .....	19	<b>6 Conceptualisation</b> .....	<b>69</b>
2.3 Use of AI .....	20	6.1 Final solution design .....	71
<b>DISCOVER</b> .....	<b>21</b>	6.2 Possible collaborations .....	79
<b>3 Literature research</b> .....	<b>23</b>	6.3 Validation of final solution .....	85
3.1 Understanding money .....	25	6.3.1 Validation interviews .....	87
3.1.1 Financial capability .....	25	6.3.2 Desirability .....	91
3.1.2 The Netherlands and its saving culture .....	26	6.3.3 Feasibility .....	91
3.1.3 Money: From physical to digital .....	27	6.3.4 Viability .....	92
3.1.4 Current solutions .....	29	6.4 Implementation plan .....	94
3.2 Understanding children .....	31	<b>EVALUATE</b> .....	<b>97</b>
3.2.1 Children's intellectual development .....	31	<b>7 Evaluation</b> .....	<b>99</b>
3.2.2 Contextual references .....	32	7.1 Conclusion .....	101
3.2.3 Motivation in children .....	33	7.2 Discussion .....	101
3.2.4 Schools .....	35	7.3 Recommendations .....	103
3.3 Understanding Parents .....	37	7.4 Reflection .....	105
3.3.1 Parental awareness and the readiness gap .....	37	<b>Appendix</b> .....	<b>105</b>
3.3.2 Parents as role models .....	38		
3.3.3 Identifying financial friction workshop .....	39		
<b>DEFINE</b> .....	<b>41</b>		
<b>4 Defining the problem</b> .....	<b>43</b>		
4.1 Discovery interviews .....	45		
4.2 Personas .....	47		
4.3 Redefining the problem .....	49		



# 1 Introduction

1.1 Rabobank

1.2 Physical and digital money

1.3 Project aim and objectives

1.4 Research question

This chapter introduces the context of this graduation project and defines the core problem and its relevance to Rabobank. It outlines the main research question that guides the process of this graduation report.

# 1.1 Rabobank

Rabobank is a cooperative bank, meaning that, unlike other major banks in the Netherlands, a large portion of its profits is reinvested in society. This is done through many ways, such as sponsoring local sports clubs (Rabo Club Support), sending their own employees to teach at the bank for the klas, and funding free local sustainability programs like Food Forward, providing professional support to the agri-sector. Rabobank, with its mission "Growing a better world together" and this focus on sustainability and innovation, has returned more than 1 billion euros to society over a period of three years (2024, 2025, and 2026).

Currently, one of the biggest challenges that Rabobank is facing is an ageing client base, making it difficult to predict whether, as a bank, it can maintain the same relevance in the future. While at Rabobank currently, they not only have nearly 9 million customers in the Netherlands, but also 2.3 million members in the Netherlands, though we see that newer generations favour digital banks because of their convenience, innovative features and often lower prices.

As mentioned before, Rabobank faces growth challenges: an ageing portfolio; while in the world there is an expected population decrease by 8 to 9% in the upcoming decades (Cilluffo, 2024); for Rabobank, there is already a decrease in the 0 to 12-year age group, having a 34% decrease over the last few years in this age group. We also see that one out of eight children leaves the bank at eighteen years old. This could be due to the urban growth gap.

In this uncertain environment, Rabobank prioritises innovation prioritizes trying to anticipate external developments. This means that the focus lies on adapting to the rapid pace of the Retail Banking landscape. This involves accelerating innovation, staying ahead of the trends, and responding to market needs as quickly as possible.

But how does Rabobank do this? They have 3 types of revenue models through which it could contribute to the bank:

Enriching banking offerings beyond banking: Because of the rise of super-apps (like WeChat or PayPal), banks run the risk of losing their primary client interaction. Within the innovation team, the goal is to design for major transitions beyond banking for new products and services (own or third-party) that can strengthen existing offerings while generating new income for the bank. New impact will be generated by cross-selling products through new services or selling new (third-party) products via the platforms. An example of this is Rabo eTrace, the online portal for Bank Guarantees and Documentary Trade.

Radically transforming existing products: Digitalisation offers the opportunity to radically rethink and transform existing offerings in order to make them more attractive for customers while lowering operating costs. New impact will be generated by realising cost savings (e.g., through the adoption of new technology) that could not have been realised through incremental improvement.

Growing new business lines for the bank: Entering new markets with new products and services to create new revenue streams. New impact will be generated by introducing new products or services to existing or new markets.

As seen in Figure 1, the innovation sweet spot for Rabobank lies between growing a better world together and creating future business. This means that the ultimate aim is to make substantive, positive contributions to the significant transitions that shape the world we live in.

Out of the four transition themes for Rabobank, this project falls directly under the transition theme of Digitalisation.



Figure 1: Rabobank Innovation sweetspot

## 1.2 Physical and digital money: Rabobank's current approaches

In this digital era, digital money is becoming the norm. Parents are unable to teach their children the value of digital money and instead try to give their kids cash. But low financial literacy is still an increasing problem. According to Nibud, "People who learn how to handle money as children from their parents are less at risk of financial problems later on". Parents find that giving cash is not as easy as when they were young. This causes the parents to forget to give them pocket money, also affecting the decrease in financial literacy. Parents dream of freedom and independence for their child, in general aspects, but also on a financial level. Therefore, Rabobank, as a bank, needs to offer financial education, creating financial self-confidence so that the parent does not have to worry about the financial future of the child. With one of their core values being "financieel gezond leven", Rabobank wants to encourage everyone to take a step towards a financially healthy life, and is convinced that everyone can do it.

Rabobank tries to approach this through a bank for the klas, where they really dive into the financial literacy of children and how they can teach children about how to manage their money effectively. Recently, they have also launched the campaign Baas over eigen

monnies, which consists of a set of cards where parents and children can have a discussion on how they would spend their money. As the impact of this solution is not known yet, they are looking to dive deeper into the age group of 5 to 12 and what their interests are in order to grow that segment.

## 1.3 Project aim and objectives

This project aims to support and strengthen the development of financial capability and autonomy in children aged 5 to 12, with a particular focus on building their confidence and understanding during the critical transition from tactile (physical) to abstract (digital) money. Responding to the growing need for 21st-century economic skills such as digital financial navigation, long-term saving habits, and informed decision-making, this project addresses the strategic challenge of maintaining banking relevance for younger demographics.

Building on literature research context research, this study seeks to identify the knowledge gap that leads to financial disengagement in early childhood. It aims to develop a research-based design intervention that empowers children to engage more meaningfully with finances, going from passive financial engagement to active participation.

The outcomes of this research are also intended to support Rabobank and parents by providing a framework or toolkit that combines physical saving habits and digital banking interfaces. By helping children visualise and practice managing their own money, this project aims not only to support their financial well-being today but also to lay the foundation for financial well-being in a future where a cashless society becomes the new normal.

The following chapters of this report will explore the cognitive development of children regarding money, how financial socialisation is currently supported, and where the current digital tools fail to meet developmental needs. Based on these literature reviews and context examinations, a design challenge will be reformulated to guide the development of a strategic design intervention tailored to the modern retail banking landscape.

## 1.4 Research question

As can be seen in the approved project brief, Appendix A, the proposed research question within the Rabobank team is:

How can we encourage early financial participation for Dutch children?

The goal is to investigate and validate a concept direction that enables children aged 5 to 12 to meaningfully engage with both physical and digital money in order to improve early financial participation, increasing long-term customer value for Rabobank within the context of youth banking.



# 2 Project Approach

- 2.1 Research methodology
- 2.2 Ethical considerations
- 2.3 Use of AI

In this section, firstly, the research methodology is addressed, and then, diving into the ethical considerations as well as an overview of the stakeholders, and finally, the chapter closes with addressing the use of AI within this project.

## 2.1 Research methodology

In this project, the design method being used is the Double Diamond method from the British Design Council, 2005. As shown in Figure 2, this framework maps out the journey from an initial problem to a final solution through two main iterative phases. The first phase consists of “designing the right thing,” which is broken down into the stages of Discover and Define to thoroughly investigate all the components involved in saving and the direct influences on children. The Discover stage focuses heavily on gathering crucial organisational insights, target group insights, and a comprehensive market analysis. In practice, this discovery mainly consisted of desk research, with the main goal of understanding Rabobank itself and what has been done within the bank up until this point, as well as looking at competitors and their current solutions, while trying to visualise and identify opportunity areas that aren't being targeted currently. Transitioning into the Define stage, the process focuses on narrowing down these broad findings through a financial friction workshop, interviewing parents, establishing a clear design scope, and formulating foundational design principles. This allows for the combination of the parents' pain points and concerns with existing theories to create a clear problem definition.

Following this problem definition, the second phase takes place to focus on “designing things right” through the stages of Develop and Deliver. This phase actively employs co-design methods to ensure the solution is grounded in User Centred Design (UCD). The Develop stage initiates the creative exploration of the solution space by ideating, clustering ideas, and hosting a dedicated concept selection session. These iterative methods centre on the user through prototypes and concept testing, ensuring

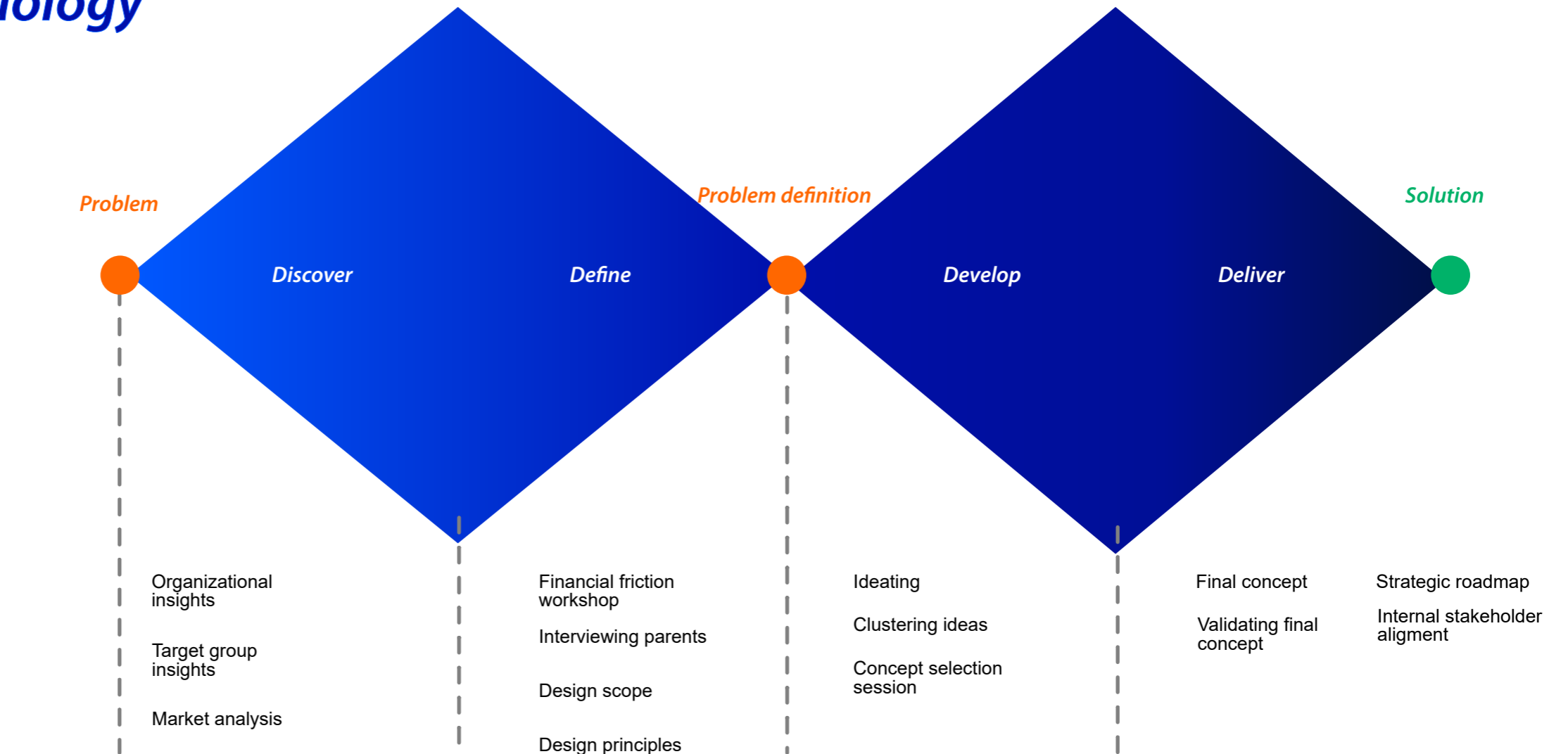


Figure 2: Project timeline and desiChowagn process

that the solutions are grounded in real experiences and requirements. The Studiolab codesigning approach is kept in mind when co-designing with kids, creating an innovation in a dialogue where end users and creators can directly interact. End users are given an active role in this part of the design cycle, from creatively exploring the solution space to deciding which ideas are worth pursuing. Finally, the Deliver stage focuses on detailing and testing those ideas by bringing together the final concept and validating the final concept with stakeholders and users. This ultimately leads to the final solution milestone, which delivers a concrete strategic roadmap and secures critical internal stakeholder alignment.

## 2.2 Ethical considerations

This project involved field research with human participants, including both adults and minors. Because children are the primary focus, they are categorised as a vulnerable group. This is not only because they are easily influenced, but also because they may not fully understand the long-term impact of sharing their personal data or financial habits. Additionally, the sensitive nature of discussing family finances can create social or emotional pressure for both children and their parents.

To address these risks, the project was conducted with HREC approval to ensure all ethical standards were met. Every participant or their legal guardian signed a consent form before the research began. All data used in this report has been anonymised and is managed strictly according to TU Delft's data protection standards. For reference, the consent forms are included in Appendix B.

Additionally, discussing financial matters can easily induce stress, discomfort, or feelings of inadequacy in children if they feel they lack sufficient knowledge. Children are highly susceptible to social desirability bias, feeling pressured to give correct answers to please either their parents or the adult researcher rather than expressing their genuine thoughts. To mitigate these risks, protect privacy, and counter the natural adult-child power imbalance any sessions held must be intentionally designed as playful, interactive activities. Making sure to emphasise to the children that there are no right or wrong answers.

It must also be considered that, as gatekeepers hold a position of direct authority over the minors, children might feel pressured or obligated to participate simply due to compliance with an adult's instruction, rather than making a truly voluntary choice. To navigate this dynamic, while gatekeepers facilitated the initial introductions, it is essential to obtain individual verbal consent from each child. Using age-appropriate language, it is essential to ensure that their participation is 100% voluntary. Finally, to ensure the absolute protection of these vulnerable participants, all collected data was immediately anonymised directly after the sessions concluded.

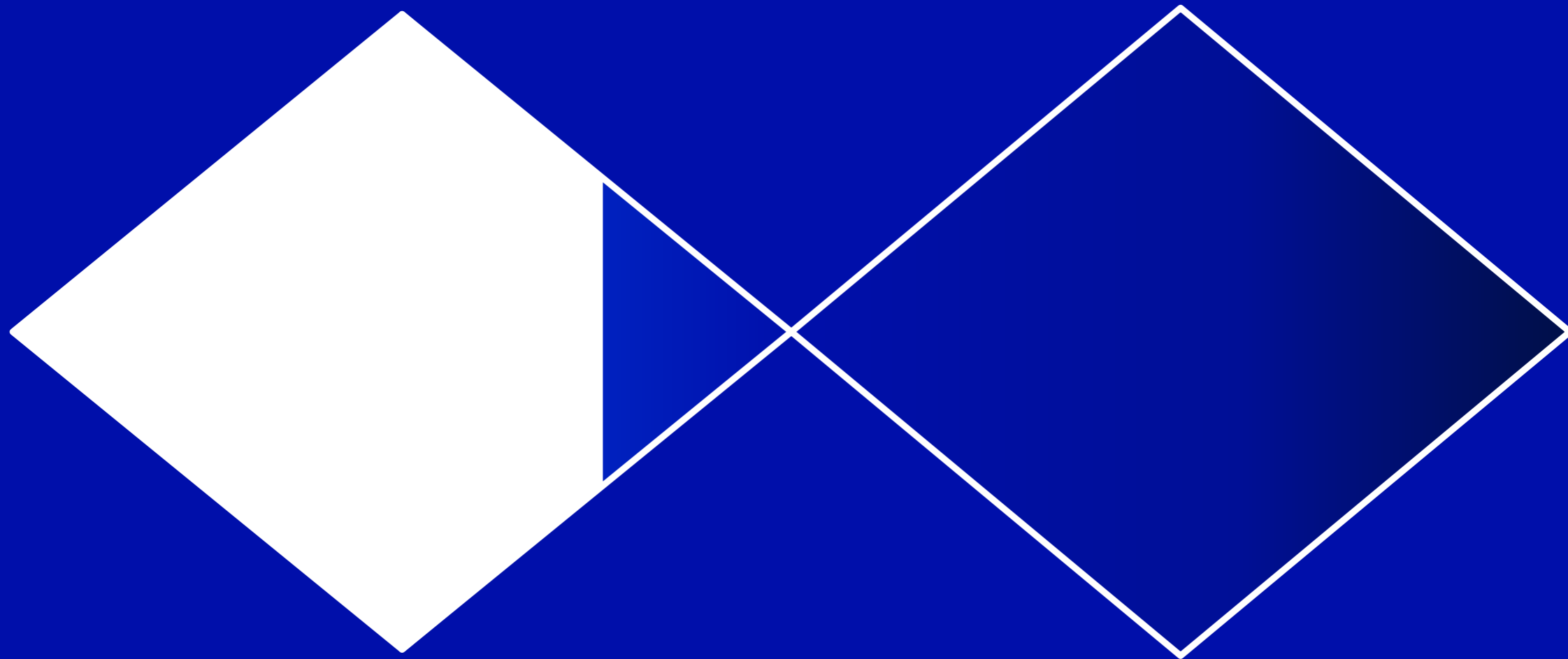
Introducing a commercial banking framework into the ecosystem of children creates an immense social responsibility. When a major financial institution interacts with minors, the primary ethical justification must centre on long-term societal financial well-being, building early financial habits. The project must be guided by a strict boundary regarding data monetisation. Any conceptual direction explored must ensure that a child's early savings behaviours, mistakes, and learning patterns are treated with absolute sensitivity, ensuring their data is used to support their personal learning and remains completely protected from commercial exploitation or future tracking.

Ultimately, it must be recognised that the design of any financial interface inherently shapes user behaviour. This is kept in mind throughout the entire report.

## 2.3 Use of AI

AI was used as a tool during this project. Gemini was used to: check and improve readability, spelling and grammar. Translate Dutch texts into English. Provide critical feedback on clarity, structure, and academic tone of draft texts. AI was not used to generate original research findings, design concepts, or final conclusions. All research activities, design decisions, analyses, and interpretations were carried out independently by the author.

# Discover



This phase involves exploring the key turning points relevant to the research question. This is achieved through both literature research and contextual research. It starts with diving into the question of understanding money, children's psychology and their environment, as well as analysing the competitive market, and then finally understanding parents, as they are a main influence in the target group's life. This phase will help identify the pain points and user needs that will later be addressed in the Define phase.



# Literature Research

## 3.1 Understanding money

### 3.1.1 Financial capability

### 3.1.2 The Netherlands and its saving culture

### 3.1.3 Money: from physical to digital

### 3.1.4 Current solutions

## 3.2 Understanding children

### 3.2.1 Children's intellectual development

### 3.2.2 Contextual references

### 3.2.3 Motivation in children

### 3.2.4 Schools

## 3.3 Understanding parents

### 3.3.1 Parental awareness and the readiness gap

### 3.3.2 Parents as role models

### 3.3.3 Identifying financial friction workshop

In this chapter of literature research, the topics are divided into three: understanding money, where financial capability is addressed, as well as the Netherlands and its saving culture, how money has changed from physical to digital, and the current solutions of the market landscape.

Then, a deep dive is done into understanding children, their intellectual development, and what contextual references are for them. Additionally, there is a deep dive into the motivation of children and what they learn at school.

Finally, understanding parents' research takes place, where the parental awareness and the readiness gap are addressed, as well as parents as role models, followed by a workshop to identify financial friction that parents encounter.

# 3. 1 Understanding money

## 3. 1. 1 Financial capability

In today's rapidly evolving world, market volatility is heightened by the rise of AI, geopolitical conflicts, the increase in short-term contracts, and increased human longevity. These factors have transformed adult financial planning from a small goal into a lifelong journey. Because the consequences of bad financial choices accumulate over decades, planning for the future can no longer be optional; it must begin at a very young age.

According to Sherraden (2013), to navigate this complexity, individuals require more than financial literacy; they require Financial Capability. This is the combination of internal ability and external opportunity. Internal ability consists of knowledge, skills, and attitudes that children acquire during their youth. It starts with the socialisation, education and guidance that is usually provided by the parents and what they learn at school. Rabobank has also shown proactiveness in providing this financial literacy to this agegroup through Bank voor de Klas. The other component of financial capability is external opportunity, so if the children have access to the right tools, think of, for example, the Rabobank Jeudapp (intended for children 12+ to manage their own digital environment with parental supervision).

Financial socialisation also contributes indirectly to financial well-being through improved financial literacy. Studies show

that although financial socialisation alone may not directly increase financial well-being, it plays a crucial role by building financial knowledge that leads to better financial management and well-being outcomes (Rahmawati, 2024). Parental engagement in financial discussions and education fosters positive attitudes toward money that can last a lifetime. (Buccioli, 2022; Daniarti, 2024). Because the financial decisions made today significantly dictate financial well-being in adulthood, children must start building this competence early. This early financial capability fosters the development of "future-oriented" money management, a mindset that supports sound behaviour and long-term stability (Drever & Else-Quest, 2021). Positively impacting their financial behaviour and overall financial wellbeing.

Although research shows financial literacy is positively associated with effective retirement planning and saving (Behrman, 2012). The focus should go beyond simply understanding money; it should be on whether individuals are able to manage resources effectively to identify opportunities in a changing world. However, mere exposure to money in a digitalised daily life does not automatically lead to understanding. Many children often learn by doing. Therefore, it is crucial to provide children with the right financial access to promote financial capability, bridging the gap between passive exposure and active, capable money management (see Figure 3).

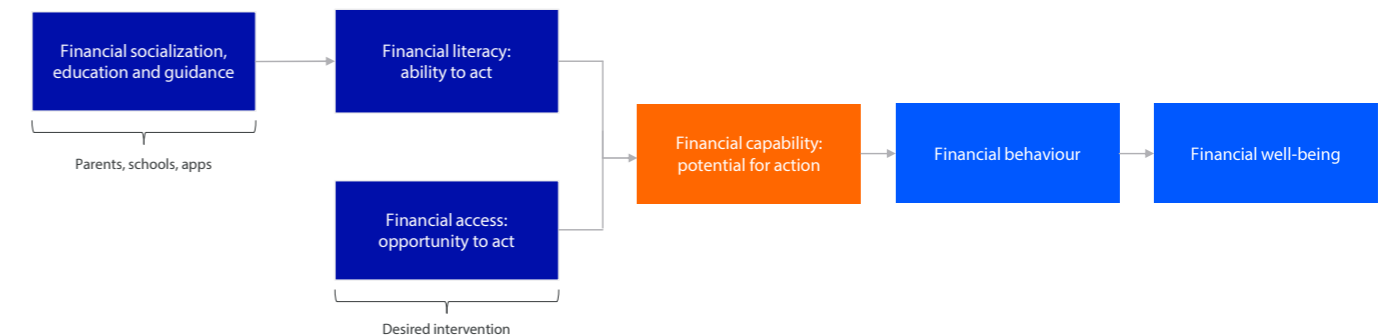


Figure 3: Conceptual Framework of Financial Capability with opportunity space

## 3.1.2 The Netherlands and its saving culture

The Netherlands has consistently maintained one of the highest savings rates in Europe. According to savings rate rankings among European nations, the Netherlands remains among the top countries with one of the highest household savings rates, sustaining rates above 10%, which positions it alongside leading European saving countries such as Norway, Korea, Sweden, and Estonia (Oecd, 2014). From an early age, children in the Netherlands are educated on how to manage their money. According to Nibud, 47% of children in the Netherlands save independently, often through a piggy bank where they store their pocket money. Parents believe that this early financial education encourages children in distinguishing between needs and wants, budgeting their allowances, and setting

financial goals, thereby establishing a foundation for responsible spending and saving habits (Nissa et al., 2025; Aptasari et al., 2025).

Globally, the Dutch are often perceived as "stingy." The origins of this perception go back to the 17th to 19th centuries, when Calvinism had a significant influence on Dutch society. During this period, sobriety discipline two main social norms. where displays of wealth were discouraged, while building a financial buffer was seen as a moral obligation. In 1817, the first savings banks, known as Nutsspaarbanken (Utility Savings Banks), were established. The goal of these institutions was not to profit from individuals but to encourage the working

class to save, and therefore prevent them from becoming a burden on the state or church in their later years.

In the late 1800s, the emergence of cooperatives was driven by farmers' difficulties in obtaining loans from urban banks. This was due to an agricultural crisis, where they could not obtain loans from traditional commercial banks because they were seen as high-risk. Inspired by the German model, the Dutch established Boerenleenbanken (Farmer's Credit Banks), where farmers stored their savings. If a farmer required a loan, it was raised from the collective savings of neighbouring farmers. This system cultivated a high level of social control and trust, leading to the establishment of cooperatives such as Rabobank.

During the Golden Age (1950s - 1990s), after World War II, the Dutch government wanted to rebuild the country by encouraging children to save through Schoolsavings. Where students could buy stamps in class for a dime, a quarter, or a guilder by then filling up their savings card (see figure 4). These classroom-saving initiatives were often accompanied by competitive scoreboards to track progress (see Figure 5) These "Schoolsavings" were introduced to the schools through Maatschappij tot Nut van 't Algemeen (Society for the Public Good), which is an organisation that focused on social well-being or public welfare. At the time they felt it was very important for children to learn how to handle money at a young age," especially in a time when factory workers would spend their entire pay at once in a pub." (Tijs van Ruiten, Onderwijs museum). Having these cards not only taught the children how to save, but it was also quite lucrative as well as a character-building

exercise to prevent future poverty. "The return was ten per cent," according to Tijs van Ruiten. "If you had a full savings card during the 25-cent period, it would contain 25 guilders' worth of stamps. When you turned it in at the savings bank, 27.50 guilders would be credited to your savings account."

After that, in the early 2000s, Physical Counting Days took over, where children would take their heavy ceramic piggy banks to the local Rabobank or Postbank during spring break, and the coins would be counted by a machine. The incentive? Children wouldn't just get a receipt; they got a small toy like a plastic piggy bank or a comic book. Many older generations still remember opening their first savings account at Rabobank for this reason. (Eemskrant.nl, 2020)

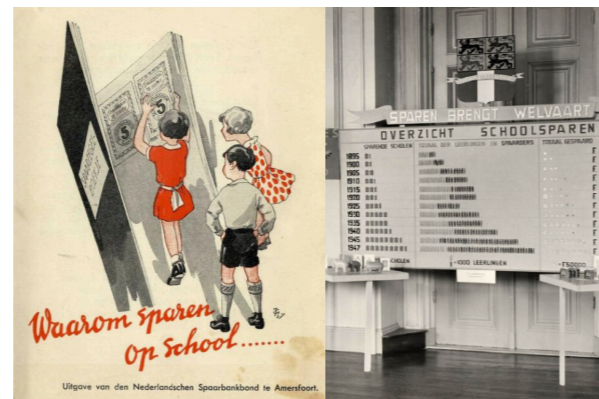


Figure 4 and 5 : Schoolsparen flyer and scoreboard

### 3.1.3 Money: From physical to digital

The transition from physical currency to digital data began in the early 2000s, but the 2010s marked a turning point in human dependence on smartphones and technological advancements. The COVID-19 pandemic made this shift even bigger, which forced a global necessity on contactless payments, diminishing the use of physical cash even more (Gurgur &

Kahveci, 2025; Teker et al., 2022). For the first time in history, during COVID, the interest rates hit 0% and even turned negative around 2020 (Goldman, 2020), breaking the traditional saving logic where a child could clearly see their savings of 100 euros grow into 105 euros if they saved for long enough. Consequently, the emotional connection to saving has vanished along with the physical act of carrying a heavy jar of coins to the bank. For today's children, saving has been reduced to a button in an app, making it increasingly difficult for them to understand the value of digital numbers.

In the Netherlands, children are part of this digital reality from a very young age. While the average age to receive a personal phone is 11, children as young as 6 years old are already engaging in approximately 3.3 hours of daily screen time through TVs, tablets or parental smartphones (Rodrigues et al., 2020). It is believed that the pandemic further intensified this exposure, increasing daily screen time for the 3 to 7-year age group by nearly 50 minutes (Ribner et al., 2021).

While digital platforms theoretically offer tools to promote financial literacy, they simultaneously create a 'sensory void' (K & Praveen, 2025; S & M, 2025). Reducing transactions to a simple click on a smartphone, these digital interfaces remove the physical friction of spending. At such a developmentally sensitive age, this lack of tangibility alters cognitive and emotional responses, undermining self-control and heightening susceptibility to impulsive consumer decisions (Nyrhinen et al., 2023; Chen et al., 2022).

Without the physical act of parting with coins or notes, children are less likely to perceive

the loss of value, making them highly sensitive to the dopamine-driven rewards of digital platforms. In ecosystems like Roblox and Fortnite, the frictionless nature of spending fuels impulsive decisions driven by virtual gratification (Kafadar & Yilmaz, 2022). This cultural shift toward digital assets is further evidenced by 2025 ESA findings, which show that in-game currency has become the main wish for 50% of children, replacing the wish for tangible goods that once was.

Additionally, interviews with parents confirm the increase in impulse buying, which leads to a deeper issue: many young users lack the developmental maturity to navigate digital financial services. Without the right parental guidance or specific financial supervision, children struggle to develop responsible habits or correctly interpret the abstract information presented by modern banking tools (Curley & Robertson, 2018; Kumar, 2025).

But so what about the physical solutions? When trying to save with children through physical solutions, like for example Pinniemaat from ING, the main downside is that it loses the connectivity to the modern world; solutions that are only physical do not give children the insight into the digital balance and a view of a modern bank account. This creates a split between the toy they play with and the actual money they own, so combining these two aspects is essential.

### 3.1.4 Current solutions

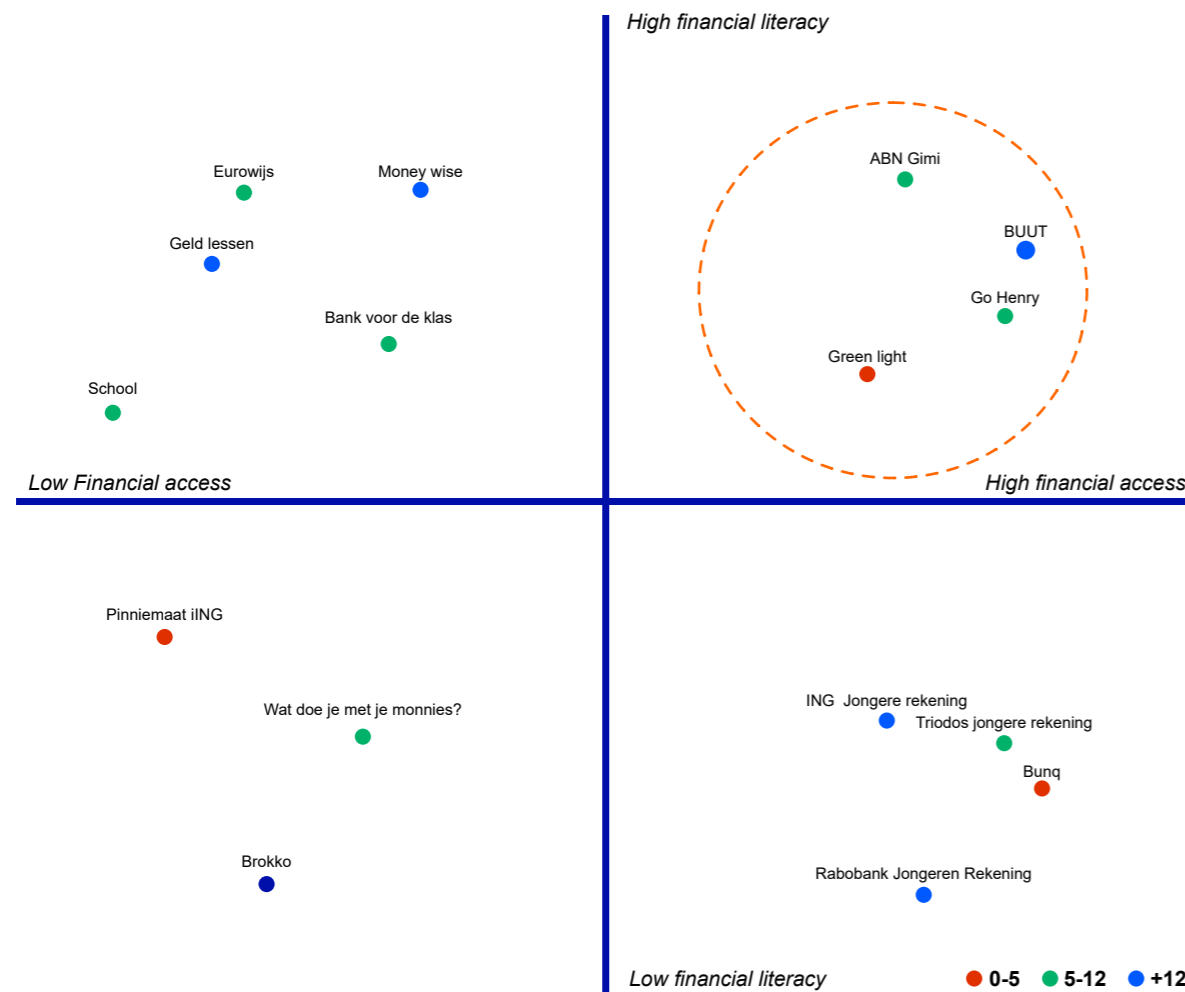


Figure 6: axis on existing solutions for children

Current market solutions primarily focus on enhancing children's banking skills. To better understand the competitor landscape in financial development, Figure 6 provides a matrix of existing solutions. This overview reveals that several major banks currently combine financial access with financial literacy for children aged five and up.

ABN AMRO, a leader in this space, offers an integrated educational and balance app designed as a game for children as young as seven. They are one of the few Dutch banks providing both financial access and a curriculum of up to 40 financial literacy lessons. Furthermore, their collaboration with Tikkie (BUUT) provides a personal newsfeed for teenagers with savings tips, while parents receive expert advice on financial education.

Similar to traditional banking apps, ING introduces kleeedgeld, a clothing allowance. This feature uses pretend money, typically 40€ to 60€ for a 12-year-old, to teach budgeting for larger expenses.

Triodos & Rabobank provide a youth account (The Jongerenrekening) model, which mainly focuses on accessibility. While the app allows children ages 10 to 12 to monitor expenses and grant parents oversight, it lacks integrated tools specifically designed to teach financial literacy, leaving the educational content entirely to the parents.

International players like GoHenry and Greenlight have set the global standard for combining access with education. Although they are not yet available in the Netherlands, their influence is clearly visible in ABN AMRO's current strategy.

While combining financial literacy with direct access is proven to improve a child's financial capability, Rabobank's current model leaves a clear disconnect between its services and its organisational values. Currently, the bank primarily provides access to older children, neglecting the development of younger age groups. To align with its core mission of Financial Healthy Living (Financieel Gezond Leven), Rabobank must move into the High Financial Access and High Financial Literacy quadrant by addressing younger generations, just as its competitors are starting to do. Competitors like ABN AMRO are capturing this early market by targeting children as young as five. To avoid missing this critical developmental window, Rabobank must move away from passive transactional tools that rely only on parental instruction and instead prioritise providing direct educational features that involve younger children and their parents in its services.

Though it may be seen as unconventional for a bank like Rabobank to integrate itself into the education of children from such a young age, taking these calculated risks is necessary to position the bank above the competition. The current market shows that simply offering passive accounts or generic gamified apps is no longer enough to build meaningful engagement. For Rabobank to truly lead, the design strategy cannot just copy existing competitor features; it must transform the bank from a basic utility into an active, trusted partner in a child's developmental journey.

# 3.2 Understanding children

## 3.2.1 Children's intellectual development

According to Piaget's Theory 2026, children's intellectual development from their birth until their 12th year of age can be classified into three cognitive stages. The first one is where they explore the world through their senses. In this initial stage, children are mostly focused on discovering their environment through touching as well as making sense of the shapes that they encounter, improving their motor skills.

After that, the pre-operational stage occurs between 2 and 7 years. At the beginning of this stage, the child does not use operations or logical rules, so thinking is still influenced by how things look or appear. A child might think 10 coins of 5 cents are worth more than 1 coin of 2 euros. The child only sees the amount and not the worth of the coins. Furthermore, the child has an egocentric point of view; in this stage, children assume that other people see the world as they do, as shown in the Three Mountains study. Children were presented with a model of three mountains of varying sizes, each with distinct features like mountains, houses, and trees. The children, located opposite the model and the researcher, were then asked to choose a picture that accurately represented the view from the researcher's specific location. The goal was to determine whether children could accurately

understand and represent the different perspectives, beyond their own viewpoint, but there was a clear distinction between the ages of 2 to 7 and 7 to 12, as the younger group couldn't make sense of what the researcher was viewing.

As the children grow, they transition into the operational stage, where egocentrism declines, and children begin to enjoy the participation of other children in their games, and pretend play becomes more important. They begin to understand the concept of conservation, that quantity stays the same even when appearance changes. They can also see things from another person's perspective (decentring) and perform inclusion tasks more accurately. And although many children still have difficulties with abstract thinking, this stage is called concrete because children can think logically much more successfully if they can manipulate real (concrete) materials or pictures of them.

## 3.2.2 Contextual references

Part of the development of children is making sense of the world, which is also done through contextual references. A child, from a very young age, is only in contact with their immediate environment: the bed, the room, the house, parents, and pets. This can be directly linked to the developmental stage between 0 and 2 years, the 'sensorimotoric stage', where learning takes place through direct interaction with the world. As children age, their interactions with the wider world become more intense: the street, daycare, a trip to the zoo. Then they also learn about phenomena that cannot be directly

experienced but are encountered through language and other communication media: stories, pictures. And they learn to discern between objects and underlying phenomena, such as weight, speed, stability, predictiveness, and responsiveness. Gradually, their evolving abstract thinking skills allow them to understand and engage with more abstract phenomena: emotional states, empathy with others, and morality. The figure below represents this process of engaging with an enlarging world and different contexts. (see Figure 7)

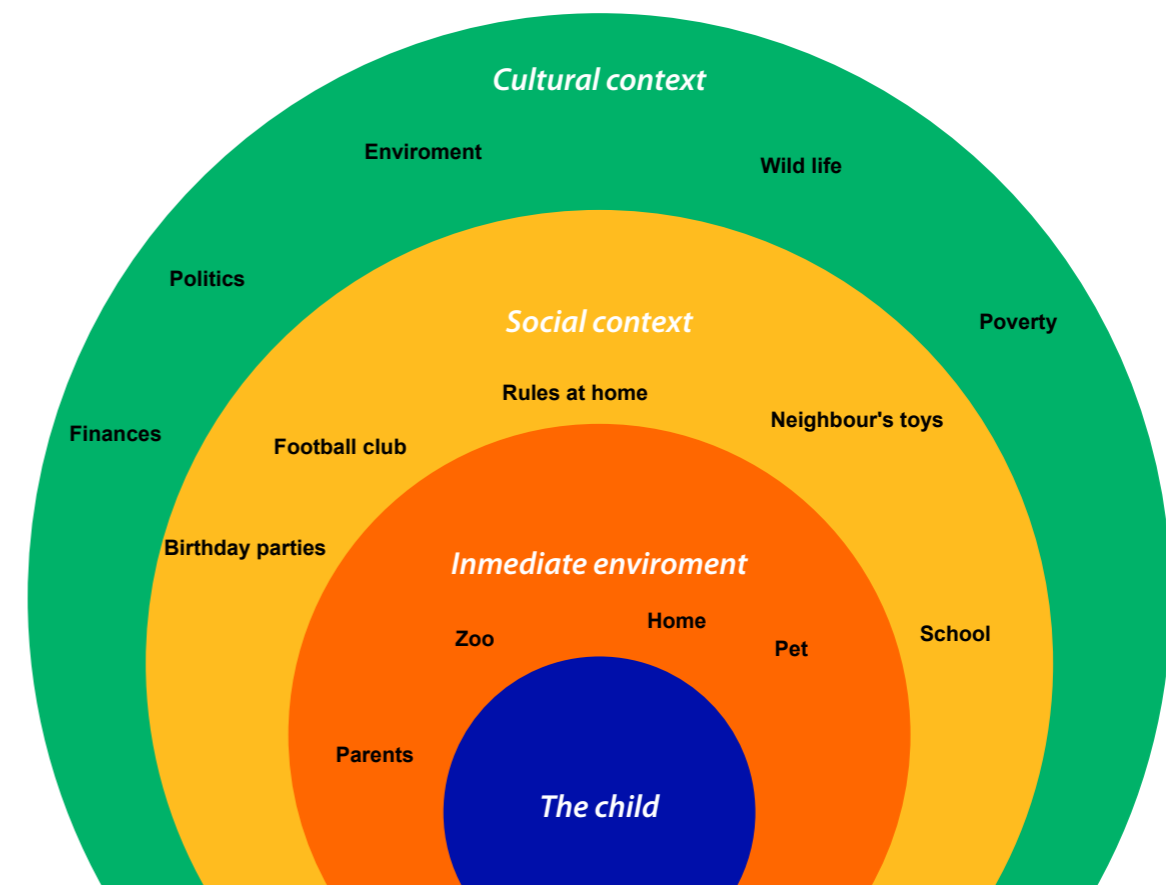


Figure 7: Piaget's theory contextual references for children

### 3.2.3 Motivation in children

From nature, children are curious, self-motivated and striving to learn as well as mastering new skills and discovering their talents. Constructing agency.

Self-Determination Theory facilitates optimal functioning of these natural propensities for growth and integration, as well as for constructive social development and personal well-being. For humans to grow and take on challenges, specific nutrients in our environment are needed. As illustrated in Figure 8, three basic psychological needs motivate a person. The first is Autonomy (deCharms, 2013; Deci, 1975), which entails that a person feels a sense of control over their own actions. Not necessarily being independent, but rather about having the feeling that your behaviour is a choice more than something that is inflicted. The second one is Competence (Ryan & Deci, 2000), which consists of the person having the feeling that they are capable of doing a task

and getting that feeling of effectiveness. This creates a sense of “mastery” and having the ability to grow skills. And then the third one, Relatedness (Baumeister & Leary, 1995), which is the feeling of being connected to others, where as an individual you belong to a community and therefore feel cared for and caring for others.

There is also the need to consider the motivation spectrum, as seen in Figure 9. There are different types of motivation, instead of the idea of having high or low motivation. Developmentalists acknowledge that from the time of being, children in their healthiest states are active, inquisitive, curious and playful even in the absence of rewards (Harter, 2009). Intrinsic motivation is the ideal standard where the person does something because they truly find it interesting or enjoyable. Extrinsic motivation consists of doing something to get a separate outcome. But there are different

scales within eccentric motivation. Starting with the least effective one, which is External Regulation, where the individual acts to avoid punishment.

Then following up is the Introjection, which consists of acting based on guilt. (Inner critic. ) Identification is where the individual sees the value in it, for example, “I don’t like cleaning, but I value a tidy house”. And finally, integration, where the value of the activity becomes a part of the individual. But Korean and U.S. samples have found a more positive relation between autonomy and collectivistic attitudes than between autonomy and individualistic attitudes (Kim, Butzel, & Ryan, 1998).

Therefore, when designing for children, the system should move away from relying solely on external regulation, such as basic rewards or parental punishments, and instead focus on fostering internal

identification and integration. By embedding autonomy, competence, and relatedness directly into the experience, children can develop the motivation needed to start building and improving their financial skills at an earlier age.

The goal of the project is not to manipulate a child's behaviour through short-term extrinsic triggers, but to create a digital environment where children feel capable, connected, and in control of their own financial choices.

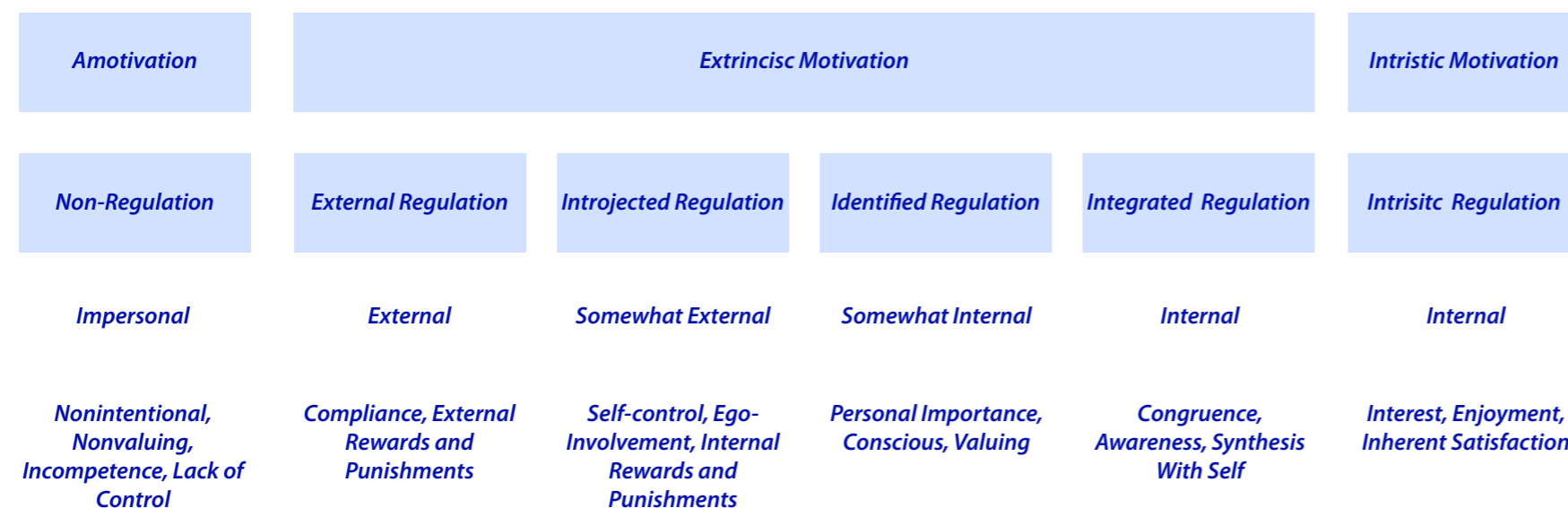


Figure 9: self determination continuum

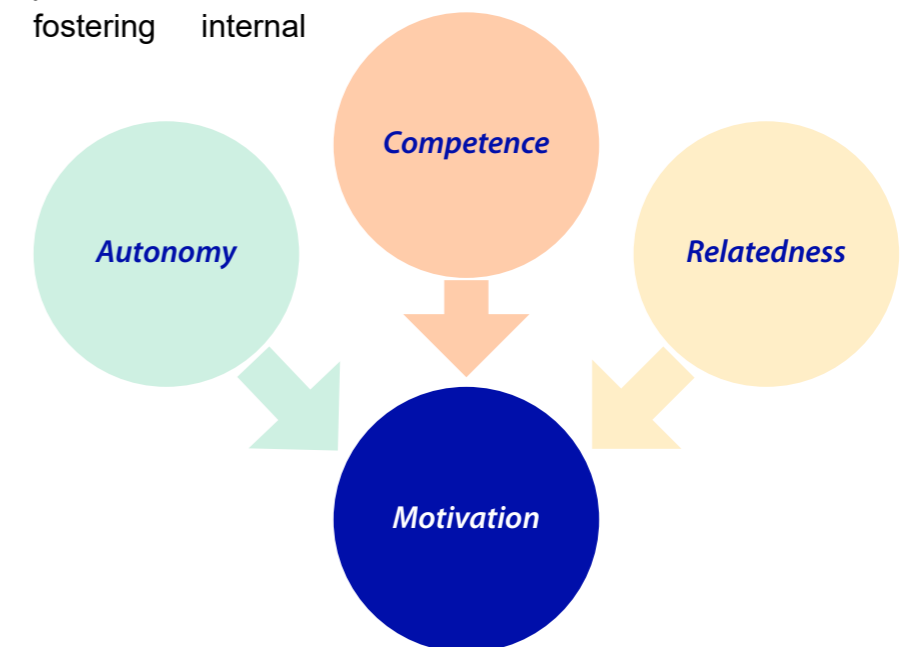


Figure 8: Self-determination theory motivation components

## 3.2.4 Schools

School is the primary environment where children acquire foundational knowledge about the world. To understand the general needs of each age group, it is crucial to examine what they are taught within this setting. Primary schools in the Netherlands follow the curriculum guidelines set by the Ministerie van Onderwijs. Based on this, a complete overview of the learning objectives can be found in Appendix C.

Cognitively, as children master basic concepts like the foundational value of money, they begin developing logical and abstract thinking abilities alongside key executive functions such as planning,

working memory, and self-control. Financial literacy education has been shown to significantly improve children's economic decision-making abilities (Hatidja et al., 2025). These cognitive developments support the integration of features that encourage goal-setting, budgeting, achievement rewards, and the self-monitoring of spending behaviors. Tailoring interactive and gamified elements to their learning capacity can effectively teach financial literacy by engaging their growing problem-solving skills and ability to grasp abstract financial concepts. However, a persistent challenge remains in determining exactly how to bridge the gap between this purely theoretical classroom knowledge and consistent, practical application in children's daily lives.

Schools often attempt to address this through social learning theory, where children learn about money primarily through observation, retention, and reproduction. The curriculum focuses heavily on understanding the basic concept of money from ages five to seven. After this initial period, the focus shifts toward advanced mathematical concepts, while practical instruction on how to actually manage money largely disappears. Therefore, the necessary motivation and reinforcement involving financial skills are not consistently present for all children at all ages.

Promoting healthy beliefs around saving, budgeting, and planning during elementary and middle school, followed by encouraging self-efficacy through experiential learning in high school, represents a promising pathway to raising financially capable adults (Drever & Else-Quest, 2021). Yet, as illustrated in Figure 10, there is a sharp drop-off in financial education. While schools successfully capture children's curiosity and attention regarding how money works between the ages of five and seven, there is no structural incentive or regulation that obliges them to continue this education once that basic understanding is met at age 7, as it is no longer a core requirement of the Ministerie van Onderwijs. Consequently, this educational gap often forces parents to seek alternative external solutions, such as Squla or Gimi.

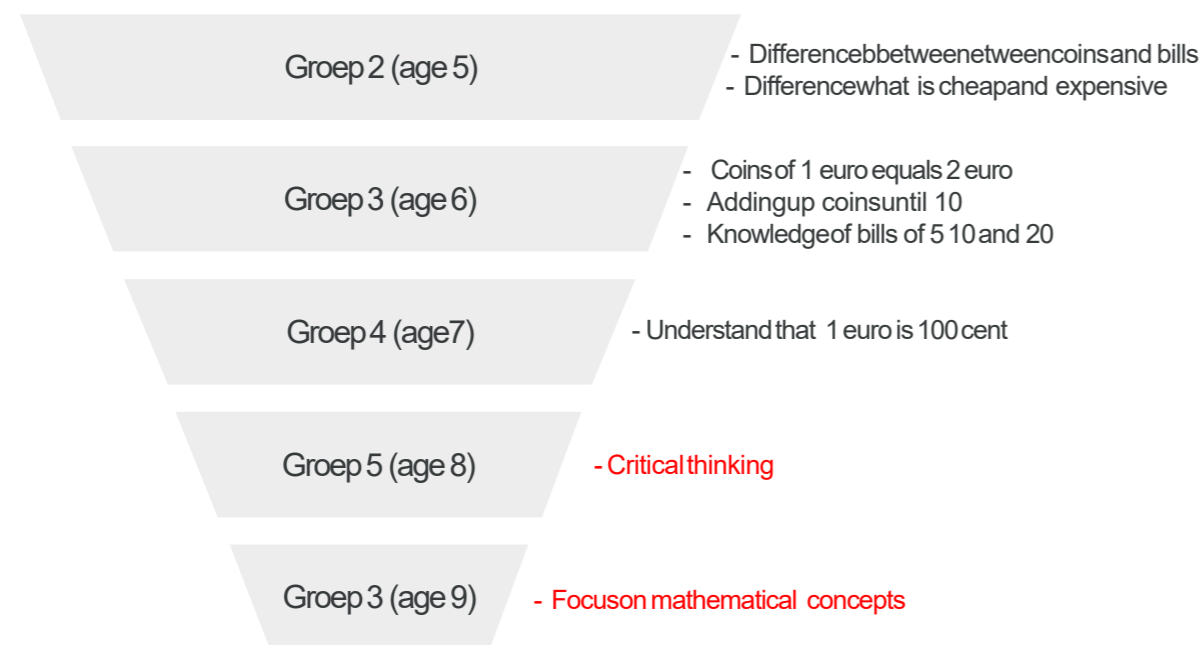


Figure 10: school analysis based on requirements ministerie van onderwijs

# 3.3 Understanding parents

## 3.3.1 Parental awareness and the readiness gap

And although parents believe that financial education is important, many are not actively providing it for their children. According to Nibud Children's Study from 2018, children aged 5 to 7 nowadays receive pocket money less often and less regularly. As a reason for not giving pocket money, parents mention that the child is not yet engaged with money. Many parents believe that this moment will come later in their children's lives, until it is too late.

Research indicates that many financial habits, both good and bad, become deeply ingrained by age 7, often making them difficult to change later in life (Whitebread & Bingham, 2013). That means that Dutch parents tend to delay financial engagement

precisely during the years in which habits are most actively being formed.

This creates what could be called a readiness gap, a mismatch between when children are developmentally receptive to financial concepts and when parents feel it is appropriate to introduce them. This developmental timeline and the resulting educational delay are visually mapped out in Figure 11.

Nibud further notes that there are parents who do want to teach their children about money but simply do not know how to approach it meaning that the barrier in the Netherlands is not indifference, but rather a lack of tools and starting points.

## 3.3.2 Parents as rolemodels



As mentioned earlier, a child learns through their immediate environment, and research shows that parental modelling, communication, and financial confidence are key mechanisms in the development of financial norms and competencies in children (Gudmunson & Danes, 2011; LeBaron & Kelley, 2021).

The most influential of these is parental modelling. Research shows how parental behaviour directly shapes a child's financial literacy, saving, spending, and overall ability to achieve long-term financial success (Gudmunson & Danes, 2011; Serido & Deenanath, 2016). Parental modelling is not about immediate teaching. It can already be a parent who pays without communicating with their child, who overall avoids discussing money, or who never involves their child in financial decisions. This still transmits financial attitudes to the child indirectly.

Financial communication within the household has a direct impact on the child's

financial capability. Family socialisation processes, including family dynamics, relational patterns, and financial upbringing, collectively contribute to the formation of the child's financial attitudes, knowledge, and capabilities, with parents being the first source of children's financial learning (LeBaron & Kelley, 2021). Speaking openly about money or it being treated as a private matter shapes not only what children know, but how comfortable they feel engaging with financial topics as they grow older.

For many parents, the barrier to providing this is not indifference but confidence. Research by the Nibud (2023) confirms that there are parents who do want to teach their children about money but simply do not know how to approach it. In this sense, a parent's own financial literacy acts as a constraint on what their child can learn at home, making parental confidence as much a target for intervention as children's financial capability itself (Fletcher, 2024).

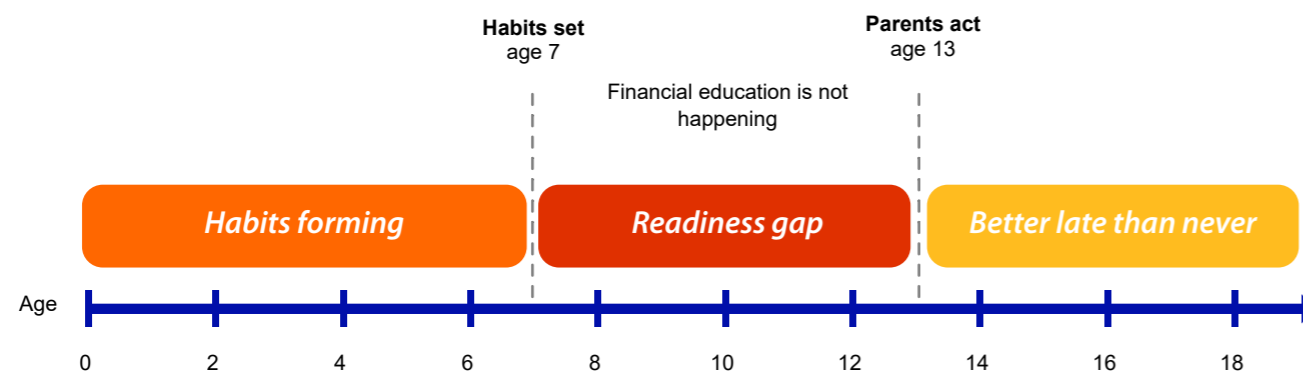


Figure 11: Readiness gap and habit forming

## 3.3.3 Identifying financial friction workshop

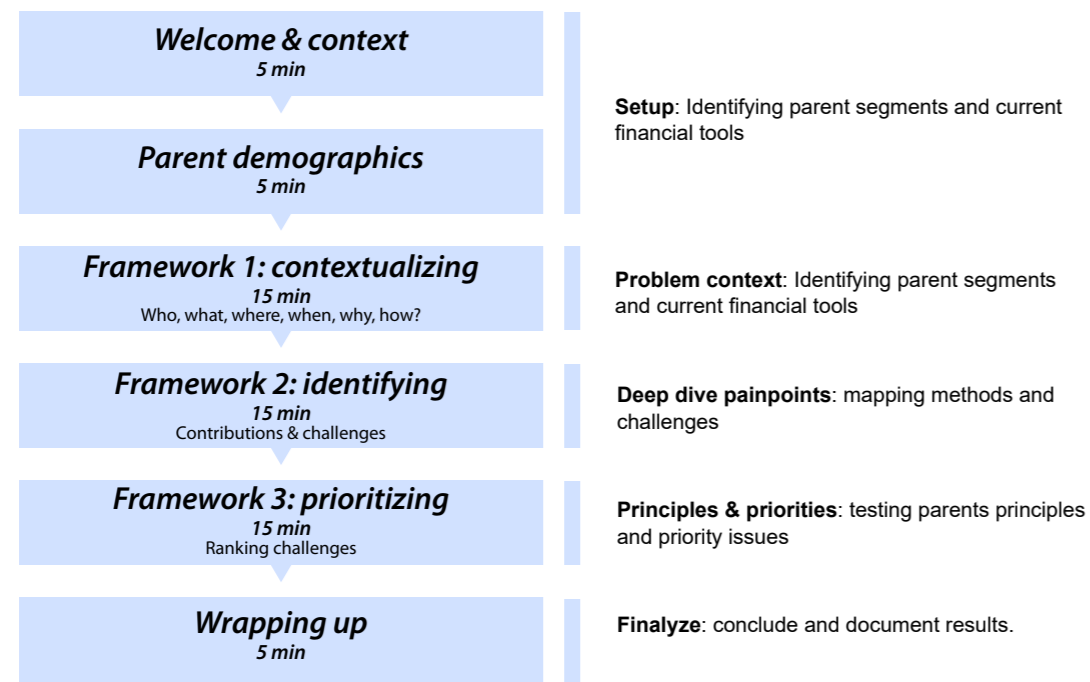


Figure 12: Identifying financial friction setup

As mentioned previously, parents are a big influence in their children's lives as they are part of their immediate environments. Additionally, they are the ones choosing if they want to open an account for their children at Rabobank; that's why it is necessary to consider their wishes and needs.

The workshop setup consisted of 3 frameworks (see Figure 12) that positioned the 4 participants into discussed concrete real-life situations. The first framework consisted of the following 6 questions: who, where, what, why, when, and how. This first framework intends to make the parents think

about in what way their children were involved with money and what parents think that is important for their children to learn.

Based on the first framework, the questions from the second framework could be filled in. Which consisted of: how do I contribute to the financial literacy of my children, and what are the challenges that I encounter? Based on that, the parents had to rank these challenges from easy to very hard. This made the parents think about why they found these challenges harder than others.

Lastly, the 4 different scenarios (Appendix D) were pictured to position them in that situation with the fictive children and know

their principles as parents. Based on this, the following results came through:

### Value of Money

Parents try to make their children aware of the value of money by letting them manage their own money and applying the rule "You can only spend it once" This helps the children to understand that money is a finite resource that doesn't automatically replenish. If the children want to earn more money, they are often allowed to contribute to extra chores, which teaches the children to work for their money. Parents often try to explain the costs of fixed expenses, and children often understand by comparison, though the topic of money is not always addressed at the same instant by parents because they sometimes see the money as unfit to address their children's concerns or questions.

### Physical vs. Digital Money

Parents mainly make use of physical money for their children because it helps children understand the value of having it in their hands. But as they grow older they try to implement digital money so that they can get used to having the combination of physical and digital money, also some parents find it easier to transfer money to their children accounts as they might not have physical money laying around, but they found difficulties as most of the children between the ages of 5 tot 12 don't have full acces to their digital saving accounts and it is only checked occasionally though the parents devices. They also pointed out that having

the money physically was something that their children really enjoyed, as it gave them the feeling that the money was theirs

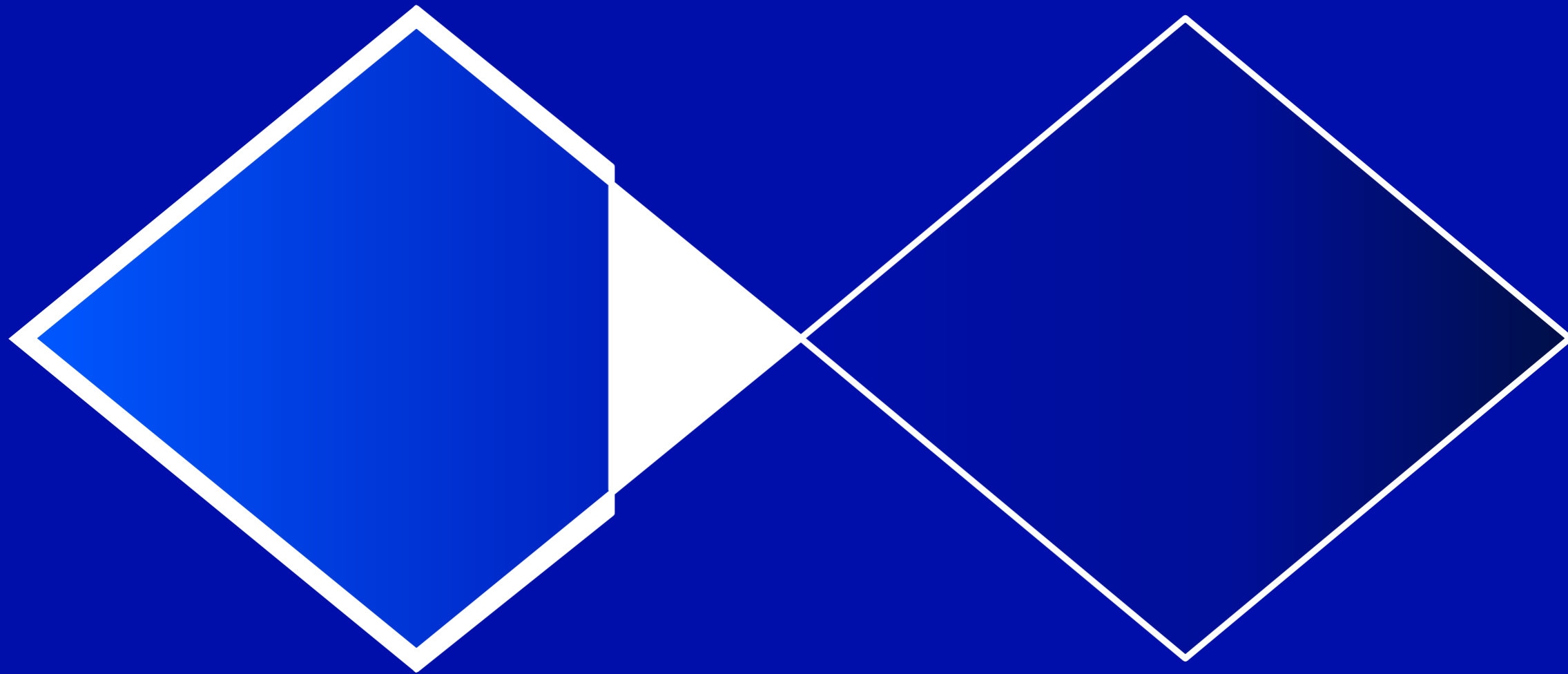
### Autonomy vs. Rules

Parents encourage children to manage their money autonomously, but also want their kids to make the right decisions. Parents also notice that every child differs a lot in their character.

Some children are naturally frugal and thoughtful, while others are more reckless and need more learning money (experiencing the consequences of bad financial choices firsthand).

While a sample size of four parents might seem limited at first glance, the primary objective of this qualitative exploratory research was not statistical generalisation across an entire population. Instead, the focus was on gaining deep, contextual, and empathetic insights into user behaviours, mental models, and emotional frictions.

# Define



This phase consists of making the problem concrete to have a clear idea of who I am designing for, which includes personas of the target group and redefining the problem. Where we establish Rabobank's goals with the children and the parental needs and requirements. A design goal is defined to establish when my design is successful.



# 4 *Defining the problem*

- 4.1 Discovery interviews
- 4.2 Personas
- 4.3 Redefining the problem

In this chapter, the problem is redefined by conducting discovery interviews that provided the insights to shape this target group. From there, different personas were created to better define the target group. And finally, different requirements and needs are considered from the standpoint of Rabobank, but also the children's needs and requirements, as well as the parents' must-haves, to establish a new design direction.

## 4.1 Discovery interviews

To better understand the target group, initial unstructured discovery interviews were conducted with a different type of demographic to uncover insights from parents of 7 to 12-year-olds. A discussion with 5 parents gave insight into the following findings:

***"I never really thought about teaching my kid about money yet; they learn about it at school. It isn't something that I am currently very worried about"* - Parent of a 7 year old**

Parents indicated not being actively involved with financial matters and their kids, proving that the age gap is something that is found in reality too. Some mentioned not worrying because "school got it handled", and some even showed some discomfort in addressing financial matters. This delay in action directly validates the existence of the readiness gap. While parents believe that financial education is important, many are not actively providing it at younger ages, often waiting until it is too late.

***"Honestly, we don't really talk about money at home. I wouldn't even know where to start with explaining it to them."* - Parent of a 9 year old**

During the sessions, it also became apparent that parents are not aware of where they can find information about financial skills or how much pocket money they should give their children. Some mentioned giving them their age in euros per month, but they are not aware if this is too much or too little. This clearly confirmed that it is a matter of not knowing instead of not wanting to.

***"I'm stuck between wanting him to be independent and being terrified he'll accidentally spend all his savings online."* - Parent of a 8 year old**

Finally, what became highly apparent is that many parents did not allow their children to use personal phones or tablets. This leads to the children having to use their parents as an intermediary just to see their digital banking savings. Of course, this might not apply to all households as parenting styles differ, but overall, there was a distinct concern regarding kids having too much screentime and the internet being a dangerous place where their children could be vulnerable targets. Some explicitly mentioned having bad experiences with their kids wanting to buy items often promoted by influencers, and their children being sensitive to that. Therefore, they limit access to the internet for their children, mentioning that some parents had experiences with their children being scammed through websites like Marktplaats.

Additionally, parents noted that even within the same household, siblings often exhibit completely different financial behaviours and attitudes. While one child might be naturally patient, focused, and good at saving, their sibling might prefer immediate gratification, spending their money impulsively without much forethought. On the other hand, some parents highlighted that certain children show a highly entrepreneurial mindset, actively coming up with creative ways to earn extra income. This variance clearly demonstrates that financial personalities differ vastly from a young age, proving that children are very different.

These insights raise a fundamental question: where should the line be drawn between protecting a child from financial harm and allowing them the freedom to learn through their own mistakes? Creating the right balance between security and experiential learning represents a design challenge in itself. Furthermore, creating a single solution that attempts to adapt to every type of child may simply not be viable. Because children exhibit such different financial behaviours and personalities from a young age, designing an effective tool to address all types of children would require an adaptable approach; attempting to design one universal system for everyone is impossible.

## 4.2 Personas

### Lukas van Dijk

Lukas is a 44 year old dad that works as an IT developer and lives with his partner. He considers himself ok with money, he has a mortgage and saves monthly but hasn't thought about when or how to start teaching their children about finances. He assumes school will cover it and that there is enough time.



#### Frustrations

- Does not know when or where to start a conversation about money
- Worries about their child having too much digital access at this age.
- Assumes all financial education will be covered by the school program.

#### Motivations

- Wants to feel like a responsible and informed parent
- Wants to give his child a good start in life without overcomplicating things
- Wants his child to be more financially informed than he was

To establish a comprehensive understanding of the target audience, user personas were developed. The creation of user personas is a widely recognised method that enables designers to build empathy with users and maintain a consistent, shared understanding of user needs and values throughout the conceptualisation phase (Delft Design Guide, 2014). Establishing a clear definition of the target group is essential for ensuring that all subsequent design decisions directly align with the users' specific requirements.

### The hesitant parent

This persona represents a parent who lacks confidence in their own financial literacy and, as a result, feels unqualified to act as a teacher. They often avoid discussing money because they feel a sense of guilt or embarrassment regarding their own spending habits, leading them to constantly postpone these conversations for a better time that never arrives. While they genuinely want their child to have a more secure financial future than their own, they are overwhelmed by the responsibility. They find themselves in a state of paralysis, wanting to take action but lacking the specific tools or a clear starting point on when, where, or how to begin the education process.

### The limited explorer

The persona representing the child has a natural curiosity and a strong desire for independence and grown-up freedom. They are eager to manage their own resources and participate in the digital economy that they see all around them. However, they face a significant barrier: their parents do not yet trust them with a digital screen, fearing the safety risks of the internet. This creates a frustrating gap for the child, who feels ready to step into the future but is held back. They are looking for a way to prove their responsibility and track their progress without needing constant parental supervision or a personal device.

### Stijn van Dijk

Stijis 7 years old and gets 2€ as pocket money weekly from his parents. Currently he keeps it in his piggy bank but his parents sometimes forget to get cash. They then transfer it to his digital account but he can't check if that is true. Saving up is hard for him because he would rather spend his money on snacks as he sometimes forgets what he was saving for.



#### Frustrations

- Does not know how much he has on his digital savings so he has no overview of his total savings.
- Wants to get involved but is told that it is not the right time.

#### Motivations

- Want to feel in control of his own money and choices.
- Wants to be taken seriously and feel capable.
- Wants to learn new things that feel grown up and independent.

## 4.3 Redefining the problem

### Rabobank goals

Rabobank's strategic goal in the near future is to focus on the 0-30 age group. The goal of Rabobank is not only to attract a new generation of customers but also to retain them in order to work against their current ageing portfolio. Additionally, they want to contribute to sustainable transitions through their innovative solutions. As well as protecting (vulnerable) customers from fraud and scams. And finally, having profitable business models that are sustainable. These are all important actors that need to be considered for the design goal.

### Children's needs and requirements

Now that there is a clear understanding of the context and the target group of this project, the following design requirements for children can be established:

1. Accessible: Children need to be able to start using it with the financial socialisation and education they have received from school up to the age of 7.
2. Safe: It must provide a safe environment where children can explore how to handle money without feeling limited. The child should feel in control of their financial choices, moving from External Regulation (doing what parents say) to Integration, where they begin valuing saving as a part of their own identity.

3. Easy to navigate: Although children need to be able to use it autonomously, they need the possibility to fall back and feel supported whenever they have doubts. The tool should provide clear feedback loops that build a sense of mastery, allowing the child to feel capable of managing their own digital balance later on.

4. Relatedness and cooperation: Children need to be able to manage their own financial environment, but also be able to share with their friends and parents to create a sense of belonging.

6. Adaptability: The solution should be adaptable to the child's growing needs from age 7 to 12 (and beyond). It provides a space where they can explore being autonomous while their competence grows. This can be done through scaffolding (offering more guidance at the start).

7. Desirable: Not only the children need to be able to want to use this solution but also the parents need to be able to see the benefits of the solution motivating them to join Rabobank for the proposed solution.

### Parental needs and requirements

Having addressed the theoretical grounding of the types of parents and basing it on the insights of the discovery interviews, the following parental needs and requirements can be established:

Oversight and Control: Parents need to feel in a position of supported supervision. They require tools to set boundaries, such as spending limits or category restrictions, ensuring the child's exploration remains within safe parameters while still allowing the child to feel a sense of agency.

Security: Parents need absolute certainty that the environment is safe. This means the design must prioritise high-security standards, protecting the family from external digital threats or accidental high-stakes mistakes, allowing the parent to trust the child with the tool autonomously.

Ease of integration: The solution must fit effortlessly into the family's existing daily life. It should simplify tasks like automating pocket money or tracking chores, reducing the mental effort required from parents to maintain the child's financial education.

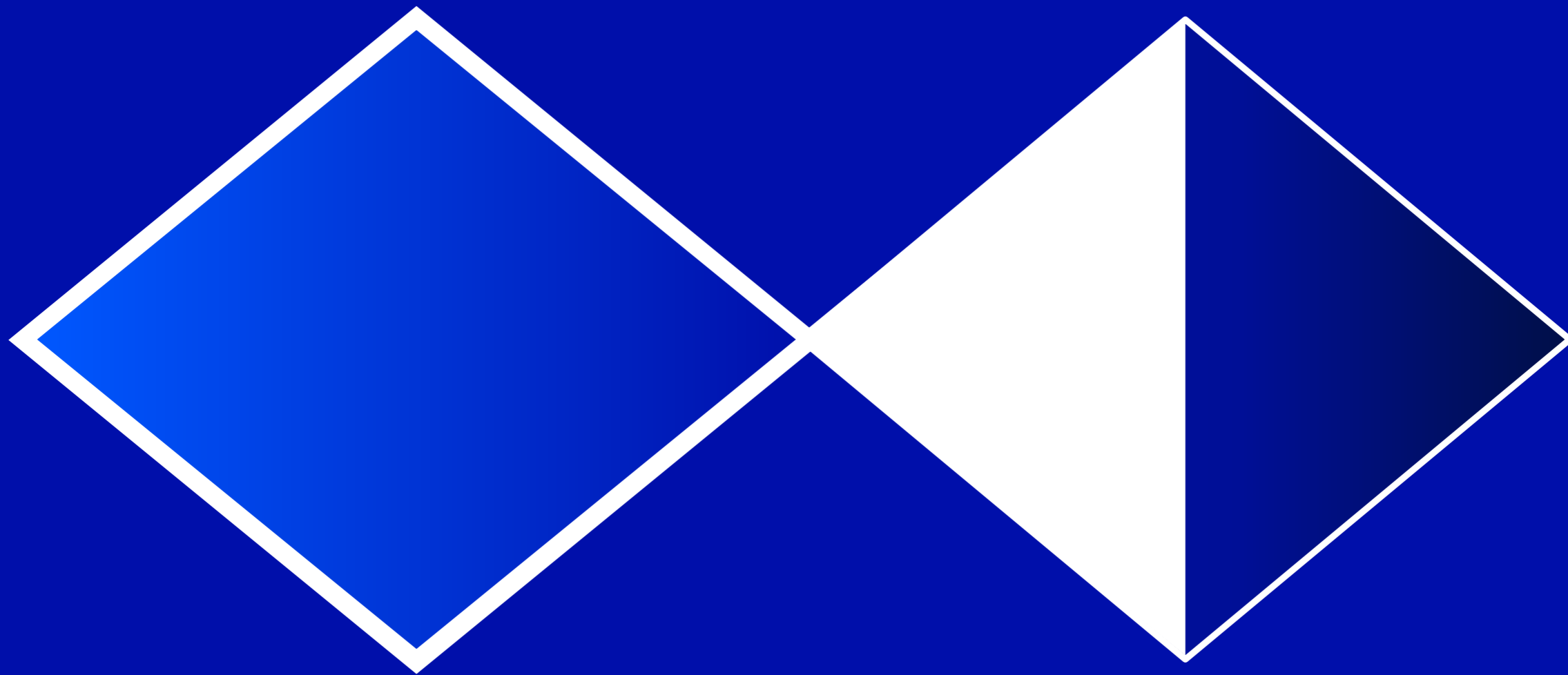
Balanced autonomy: The design must help parents gradually give their children more control over time. It needs to offer adjustable features like task approvals and limit settings that parents can reduce as the child learns to manage money independently.

### Design goal

These organisational, children's and parents' design requirements translate the research insights into a definitive design direction. To guide the next phase of this graduation project, the strategic direction is formulated as follows:

"To design a tangible tool that allows children aged 7 to 12 to have financial access in a safe environment. Contributing to Financial Capability, the aim is to enable safe financial access and create opportunities for children to explore autonomous money management."

# *Develop*



In the Develop phase, solution directions are explored and refined. Using Crawford's screening method, I narrowed down initial ideas into three high-potential concepts for testing. This phase serves as a filter, using feedback from children and parents to select a single, robust idea. This ensures that the final design meets the previously defined design goals before moving into the Deliver phase.



# 5 Ideation

- 5.1 Ideating method
- 5.2 Idea screening
- 5.3 Screened concepts
- 5.4 Concept selection session

In this chapter, the iterative process that forms the basis for the final solution of this graduation project is described. The chapter begins with several brainstormed ideas, followed by the selection method used to narrow them down into multiple concepts, which are then grouped into three distinct concept directions. The prototypes from these directions are presented directly to the target group for testing, after which the user feedback is synthesised and translated, which sets the foundation for the final design proposition.

## 5.1 Ideating method

Having identified the design goals, the project moved into ideation following the framework by Crawford and Di Benedetto (2008) see Figure 13. As illustrated on Page 57 and 58, this started off with generating a high volume of ideas and refining them through progressive filtering.

The funnel began by translating research-driven customer needs into a broad set of product concepts. Guided by the "How Might We" questions:

- How might we make financial education fun and easy for children aged 7 to 12?

- How might we make financial education motivating for children aged 7 to 12?

- How might we give children financial freedom while parents still feel in control?

- How might we provide a safe space where children can experience being autonomous?

Various directions were explored, ranging from physical tools to digital interventions, without immediate commitment to a single approach. This allowed for an open and unconstrained brainstorming phase before any structural selection criteria were applied.

## 5.2 Idea screening

The generated ideas were then categorized per theme in order to be able to do the first screening. The screening consisted of rating each of the themes, as seen in Figure 14, based on the design needs and requirements established in the Define phase using a 1-to-5 scoring system for each requirement. Scoring the themes was based on accessibility, safety, how easy to navigate it can be, how adaptable the designs allow for, if parents could trust this easily, if it is innovative, and if it is a Rabofit. There is a clear distinction, with the average of all themes being 20, the choice was made to discard the concepts that are well below this number. This being the card organizers; though these might seem fun for children, they aren't very adaptable to the children themselves and don't provide a safe environment. In fact, it promotes the use of cards, which most children don't have at this age, and it fails to bridge the digital sensory

void for younger children who still need physical, concrete materials to understand value.

The physical/digital money management theme scored well above the average, scoring 27, so for that reason multiple solutions are going to be tested with the target group. See pages 59 to 62 to see the final selection of the concept ideas chosen to be tested with parents and children.

Concept category	Accessible	Safe environment	Easy to navigate	Adaptable 7-12	Parental trust	Rabobank fit	Innovative	Total
<i>Physical/digital money management</i>	5	3	3	5	3	4	4	27
<i>Saving piggybank challenges</i>	2	4	4	2	3	3	3	21
<i>Creative games</i>	3	3	2	2	3	4	3	20
<i>Teaching systems</i>	3	4	2	2	3	3	2	19
<i>Card organizers</i>	2	1	4	1	3	3	2	16
<i>Saving challenges</i>	4	4	4	1	3	3	2	21

Figure 14: idea screening with scores

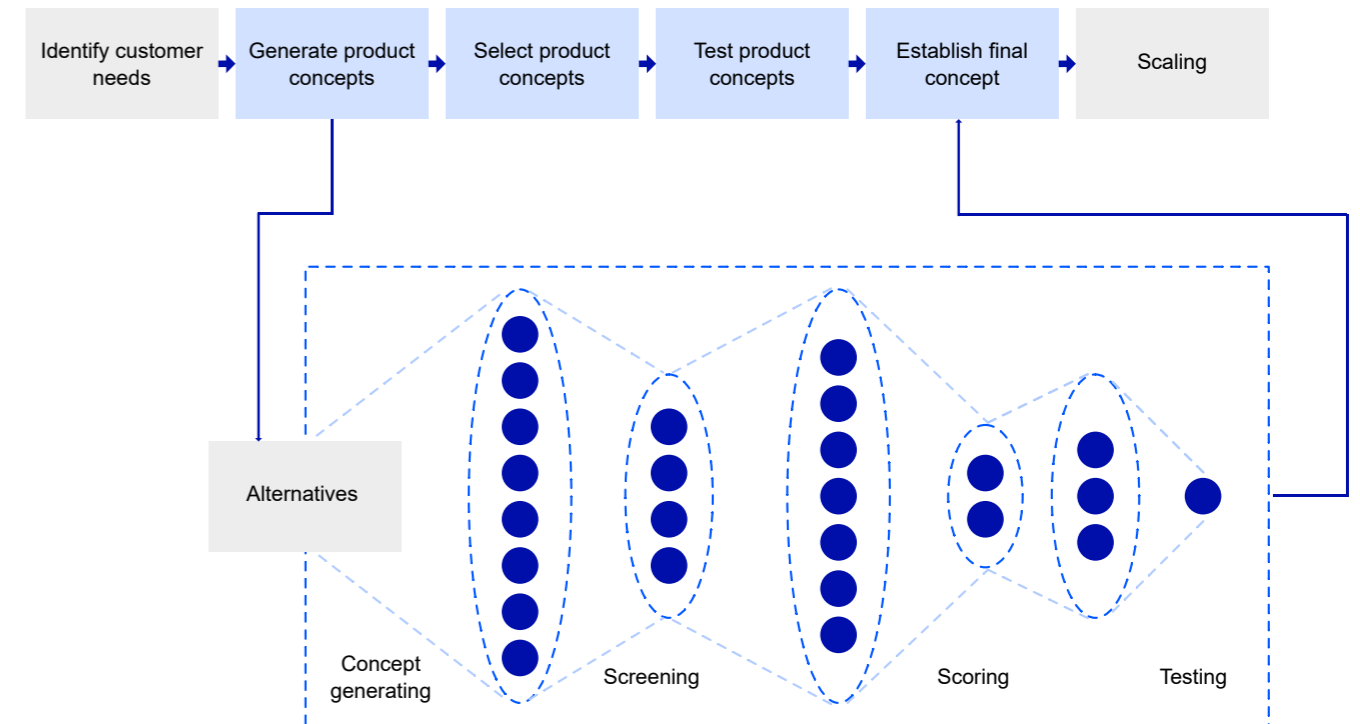
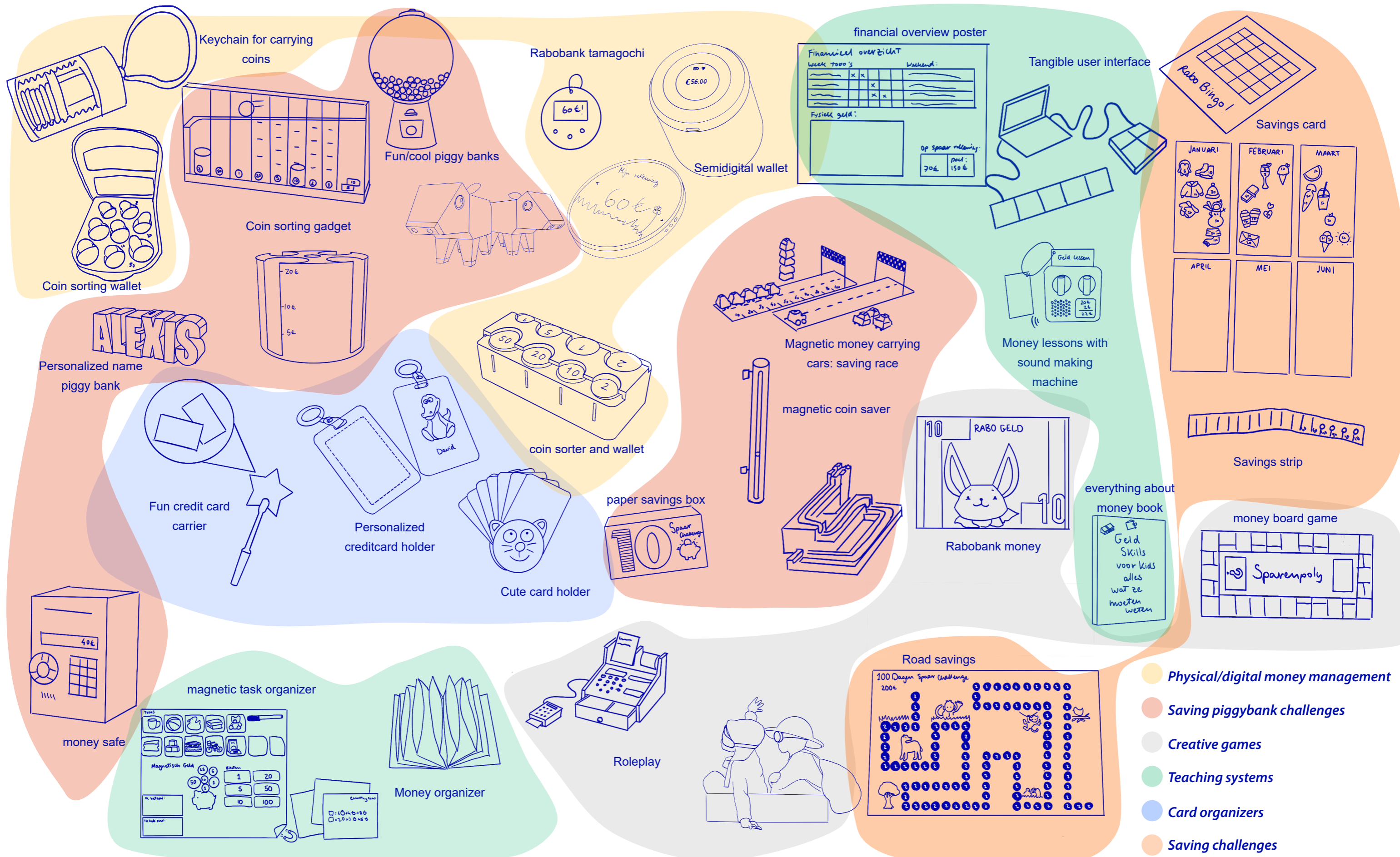
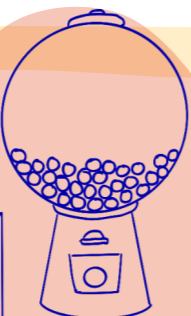
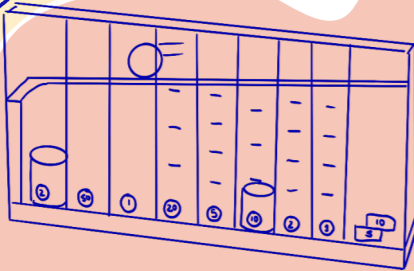


Figure 13: Crawford and Di Benedetto ideation framework



Keychain for carrying coins



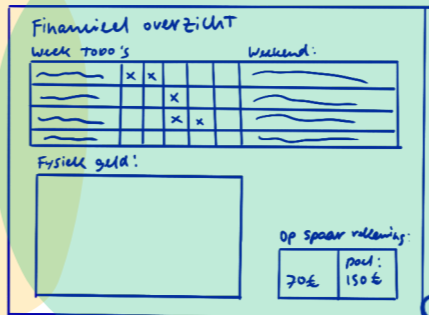
Fun/cool piggy banks

Rabobank tamagochi

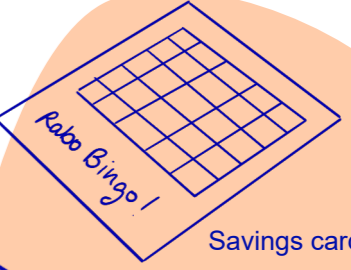


Semidigital wallet

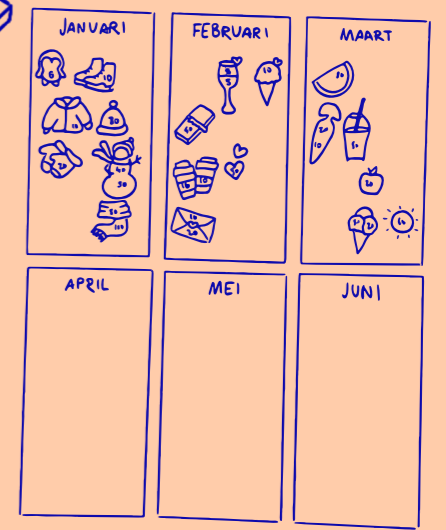
financial overview poster



Tangible user interface



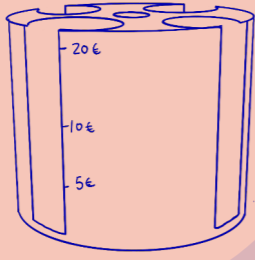
Savings card



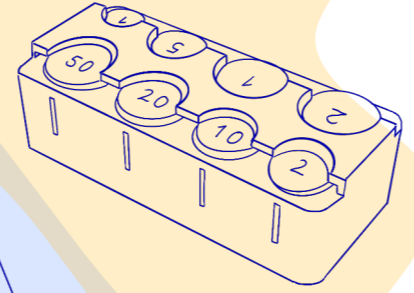
Coin sorting wallet



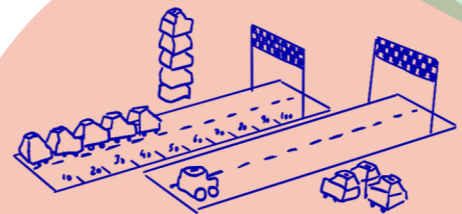
Coin sorting gadget



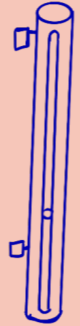
Personalized name piggy bank



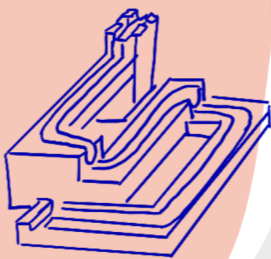
coin sorter and wallet



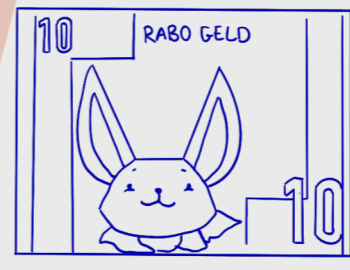
Magnetic money carrying cars: saving race



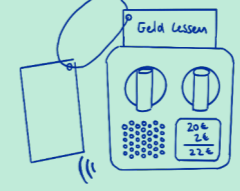
magnetic coin saver



paper savings box



Rabobank money



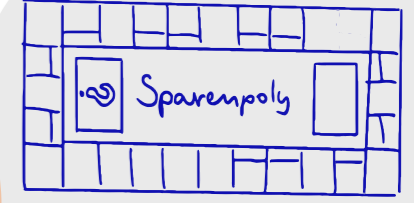
Money lessons with sound making machine

everything about money book

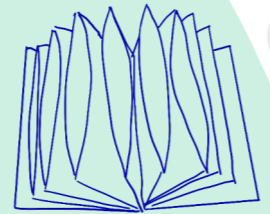
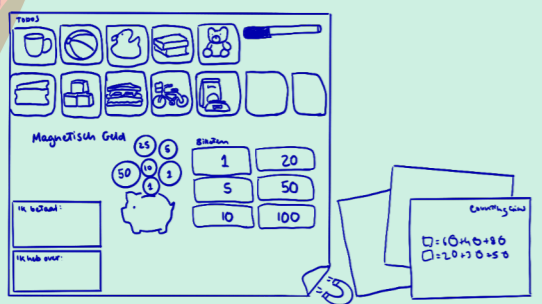


Savings strip

money board game



magnetic task organizer



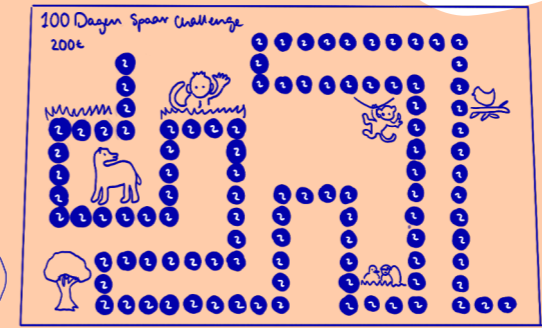
Money organizer



Roleplay

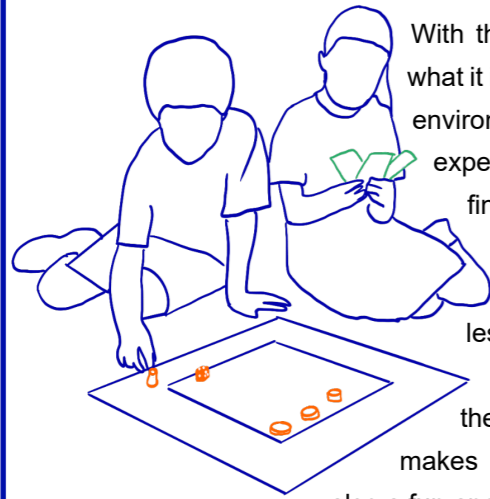


Road savings



- Physical/digital money management
- Saving piggybank challenges
- Creative games
- Teaching systems
- Card organizers
- Saving challenges

### Educational board game



With this interactive board game, children experience what it is like to handle various financial matters in a safe environment. By simulating different scenarios and expenses, they gain a tangible understanding of financial concepts such as interest, saving, and the impact of daily decisions. The game motivates young players to independently apply valuable lessons and immediately understand the consequences of their choices. This strengthens their self-confidence in managing money and makes building financial skills not only educational but also a fun and exciting challenge for the whole family.

## Financial games

With this Rabobank board game, children discover what it is like to handle money in a safe and interactive way. The game motivates them to independently learn valuable financial lessons and make smart choices. This makes learning about money matters not only educational but also a fun challenge for young players.

### Educational role-playing game

In this adventurous role-playing game, children step into the lead role of a story in which they must spend their money wisely to achieve their goals. While the children go on a journey of discovery, the parents take on the role of the bank. This simulation gives children the unique opportunity to practice situations from the 'adult world' in a safe environment. Through this interaction, they playfully develop the skills needed to make informed financial decisions and manage their budget independently.



Figure 15: Group of ideas1 Financial Games

An illustration of a 'Financial Overview' board. It has a 'TASKS' section with a list of items and a 'DAEL' section with a vertical bar and a child's hand pointing to it. The board is titled 'Financial overview'.

### Hanging overview

A large overview for the wall or on the fridge, so that financial matters are visible every day. Use the savings stickers or magnets to make goals concrete. Whether they are saving for a short term goal or a bigger resolution they can update their balance. Making it visually engaging motivates the child to save for their goals. If nothing is spent for a week, a 'bonus coin' from Mom or Dad can be earned in this box. This makes the concept of interest and delayed happiness tangible.

## Financial Overview

With this Financial Overview, your child learns to handle money in a playful way. Set achievable goals together and help your child become independent and responsible with their own finances step by step.

### Savings folder

An organized folder for weekly or monthly use, based on smart systems. The folder can be divided into various categories, teaching children about saving and managing their spending.

An illustration of a savings folder with multiple compartments and a small orange ribbon.

### No cash at home? No problem!

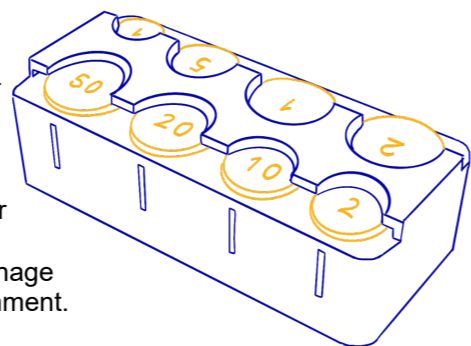
Special coins with different values are included. This allows parents to make the digital pocket money tangible. The child collects the coins at home, and the parents can digitally transfer this amount to a savings account or exchange it for real money later.

An illustration of three digital coins of different sizes and colors (yellow, orange, and red) standing on a surface.

Figure 16: Group of ideas 2 Financial Overview

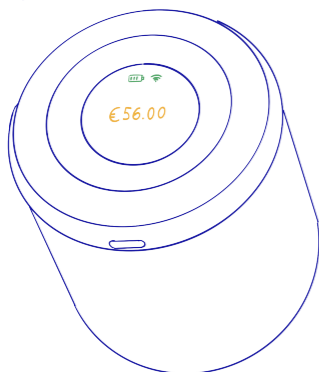
### Portable wallet

This wallet is designed for children to carry with them, ensuring they maintain control over their money at all times. The wallet can be filled with real currency or the provided tokens, which hold a specific value when cash is unavailable at home. These tokens can later be exchanged with parents based on prior agreements. This teaches children how to manage their own budget in a safe and familiar environment.



## Piggy Bank & Wallet System

A system that grows with your child. From physical coins to digital independence, these tools help your child manage their money independently and introduces them to the world of money.



### Digital wallet

This digital wallet provides children with continuous access to their banking data, serving as a secure interface for tracking digital savings. By delivering real-time notifications for weekly or monthly allowances, the system removes the parent's dependency on physical cash. This transition ensures that the 'invisible' nature of digital finance becomes a structured and transparent learning experience for the child.

### Cute piggy bank

A cute personal piggy bank serves as a stimulus for children to retain money instead of opting for instant gratification. Ownership of the piggy bank allows them to visualize their wealth growing incrementally, supporting the development of long-term financial objectives. This provides a tangible learning experience where the child discovers that patience is rewarded and that goal-oriented saving is highly satisfying.

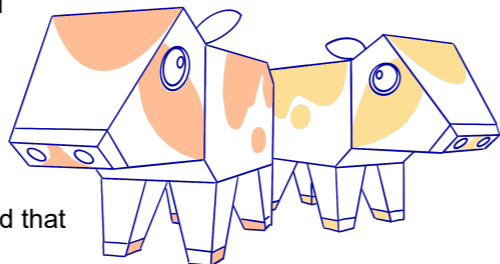


Figure 17: Group of ideas 3 Piggy Bank and Wallet System

## 5.3 Screened concepts

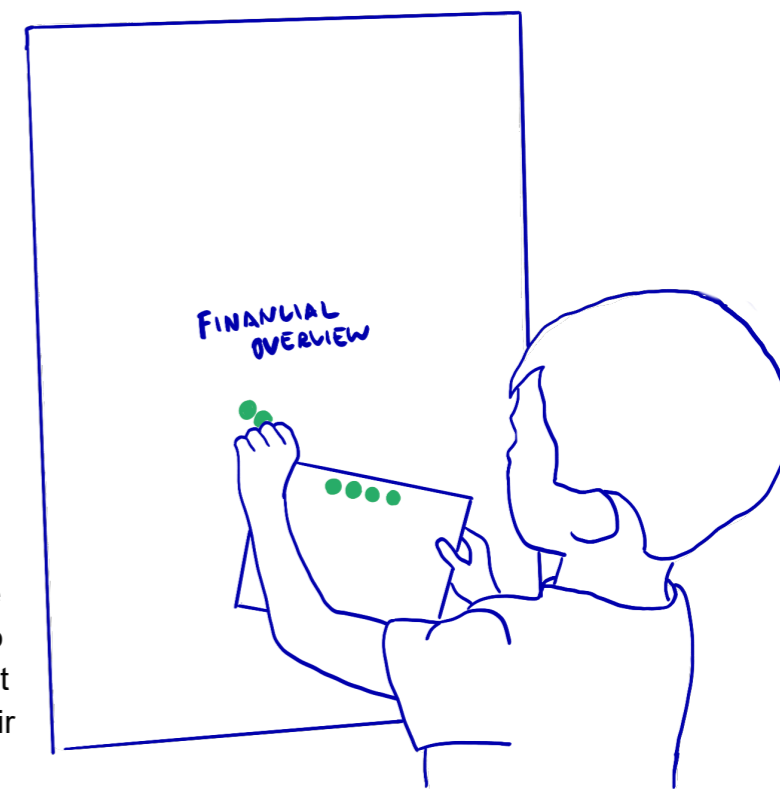
Finally, because not all generated ideas could be selected to move forward into the selection session, the most innovative idea from each theme was chosen to represent its potential, as well as the most functional one, referring back to the "How Might We" questions. By filtering the extensive list down to the most promising ideas per theme, the ideas could be regrouped into the following concept themes: financial games, financial overview, and the piggy bank & wallet system.

The financial games, Figure 15, are more focused on the socialisation aspect of applying financial skills, intended for children to learn through play interactively. The game motivates them to independently learn valuable financial lessons and make smart choices. Making the game not only educational but also a fun challenge for children, this option also allows parents to participate.

Then, the group financial overview, Figure 16, is more focused on practical matters to allow children to gain that independence and improve their

skills by allowing them to budget and save for goals. This could be used with Rabobank coins as well if parents happen not to have cash at home, or if they would rather let their children explore with fake money.

Then, finally, Figure 17 shows the group piggy bank and wallet system. This could be considered cool gadgets, ranging from physical solutions to digital interventions or a simple gadget such as a piggy bank. The variety in these concepts is something that seemed compelling to test in the selection session.



## 5.4 Concept selection session

### Testing setup

This testing served as the final filter in the Crawford and Di Benedetto (2008) process, narrowing the three initial themes down to a single final concept. The study was conducted at a local library to reach a diverse sample of 7 children and 9 adults. To maintain ethical standards, all participants were recruited on site, and children participated only with the explicit consent and presence of a parent or guardian.

The evaluation utilized a comparative ranking system followed by qualitative interviews to uncover the reasoning behind participant preferences. Participants were asked to rank the concepts based on which they could most envision themselves using. This was facilitated by a sticker-voting system: each person could assign three stickers to their favorite concepts across all themes. Participants were permitted to distribute all their stickers within a single theme if they found it particularly compelling.

A1	Educational board game
A2	Educational role-playing game
B1	Hanging overview
B2	Savings folder
C1	Portable wallet
C2	Digital wallet
C3	Cute piggy bank

### Aim

While the research was primarily qualitative focusing on in-depth feedback and emotional responses to the concepts I have also included a quantitative element. Participants were asked to rank their preferences, allowing for a visual overview (Figure 18) of which solution resonated most. This combination ensures that the final design is backed by both deep user insights and a clear indication of the possible preferences.

The aim of this mixed methods approach is to validate and prioritize which elements of each concept appeals most to each user and why. Doing this through a qualitative approach uncovers the underlying values and motivations and helps understand how each concept fits into the daily lives of families.

By using a graph to show preferences, the aim is to provide an objective look at the workshop results. It ensures that the design direction isn't just based on one or two loud opinions, but reflects the collective voice of all participants.

### Results

#### Concepts A1 & A2

As illustrated in the visual overview the feedback from participants indicated that concepts A1 and A2, centered on the theme of Financial Games, were the least appealing options. While several children expressed an initial interest in playing games with their friends, many noted that these concepts felt too similar to games they already own or play, such as Monopoly. Because the experience felt familiar rather than innovative, it failed to spark that interesting element that was needed to keep them excited about the concept.

From the parents' perspective, these concepts felt somewhat vague and intangible. While a game might seem fun, the parents struggled to see the direct educational impact or the practical application. To make these concepts successful, a much more extensive development phase would be required to

bridge the gap between simple entertainment and a tangible financial tool that feels truly original to both the child and the parent.

Though the figure # gives a visual representation of the votes over the different concepts, there is a need to have in mind that the sample size of this concept selection voting was on a small sample size of the population, and it is therefore not representative of the majority of the Netherlands. Additionally, the need to consider that this took place at a library and that the parents involved could also be educationally more involved in the lives of the children than the average Dutch parent.

For Rabobank, it must be considered that conducting the concept selection session across a larger, more socio-economically diverse demographic could have led to entirely different voting results. Consequently, this variation in user feedback could have steered the project toward an entirely different final design solution.

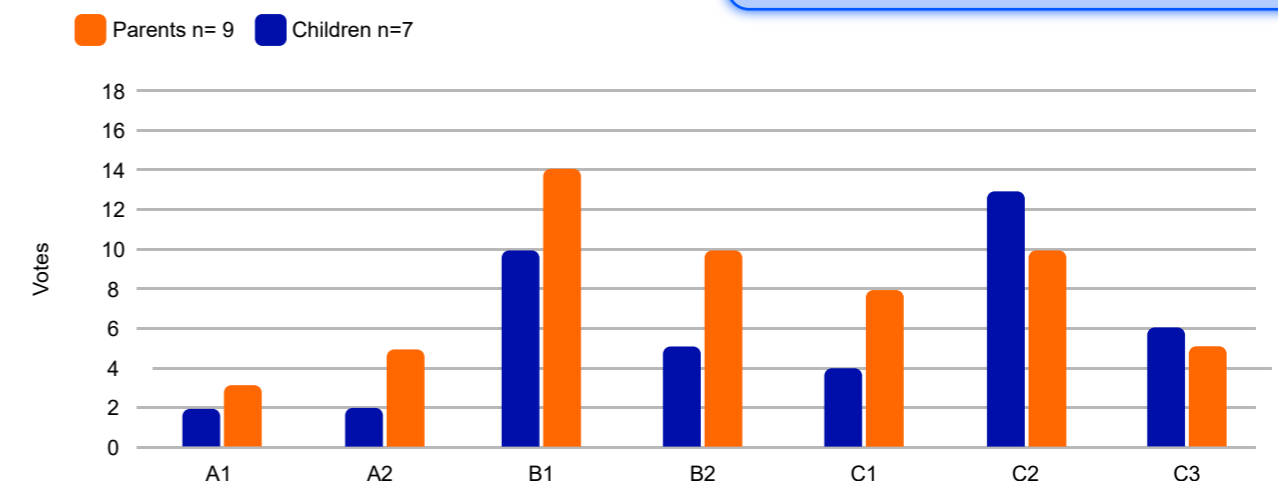


Figure 18: Participant preference distribution

## Concepts B1 & B2

***"A financial overview is something that my child could use and didn't even realize" - Parent***

The financial overview, in general, was something that resonated with not only parents but also children. Some children indicated to be enthusiastic about keeping track of their tasks and feel like the overview is something that might suit their daily lives; some of them indicated that they are already making use of an agenda. This highlights the necessity of structure in homes. This indicates that some children, in particular, are already actively seeking ways to organise their lives and having a financial overview is something that can contribute to this structure, making it a natural next step for them instead of a completely new habit.

***"I like to keep track of the the tasks that I have to do everyday, I usually do this in my agenda too" - Child***

This highlights how some parents did not even consider that their child could already be further elaborating on their financial skills, showing that children are often more ready for this responsibility than parents think. It also confirms that many parents don't know about these options and that they contribute to financial education. They also mentioned that being in clear sight, in a central space for the children, is something that resonates with them, as it is something that they see themselves using more often than concept B2. This removes the barrier for parents to constantly start the conversation themselves, turning money topics into a casual routine rather than a hidden or difficult discussion.

Opportunity: to make this a collaborative way of practising financial skills, parents and children together. Placing it in a visual space might trigger casual lower frictional conversations.

## Concepts C1, C2 & C3

Overall, participants demonstrated the strongest preference for the first and second concepts. While structurally distinct, both parents and children provided clear, contrasting reasons for these preferences.

Parents found the physical wallet easy for children to use, though some noted that the design looked a bit too plain. The children were enthusiastic about the idea of carrying their coins around to buy things, even if they already owned a piggy bank at home. They liked the coin-sorting feature, but parents pointed out a practical limitation: the wallet design is too restrictive if a child accumulates a large number of the same coin (e.g., twenty €2 coins).

***"My parents sometimes forget to transfer my weekly allowance" - Child***

***"I don't know how much is on my digital bank" - Child***

While the physical wallet was appealing, the digital interface sparked the most excitement. Children viewed it as a cool gadget they would want to use. More importantly, the testing highlighted a common household problem: parents prefer digital allowances because they rarely carry cash, but they frequently forget to transfer

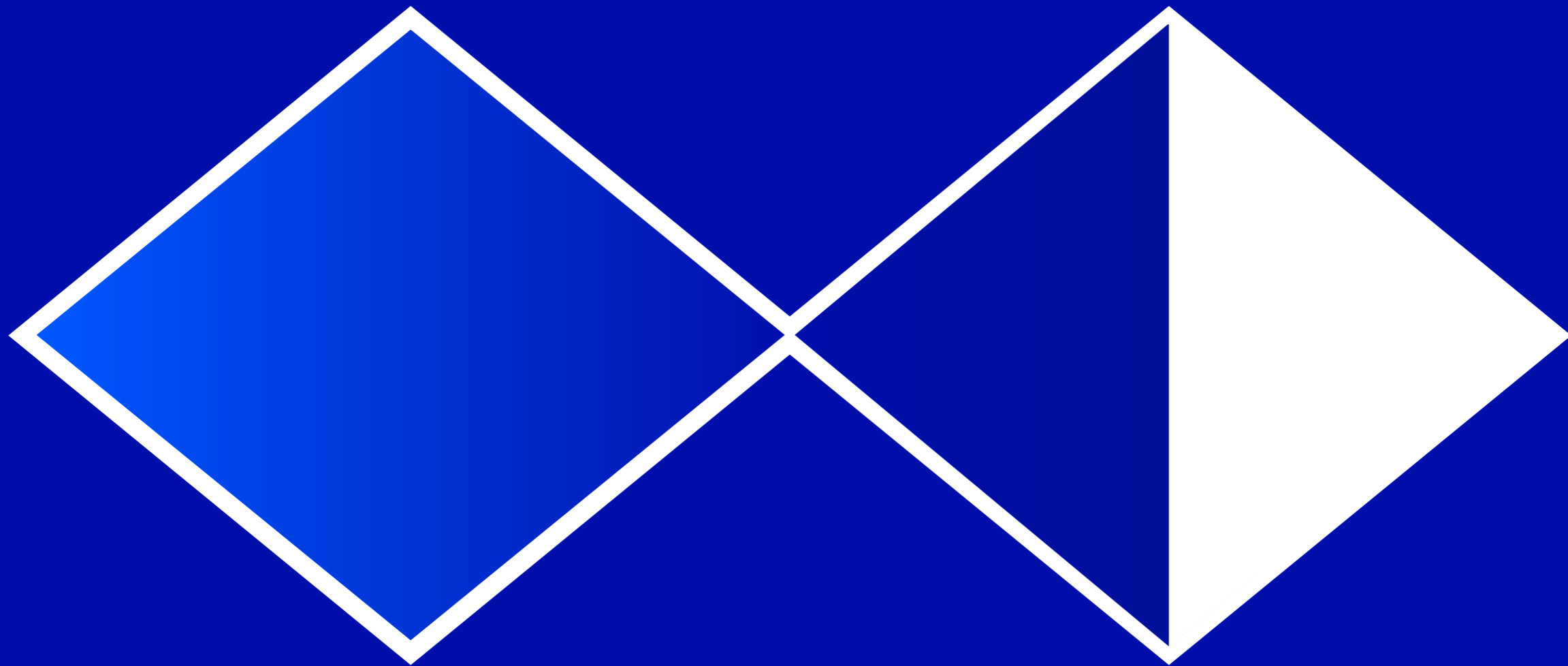
the money on time, forcing children to constantly remind them. Additionally, several children admitted they had no idea how much money was actually in their digital accounts.

***"I already own a piggy bank" - Child***

The physical piggy bank immediately attracted the children due to its cute design though many mentioned already owning a piggy bank, the cute design was something that appealed to them. Parents were also interested but suggested adding a visual display or window to show how much money was inside, making the progress more visible and engaging for the child.

Having gathered this data, I have chosen to combine the best two concepts to develop for my final concept. Trying to combine the best features of both the physical access and digital access. Providing a solution for both the need for an overview that parents and children center in their homes as well as allowing for the child to be able to see their balance at any time.

# *Deliver*



The final phase of the double design method is deliver, where the final solution design is delivered, and insights and feedback from the previous diverging phase will be integrated into one final solution.

addressing the overall goal of this graduation project. A final solution is addressed by integrating all the insights from the gathered information. A proposal is created in order to attract new customers from younger generations for Rabobank, directly addressing the design goal.

In this chapter, the final solution design is addressed. The chapter begins by presenting the final concept of Samen Groeien for Rabobank, developed with the aim of closing the parental readiness gap and engaging the 7 to 12-year-old segment by facilitating those essential conversations between parents and children. This solution synthesises the key insights and elements identified throughout this graduation project.

Following the detailed description of the final solution design, potential collaborations that could strengthen the concept are explored. A validation study is then conducted to comprehensively assess the desirability, feasibility, and viability of the proposed solution based on user and stakeholder feedback. The chapter concludes with a strategic implementation plan, outlining a step-by-step approach for how Rabobank can realistically bring Samen Groeien to life after the completion of this graduation project.

# 6 Conceptualization

**6.1 Final solution design**

**6.2 Possible collaborations**

**6.3 Validation of final solution**

**6.3.1 Validation interviews**

**6.3.2 Desirability**

**6.3.3 Feasibility**

**6.3.4 Viability**

**6.4 Implementation plan**

## 6.1 Final solution design

### Rabobank Samen Groeien

Building on insights from the ideation phases and the concept selection session, the final concept translates the need for financial access, structure, and family involvement into a tangible, semi-digital experience.

The digital ecosystem allows children to always have financial access to digital banking. A fixed tablet with an intuitive, child-friendly interface paired with a parental dashboard provides financial access at all times for children aged 7 to 12. It serves as a space where they can apply their financial knowledge safely.

By visualising goals, the tool allows them to manage household tasks autonomously while at the same time allowing them to engage in collaborative saving projects with their peers or family members. Parents maintain flexible oversight while allowing their children to improve their autonomy.

When a savings goal reaches 100%, the system sends a notification to the parent. This encourages a real life conversation, strengthening the money talk within children and parents.

Rabobank Samen Groeien is a tablet that functions not only as a child-friendly banking environment but also as an essential tool for

families. By permanently mounting the device in the heart of the home, like the kitchen or living room, Rabobank integrates itself into the family's daily lives, supporting the child's growth through consistent exposure and engagement.

The flexibility of it being a tablet is that the app can be adaptable to remain developmentally relevant from ages 7 to 12, adapting itself to the cognitive levels of each child, meaning that Samen Groeien can evolve alongside the child. The content scales with them. For example: a 7 year old may receive fun facts about the physical appearance of currency, while a 12 year old is introduced to more complex concepts, like what are interests.

Research shows that by the time kids reach their mid-teens, their brand preferences are often set for life. That is why Samen Groeien focuses on building a genuine, long-term relationship with the upcoming generations. By focusing on creating trust and meaningful connections early on, Samen Groeien plants the seeds of brand loyalty that will grow over time, becoming a part of a young person's identity moving into their teenage years and then eventually, adulthood.



## Forming habits

The concept combines social motivation and household structure to build financial habits (see Figure 19). Children see the percentage of a goal their peers have reached rather than total currency; this provides the positive reinforcement and social motivation needed to stay consistent. By explicitly visualising daily routines and adding clear structure to the child's life alongside bigger tasks that serve as extra income opportunities, the system establishes structure. This continuous loop allows the child to be consistent about their daily responsibilities and manage occasional, larger tasks, turning repetitive actions into habits.

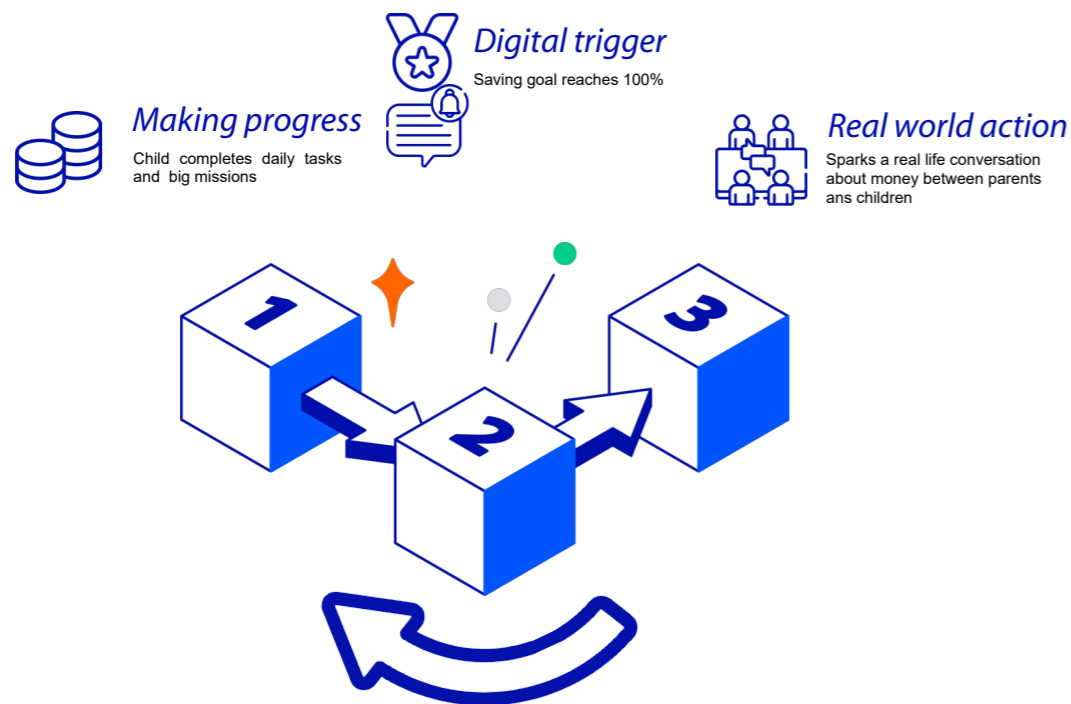


Figure 19: loop for forming financial habits with Samen Groeien

### Centrally located

Facilitates open conversation and prevents alone screen time

### Constant access

Always charged, never lost, encouraging autonomous use

### Rabobank exposure

Brand loyalty from a young age



Figure 20: fixed position Samen Groeien

## Rabobank central

As illustrated in Figures 20 and 21, Samen Groeien positions Rabobank in the child's immediate environment. By placing the tool at the heart of the home, such as the kitchen or living room, the brand is not only known for the family that owns it, but it becomes noticeable for guests coming over, making it a great marketing tool. Rabobank samen groeien provides more than just financial access; it creates a consistent touchpoint for financial literacy and shapes the lives of

younger children, becoming part of their identity.

To maintain this collaborative atmosphere, mounting the device on a wall or stand ensures it remains in an open family space, which naturally facilitates open dialogue and prevents the interface from becoming an individual screen-time activity. Having a fixed, dedicated location ensures the tool is always charged, never misplaced, and accessible at the exact moment a child has a financial question, wants to check their savings progress, or needs to track a task that was just completed.

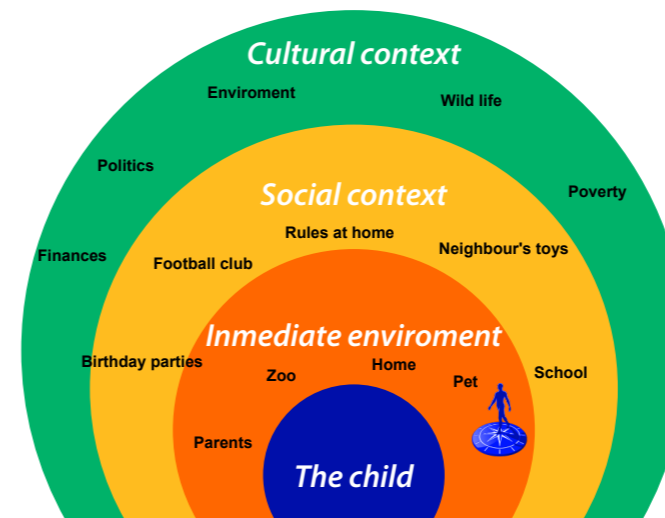


Figure 21: Rabobank's new positioning in immediate environment

## A tool for all

Samen Groeien is designed as the tool that creates a child's first meaningful interaction with a bank, in this case, Rabobank. However, the tool is not only usable by the individual child; the system intends to support the entire family.

It being placed in such a central location at home and the possibilities being so versatile, it has the potential to act as a system that can fulfil extra purposes. Therefore, Samen Groeien integrates other utility features such as a shared family agenda and a collaborative note-taking system. The goal of this is to link financial tracking to familiar household tasks (like checking the weekly schedule), to then normalise the topic of money, making it less intimidating and a natural part of the family routine. It provides parents with a platform to oversee and discuss financial growth in an easy and natural way.

Ultimately, the tool transforms from a solitary banking app into a shared family environment, allowing for financial transparency while still supporting their needs.



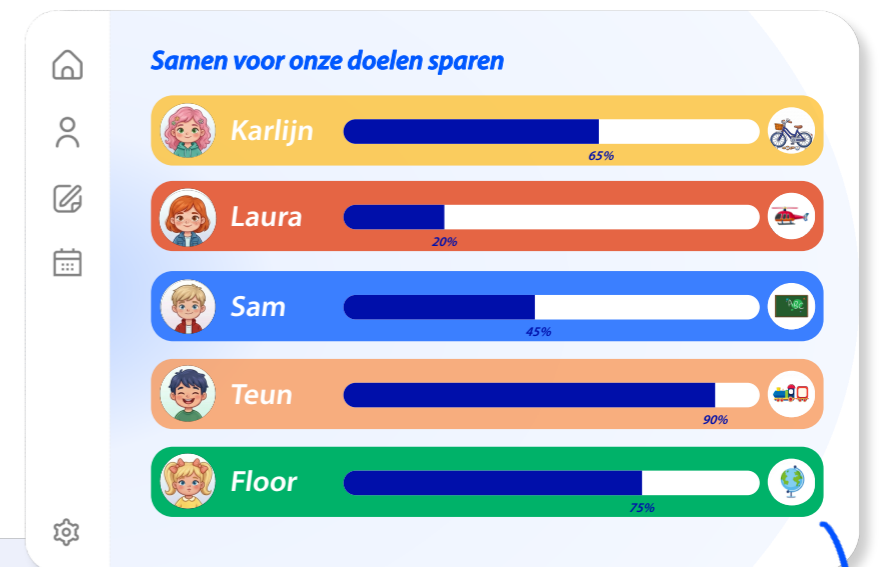
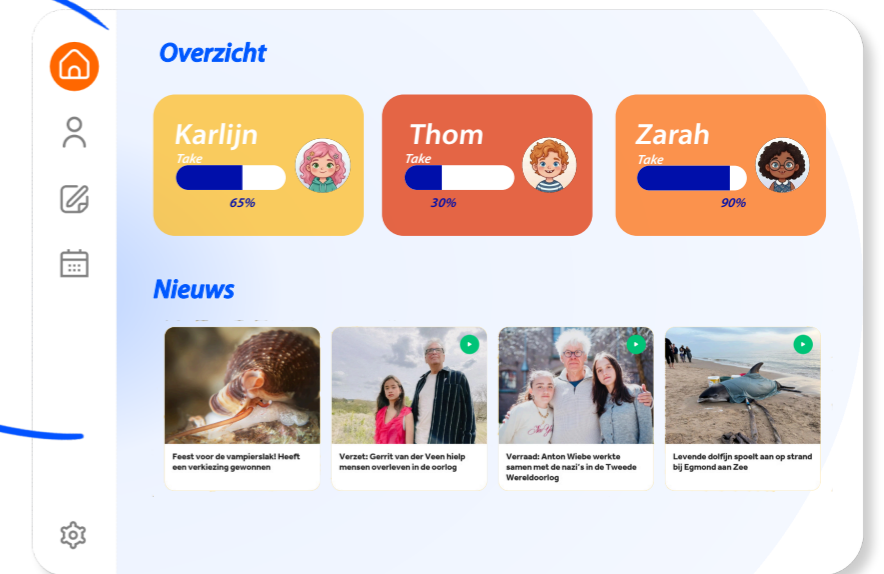
Notes section connected to the app on the phone.



Progress bars to see how many tasks they have completed

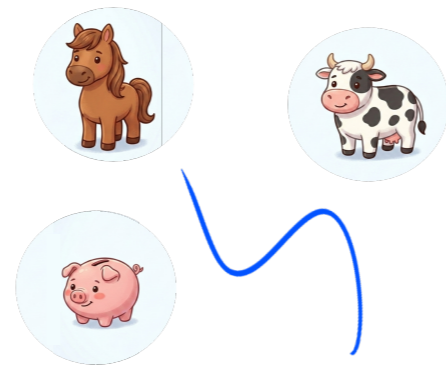
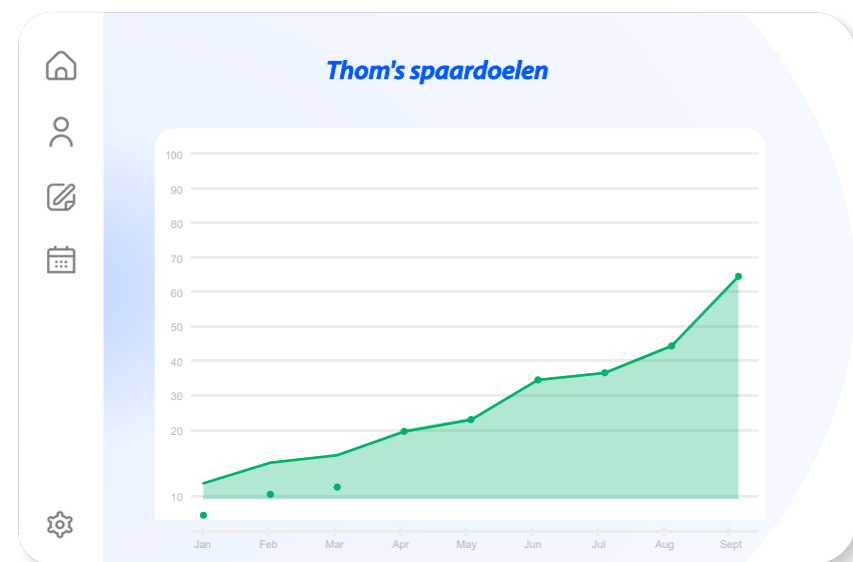
Overview of Het Jeudgjournaal.

A shared clendar for all your family activites or important dates. Helps not only the child with their plannign but the entire family.



See how other friends are doing on their saving goals allows for relatedness and make them feel like they are not saving for their goals alone

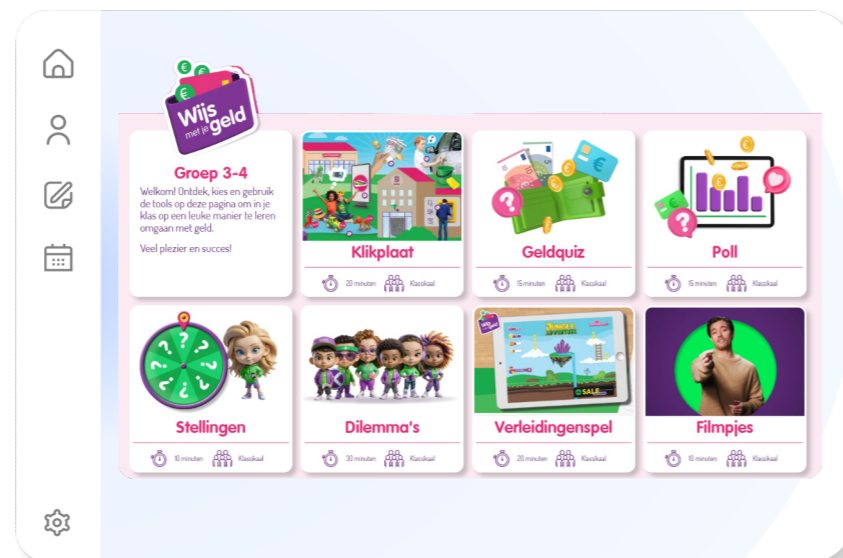
Visual targets and rewards motivate the children to save towards their goal and make them feel productive



Personalization allows for the children to relate more with the design



While being a tool meant for children to have access, the flexibility of Samen Groeien allows for the opportunity of including financial literacy lessons



Designing for financial access

## Interface architecture and functionalities

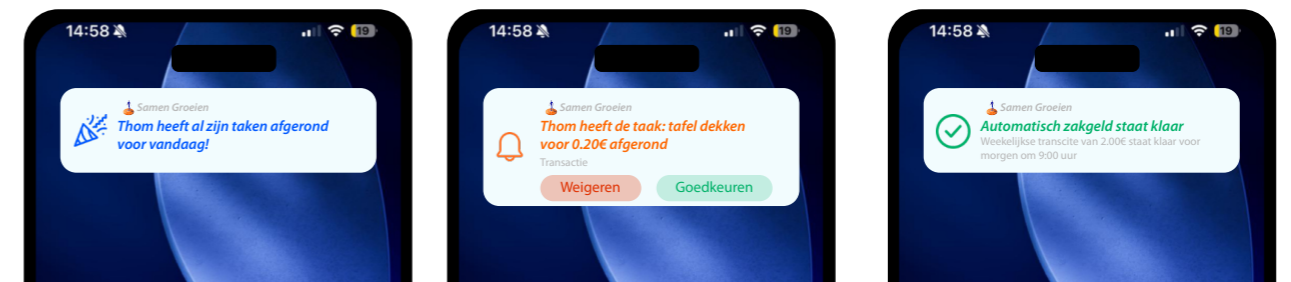
While the child's physical device is built for open exploration and learning, the parental app serves as the bridge between the child's interactions and Rabobank's financial infrastructure. By keeping the management on the parent's personal device, the system maintains its security while giving children a safe space to practice financial autonomy.

The system has a safe banking integration for children that directly links to the parent's account, which allows them to create a child's digital wallet. While the household tablet has boundaries to restrict financial movements to protect the child, the parental app remains the central place where all actual financial actions are managed and confirmed. This means that when a child completes a household task or requests a savings goal payout, the parent receives an instant notification to review and approve the transaction before any digital money is officially transferred. To make the process even more seamless, money automation features allow parents to set up recurring digital allowance payments, ensuring the child receives their weekly allowance automatically if that is something that the family needs; that way, parents don't need to remember to withdraw physical cash if they don't have it at home.

remains relevant as the child grows from age 7 onwards. Notifications also inform parents when a child reaches a significant savings milestone, creating even more financial conversations. Additionally, a built-in task management system lets parents and children easily update and customise the list of household chores, giving them the flexibility to propose specific financial rewards.

To finish off the design, personalisation options that let children customise their goals and avatars. Through this, children become significantly more engaged with the platform, making their Samen Groeien journey a unique and fun experience that allows them to relate to the product.

Beyond transactions, the app gives parents direct control over the educational pace and communication of Samen Groeien. Through the content difficulty settings, parents can adjust the complexity of the financial facts and lessons appearing on the tablet, ensuring the educational information



## Providing access

For Samen Groeien access is treated as a chore design element rather than a simple digital connection. The project facilitates three critical levels of inclusion:

### Cognitive Access

Samen Groeien translates abstract concepts into a visual and tangible language that children aged 7 to 12 can understand. Removing the complexity of traditional banking, makes the concept of money simple and understandable.

### Physical Access

By placing the tool in the home's central living spaces, the child no longer has to ask to see a parent's smartphone to know their balance. Meaning that the child can interact with their finances independently at any time.

### Safe Access

The system provides a safe space for financial exploration. It offers the experience of real-world banking receiving notifications and tracking growth without exposing the child to the risks that are usually found in the real world.



## 6.2 Possible collaborations

## Collaborating with Turff

Collaborating with Turff is a strategic partnership that needs to be considered for this concept. Turff, known for its fixed installation tablet system, mainly focuses on installing them in student housing for free so that students can easily manage their shared expenses on food and drinks. Considering a collaboration with them would highly benefit both parties, especially since Turff currently has about 2,700 active tablets installed, and working alongside a major financial institution like Rabobank would provide them with the necessary support to scale up much faster. This partnership would create a clear mutual value for both companies, allowing Rabobank to make use of Turff's already existing hardware, focused on the manufacturing and installation expertise to drastically reduce the initial costs and technical hurdles of developing its own custom tablets from scratch. Consequently, the bank can keep its primary focus on software refinement and financial security compliance, while Turff handles the physical aspects and expands its reach from student housing directly into the family market, which would significantly increase its overall user base.

From a hardware and installation perspective, utilising Turff's proven model ensures that the final device benefits from permanent mounting systems, see Figure 22 as an example. Integrating this specific mounting setup guarantees that the device will not be lost or damaged. Furthermore, by plugging into an existing operational system, Rabobank can easily adopt Turff's established methods for remote updates and physical maintenance, ensuring that the tool remains completely functional and secure as the child grows from age 7 all the way until age 12.

Ultimately, this collaboration drives strategic growth by creating a powerful, long-term connection between the brands. Children

who grow up using a Rabobank and Turff system at home will already be intimately familiar with the interface and ecosystem when they eventually leave home and move into student housing, where Turff supports them with their finances in another way. This user transition keeps the Rabobank brand present in their lives from early childhood all the way through young adulthood. Because both brands share the core goal of simplifying complex expenses and tracking, working together allows them to create a household management system that works beautifully for both price-conscious students and financially conscious parents.

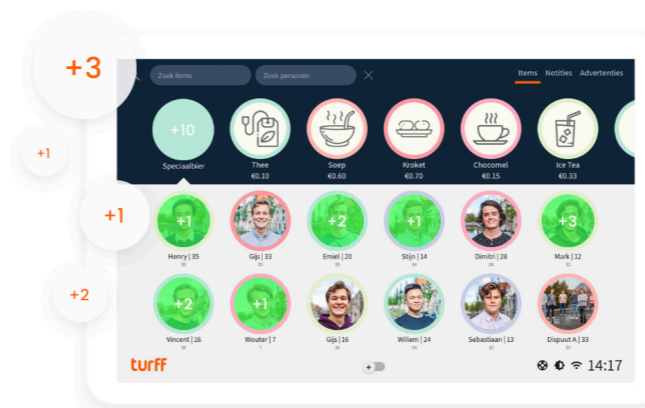


Figure 22: Turff tablet

## Other collaborations

Collaborating with other external partners is something that can also be considered for this concept to further strengthen both the educational and technical sides of the ecosystem. On the technical side, specialised commercial hardware brands like Elo or Aopen could be considered, as they manufacture touchscreens specifically designed to be securely mounted on walls and remain powered on 24/7 in public environments. Partnering with these types of manufacturers would highly benefit Rabobank by letting a dedicated partner take complete care of the technological infrastructure, including ongoing hardware maintenance and remote device management. This strategic separation of tasks allows the bank to focus its entire attention and internal resources on refining

the banking experience and financial security compliance, while the partnering company handles the physical durability of the device.

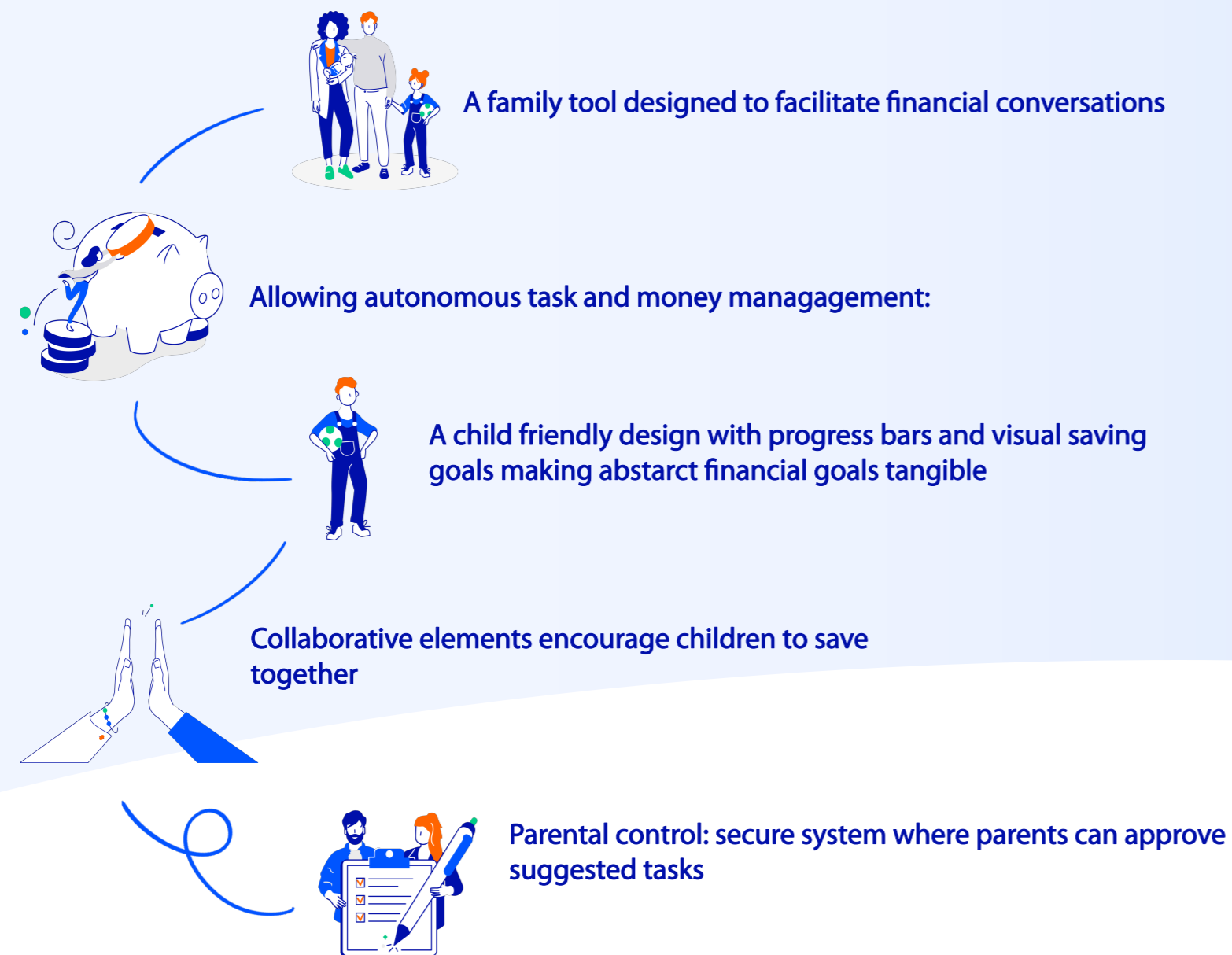
In addition to the technical setup, forming a partnership with a highly trusted national authority like Nibud (Nationaal Instituut voor Budgetvoorlichting) is crucial for validating the financial foundations of the ecosystem. Nibud could provide the independent, evidence-based guidelines needed to structure the savings benchmarks, realistic task rewards, and appropriate allowance amounts within the parental app. Incorporating their official advisory models adds immense credibility and reassurance for parents, who gain confidence knowing that the financial boundaries and habits they are setting align with national standards for healthy financial development. This collaboration also strengthens Rabobank's position as a socially responsible institution that actively combats youth debt and financial anxiety right from the start.

Furthermore, collaborating with an educational initiative like Wijs met je Geld works hand-in-hand with these guidelines to design the day-to-day knowledge plan for the child. They could design the structured, interactive roadmap that determines exactly what financial concepts a child learns and at what stage of their development they learn them, translating Nibud's structural advice into engaging gameplay and daily tips. This combination adds immense value for parents because they are no longer just getting standard financial access for their child; instead, they are investing in a comprehensive household tool that allows their children to have direct access to structural financial literacy at all times. This partnership also drives mutual business growth, as it allows Wijs met je Geld to provide the basic package of knowledge for all standard users, while simultaneously offering parents the option to expand on their children's financial education through premium modules, making the collaboration highly profitable and sustainable for them as well.

# Rabobank Samen Groeien

The digital ecosystem allows children to always have financial access to digital banking. A fixed tablet with an intuitive, child-friendly interface paired with a parental dashboard provides financial access at all times for children aged 7 to 12. It serves as a space where they can apply their financial knowledge safely.

By visualising goals, the tool allows them to manage household tasks autonomously while at the same time allowing them to engage in collaborative saving projects with their peers or family members. Parents maintain flexible oversight while allowing their children to improve their autonomy.



*An early start to safe money management*



## 6.3 Validation of final solution

The innovation process within Rabobank is structured around three interdependent activities: generating creative ideas, creating value for customers, and establishing a sustainable and profitable business model (Rabobank Innovation Framework, Internal). The focus of this validation phase is to answer the question: Does Samen Groeien create real value, and can it be delivered through a sustainable model?

The innovation process within Rabobank is structured around three interdependent activities: generating creative ideas, creating value for customers, and establishing a sustainable and profitable business model (Rabobank Innovation Framework, Internal). The focus of this validation phase is to answer the core question: Does Samen Groeien create real value, and can it be delivered through a sustainable model?

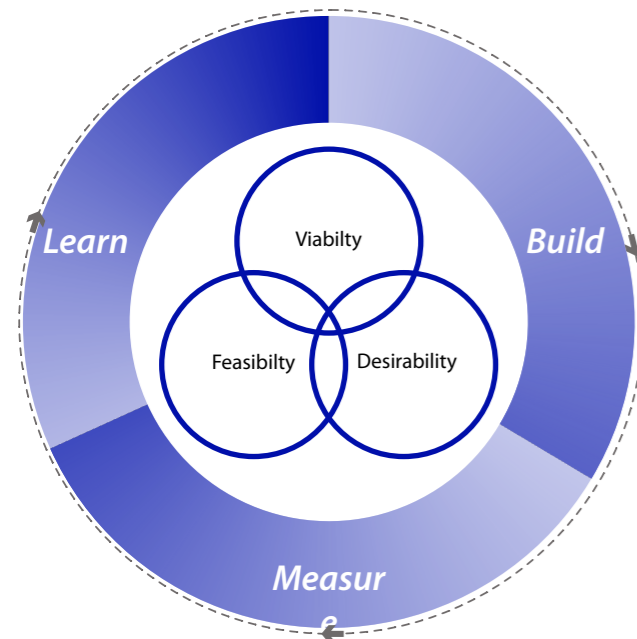


Figure 23: Rabobank's innovation loop

The following validation is grounded in Rabobank's internal Build-Measure-Learn framework (Figure 23), which draws on Lean Startup, Design Thinking, and Agile methodologies. The framework positions innovation as a continuous hypothesis-and-experiment loop, moving through four distinct gates: Problem-Fit, Solution-Fit, Market-Fit, and Scale (Figure 24). At each gate, assumptions are tested and either validated or discarded before progressing further. This project currently sits at the Solution-Fit stage, where the central question is: can we create a feasible and desirable solution that customers will actively engage with?

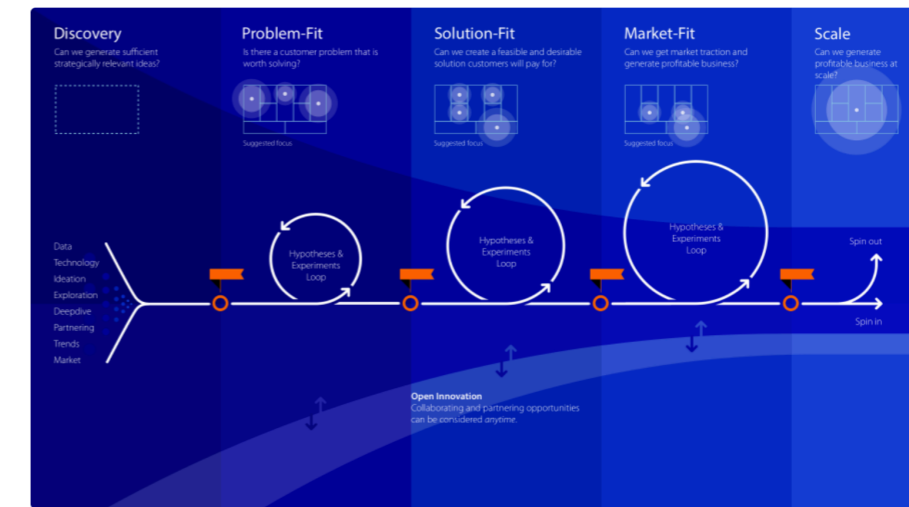


Figure 24: Rabobank Stage Gates

To address this, the Lean Canvas (Figure 25) was first filled in according to Samen Groeien and used as a supporting tool to map the problem, proposed solution, unique value proposition, customer segments, revenue streams, and cost structure. This provided a first structured view of whether Samen Groeien can form the basis of a sustainable business case, serving as a foundational tool to proceed through the upcoming stage gates.

To systematically answer the validation question mentioned previously, the concept was then evaluated against IDEO's three lenses of innovation: desirability, feasibility, and viability. Together, these frameworks ensure that the validation of Samen Groeien is not only a measure of user appeal but a structured assessment of whether the concept is ready to move from Solution-Fit toward Market-Fit, and ultimately toward a scalable, value-creating product within the Rabobank ecosystem.

## Lean Canvas

<p><b>2 Problem</b> List the top 1-3 problems or pain points of the customer segments</p> <p>Children lack safe access to money to learn by doing. Parents struggle to give freedom while maintaining control</p>	<p><b>4 Solution</b> Outline a possible solution for each problem or pain point</p> <p>A tablet that gives children controlled access to money. Parental controls to set limits, oversight, and guidance. Interactive experiences that make learning about money fun and practical</p>	<p><b>3 Unique Value Proposition</b> Single, clear, compelling message that states why you are different and worth paying attention</p> <p>Access for children to apply their knowledge. Combines autonomy for children with control and trust for parents. Helps build financial skills early in life in a safe environment</p>	<p><b>5 Unfair Advantage</b> Something that cannot be easily bought or copied</p> <p>Strong alignment with Rabobank's mission (financial well-being &amp; youth). Trust and reputation of Rabobank as a safe financial partner</p>	<p><b>1 Customer Segments</b> List your target customers and users</p> <p>Children aged 7-12 starting to learn about money skills. Parents who want to teach financial skills in a safe and controlled way. Rabobank as a provider of youth financial services</p>
<p><b>2 Existing alternatives</b> List how these problems or pain points are solved today</p> <p>With cash/physical interactions at home. Youth bank accounts (e.g. Rabo Jongerenrekening). Digital tools like prepaid cards or apps (e.g. GoHenry, Revolut &lt;18)</p>	<p><b>3 Key Metrics</b> List the key numbers that tell you how business is doing</p> <p>Number of new youth accounts (7-12). Engagement (usage of the tool by children &amp; parents). Retention rate. Parent satisfaction &amp; perceived financial learning</p>	<p><b>3 High Level concept</b> List your X for Y analogy, e.g. YouTube is Flickr for videos</p> <p>Combines physical interaction + digital support. Focus on learning by doing. Designed for both child (fun, autonomy) and parent (control, trust). Grows with the child → long-term engagement</p>	<p><b>4 Channels</b> List your path to customers (inbound or outbound)</p> <p>Rabobank app / online banking environment. Parents as primary entry point. Schools, partnerships, or educational initiatives. Marketing campaigns focused on families</p>	<p><b>4 Early adopters</b> List the ideal characteristics of your ideal customers</p> <p>Parents who are already financially conscious. Families already using Rabobank services. Parents looking for tools to teach children independence safely</p>
<p><b>10 Transfer initiative to receiving party</b> List to whom and how your innovation initiative will transfer</p> <p>Implementation within Rabobank Personal Banking (PB). Collaboration with Design, Product, and Tech teams. Ownership by the youth / daily banking domain</p>		<p><b>7 Cost Structure</b> List the most important fixed and variable costs to business model</p> <p>Product development (design, tech, testing). Implementation &amp; integration in core banking systems. Marketing &amp; onboarding for parents and children. Maintenance and support</p>	<p><b>6 Revenue Streams</b> List your sources of revenue</p> <p>Long-term customer acquisition (new young clients). Increased customer lifetime value (early engagement → future banking). Potential for adaptable features or services for families</p>	

Figure 25: Samen Groeien Lean Canvas

## 6.3.1 Validation interviews

To validate the desirability of Samen Groeien and to understand how parents feel about the proposed concept, a series of five validation interviews was conducted. Each interview session took approximately 45 to 60 minutes to complete. In order to make these sessions as structured and insightful as possible, a specific set of core hypotheses was formulated (Figure 26), which directly guided the conversation, while the full, detailed list of the interview questions can be found in Appendix E.

### Interview setup

The setup of the interviews was divided into two distinct parts to test different aspects of the concept. First, the initial hypotheses are addressed during the first set of slides (see Figure 27), where the concept is presented as a standalone tablet. The goal here is to see if parents like the idea of a dedicated tablet for accessibility, specifically aiming to get a deeper understanding of the concept's desirability: do parents trust it enough, and do they feel like they have enough control, even though the tool is designed to give the child as much freedom as possible? It also tests if parents believe their children can actually learn from it, and if the idea of the concept sparking financial conversations at home appeals to them.

The second part of the interview shifts focus toward the physical integration, looking at whether the concept's attached placement is appealing to them by showing them a slide that demonstrates the feature of the device being fixed in place (Figure 28). This part of the setup also questions if privacy is something that concerns them, before finally asking parents if they see a genuine brand fit with Rabobank and if they trust the bank as a provider for a solution like this.

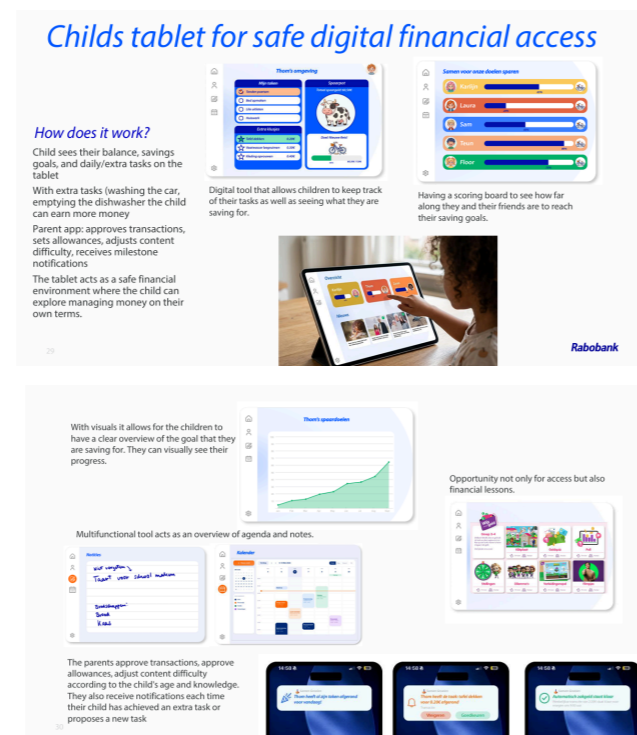


Figure 27: Concepts slides deck part 1

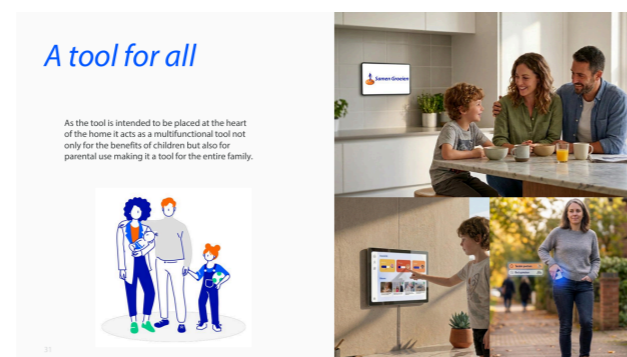


Figure 28: Concept slide deck part 2

H1	Desirability
1.1	Parents find the concept immediately appealing and can imagine it in their home.
1.2	Parents see Samen Groeien as something that adds value to their daily family routine.
1.3	Parents believe their child would genuinely want to use the tool.
H2	Parental trust and control
2.1	Parents feel sufficiently in control through the parental app to let their child use the tool independently.
H3	Financial development
3.1	Parents believe the task-and-reward system teaches children something real about earning and saving.
3.2	Parents see the concept as relevant and growing with the child from age 7 to 12.
3.3	The concept helps parents feel more confident having financial conversations at home.
H4	Physical placement in the home
4.1	Parents are comfortable with a permanently mounted tablet in their living room or kitchen.
4.2	Placing the tool in a shared family space normalises money conversations as part of daily life.
H5	Social motivation & privacy
5.1	Parents feel that showing friends' savings as percentages not amounts is private enough.
5.2	Parents believe the social savings board motivates their child without creating unhealthy pressure.
H6	Rabobank brand fit
6.1	The concept feels consistent with what parents expect from Rabobank.
6.2	The concept strengthens the long-term relationship between the family and Rabobank.
6.3	Parents trust Rabobank as the provider of a financial tool for their child.

Figure 26: Table of hypotheses

## Insights

### (H1) Desirability

While all parents found the concept initially appealing and recognized its value for their families, reaction to the form factor was divided. The physical concept of a dedicated home tablet did not appeal to everyone, leading some parents to note that an app would better fit their lifestyles, especially since many children already own personal tablets.

***"Adding a countdown to save for something like a big purchase would motivate my child even more."***

The visual aspect of the tasks emerged as a crucial driver for engagement. Parents strongly emphasized that clear, visual tracking is what would truly keep their children using the concept frequently. They also noted that adding specific motivational milestones would enhance this experience.

Some parents raised questions regarding the product's long-term relevance as their children grow. Specifically, they wondered how the tool would adapt once a child turns 12 and receives their first smartphone, suggesting that a transition to a personal app format might offer greater longevity, growing together with their child.

### (H2) Parental trust and control

While parents fully support giving their children autonomy, keeping the system

secure, localized, and free from outside distractions resonated with everyone. Several parents noted that if the tool is delivered as an app, they would want a pin-code restriction to prevent children from exiting the application, ensuring they do not wander into other apps or make unauthorized purchases.

The majority of parents highly appreciate having final approval over completed chores. However, they also value flexibility within the system, favoring a setup where children can actively suggest their own extra tasks to earn money.

Most parents mention that while they currently give their children pocket money, they do not actively track how it is managed

***"When my children get a new chore, after a week they don't feel the motivation to do it anymore. Samen Groeien seems like a good solution for this because whenever he wants money he asks: 'Oh, can I do this new chore to earn money?'"***

or explicitly teach financial skills. They believe this tool would fill that gap by serving as a meaningful catalyst, encouraging them to engage in purposeful, structured conversations about money with their children.

***"If there is one bank that contributes to society, I think of Rabobank, so them creating something like this for children is something that completely fits the image I have of Rabobank."***

### (H4) Physical placement in the home

Reactions differ based on existing family habits. For parents who already manage tasks on physical paper in a central location (like the kitchen), a dedicated fixed screen is viewed as highly structured and excellent for sparking daily financial conversations. However, other parents who strictly limit screen time prefer a localized app format on an existing tablet to prevent unsupervised access to other phone apps

### (H5) Motivation and privacy

While parents initially find the idea of saving together with friends appealing, they raise concerns about disparities in allowance amounts. If one child receives more money than another, it could lead to unhealthy competition, meaning the design requires careful consideration. Some parents suggested that saving together with family members rather than peers would keep the focus positive and non-individualistic.

Parents like the collaborative aspect of saving but want to prevent their children from comparing exact earnings. For several parents, displaying progress in percentages is still not private enough. One parent

suggested shifting the social focus entirely away from financial amounts, instead tracking community service hours or shared tasks to emphasize social contribution over monetary status.

### (H6) Rabobank Brand Fit

The evidence indicates that while parents support banks taking an active role in youth financial literacy, it might even be strong enough on its own to incentivize opening a bank account for their children to achieve this. Though convenience and existing accounts heavily weigh in on decision-making. Capturing children's interest early through unique perks is recognized as a historically successful customer retention strategy, and a highly developed educational proposition can tip the scale for parents already considering a change.

The majority of parents feel it is highly appropriate for Rabobank to provide financial tools for children, noting that it aligns perfectly with their socially conscious brand image. However, a few parents expressed a desire for transparency, wanting to better understand a bank's long-term motivations for onboarding children onto digital apps at such an early age.

***"We are currently doubting between two banks anyway, but if Rabobank were to develop this further, the decision would be made just like that."***

## 6.3.2 Desirability

The proposed final design is based on involving the target group continuously. By considering the insights of the workshops, discovery interviews, and concept selection session, the final design directly addresses the concerns that most parents portrayed. This was also addressed in the concept validation interviews, where 3 out of the 5 parents mentioned fully aligning with the design and wanting to know about its development. They mainly responded positively to how child-friendly it was.

However, some parents mentioned not fully aligning with having another tablet in their homes, which also raises the question: Is the design sustainable enough? Further research is therefore needed in order to improve this part of the solution to increase its desirability and align it with Rabobank's brand fit. If Rabobank were to further develop this concept, additional user testing with the target group would be recommended to further refine and validate the interaction and experience in practice.

## 6.3.3 Feasibility

After discussing this with my Rabobank mentor, it is clear that with around 50,000 workers and an annual net profit of nearly €5 billion, Rabobank has the means to realise the concept of Samen Groeien. Several teams are already working on other app-like products to provide more digital services like other competitor banks, so the basic technology and the backend tools are already there.

But to really prove that the team has the physical capability and knowledge to move from concept to execution, we have to look at the feasibility of each part of the concept.

### The interface

Building the actual screens, menus, and tracking systems is highly feasible because Rabobank already has the infrastructure for digital banking. The teams can use existing secure connections and systems already used on the Rabobanks app to link the children's profiles directly to the parents' accounts without having to build everything from scratch.

### Regulatory and safety

Because this is not just a standard digital product but intends to improve children's financial capability, compliance is a major part of the concept, as this targets not only the parents but a younger target group. Dealing with data of children between 7 and 12 years old means we need strict privacy frameworks and parental consent built right into the system to address all legal concerns safely.

### The behavioural aspect

This is the most sensitive layer of the ecosystem. Since research shows that 33% of parents struggle with financial education, the tool needs to actually work from a pedagogical standpoint. Behavioural scientists and child development experts must be involved in the development of Samen Groeien. Adding these experts to the project will not only help design the progress bars, tasks, and visual goals in a way that makes financial concepts truly tangible for kids but also help create a tool that doesn't create bad digital habits. This might mean adding a team of experts on the topic, like behavioural scientists or collaborating with experts at Nibud, to make this aspect of the concept more feasible.

## 6.3.4 Viability

At Rabobank, we innovate because we want to Grow a Better world Together, and because there is a need to future proof current business models and develop new ones. Therefore, the innovation must align with this mission and create future business opportunities.

To verify the financial and strategic viability of the solution, a TAM SAM SOM analysis was conducted (see Figure 29 in next page). This framework is explicitly utilised by the Innovation Team to evaluate the potential scale and economic value generation of new business solutions before full-scale development. Different from commercial products, the calculation for Samen Groeien does not consist of a direct monthly app subscription price. We shouldn't charge a direct subscription for Samen Groeien, because as a corporate retail bank, the monetisation happens indirectly. If we consider Rabobank's innovation drivers (mentioned in Chapter 1.1), the real risk today is losing the primary client interaction to other, more innovative banks. By offering this ecosystem as a free, value-added service, we are not only reaching individuals but entire families. The intention of Samen Groeien is not to build a revenue stream, but to fulfil the innovation pillar: to enrich banking offerings beyond banking and radically transform existing products to make them more attractive to our core customers.

### Cost

Because the solution consists of both a physical interactive device and a digital banking infrastructure, the expenses are divided into hardware production and software development. For the physical component, manufacturing the tablet and integrating standard screen components is

estimated to cost around €45 to €60 per unit when produced in larger batches, which represents a manageable cost for Rabobank. On the digital side, developing the parental application and the child-friendly interface requires a structured software investment. Building a secure app that integrates smoothly with Rabobank's existing backend APIs and complies with financial regulations typically ranges between 50.000€ and 120.000€ for a medium complexity MVP (Minimum Viable Product). Additionally, ongoing annual maintenance are estimated to take up 15% to 20% of the initial development budget. However, it is important to note that these figures are a preliminary estimation based on initial design requirements, meaning that in reality, the actual costs might come out differently depending on the final production scale, unexpected technical integration challenges, or changes in material costs.

### Total Addressable Market

Therefore, in the calculation for the TAM, the Annual Value per Customer is instead defined by the indirect economic value generated for Rabobank.

This is captured through two components: the retention of youth deposits and the increased lifetime value associated with securing the primary banking relationship of the parents, but to make a rough estimation, we could say that these two combined could be roughly 40€ yearly per child as a retention benchmark.

According to data from the Centraal Bureau voor de Statistiek (CBS, 2025), there are 1,436,620 children of primary school age (4 to 12 years old) in the Netherlands. Applying the calculated strategic annual value of €40.00 per unit, the absolute baseline potential of the entire Dutch primary school

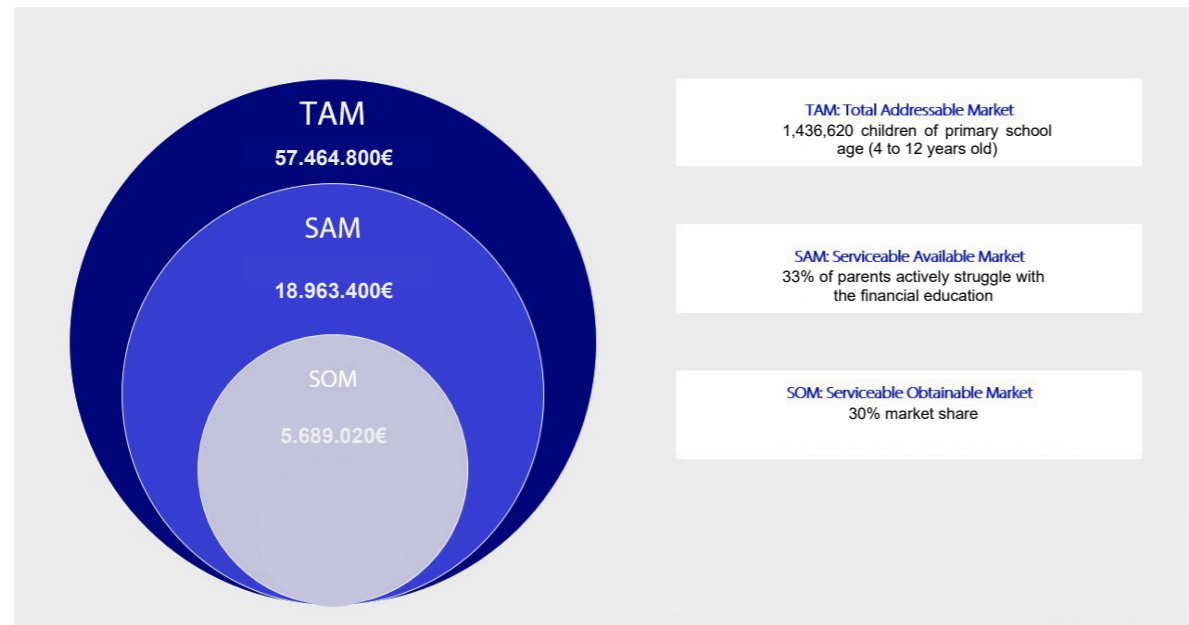


Figure 29: Samen Groeien tam sam som

demographic stands at:

TAM=Number of customers in the market x Annual strategic value

$$1.436.620 \times 40€ = 57.464.800€ \text{ yearly}$$

### Serviceable Addressable Market

Research indicates that 33% of parents actively struggle with the financial education of their children. So the possible user needs and market that could be captured are:

$$1.436.620 \text{ children} \times 0.33 = 474.085 \text{ children}$$

Meaning that the true addressable market is:

$$474.085 \text{ children} \times 40€ = 18.963.400€$$

### Serviceable Obtainable Market

Currently, Rabobank already possesses a market-leading share of the Dutch consumer and savings market, which is estimated at roughly 35.4%. Though it is hard to say what percentage it is exactly for the parents who have opened an account for their children at Rabobank already, we can make a realistic assumption based on the user validation testing. Based on the interviews, where the

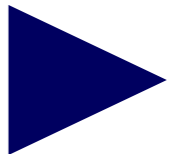
majority of the parents were highly positive about this concept and saw themselves using it, we can assume that the obtainable market within this group would be at least 30%. Using this percentage, the calculation for the Serviceable Obtainable Market would be:

$$18.963.400€ \times 30\% \text{ market share} = 5.689.020€ \text{ yearly serviceable obtainable market.}$$

Ultimately, while the Serviceable Obtainable Market captures a realistic strategic value of over €5.6 million yearly, the long-term viability of the concept relies on its role as a free, value-added service rather than a direct revenue generator. When weighing this indirect value against the estimated hardware production and software implementation costs, the upfront investment is justified by its potential to secure the primary banking relationship of entire families early on. Therefore, retaining these young customers within the Rabobank ecosystem will depend on the bank's ability to continue innovating and responding to evolving expectations in digital financial services, proving that Samen Groeien is not only financially viable but also a necessary step to future-proof the business model.

## 6.4 Implementation plan

To provide a structured and actionable path forward for realising Samen Groeien as a concept that could be realistically implemented, a strategic implementation plan was developed. In Page 95, Figure 30, the planned project can be seen divided into different phases, all incorporating value proposition developers as well as IT developers, UX/UI designers, behavioural scientists, and relationship managers to push the project forward. Figure 31 addresses the timeline for the different phases to be implemented, aiming for full implementation by the end of 2027. It is structured as a progressive overview of the essential hardware and software phases that must be achieved before the final solution can be successfully launched to families.



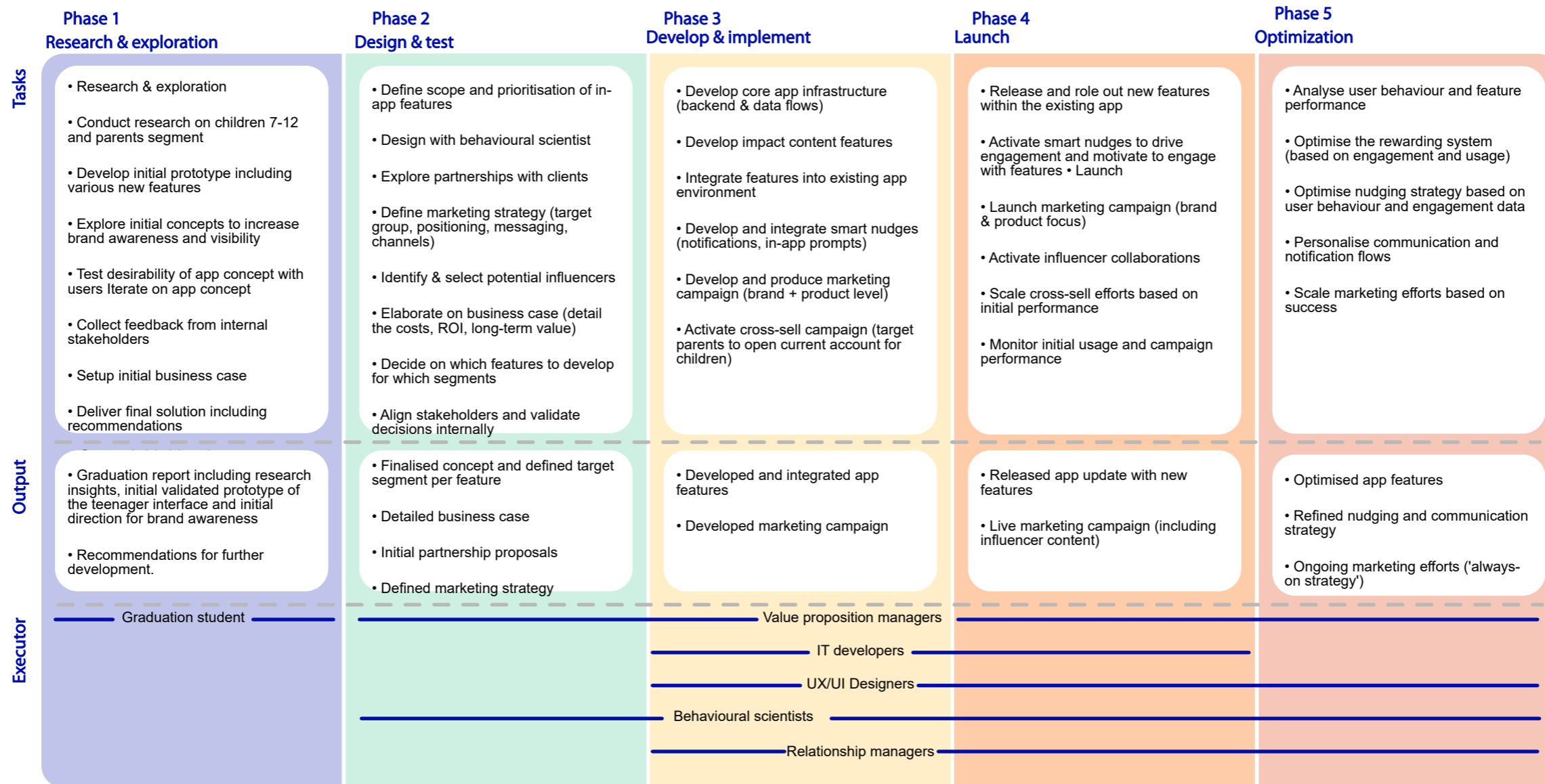


Figure 30: tasks and outputs of implementation plan

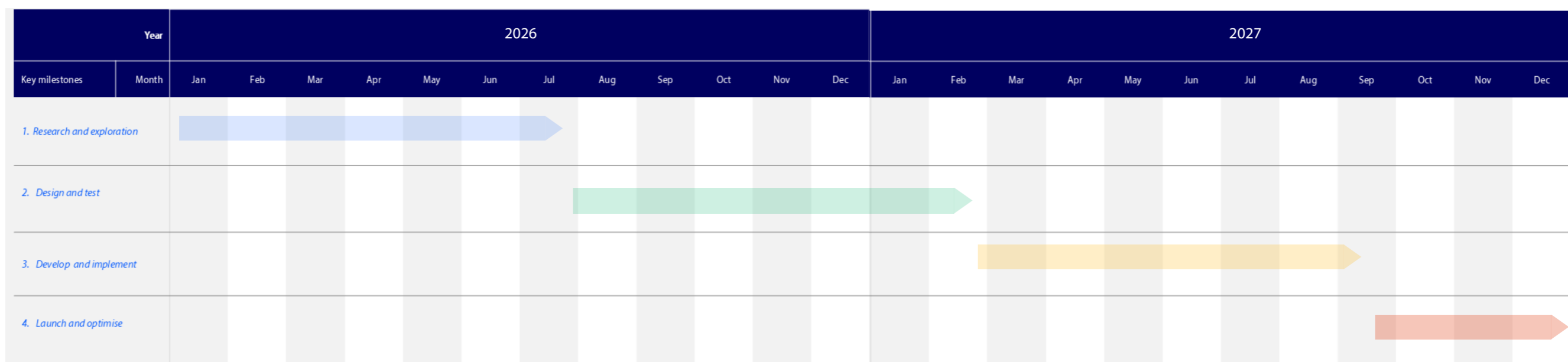
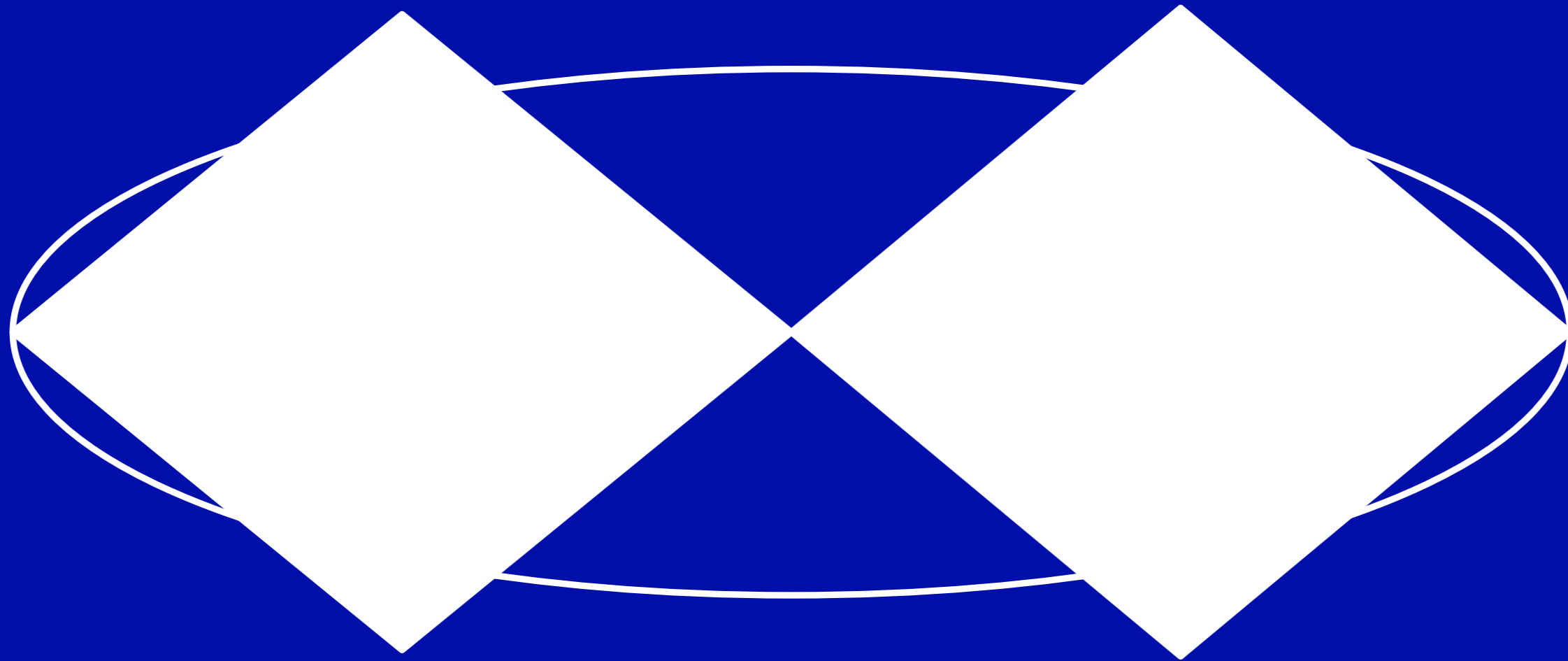


Figure 31: timeline for phases

# *Evaluate*



This phase reflects on the overall outcomes and process of the project, looking back at the journey of developing Rabobank Samen Groeien.



# 7 Evaluation

7.1 Conclusion

7.2 Discussion

7.3 Recommendations

7.4 Reflection

This chapter provides a comprehensive evaluation of the project, bringing together the discussion, conclusion, future recommendations, and a final personal reflection.

The discussion contextualises the project's findings within a broader scope, examining the strategic implementation of Samen Groeien within Rabobank, the bank's organisational readiness, the methodological limitations faced during the research, and the ethical considerations of designing for minors. Following this, the conclusion synthesises the key insights of the project to directly answer the central research question: How can we encourage early financial participation for Dutch children? Building on these conclusions, a series of actionable recommendations is presented to guide the future development and scaling of the ecosystem. Finally, the chapter closes with a personal reflection on the overall design journey, detailing personal growth, key takeaways, and final thoughts on navigating innovation within a corporate environment.

## 7.1 Conclusion

This thesis aimed to design for financial access, allowing children to improve their financial capability rather than only focusing on financial literacy, building towards better habits for them in the future. By shifting the focus from passive knowledge to active, age-appropriate participation, the resulting ecosystem redefines how a retail bank interacts with the next generation of users.

RQ: How can we encourage early financial participation for Dutch children?

Based on qualitative research with parents, children, and internal banking stakeholders, this thesis demonstrates that younger wealth holders are not merely passive savers who just want a digital wallet to store money. Instead, they value interactive, visual experiences with digital transparency, a sense of control over data and decisions, and safe spaces to learn and explore financial choices at their own pace. They need to see and feel the impact of their choices, like setting short-term goals and managing task-based rewards, to make abstract financial concepts tangible.

At the same time, most parents feel unequipped to guide this transition alone, often staying detached from what their children are learning or struggling to facilitate healthy conversations about money in an increasingly cashless society. While the bank currently provides the raw account infrastructure, it fails to offer the pedagogical tools necessary to bridge the gap between parental guidance and child autonomy.

To bridge this gap, Samen Groeien introduces an integrated family financial ecosystem that transforms Rabobank from a passive asset holder into an active educational partner. By embedding behavioural design, shared oversight, and transparent progress tracking into a collaborative interface, the solution empowers children to practice real-world financial decision-making safely, while giving parents a natural framework to guide them. Ultimately, this proves that by designing for early financial capability rather than just basic literacy, Rabobank can protect high-value primary relationships today while securing a loyal, financially capable customer base for the future.

## 7.2 Discussion

### Strategic implementation

Currently, most parents are not actively involved in what their children are learning about money or why it matters. Rabobank's current solutions focus primarily on simply providing the financial account infrastructure for older ages, but they fail to show how much progress the younger target group is making or how to facilitate those essential conversations.

A key finding of this project is that changing how we communicate with parents is just as important as the tool itself. We shouldn't just tell parents what features the ecosystem has; instead, the focus must be on how we can normalise the topic of money at home and make them aware of the massive positive impact early financial education can have on their child's future.

### Organizational readiness

Whether Rabobank can successfully execute this shift depends heavily on internal incentives, long-term leadership support, and the organisational willingness to navigate strict regulatory constraints without falling back into traditional, risk-avoidant corporate patterns. Moving from a transaction-heavy product to a relationship-driven family ecosystem requires a cultural pivot. If the bank fails to adapt to these ecosystem models, it risks losing the primary client interaction to more agile, more modern organisations.

### Limitations

The limitations encountered during the research mainly revolve around the sample size, participant selection, and the overall scope of the user testing phases. Though a careful attempt was made to select a balanced mix of participants for the validation interviews, the relatively small group introduces natural constraints, meaning the findings might not completely represent all kinds of households or different cultural backgrounds. This small sample size makes it difficult to generalise the exact tendencies regarding parenting styles, pocket money habits, or specific screen time rules across the entire target demographic. Additionally, testing and validating complex concepts with children required navigating varying attention spans and compliance boundaries during the sessions. While these qualitative workshops provided deep emotional insights, the parents who volunteered for the user testing are likely already proactive, motivated parents who

deeply care about their kids' development, which might not be representative of all socio-economic backgrounds. Research indicates that 33% of parents struggle with financial education, meaning our insights should be looked at as a localised foundation rather than an absolute rule, as financial behaviours and parenting styles might look completely different in other contexts across the Netherlands.

Another limitation was that the prototypes used for co-creation were low- to mid-fidelity, meaning they were purely conceptual rather than fully functional or technically developed. Because of this, the user reactions mostly reflect the perceived value and immediate concerns of the parents and children, but they do not capture how real-world behaviour would look when interacting with a fully functioning service, nor do they account for potential technical integration issues. Finally, the restricted timeframe of the project limited the ability to conduct long-term physical testing of Rabobank Samen groeien and to measure its actual impacts on families over a prolonged period of time, meaning the insights show a snapshot of current feelings and habits rather than how these behaviours could evolve over several years.

### Researcher bias

Because this project relies entirely on qualitative research methods, it is crucial to acknowledge that researcher bias could have occurred throughout the design process. To mitigate this risk, a conscious effort was made to reflect deeply on every single design iteration. By critically

questioning the underlying "why" behind each choice and anchoring decisions firmly in verified user insights and co-creation feedback, personal assumptions were continuously challenged.

### Ethics

When designing micro-rewards, task tracking, and digital goals for kids aged 7 to 12, a major ethical responsibility arises regarding how these features affect a child's well-being. While the goal of Rabobank Samen Groeien is to encourage healthy financial engagement and teach positive habits, there is a very fine line between helpful motivation and creating addictive screen-time habits. It is crucial to avoid implementing addictive cycles or toxic gamification mechanics that are commonly used in mobile games to keep users constantly checking their devices. If the task tracking or reward systems are too intense, they can easily cause children to feel anxious or hyper-focused on accumulating digital cash, turning a learning experience into a source of stress. Therefore, the design must prioritise mindful interaction, ensuring that digital goals act as a tool for offline, real-world conversations between parents and children rather than a digital loop that exploits a child's psychological vulnerability for the sake of higher app engagement metrics.

## 7.3 Recommendations

Based on the findings and limitations of this project, several strategic steps are recommended for Rabobank to successfully transition Samen Groeien from a concept into a scalable, responsible ecosystem.

Samen Groeien offers an highly adaptable framework that allows future digital features and financial updates to be integrated seamlessly. To successfully attract and retain the younger generation, Rabobank must focus on contemporary branding channels. Following the models of digital-first challenger banks like Revolut, Rabobank should collaborate with vetted family and educational influencers. Associating the platform with trusted, recognizable faces can drive organic adoption and create excitement among children to bring the ecosystem into their homes.

To ensure the concept aligns with Rabobank's core sustainability goals, the tangible hardware component must be managed responsibly. Instead of treating the physical tablets as disposable tech with a standard 5-to-8-year lifespan, Rabobank should implement a circular hardware loop. This includes establishing a refurbishment and trade-in program where growing children can return used devices to the bank. These devices can then be safely wiped, refurbished, and re-distributed to new families, significantly lowering electronic waste and extending the product lifecycle.

Because the ecosystem targets a young demographic, further specialized research is required to evaluate the long-term behavioral impact of the gamification features. The core objective of Samen Groeien is to build healthy

financial habits, not to create addictive digital loops. Developing a harmful, compulsive loop would directly contradict Rabobank's mission of: Growing a better world together. Future development iterations must include rigorous testing with behavioral scientists to establish strict guardrails that balance engaging motivation with healthy, limited screen-time usage.

There is also a need to think about how this design would work with clients that are already a part of Rabobank. The Innovation Team needs to look into whether families are able to acquire this product with an additional cost, if it comes as a bonus for upgrading their accounts, or if Rabobank should give it away as a tool to attract new customers and build long-term value. The implementation plan showing how these phases would roll out can be found in Chapter 6.4.

## 7.4 Reflection

The entirety of this process has taught me that being a designer is not about staying in your comfort zone and sticking to what you're good at, but rather how you handle stepping out of it.

This topic was completely new to me. Although knowing everything that I know now would make me handle things totally differently if I started over, I understand that it is all part of the learning curve. I cannot change the past, and I value the winding path I had to take to get to this point.

The duality of this project, having to design for children from such a young age one day, and then being in such a corporate setting the next, has taught me that I can carry the fun aspects of child-centered design into a corporate environment to make it much more dynamic. It has shown me that it doesn't only matter what you say, but how you say it, especially when combining behavioral human interaction and high-level business strategy. This is a space I have found truly interesting and definitely want to continue working in.

Being able to fully embrace everything that comes with working at a bank made this project so much more fun. From the extra team activities to the casual one-on-one coffee with colleagues to brainstorming different solutions, it has been the most engaging time for me.

Finally, I am deeply thankful to Rabobank for letting me complete my thesis within the Innovation Team. I have learned so much about how design and innovation operate within a major corporate environment, and I genuinely hope to find my way back to them at some point in my career.

**References**

**A - Approved project brief**

**B - Participant consent forms**

**C - School analysis**

**D - Workshop parents**

**E - Final concept validation interviews**



**8**  
**Appendix**

# References

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# A - Approved project brief



Name student Sofie Crsitina Martinez Van't Hoff

Student number 5,085,551

## PROJECT TITLE, INTRODUCTION, PROBLEM DEFINITION and ASSIGNMENT

Complete all fields, keep information clear, specific and concise

Project title Encouraging early financial participation for Dutch children

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 project focuses on the financial education domain and youthful banking. The project centres on children aged 5 to 12 and explores how to encourage early financial habits while positioning Rabobank as the bank that supports this development. Even though digital banking seems to be taking over traditional banking, the priority lies in how we can combine both the physical and the digital aspects of banking, ensuring that children get the tools to learn these skills.

Main stakeholders include: Children who need engaging and age-appropriate tools that help them understand saving, spending, and managing their own money. Parents who want safe and transparent solutions that teach responsibility to their children while still being able to keep a clear overview. Rabobank, which aims to increase its youth account openings as well as build long-term customer relationships, and differentiate itself from competitors such as GIMI and BUUT. Schools and educators who value accessible financial education resources. External regulatory systems, which might need to establish whether the mandatory EU safety measures are being met.

Opportunities in this domain include increasing societal demand for financial literacy, the chance to bridge physical and digital pocket money, and the possibility of creating long-term customer loyalty by engaging children at an early stage of their lives. Co-design with the age group can also lead to more validated and impactful concepts.

Key limitations relate to strict privacy and financial regulations, the wide range of developmental differences within the target age group, strong parental influence, and the need to work within Rabobank's existing technological and organisational constraints. Competition from established child-focused financial apps also sets high expectations for usability and engagement.

→ space available for images / figures on next page



### 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)

Despite increasing attention to financial literacy, many Dutch children aged 5 to 12 lack engaging and accessible ways to learn how to manage their money. Existing tools, like GIMI and BUUT, focus primarily on digital pocket money and are mainly focused on teens, leaving a gap in solutions that integrate both physical and digital spending for younger generations in a way that feels meaningful, intuitive, and relevant to children's everyday lives. As a result, Rabobank struggles to attract new youth account holders and misses opportunities to build long-term relationships with future customers.

The core problem is that current youth banking experiences do not align with children's developmental needs or with parents' expectations for safety, oversight, and educational value. This creates a barrier to early financial participation, limiting both children's learning and Rabobank's ability to expand its younger customer base.

In 100 working days, this project goal is to identify and validate new concept directions that strengthen children's financial autonomy while supporting parental involvement. By conducting research with the target age group, co-creating prototypes, and exploring opportunities within the current market offerings, the project will look for feasible and desirable solutions that increase youth account openings and help Rabobank deliver more value to young families.

### 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:

Investigate and validate a concept direction that enables children aged 5 to 12 to meaningfully engage with both physical and digital money in order to improve early financial participation and long-term customer value for Rabobank within the context of youth banking.

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)

To carry out this graduation project, I will begin with exploratory research combining literature review, competitor analysis, and field insights from children, parents, and financial experts to understand current behaviours, needs, and barriers in youth financial participation. Using these insights, I will define opportunity areas and develop multiple concept directions. Additionally, by implementing co-creation sessions with children and validation interviews with parents, I will iteratively refine and narrow these directions. The selected concepts will be prototyped and tested in real-life or simulated use scenarios to evaluate desirability, feasibility, and the added value potential for Rabobank. The project will conclude with validated design guidelines and recommended concept directions.

# B - Participant consent forms

## 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 would like to take on this project because it involves two aspects that I seriously care about: designing to make a real-life impact and understanding how I can support children in their development and growth. I want to help them gain confidence and their own independence as they take their first steps into the world of banking. Additionally, I believe that this project aligns well with my major, Strategic Product Design, where I've learned to combine research and strategy, among many other things, to improve the users' experiences.

With this project, my goal is to grow even more as a designer and further perfect the way I analyse and understand the users' behavioural habits as well as their needs and wishes. I want to be able to translate any findings and implement them into validated concepts. Working with a younger target group is something that really interests me as well as it teaches me how to approach their different needs and ways of communicating. My goal is to be able to balance the different expectations involving Rabobank, the parents and the children and do prototyping and testing to get feedback and be able to implement it as in the process as quickly as possible.

Overall, this project feels like the right challenge to grow as a designer and create something that actually supports young children in their personal growth and development.

## Participant Information/Opening Statement

You and your child are being invited to participate in a research study titled "Encouraging early financial participation for Dutch children." This study is being conducted by Sofie Martinez Van't Hoff from the TU Delft in collaboration with Rabobank.

The purpose of this research study is to understand how we can teach children in a fun and engaging way how to save money. We are asking for your consent for your child to participate in a co-design session (approximately 45–60 minutes) where they can contribute creatively, giving their insights on what financial concepts seem most fun and engaging for them. The data collected will be used for the publishing of a Master's Thesis Report.

As with any research activity, a minimal risk of a data breach is always possible. To the best of our ability, your child's identity and answers will remain confidential. We will minimize any risks by pseudonymizing participant names and blurring faces in any photographs taken. All data will be stored exclusively within the secure TU Delft storage systems (OneDrive/Teams), accessible only to the TU Delft research team. No identifiable data will be stored on Rabobank systems or personal devices.

To promote transparency and future research, the fully anonymized data (from which all personal identifiers such as names and recognizable faces have been removed) may be made available as Open Data in a secure public repository. This data will be used for academic purposes only and cannot be traced back to you or your child. If you or your child choose to withdraw, any identifiable data collected up to that point will be deleted, unless it has already been anonymized and incorporated into the final analysis.

Raw data containing personal identifiers (such as names and unedited photos) will be deleted after 6 months; anonymized research findings will be retained as per TU Delft policy. Your child's participation is entirely voluntary and they can withdraw or omit any activity at any time without consequence.

Contact details of the Corresponding Researcher  
Name: Sofie Cristina Martinez Van't Hoff  
E-mail: [scvanthoff@tudelft.nl](mailto:scvanthoff@tudelft.nl)

Contact details Responsible Researcher  
Name: Fernando Del Caro Secomandi  
E-mail: [F.Secomandi@tudelft.nl](mailto:F.Secomandi@tudelft.nl)

## Consent points

PLEASE TICK THE APPROPRIATE BOXES	Yes	No
<b>A: GENERAL AGREEMENT – RESEARCH GOALS, PARTICIPANT TASKS AND VOLUNTARY PARTICIPATION</b>		
1. I have read and understood the study information dated [DD/MM/YYYY], or it has been read to me. I have been able to ask questions about the study and my questions have been answered to my satisfaction.	<input type="checkbox"/>	<input type="checkbox"/>
2. I voluntarily consent for my child to participate in this study. I understand that my child or I can refuse to answer any question and that we can withdraw from the study at any time, without giving a reason and without any penalty.	<input type="checkbox"/>	<input type="checkbox"/>
3. I understand that participation involves my child taking part in a co-design session where the researcher will take observational notes. I also consent to photographs being taken of the session; I understand these will be used for research analysis and that any faces will be blurred/anonymized before use in reports.	<input type="checkbox"/>	<input type="checkbox"/>
<b>B: POTENTIAL RISKS OF PARTICIPATING (INCLUDING DATA PROTECTION)</b>		

PLEASE TICK THE APPROPRIATE BOXES	Yes	No
<p>4. I understand that participation may involve mild social discomfort (shyness or frustration). I am satisfied that these risks are mitigated by the researcher's commitment to a supportive, child-friendly environment and the fact that my child can stop or skip any activity at any moment.</p> <ul style="list-style-type: none"> <li>Ensuring that participation is voluntary at all times;</li> <li>Allowing my child to skip any activity or question without explanation;</li> <li>Allowing my child to stop participation at any moment without consequences;</li> <li>Creating a safe, supportive, and child-friendly workshop environment;</li> <li>Ensuring that the session is supervised by the researcher and, where applicable, responsible adults.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>
<p>5. I understand that the following Personally Identifiable Information (PII) will be collected:</p> <ul style="list-style-type: none"> <li>My name and signature (for legal consent);</li> <li>My email address (for coordination);</li> <li>My child's age and gender;</li> <li>Photographs and observational notes of my child's participation.</li> </ul> <p>I understand there is a minimal risk of re-identification in the event of a data breach, which could result in the unintended disclosure of my child's participation.</p> <ul style="list-style-type: none"> <li><i>Describe in a few words any risks associated with participating in the study, other than those relating to Personal Data and the potential for re-identification, for example: physical or mental discomfort; risks for participants in a subordinate position to the researcher</i></li> <li><i>Describe also what steps you will take to mitigate these risks – such as device certification, or the ability to ask for the experiment to stop at any point</i></li> </ul>		
<p>6. I understand that the research team will minimize these risks by:</p> <ul style="list-style-type: none"> <li>Assigning a code to my child's data (pseudonymization) and removing real names from research files;</li> <li>Storing all identifiable data on secure, encrypted TU Delft systems;</li> <li>Restricting access to the TU Delft research team only;</li> <li>Deleting all raw identifiable data (including unblurred photos) within 6 months of the session.</li> </ul> <ul style="list-style-type: none"> <li><i>Please list which PII and/or PIRD will be collected and summarise (if) any potential risks of re-identification (eg: public/professional reputation)</i></li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>
<p>7. I understand that personal information that identifies me or my child will not be shared with any third parties (including the collaborating partner, Rabobank) beyond the TU Delft study team.</p>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>

PLEASE TICK THE APPROPRIATE BOXES	Yes	No
<b>C: RESEARCH PUBLICATION, DISSEMINATION AND APPLICATION</b>		
<p>8. I understand that the findings of this research will be published in a Master's Thesis report and potentially in academic presentations. I understand that only anonymized information (where my child cannot be identified) will be used in these public documents.</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>9. I agree that my child's views, drawings, or responses can be quoted or shown anonymously in the final research outputs.</p>	<input type="checkbox"/>	<input type="checkbox"/>

**Signatures**

I, as legal representative, have witnessed the accurate reading of the consent form with the potential participant and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

\_\_\_\_\_

Name of witness                      Signature                      Date

I, as researcher, have accurately read out the information sheet to the potential participant and, to the best of my ability, ensured that the participant understands to what they are freely consenting.

\_\_\_\_\_

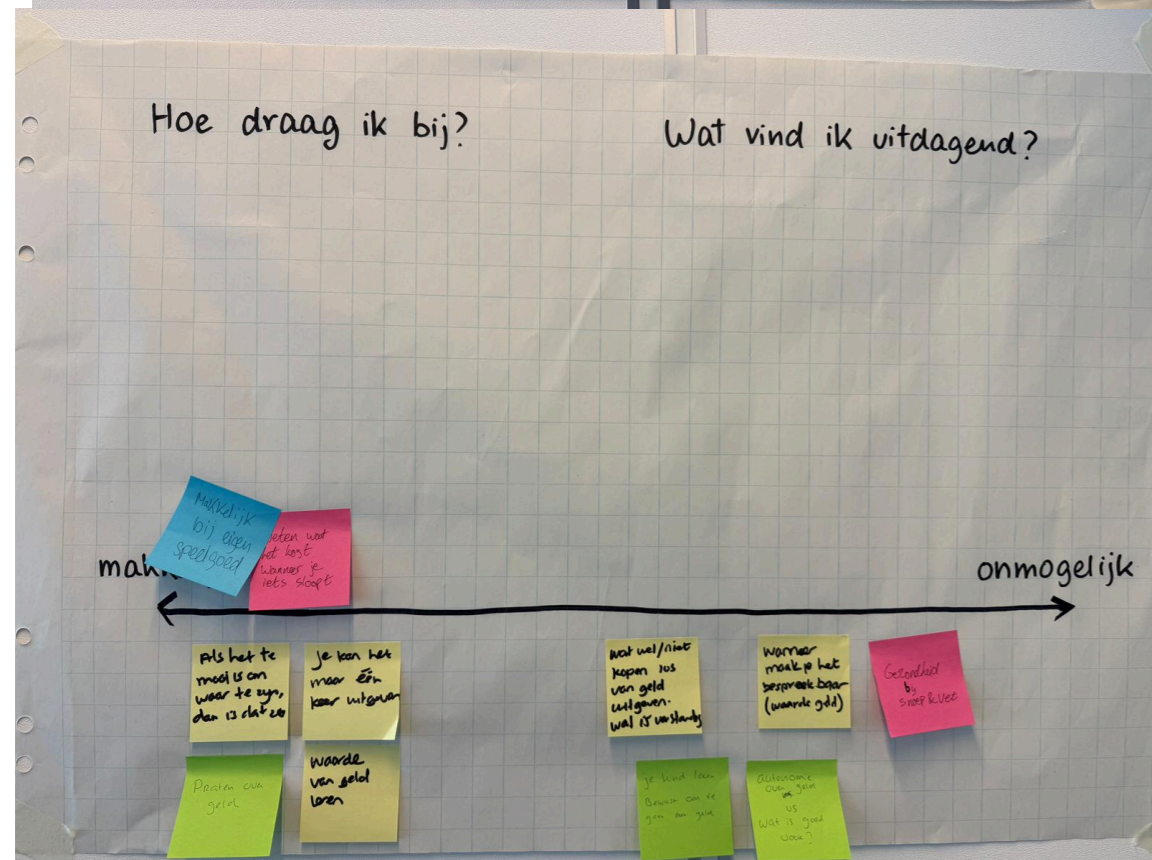
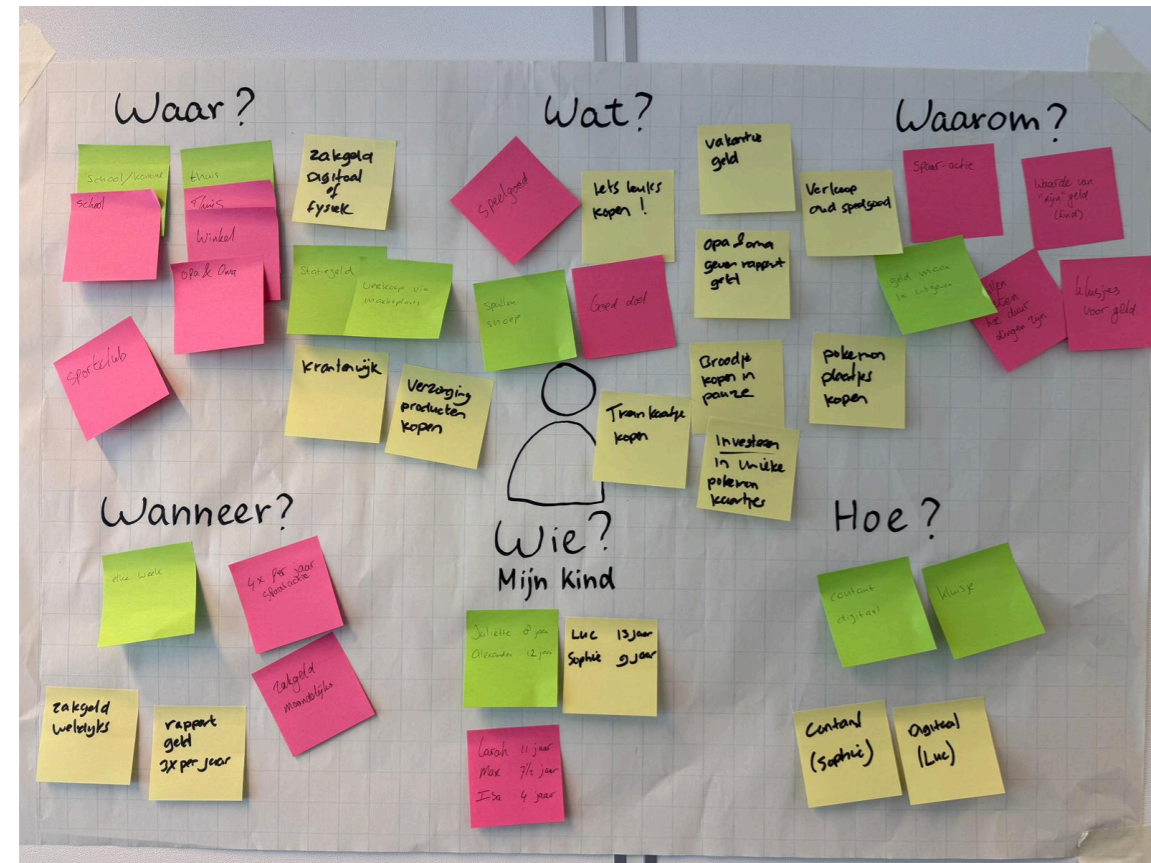
Researcher name                      Signature                      Date

Study contact details for further information: *[Name, phone number, email address]*

# C - School analysis

GROEP 2 (ages 5)	GROEP 3 (age 6)	GROEP 4 (age 7)	GROEP 5 (age 8)
<ul style="list-style-type: none"> <li>sound of letters</li> <li>counts to 20</li> <li>difference between coins and bills</li> <li>know 7000 words</li> <li>grasping worth of 0</li> <li>know the difference between what is cheap and what is expensive</li> <li>hearing stories</li> <li>many visual references</li> <li>division in different types of words</li> <li>they know the highest and lowest number</li> </ul>	<ul style="list-style-type: none"> <li>how to read words</li> <li>add and subtract up to 20</li> <li>2 coins of 1 euro equals 2 euro</li> <li>how to write</li> <li>measuring</li> <li>adding up coins until 10</li> <li>numerical lines</li> <li>counting with hands</li> <li>knowledge of bills of 5 10 and 20</li> <li>counting from 1 to 100</li> <li>knowledge of - and + signs</li> </ul>	<ul style="list-style-type: none"> <li>how to read short sentences</li> <li>add and subtract up to 100</li> <li>wheights and measures</li> <li>phonetical sounds</li> <li>multplying table of 1 to 5 and 10</li> <li>understand that 1 euro is 100 cent</li> <li>tempo reading</li> <li>calculating without the help of hands</li> <li>reading and understanding</li> <li>how do numbers look like in diagrams and visualizations</li> </ul>	<ul style="list-style-type: none"> <li>reading and understanding</li> <li>different types of texts</li> <li>know how to write down the exact amount 0,05 euro is 5 cent</li> <li>harder words</li> <li>start calculating with decimals</li> <li>critical thinking</li> <li>figurative language</li> <li>multiplying tables 1-10</li> <li>read groups of words effortlessly</li> <li>dividing with over 12:5 over 2</li> <li>count up to 1000</li> </ul>
GROEP 6 (age 9)	GROEP 7 (age 10)	GROEP 8 (age 11)	MIDDELBARE SCHOOL (age 12)
<ul style="list-style-type: none"> <li>synonyms</li> <li>milli, centi, hecto, kilo</li> <li>estimation</li> <li>gramatics</li> <li>areas: m<sup>2</sup> km<sup>2</sup></li> <li>technical readings</li> <li>circle diagrams</li> </ul>	<ul style="list-style-type: none"> <li>understand what you are reading</li> <li>percentages</li> <li>different religions</li> <li>geometry</li> <li>Fractions and decimal numbers</li> </ul> <p>start getting more homework</p> <p>start studying more autonomously</p>	<ul style="list-style-type: none"> <li>learn how to write different texts</li> <li>dividing with decimals</li> <li>averages</li> <li>numbers up to 1 million</li> </ul> <p>last year of preschool</p>	<p>divison between learning levels: vmbo havo wo</p>

# D - Workshop parents



## WORKSHOPS WITH PARENTS SCENARIOS

What would you do in this situation?

Scenario A: "Your 8-year-old child sees a limited-edition skin in a game that costs €15. They have €10 in their 'digital jar' and €10 in physical cash from Grandma. The skin disappears from the shop in 2 hours."

Goal: Do they allow mixing physical/digital? Do they allow the "impulse" because of the time limit?

Scenario B: "You are at a toy store. You tap your phone to pay. Your child says, 'Can I have that too? You just have to tap your phone again, it's easy!'"

Goal: How do they explain the "source" of digital money? Do they feel confident (1–10 scale) explaining it?

Scenario C: "Your child wants a €60 Nintendo game. You tell them to save their €2 weekly pocket money. After 3 weeks, they are bored and want to spend their €6 on ice cream instead."

Goal: How do they handle "delayed gratification"? Do they "match" the savings to encourage them?

Scenario D: "A YouTuber your child follows says a specific brand of water/snack is 'cool.' Your child insists on buying it even though it's 4x the price of the normal one."

Goal: Influence of digital media on "Needs vs. Wants."

# E - Final concept validation interviews

## 1. Introduction & background (5 min)

Opening script

Thank you for taking the time to participate in this interview. Today we will talk about money, children, and what tools you use or wish you had at home. There are no right or wrong answers. Everything you share is confidential and will be used anonymously in the final research report. You can stop at any time, and you are welcome to ask questions throughout. Is it okay if we record this conversation? The recording will only be used for transcription purposes and will not be shared outside this project.

Can you tell me a bit about yourself and your family?

How old are your children?

What does a typical weekday look like at home?

Are you the main person responsible for financial decisions in the household?

How do you currently handle pocket money at home?

Do your children receive pocket money? How often and how much?

Is it cash, digital, or a mix of both?

How did you decide to do it that way?

Do you ever forget to give it? What happens then?

## 2. Financial awareness & the readiness gap (10 min)

Goal: understand when parents think financial education should start, how they currently approach it, and whether they are aware of the readiness gap.

When do you think is the right moment to start teaching your child about money?

What made you think of that age?

Has anything changed your thinking on this recently?

(If not yet acting) What is stopping you from starting now?

(If already acting) How did you get started? What worked?

How do you currently talk about money at home?

Is money an open topic in your household, or more private?

Did your own parents talk about money with you as a child?

How has that shaped how you handle it with your own children?

What do you think your child currently understands about money?

Can they count, change or estimate the cost of things?

Have they ever saved up for something independently?

Do they ask questions about money? What kind?

Do you feel confident explaining financial concepts to your child?

Are there topics you find difficult or uncomfortable to explain?

Where do you go for guidance on this?

## 3. Current tools & frustrations (8 min)

Goal: understand what parents currently use, what frustrates them, and where the biggest gaps are.

What do you currently use to manage your child's money?

Piggy bank, app, bank account, cash envelope?

How long have you been using it?

What do you like about it?

What does not work well?

Have you ever looked for a tool to help your child learn about money?

What did you find?

Did you try anything? What happened?

What stopped you from continuing?

(If never searched) What has held you back from looking?

What would your ideal solution look like?

Physical, digital, or both?

Would it involve just the child, or the whole family?

How much time would you realistically want to spend on it per week?

#### 4. Concept introduction:

##### Part 1: first reaction and functionality

What is your first reaction when you see this?

What do you think this is?

Who do you think it is for?

What is the first thing that stands out to you?

What do you see as the main benefit for your child?

What do you see as the main benefit for you as a parent?

What concerns or doubts does this raise for you?

Is there anything you do not trust?

Are there features you would not use?

Is there anything you would expect to be there that is missing?

##### Balance & access

How do you feel about your child being able to see their real bank balance at any time?

Does it feel like the right amount of access, or too much?

From what age do you think that would be appropriate?

Would you want to be able to hide certain information from the child's view?

##### Task & reward system

How do you feel about the task-and-reward system?

Can you see yourself setting tasks for your child?

Do you think earning money through tasks teaches something real?

Could you imagine this causing friction or arguments at home?

##### Approval & parental control

How do you feel about the approval system, where you confirm transactions from your own phone?

Does that give you enough control?

Would you find it reassuring or annoying?

At what point would you want your child to be able to act without your approval?

##### Social savings board

The concept shows friends' savings progress as a percentage, not the actual amount. How do you feel about that?

Does that feel private enough?

Do you think it would motivate your child in a healthy way?

Could it create any negative pressure or comparison?

##### Age-adaptive content

How do you feel about the content getting more complex as your child grows?

Does that match how you would expect your child to learn?

Would you want control over what content your child sees?

##### Part 2 : Fixed placement & parent integration

When you see it placed in the kitchen like this, does that feel like the right spot or would another room make more sense?

Can you imagine this in your home?

Would it fit naturally into your daily routine, or feel out of place?

How would you feel about guests seeing it?

(If hesitant) What would need to change for you to be comfortable with it?

Does seeing it as a fixed family object change how you feel about it compared to just seeing the screen?

How do you feel about it being always on and always visible, not something you open and close?

#### Family integration

Can you picture a moment in your day where you would naturally interact with it together with your child?

Does it feel more like a banking tool or more like a family tool?

Would you want to be able to interact with it yourself, or is it mainly for your child?

How would you explain to your child what this is for?

Does placing it in the kitchen make financial conversations feel more natural or more forced?

#### Parent app connection

Knowing that you manage everything, approvals, tasks, content, from your own phone, does the wall device feel like enough for your child?

Would you find yourself looking at the device yourself, or mainly just the app on your phone?

Does having your own separate app alongside the family device feel like the right balance of control?

What would make you decide to get this for your family?

#### 6. Rabobank & trust (5 min)

Does this feel like something you would expect Rabobank to make?

Why or why not?

Does it change how you think about Rabobank?

How important is it to you that this comes from a bank, rather than a standalone app?

Does it feel more or less trustworthy coming from Rabobank?

Would you be more likely to keep/open your family's accounts at Rabobank because of this?

Would you recommend this to other parents?

What would Rabobank need to do to earn your trust with something like this?

Are there any guarantees or features you would need to see before signing up?

#### 7. Closing (2 min)

If this disappeared tomorrow would you miss it?

What is the one thing we absolutely should not get wrong if we build this?

Is there anything you wanted to say that we did not ask about?

Closing script

Thank you so much for your time and your honest answers. Everything you have shared will directly help me with the design of this concept.

*You can, you should, and if you're brave enough to start, you will*