



TALLINN UNIVERSITY OF TECHNOLOGY  
SCHOOL OF ENGINEERING



ESTONIAN ACADEMY OF ARTS  
FACULTY OF DESIGN

## **How to prevent lifestyle inflation for those at risk of falling into a debt crisis?**

### **Kuidas ennetada potentsiaalselt võlakriisi sattuvate inimeste elustiili-inflatsiooni?**

MASTER THESIS

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Tallinn 2023

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Hereby I declare, that I have written this thesis independently.

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(in Estonian) Kuidas ennetada potentsiaalselt võlakriisi sattuvate inimeste elustiili-inflatsiooni?

**Thesis main objectives:**

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2. Explore design opportunities to support those who might fall into a debt crisis due to lifestyle inflation
3. Design a concept that provides this support for people who are experiencing lifestyle inflation

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# ABSTRACT

This thesis explores how to prevent lifestyle inflation for those who are at risk of falling into debt through design research. The topic is relevant due to the fact that there are more people who are not able to manage their money monthly and therefore might fall into the trap of loans and lifestyles that they cannot bear.

While there is a system in place for those who have fallen into the debt crisis, there are a few tools that help to prevent that from happening. Even though the theoretical tools might be learned in school or through conversation with family members or friends, it is clear that these understandings are only theoretical and not practical. This is a visible trend the author saw when he looked into how many people live from paycheck to paycheck and how their lifestyles have been upheld with unreasonable loan conditions.

The topic is relevant to the author as he works in a financial institute and sees every day how people are taking on more and more loans than they are able to handle. Therefore, there should be a system in place that makes people think about whether the new purchases are necessary or, rather, another great thing to own.

The author conducted research interviews with experts and people with different financial backgrounds. Throughout the analysis, the author found how people are influenced by money, how they deal with it, and what motivates them to purchase things. This thesis proposes a digital platform called Lifestyler that aims to support those at risk of falling into a debt crisis. The overall scope of the design brief is to not only educate the people theoretically but guide them through instructions on how to manage their impulsive money decisions differently.

The author would like to thank Taavi Dreger, who created the illustrations for the design solution, as well as all of the interviewees who openly discussed the sensitive topic of money.

*Key words: debt, lifestyle inflation, digitalisation, personalization, master thesis*

# EESTIKEELNE KOKKUVÕTE

Käesolev magistritöö uurib disainiuuringute abil, kuidas ennetada elustiili-inflatsiooni teket nende jaoks, kellel on oht võlgu jääda. Teema on aktuaalne seetõttu, et üha rohkem inimesi on jõudnud väljapääsmatusse olukorda, kus nad ei saa hakkama enda igakuiste kulutustega. Viimane on tingitud sellest, et soovitakse hoida elustiili, mille tarbeks on võetud laenu.

Kuigi võlakriisi langenute jaoks on olemas riiklikult ehitatud süsteem, siis antud töös loodud lahendus on mõeldud pigem inimestele, kes võivad võlakriisi sattuda. Autorile on teada, et teoreetilisi vahendeid saab õppida koolist, pereliikmete või sõprade käest, kuid see pole piisav. Kõik eelnev jääb teoreetiliseks ja praktilisi näiteid on selles süsteemis liiga vähe. Praegusel hetkel oli autorile nähtav trend see, kuidas inimesed elavad palgast palgani ja kuidas nende elustiili valikud on selle osati ka tinginud. Sealjuures tuleb silmas pidada ka kehvasid laenutingimusi, millega on inimesed ennast koormanud.

Teema on autorile aktuaalne, kuna ta töötab finantsinstitutsioonis ja näeb igapäevaselt, kuidas inimesed võtavad üha rohkem laene, kui nad tegelikult tagasi maksta suunaksid. Seega soovib autor pakkuda välja süsteemi, mis paneks inimesed mõtlema, kas soovitud kulutused on vajalikud või mitte.

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# 1. Introduction

Starting your life in the Western world can not happen without money, due to the reason that capitalism is tightly knitted into our society. Money plays an incremental role in our world, since it fulfils the first hierarchical physiological need from the Maslow pyramid, which is food, water, shelter, clothing, sleep and breathing (Green, 2000). From that the person could build upon the second need which is safety from where they could find health, employment, property, family and social ability. All of the above of Maslow's hierarchy could come if the bottom are fulfilled and therefore the people could build self-esteem, which would build more confidence to build a better lifestyle for themselves.

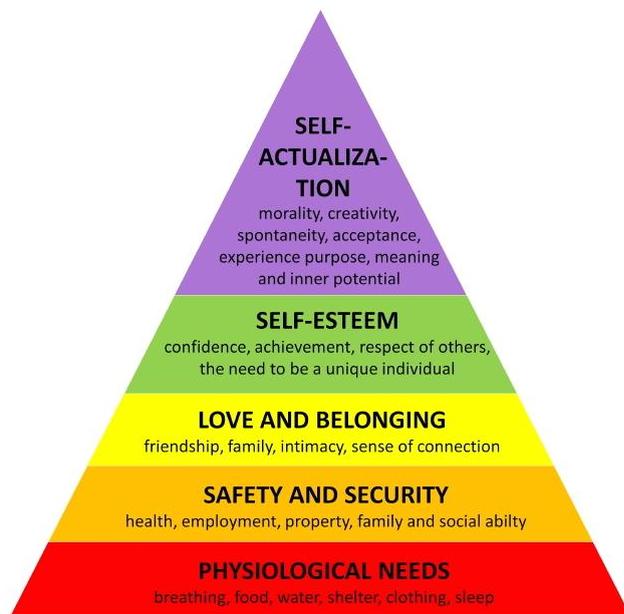


Figure 1. Maslow's pyramid. (Green, 2000)

The author grew up in a society where the other classmates and coursemates always had more than him. The author lived in a family where the only provider was his mother who had to feed herself and two sons. The author noticed early on in his life that there were two types of people in his circle: ones who collected the majority of the money they got and others who spent the majority of it. When the wishes were bigger for one person that they could afford, they loaned money from others or from parents.

The first interaction with money happens at a very young age in Estonia. A 6-year-old can already have their first bank card and internet bank at the touch of their

fingertips. (Swedbank, 2017) At the age when the young person receives their first income in the manner of pocket money, they may have got financial education from playing shop in the kindergarten, through their caretaker at home or from school.

According to the 2020 Swedbank study children start to receive their first pocket money at the age of 5 and the reason why they are given money is different. From the Swedbank study it turns out that only 21% of parents explain the value, use, planning and saving, whilst 15% of the parents believe that life teaches the child itself.

(Jääger, 2020) At a young age it is a crucial time to learn about money, how it works and how it is earned since if it is misunderstood then it could lead to severe impact of financial illiteracy.

In 2023 Swedbank came out with another study, which stated that 35% of people live from paycheck to paycheck, which means that these people do not have any money left when there would be any kind of unexpected expenses. This number is dangerous as the financial experts have stated that a healthy amount in backup savings should be 3 to 6 months living expenses. Therefore we would state that the previous number is showing marks that might lead to a devastating cause. (Voomets, 2023)

For fully understanding the background information, there is one more interesting fact to mention. Estonian children have the best financial literacy skills in the world according to PISA, but it is only theoretical and not practical knowledge. (Riitsalu, 2020, 10)

Putting everything together, it seems illogical that a third of adults live from paycheck to paycheck, whereas children have one of the highest financial literacy understandings in the world.

In 2020, Robert Kitt, the previous CEO of the financial institution Swedbank Estonia came out with the statement that there are more than 100 000 people who have beyond reasonable loan conditions and this could be the catalysator, where the Estonian government should intrude even more. The question he raised was whether Estonia is rich enough to truly close its eyes on the real situation. (Kitt, 2020) From that reasoning it should be logical that the government would have stopped it so the number of people who are in unreasonable debt would not go so high, but unfortunately to this date the problem is still there.

Debt is not something where people fall into because they have one goal in mind, but rather it is strongly linked with financial illiteracy and the background system where they are born and start to live in (Ravishankar, 2021). This master thesis tries to

reason why people fall into debt and explores the possible solutions for avoiding it and getting them out of there so they could start their life over. It gives a better understanding about how the person's background system, parents, school and friends might lead their way towards the debt path and gives possible solutions for building good habits and eliminating bad ones regarding money. The author defines a concrete design challenge - how the people who could potentially fall into a debt crisis would be able to understand their money situation and not spend impulsively.

## 2. Research ground

### 2.1 Limitations of data research

The scope of the thesis tries to include all different parties who might be involved with lifestyle inflation, but it has to be noted that there will be limitations. The extent of people who would speak with the author is limited, since many people would not admit that they have borrowed money for their lifestyle or are too shy to speak about the situation (Brinkhof, 2023). Also, it should be a clear statement that the selection of interviewees does not consider all people who might be affected by this situation, and therefore the solution might not help them at all, since everybody's situation is a bit different.

The author entered, during the writing of this thesis, into five different small loan groups where people loan money to other people. One group is called "Laenu eraisikutelt eraisikutele", where there are more than 8800 loan applicants and loan providers. This is a loan Facebook group that was created more than 8 years ago by the lawyer Tanel Riivits. Tanel states that thanks to demand and supply, there is a good equilibrium of people who lend out money and borrow money (Mets, 2020).

Throughout one month, the author tried to get a hold of 40 people from Facebook loan groups, who seemed to lend more money than they could borrow, and offered them a 20-euro compensation for their time. Unfortunately, none of the 40 people wanted to cooperate to talk about money, and therefore the author did not receive any answers from the people who were heavily in debt.

The author understood that if the number of people was smaller than expected, the next round of in-depth, one-hour interviews should be with people who have taken consumer or home loans, due to the fact that they might be on the verge of lifestyle inflation and overlending. Therefore, after interviews with different people, the author started to grasp the current situation even more than before.

Interviewees were able to talk with the author in an anonymous way, and all six people were at different stages in their lives. The author stresses that all of the interviewees will receive a pseudonym, which has nothing to do with the state, who, or where the person is. The thesis will use the following pseudonyms through the explanations:

- Joonas is a person who earns more than the average Estonian, but has taken on

enormous debt due to gambling. Now Joonas has almost finished paying off the gambling debt and has a healthy home loan.

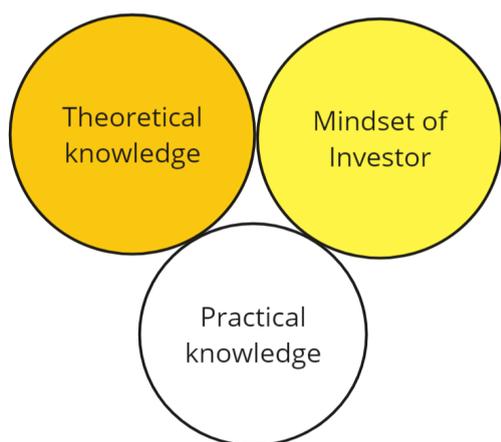
- Jane is a person who earns less than the average salary, but is taking regular consumer loans to uphold her lifestyle. Even though the salary is not high, the lifestyle values are constantly rising with new friend circles.
- Tiina is a person who earns more than the average salary, but invests all that money into well-being and maintaining a lifestyle. She is also aware of her childhood influences on money from her friends and family.
- Uudo is a person who earns an average salary, spends the majority of it, but also invests in the stock system. Uudo's family has generated family wealth, but currently Uudo is not given a part of it.
- Liisa is a person who is between jobs, but wants to maintain high living standards even though she does not get enough money to uphold her lifestyle.
- Martin is an expert in the field due to the fact that he is in contact with people who are getting into debt. He is finding ways to solve their debt crises.

## **2.2 Evolution of the research question**

The author was intrigued to research something about money due to the fact that at the time of writing the paper, he works at a financial institute, SEB Bank. This requires the author to surround himself every day with money and financial information while seeing people who are both literate and illiterate about money.

The problem with financial illiteracy lies in the situation where there is no understanding of where financial literacy should be taught in Estonian school curriculum (Rahandusministeerium, 2023). Therefore, the situation would need to be looked at throughout the specific curriculum or specific recommendations made to the economics, mathematics or social studies teachers on what and how they should teach about financial literacy. But before it could be reflected on the teachers, as they might not understand the full spectrum of the topic yet, financial literacy should first get better in Estonia.

Financial literacy could be split into three parts, according to famous Estonian investor Taavi Pertman: theoretical knowledge, or so-called money wisdom; practical knowledge; and money skills that investors have, where they have a long-term plan for the use of money. This split is visible in Figure 2. (Pertman, 2020)



*Figure 2. Taavi Pertman understanding of financial literacy components. Made by the author.*

The author's initial idea was to write the thesis on the topic of financial literacy, but this would be too broad a topic to cover as it includes people of all ages and backgrounds.

The second research evolution came from the logic that when people are now financially literate, they ought to start saving and investing. Although the fallacy with that thought would be that only a low percentage of people in Estonia are able to start investing, since the majority are not able to meet their daily expenses and therefore have to borrow money. To start investing with loaned money is not a financially good solution.

However, there has been a boom in the world where everyone is talking about money and how everyone should start to invest (The Economist, 2023). Getting rich boom started when people had more money in hand with COVID lockdown and they started to invest, then all the stocks were constantly booming, which can be seen in Figure 3. This is a misconception due to the fact that all investments are never guaranteed a positive outcome and always come with a risk. With more people starting to invest, there is no clear outline as to whether the people who entered the stock market understood where their money went or impulsively pushed their money into the market. The last one would result in a situation where financially illiterate people would not understand how the money market works.



The Economist

Figure 3. COVID-19 lockdown effect on the United States investments area. (The Economist, 2023)

The most difficult part of that research would have been to try out and solve investment solutions in a degrowth management role, but when talking with SEB economists, fund managers, and private banking strategists, it became obvious that when trying to solve that wicked problem, the solution would be to rearrange the whole societal role, which would be a much longer paper. The author understood that the topic would be relevant to few, since around half of the Estonians are not able to come out from the first stage of the hierarchy of the financial needs.

In 1943, behavioural scientist Abraham Maslow wrote in "A Theory of Human Motivation" that humans worldwide are rather influenced by the "hierarchy of needs" that was described before, and then the question arises, whether that world could be drawn more closely with the hierarchy of financial and money needs. (Green, 2000) While Maslow's theory is great in its mind, there could be drawn parallels with the financial need, where we could see how a strong financial foundation could actually build upon a solid needs foundation, as can be seen in Figure 4. This would directly address the situation where people would not have enough money for their everyday needs, therefore it would be quite difficult to move up in Maslow's hierarchy of needs, which is visible in Figure 1.



Figure 4. Financial needs pyramid. (Neufeld, 2020)

When looking at Figure 4, it is also visible that the financial pyramid has five levels, as was visible in Figure 1. This pyramid represents the same situation, where the needs in the lower level need to be fulfilled and satisfied before moving into the next level. Taking that into mind, we ought to look at Figure 4, where we could notice that the base is fulfilled when people have dealt with their daily expenses.

A 2023 Swedbank study showed that 35% of people live from paycheck to paycheck, which leads the author to question whether the majority of Estonians are in the Financial Pyramid's first step (Voomets, 2023). This is concerning since this is not even financial safety, where people could collect emergency funds and have insurance, while not talking about the situation of real estate purchases or retirement funds.

The author chose this topic in order to solve the wicked problems that people in the first stage of the hierarchy of financial needs, cash flow and basic needs, struggle with. Through this research, there is an opportunity to open up this topic and find a viable solution to this wicked problem. Since lifestyle inflation is not common terminology for everyone, the author would define it as a situation where people spend more money than they can earn. To name a few examples of lifestyle inflation, it is common when the person is changing homes, buying more expensive cars, clothes, or dining out at more expensive restaurants. For the people in Estonia who are working, there is a

higher risk of this citation to happen due to the reason that the prices are constantly raising and the people would like to maintain their lifestyle (Eesti Pank, 2014). In Estonia the people could right now lend more money even though their credit would not allow it. That is due to the problem that Estonia is one of the few countries where there is no safety net in place for the people who are lending more money than they could pay back.

To sum up the research problems:

- People in Estonia are living paycheck to paycheck and are not able to move to the next financial pyramid step.
- There are more than 100,000 people who have beyond reasonable loan conditions.
- Instead of advancing people to financial freedom and investing, we ought to look at the basis of the financial pyramid, since the lack is at the bottom.

To sum up the questions that arose:

- Is it possible to help people who do not want to be helped?
- Why and if people take loans to uphold their lifestyle
- How can we prevent lifestyle inflation for those at risk of falling into a debt crisis?

## **2.3 Process methodology**

The thesis paper follows two design models: double diamond model and system thinking model. One model complements the other, which means that these are linked together throughout the next chapters.

The first design process is the Double Diamond model, which was developed by the Design Council in 2004. (Elmansy, 2021) The Double Diamond model is valuable in this research paper due to the fact that it helps to collect, identify, and solve complex problems that otherwise might have been missed. This model is helpful for a wicked problem such as why people take loans to keep up with their lifestyle, which is this paper's main key element.

The Double Diamond model gives the author the opportunity to identify and understand the problem space, identify opportunities for unique innovations, and create solutions that would meet the needs and wishes of the set target audience.

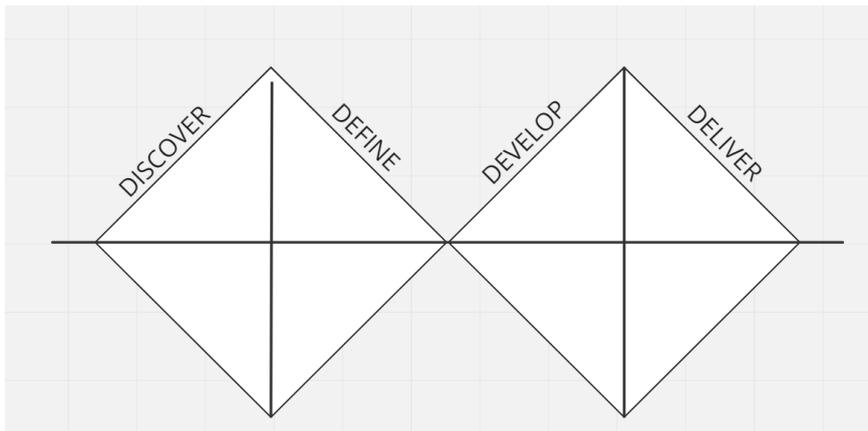


Figure 5. *Double Diamond*. (Design Council, 2005)

On Figure 5, it is visible that the diamonds could be cut into four phases, which are discover, define, develop, and deliver.

In the first phase, which is called the discovery phase, the author establishes the users' needs and gets the first initial thoughts and ideas. In this phase, it is vital to gather information and have a better understanding of the market, users, and technology. In this phase, the author had six different qualitative interviews. The idea was to eliminate the previous understanding and get a better grasp of the person and their story about money. Talking and listening to the interviews created differentiated lenses, through which the author could look the situation from. The ideal idea was to step out of the problem space and truly understand and identify where there was opportunity and innovation. In this phase, it is vital to have an open heart for different papers and interviews and leave prior knowledge behind, because it might influence the outcome. The last point turned out to be a good idea since the gathered information was valuable and there were many discoveries made that the author did not know before.

In the defining phase, it is vital to gather together all of the collected information, and then the filtering process should begin. In this phase, the idea is to align the understandings and interpret the information that was gathered together. This is the time for synthesis and analysis. In this phase, the project gets its refinement and last sign-off before it goes to the development phase. The solution that the author used was to clearly frame the questions that were coming out of the users' needs, research, and interviews.

In the developing phase, the author seeks to test out potential solutions for the problems that he identified in the discovery phase. In this phase, the author goes through several prototypes and tests them in real life so he can understand whether

the solution meets the users' needs or not. When doing so, the fallacies could come out and therefore the solution could be refined and sought out again to meet the customers' needs. In this phase, the solution space could not be ready, and there could be a lot of mistakes that would need to be fixed, but the ideology would be to test out the proposed concept so the end result would be more valuable than before.

At the end of the Double Diamond model, the author will create the final prototype, which will be tested out with the last target customers to ensure the solution meets their needs. This would mean that the product service would be able to go to the hands of the designers so they could create it in a manner so it would be launched ready.

The second design process that the author uses is the Masaki Iwabuchi Forecasting Approach, where the author thinks about the future while not forgetting about the past and present. In this approach, the design principle would be system thinking, which is a system approach that takes a closer look at the bigger picture while not focusing so much on the smaller details. (Iwabuchi, 2019)

The author states that the model has its flaws while looking towards the future, since the description of the mental model would need a separate behavioural scientist and anthropologist who could take the monetary situation to pieces. Although it might have its fallacies, this model is good to use in this course due to the fact that it looks towards the near future, which many other system solutions do not. (Iwabuchi, 2019)

The part that is also crucial for the research are the actions that happen on the individual, group, and system infrastructure levels, which might be difficult to explain with ease but are definitely worth taking a look into. The design model finds patterns, events, and structure in the problem, which would help the author create an analysis and figure out a future solution that could help with the wicked problem. (Iwabuchi, 2019)

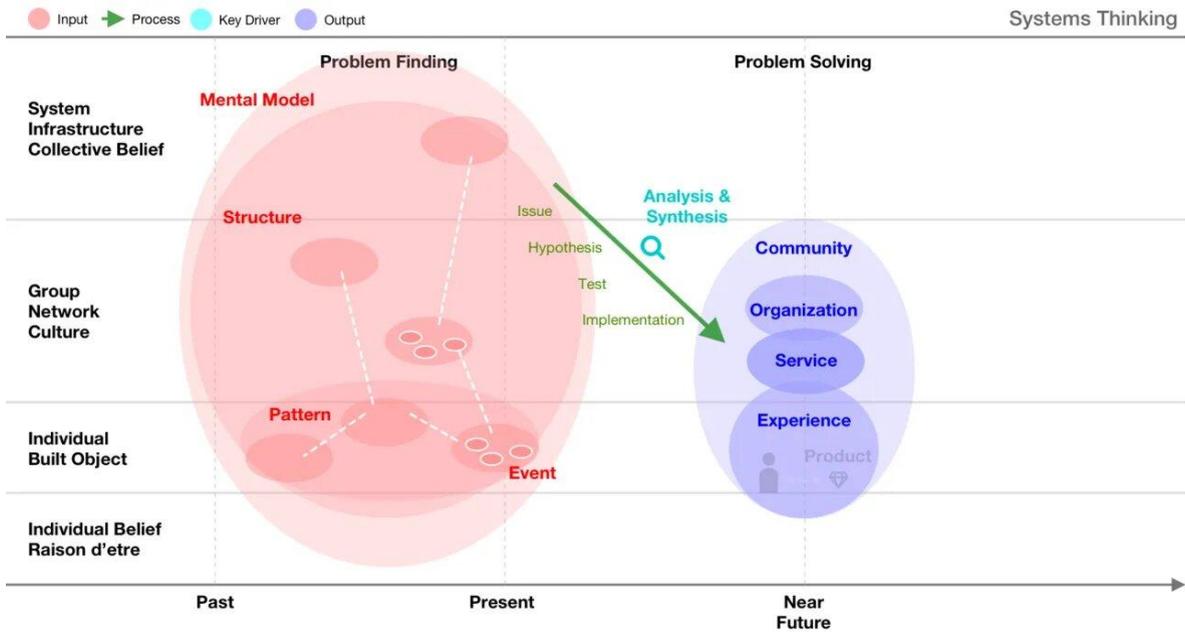


Figure 6. System Thinking. (Iwabuchi, 2019).

## 2.4 Research methods

The paper consists of different research methods in order to find the answer to the wicked problem. The methods were traditionally chosen, which are used for design papers.

### Desk research

In terms of the research methods, the author used literature desk research to grasp the topic better and also to make sure that all of the different research terminology was understood the same way so there would not be any misunderstandings. It was there to collect the data points and make a clarified understanding of what might be the problems in the space. It helped the author understand the groundbreaking definition of the terminology used in the research, which would be beneficial for building the theoretical framework. A guiding star for framework building is Sendhil Mullainathan and Eldar Shafir's book "Scarcity: Why Having Too Little Means So Much" (Mullainathan & Shafir, 2013).

### Interviews

The author conducted 45- to 60-minute interviews to efficiently understand the topic even more. Although the topic might seem difficult at first, after the first sentence, all of the respondents opened up and tried to explain their point of view. These interviews

helped the author better explain, understand, and explore the individualistic and group cultures, which were triggered by some previous experiences. The interview questions were open-ended and in a deliberative form. This gave the author the understanding to research more about ethnography in forums and online communities.

### **Expert interviews**

Additionally, the author conducted one expert interview to get another point of view on the topic. This expert deals with clients who are going into debt, and tries to get them out of there. The expert interview gave a view on the main issues with people who are in debt and shared experience of how different people react and act towards debt.

### **Co-create**

During the beginning of May, the author held a co-creation design workshop, where the author invited together people to test out the design solution that the author has created. Throughout the session, the author got diverse insights into different aspects of the topic and also was able to ideate more solutions.

At the co-creation stage, there is also a desire to understand whether different client journeys and use cases work for the audience or should be redesigned and rethought. After that, the prioritisation of developments in the application would be done to proceed with the work.

## 3. Context

### 3.1 History of money

Money as a physical element has been around in human civilization for thousands of years. Money started to gain popularity when it was understood that exchanging goods and services is not that sustainable, so a single commodity would make it easier, since everyone understood its value.

For the past 5000 years, there has been something called money in one way or another (Davies, 2002). Before that time, there was something called bartering, where people directly exchanged goods and services. An example would be a hunter who caught a bear, and in exchange for that, he would exchange it for an axe. Although this solution would sound good in theory, the value of the goods and services started to be in question. (Davies, 2002, 9–11)

An example of this would be to understand how valuable a kilogram of salt would be and how many weapons one could gain from it. This made the barter system vulnerable to the new developments, where people would negotiate the value down more than it was actually worth. Although the bartering system is still used nowadays in some parts of the world. (Choudhury, 2016)



Figure 7. Barter, where salt is exchanged for an axe. Made by the author.

At the end of the 7th century BC, there was a discovery of new raw materials that made it possible to form something called money. At the beginning, the solution was complex due to a lack of resources. It was done in a hand-made way for the next 10 centuries, when it was finally possible to create money through steam-powered machinery. (Cartwright, 2023) This could have been the beginning of the time when the world understood that the value of money would overtake the bartering lifestyle and that the power of one single notation would gain more power in the world. Due to

steam power, the world never looked similar, and this was part of the technological revolution in the financial markets. (Perez, 2002)

Decades later, we are in a situation where almost nothing moves in the world without money. The whole world is intertwined with it, and it is almost impossible to receive anything in the western world without it. Over time, money has changed from a physical coin to paper to digital. Nowadays, money is something on a computer screen written with letters, and the only thing to do is believe that it is there. Whether it is good or bad is up to the reader, but it could be stated that money has changed the way people feel about life and success. Taking that into mind, the world has changed towards a more materialistic world, since it is heavily linked with life satisfaction. (Gregoire, 2018)



Figure 8. Money development over the years. (Staggs, 2021)

### 3.2 Psychology of money

When the money started to play an incremental role, there was also something else that people were not so aware of at the time. And that was how they responded to the given topic from a psychological point of view.

The understanding of money has been influenced by the family where one is born, media messages, advertisements around us, and the culture where they live. Due to that reason, it is deeply rooted in people's core system, and it could be stated that everyone has their own beliefs about money. (Ravishankar, 2021)

It is also important to mention that at different stages of life, people have different relationships with money. At a young age, the child is only needing something from the candy store, while the adult with the child is using money to survive and provide food and shelter for the family. Therefore, money means something different for different people, and this is something that is often misunderstood. (Ravishankar, 2021)

Since people have different stories and relationships with money, it is not justified to ask, "Why does he save that much?" or "Why does he spend that much?" because the background system is completely different and could be linked with the childhood and surroundings where one lives.

According to the interview with Tiina, there was a constant struggle with money in the family. She also went to school with people, who were more fortunate, therefore, she was not accepted into the group as the others were. This created stress, which made her start working at the age of 14 so she could keep up with her fellow classmates, who were considered friends. After several years, she finally started to understand that the material values that the others were craving might have been due to the fact that their parents were putting high pressure on their children so they would also achieve things that they did back in the day. Tiina did not have such stress at home, and therefore the things were not something she craved but rather the closeness of friends.

While all of the cultures do not have similar stories, there is one common denominator that has influenced how we feel about money in the last ten years, and that is the COVID-19 pandemic. During COVID-19, people started to consume more materialistic values to lower loneliness and anxiety. While people stayed more inside, they gathered together more money, which led to its usage because people were trying to put away their loneliness, and it might also be due to the fact that people are financially illiterate. Due to the last reason, people's mindsets have changed with consumer behaviour, and it could be irreversible. (Moldes et al., 2022)

It should be important to state that financial literacy, psychology, and earning more are strongly linked together. When a person starts a new job, finishes university, or gets a raise, they might find themselves in a situation where their spending will go up. Therefore, as the income rises, so do the other expenses and obligations, which is why we want to consume more. Even though it might seem good to consume more and gain dopamine through it, it might lead the person into financial instability and debt. (Thrivent, 2022)

To conclude, money plays a significant role in human life, due to the fact that it helps to exchange something tangible for some good or service. Through that, people fulfil their Maslow Pyramid (visible in 2) so they can have a sense of security and freedom. However, it is vital to understand that through money, people might also experience negative side effects, such as stress, anxiety and depression.

### 3.3 Connections with money

From a contextual point of view, it is important to look into the historical information about where one person is coming from. Since it might happen that people are born into the exact same family but have completely different understandings of how money could influence their lives. There are several connections, strong and weak, where people gain financial knowledge. These connections are with parents, school, companies, banks, and friends.

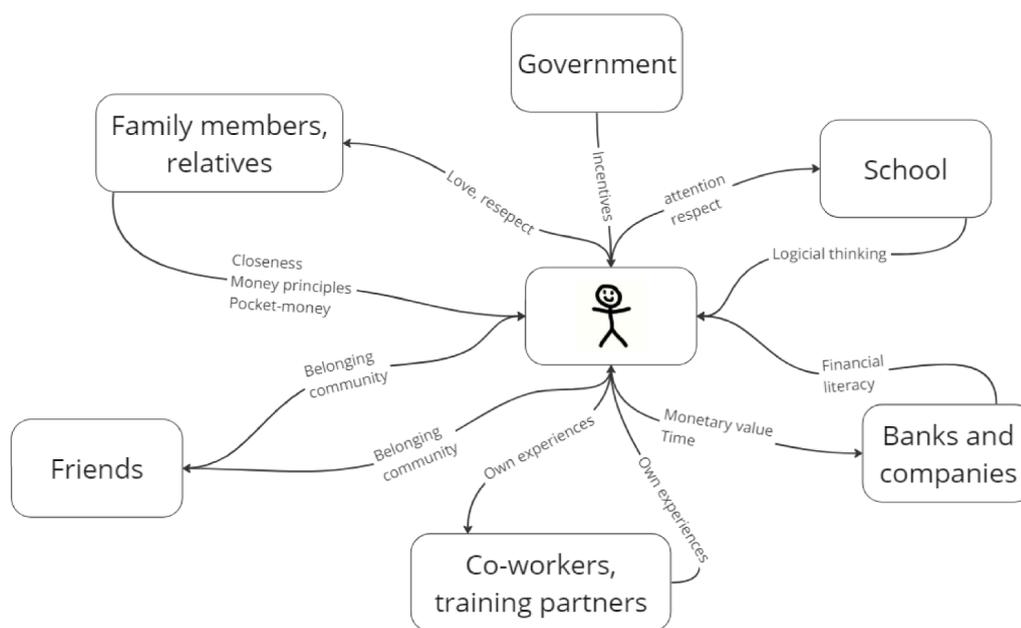


Figure 9. Money relationship between different stakeholders. Made by the author.

While the connections around the person have a strong effect on how one might perceive money, there are also social factors. It could be looked at from four different angles: reference groups, cultural attitudes, herd behaviour, and market experience. (Berman, 2015)

Herd behaviour and cultural attitudes are common, where people follow a larger group to make sense of why they should do something that they would not regularly do.

Whether it is related to things people do or what is programmed in the brain. A life example would be that when people are out and ordering food, herd behaviour comes in to order some food, since the person would not like to stand alone in the group and do something different. (Berman, 2015)

Taking a look into market experience and reference groups, it is visible that if more people are starting to act one way, then the others will continue in order to not miss out on something. This occurs when the youth are starting to buy apartments and others want to follow, or when people start to talk more about investments. It is too difficult to miss out. One example is where 5% of the Estonian population had started investing in Enefit Green stock, and newspapers were commonly telling the story that it was too big to miss out. (Suimets, 2021)

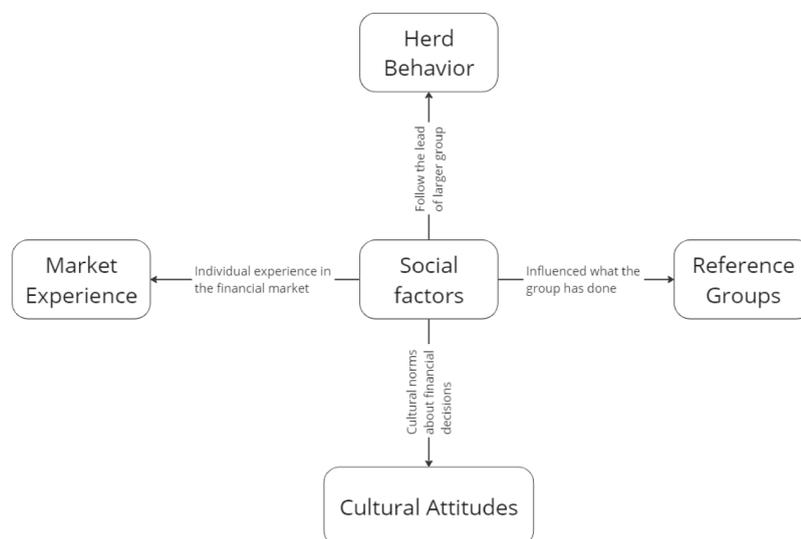


Figure 10. Money relationship between different stakeholders. Made by the author.

### 3.3.1 Parents connection

Parents can have the biggest influence over a person’s understanding of how money works. It will shape the children’s financial habits and attitudes. At a young age, a child can see how money could be used or saved. Parents shape how children see the world and feel about money. Whether everything comes easy and money is only for spending or there are some other possible ways to use it.

According to the 2020 Swedbank study, children get their first pocket money at the age of five. The amount is usually 5 euros, which is given to them. Although it might not seem like a lot, the context matters because previously they did not have any

encounters with money. (Jääger, 2020)

Getting pocket money from the parents is one thing, but the context is also important when parents give out extra money. From the Swedbank survey, it turned out that people give money to children for doing some work, behaving well, or for something that the child is collecting money for. (Jääger, 2020) This is a crucial part because the children start to understand that when they behave in a particular manner, they might receive some monetary value for it. Therefore, it should be important to mention that financial literacy could be taught by parents. Although it sounds great, the Swedbank survey turned out that only 21% of parents teach about it, while 15% mention that life will teach the children (Jääger, 2020).

Financial literacy would teach the children the value of money, how to use it, plan it, and eventually save it if there is anything left. The previous fact that 15% think that life teaches children is visible in the eventual outcome, where 35% of people live from paycheck to paycheck. Therefore, it should be vital to educate the children from someone other than their parents, so the younger generation will live a better life than the one before (Voomets, 2023).

### **3.3.2 School connection**

Children need to go to school, and there they might receive financial education if they are fortunate. Although the Estonian school system is not yet educating students with financial literacy, the statistics could show that it is not yet needed. When looking at the PISA tests that are made for the 9th grade, it turns out that Estonia is among the best in the world. Now, these tests only give theoretical knowledge and not practical understanding. (Riitsalu, 2020)

Even if the PISA tests are good, it could be seen that these are only theoretical understandings and not practical knowledge or investor mindset (visible in Figure 2). When taking into account Taavi Pertman's understanding of financial literacy, only one bullet out of three is filled in, which means that the 9th grade students might receive valuable information from school, and the rest two should be gained from somewhere else.

### **3.3.3 Companies and banks connections**

When looking at how companies and banks influence the relationship with money, it might be quite obvious. Companies provide people with work where they can trade

time, labour, and work for money. While banks will take that money and provide people with loans and other solutions to purchase more things. (Lunceford, 2019) Entrepreneurs who provide the opportunity for people to work and who pay their salaries are not obliged to give any financial assistance due to the fact that there are already other regulations that burden them.

Now financial institutions such as banks are also providing the previously mentioned practical knowledge and investor mindset. One of the examples is the SEB School Ambassadors Programme, where financial literacy experts come together to improve knowledge of financial literacy, give practical knowledge, and help people gain a better understanding of investor mindset (SEB, 2022).

### **3.3.4 Government connections**

There is also a strong linkage between the governmental connection and money attitudes. It is dependent on how the government supports people and companies with subsidies. The country of Estonia is a democratic parliamentary republic where the highest power is held by the people, who elect the government every four years. This is rather important since the government decides how they are supporting the people and whether there is more support through governmental subsidies and grants or through entrepreneurship. Currently, there is a left-wing capitalist parliament that has the mandate to manage the country, but it has changed over time.

This topic of money and government is important since they are the ones who support different financial literacy courses in school and university. Although the previous is also done by the private companies, then there is a major impact on how the government perceives money and whether they educate the people and protect them with different legislations.

One of the pieces of legislation that was put into effect in 2021 was pension reform. While stating that the Estonian pension system is based on a three-pillar approach, where the first pillar is provided by the state government and the rest is the person's own contribution. Before the year 2021, there was a mandatory situation where a person had to join the II pillar when they were born after 1983. The money that went to the II pillar came from salaries and social taxes.

Although the system had its flaws, it was constantly improved over time. Then there was a change in the political sphere, where in 2021 the new Estonian government (Keskerakond, EKRE, and Isamaa) took a decision for the people to not collect any money from the II-pillar pension system. (Oja, 2021) Although it might sound logical

that people should have the power to hold their money, it turned out that the contribution that was actually going into the system was good for the people since they have a hard time collecting money on their own. In September 2021, 1,34 billion euros went out of the 7 billion euro system, which led to a quick economic boom in Estonia since people did not spend their money for retirement but rather used it to buy electronics or renovate the house. (Oja, 2021) All of the logic that people would have more control over their money is supported by the author, but there are a staggering 42% of Estonians who do not feel comfortable going into retirement. (Voomets, 2023).

Although the governmental connections for personal finance are there, it is inevitable that the system should provide better care for educating the people, rather than making quick political statements that would lead the people into a poor retirement, since the newer generation would not be able to uphold the older generation with the taxes that they would pay to the system. While Estonia is blooming with capitalistic values, then it would have been shared that this way of living is more humane and sustainable. (Oidermaa, 2018)

### **3.4 Problems with money**

There might seem to be a lot of positive things that money can buy, but there is also the darker side, which only appears when banking loan interest rates go too high and that also influences banking profits (Vedler, 2022). Other than that, money is painted in Estonia as one of the most influential things that a person can own, and everyone should want it. Therefore, the author investigates five problems that money could bring to an adult, senior, or child.

Money is not the root of all evil, but it can be seen how it plays an incremental role in mental health. Neuroscientists and human behaviour experts have stated that the effect on money has the same dopamine effect as when consuming coffee or cocaine. This leads to the logic that capitalism has made people more addicted to earning more money. Therefore, when people think about money, they prefer to be independent since they understand that they are more self-sufficient. Although it seems like the perfect capitalistic person, it demolishes human relationships because people are always somewhere else. (Dobrin, 2013)

From the interview with Liisa, it came out that she spends the majority of the weekends at the nightclub, where she spends a lot of money. Throughout the interview, she mentioned that she gained more happiness in the parties, but on the

next day she regretted the expenses that were made. This is a vicious circle from which it is difficult to get out.

### **3.4.1 Financial stress and depression amongst adults**

The paper "Financial Stress and Depression in Adults: A Systematic Review" observed 40 people in order to understand their relationship with financial stress and depression. The study expressed quite a strong link between financial stress and depression in high- and low-income countries. Even though it might be thought that the financial burden is only among the lower-income countries, the truth is that everyone feels that with financial stress comes depression. With this said, the strongest link was with low income people. (Guan et al., 2022)

Taking the previous into account, low-income people are not able to even fill in Maslow's pyramid, so the burden could be quite damaging for the whole society. Which would mean that these people should be helped, so there would not be so big of a class difference between different parties.

Psychologists have studied the impact of wealth and inequality among people and have understood that money has a big influence on their thoughts and actions. Even though wealth is subjective to everyone, it has a big impact on our sense of morality and relationships. (Gregoire, 2018) Amongst wealthier people, there is a certain pressure where one might need to look apart to gain more empathy from friends, and keeping that social status might lead to depression amongst adults (Komori et al., 2019).

### **3.4.2 Financial behaviours amongst university students**

When people enter university, their expenses grow since they eat out, go out more, and invest time in their own personal hobbies. This means that the students need to receive pocket money from their parents or start working. (Poliitikauuringute Keskus Praxis SA, 2016)

This would give them a good social network and money, which could benefit them in the future. Although it might seem good, in real life, these people who earn money are not financially literate, which leads to them needing more money. With poor financial management skills, these people fail to manage their money.

A study by Jariah Masud found that financial behaviour is a true problem among

university students since they do not know how to act with money. Therefore, this financially stressed person will develop depression. The study "Financial behaviour and problems among university students: Need for financial education" comes up with a solution that, with the help of a curriculum where they do financial management practices and give financial education, they would avoid financial stress and therefore depression. (Masud, 2004)

### **3.4.3 Financial behaviours with card payment**

When people acquire new assets in their lives, the most common way to pay for them is either with a card or cash. From a cash point of view, it is logical that as much as the person has in their hands, that is the amount they can pay.

With cards, it is a bit different since nowadays there are debit cards and credit cards. A debit card is there to hold a certain amount of money, and when that is all spent, the user cannot use anything more. With credit cards, the bank is guaranteeing the person some loan amount that they will need to pay back over time. While looking into the statistics, the most common bad financial behaviour is when people have bought something with their credit card and start to miss their payments. This will lead the interest rates to charge up, which will eventually mean that the person spends most of their salary to pay off their credit card debts, because of one big purchase that they wanted to make to gain that short-term dopamine. (Taylor, 2021)

## **3.5 Wealth in families**

Wealth in families is something that is passed on to the next generation. With that said, there is a term for it called generational wealth, where one generation leaves behind cash, investments, real estate, and other properties for the next generation. When taking that into consideration, the next generation always accumulates more wealth, which would generate a generational wealth gap. (Woodard, 2022)

Although the people who have inherited properties and money might have extraordinary lives, it might lead to conflicts over the inheritance when the family is large. While generational wealth provides financial security for the family within it, those who have not accumulated that much would feel left out. The reason for not accumulating wealth could be poor financial literacy, substantial wage gaps, or not getting the same access to jobs or information that the rich might get. (Pino & Ellis, 2022)

In this case, psychology yet again plays an incremental role, since when a child is born into a wealthy family, they tend to be more anxious, depressed, have eating disorders, cheat, steal, and drink a lot (Gregoire, 2018). Research has found that the connection is with high-octane achievements, where the parents expect extracurriculars, have an excellent social life, and deal with stuff at home. Although "work hard, play hard" could work with adults, the young rich generation is more vulnerable than ever before (Luthar, 2013).

Through the interview with Uudo, it turned out he came from a wealthy family, even though he had more thoughts about money and how to handle it. He did not receive any wealth from the family, even though the parents had a few apartments and assets under their name. Uudo's understanding was that money is a ridiculous thing that the capitalistic western world has created, and he just has to play the system and invest money to accumulate more. Therefore, it is understood that in their home, money was discussed more than in other homes. Although he mentioned that he does not enjoy living in the system since it is demolishing happiness and people are spending more time at work to gain more money to purchase more assets. This is a circle that is quickly burning people out and taking their happiness.

While the wealth could also be lost, one understanding is that financial literacy plays an important role in keeping it and accumulating more of it. In an interview that the author conducted, it turned out that the interviewee Jane, who did not come from a high-income family, had a different concept of how borrowing money works and what is truly important about it. The person understood that if LHV Bank is offering her 5000 euros, then taking 500 euros could not be that bad since it is only 10% of the value that is offered.

An underlying problem with it is not that she took that money out for loans, but the fact that she described the situation. She described that she needed money for travelling and that she was missing 500 euros, and LHV offered it with a touch of a button. While the author asked what numbers Jane looked at, the answer was whether she would be able to pay for the monthly amount presented on the screen.

The author felt the urge to understand how difficult it would be to gain that credit line, so he followed the same procedure. Within 1 minute, the credit line was opened up, and 5000 euros were ready to be loaned out for whatever the reason might be. The author has no intention to bring down one company, but to showcase how easy it is to apply for a consumer loan without truly understanding what the obligations are after taking the loan. What is vital here is that access to capital should be easy, but the

underlying question is whether there would be any need for safety grids for the people who overloan themselves.

In the interview with Jane, the author also asked whether there would have been something that would have stopped her from taking that loan. The answer was, if the bank had called and asked how much money she wanted to receive and if she understood the conditions of this loan. Although it seems impossible that financial institutions would call their customers, it could be one of the solutions for the regulators on how to make it a bit less addictive (see figure 11).

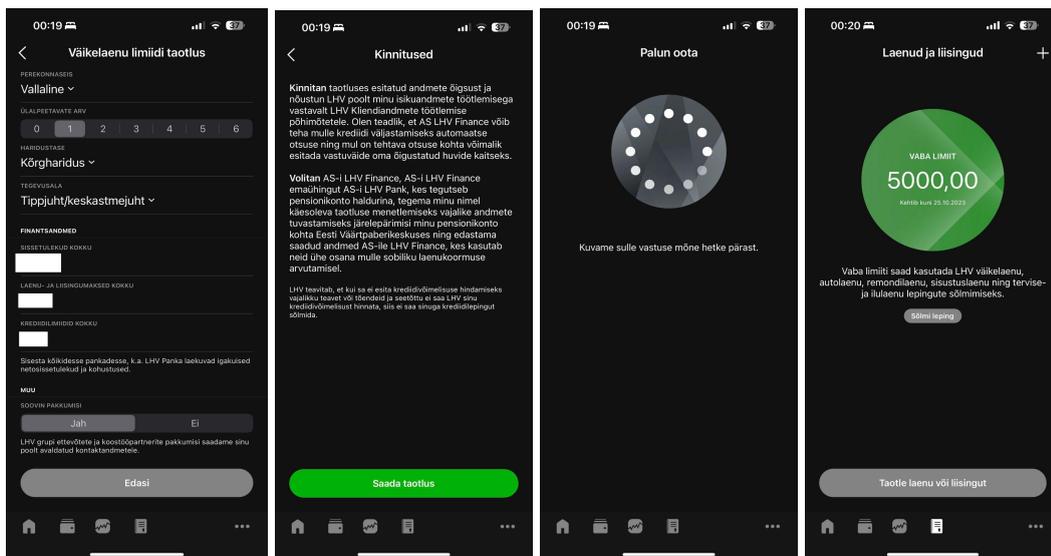


Figure 11. LHV consumer loan application process. Made by the author.

### 3.6 Overconsumption and conscious consumption

People need to consume food to gain energy to stay alive, while also consuming other stuff to fulfil their needs (Green, 2000). The logic is that if a person gains Maslow's pyramid's first step, then they can strive for the next step. Although the capitalistic universe lives on the verge, where people consume and that causes exponential economic growth, profits, then there is the situation with the planet.

From the planet's point of view, people are constantly overconsuming, so the planet is not self sufficient and therefore tired out. This would lead the world into a place where people could not meet their basic needs since agriculture and other parts of the planet are not cooperating with human beings anymore. Even though there would be some people who could consume more, the question would be how sustainable this way of living would be. In Figure 12, it is visible what the share of private consumption is. (Gondor, 2009)

## *Inequality of Consumption, 2005*

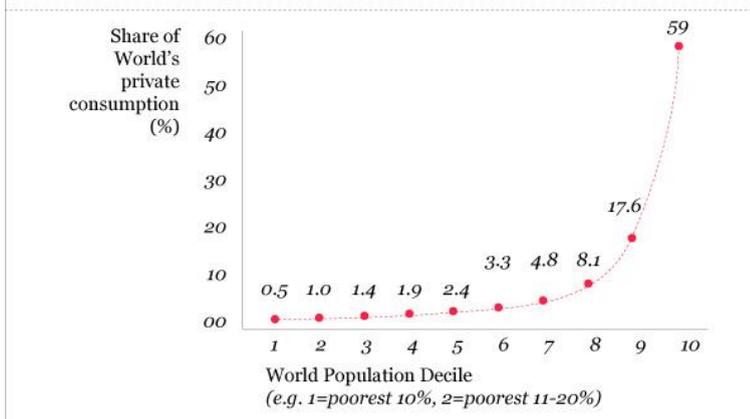


Figure 12. World Bank Development Indicators 2008. (Gondor, 2009)

Whilst inequality per se is not the topic of this research, it is the overconsumption that the richest 10% can privately consume 59% of the resources. Paul and Anne Ehrlich, who are in the Department of Biology and the Center for Conservation Biology at Stanford University, state that if we are unable to bring population growth and overconsumption under control, then there is a severe potential that we will make the planet inhabitable. (Ehrlich & Ehrlich, 2008)

Although the consumption curve that is visible in Figure 12 might not tell the story of how the social gap would create "us" versus "them" it might lead to conflicts between the rich and poor since when resources get scarce with global warming, people will turn on their survival mode. (Gondor, 2009) This would play an incremental role in how people might look at consumption.

While it is natural that people would like to gain more in order to live a happier life. It might seem that a person is happier when they own a lot of expensive things, but that might not always be the case. There is a new trend happening in the west, which is conscious consumption, where people are aware of how consumption has an impact on society and the environment. (Wong, 2019)

Conscious consumption is a lifestyle where people buy more locally grown food, use fewer resources, and acquire fewer products for the reason that it might harm the planet. At the same time, conscious consumption seeks to influence all aspects of life, including habits, patterns, and events. Conscious consumption is connected with this research due to the fact that people are becoming more aware of the situation around them. It broadcasts the situation that purchasing impulsively is not the way to go in the future, so people would buy fewer things.

One of the proof points that this topic is gaining more popularity is that the United Nations has created a blueprint of Sustainable Development Goals that tackle different topics. One of the topics is conscious consumption, which is in Goal 12, therefore it has an important role in a sustainable future, which is visible in Figure 13. (*Sustainable Consumption and Production, 2015*)

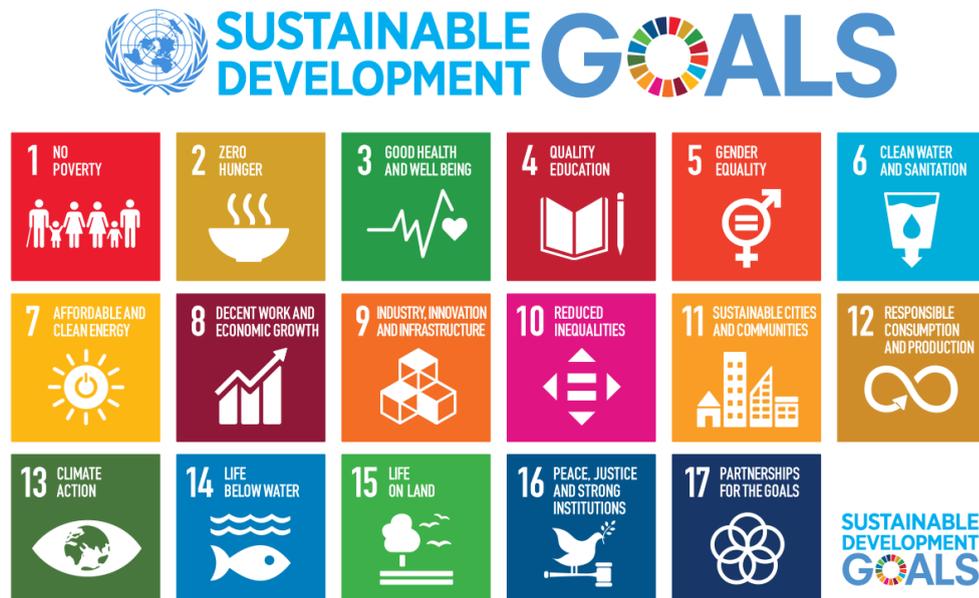


Figure 13. World Bank Development Indicators 2008 (*Sustainable Consumption and Production, 2015*)

To conclude the topic, people are becoming more aware of how consuming more is not bringing more happiness to life or to the planet. The sustainability angle should be brought to the user when they would understand how their next purchase could affect the planet or their wallet. This would mean that when people understood how their impulsive consumerism decisions would harm the planet and their wallets, perhaps they would be able to stop the purchase.

### 3.7 Lifestyle choices

It would be incremental to look at how people live their lives, which is affected by one person's social sphere, work, activities and family history. Healthy lifestyle, which is seen in Figure 14, choices patterns come from a young age, where different people look differently towards balanced eating, physical health, regular sleeping, balancing workload and private life and other commitments that the lifestyle might influence and affect (BBC, 2021).



Figure 14. Healthy lifestyle choice. (BBC, 2021)

In lifestyle choices, there might be many addictions to which one might get hooked to gain instant rewards rather than delayed gratification. According to the study by Black and Rosen, they noted that the usage of substances will lead to bad money management and budgeting (Rosen & Black, 2010). This research is not focusing on the problems with bad money management and substances, but this is something that could be researched more.

There are different lifestyles in different countries due to the historical background and habits of the people there. In the year 2017, Estonia's international housing developer Bonava started to conduct a survey about the "Happy Neighborhood Study," where they survey every year around 1000 people at the age of 18–75 in Sweden, Germany, Finland, Norway, Estonia, and Latvia. From the survey, it turned out that the happiest person in Estonia is a woman at the age of 50+ who has a stable relationship, owns a home and yard, and lives in the country. (Zaraska & Ojanen, 2022) Therefore, Estonian happiness is when a person owns a home, which might be difficult to purchase since it is quite common to own a property with a bank loan.

### 3.8 Problems with debt

While people could understand financial literacy on a theoretical level, there is a big problem with inherited debt, that comes from relatives or family members. According to Hede Sinisaare, who is the head of the analysis and statistics department of the Ministry of Social Affairs, the youngest person in debt is a 3-year-old child who inherited the debt, and the oldest one is 98 years old. (Ivask, 2021)

Debt counsellor Evelyn Eichhorsti states that there is no regular person who is in debt.

It is rather often that she finds people who are well-educated but have just consumed too much, therefore the debt has blown up. She states that humans may end up in debt sooner than they tend to think because there is always a wish to earn and spend more. (Mets, 2020)

Eichorst states that Estonian financial literacy in society is like everyone being in a candy store, where everything should be here and now. The better phone, clothes, and washing machine people have, the more they are worth. The previous is crucial since people are constantly changing their phones on the instalment plan, which will lead to bigger debts and so on. Even though the new phones are costing a lot of money, smoking and cars are the next places where Estonians spend the most money, as Eichorst states.

Therefore, society is having difficulty with its values. On one side, we have people in debt due to constantly wanting more, but on the other, we have received the best result in the PISA financial literacy questionnaire. This logic does not add up at all.

### **3.9 Deep regulations**

Taking loans in Estonia is too simple, as the interviewee, Joonas, states. Joonas also wrote a blog about how he ended up in debt and how simple and easy loans made him addicted enough that he started to take more loans. He said that the whole industry is so unregulated, and the amount he was able to take at the end from smaller loan offices was a total of 100,000 euros. Although the interviewee was financially literate, he was influenced by gambling.

When a person is gambling, using substances, or drinking excessively, their condition might turn into a more compulsive one, which might lead to a situation where they might do things that they later regret. (Twumasi et al., 2020) Although the previous conditions might seem like something that people have heard of, there is also unmanaged ADHD, depression, anxiety, bipolar disorder, and stress that might lead the person to act compulsively. (Segal et al., 2023) This situation is a paradoxical opportunity for quick lenders and gambling companies to take advantage of people who might fall into their trap. This is something that the government should do something about.

The interview with Joonas stated that there was an encounter with excessive gambling, and therefore, when he understood that there was a problem, there was a

solution called HAMPI, which would give the opportunity to put gambling restrictions on three categories: games of chance (slot games, roulettes, and poker), toto games (such as sports betting), and conventional lotteries (Bingo Loto, Viking Loto, and instant lotteries). In Figure 15, it can be seen that the interviewee has blocked out the possibility of gambling. Therefore, the question is: why is there not a solution for the people who would like to block themselves from taking loans?



Figure 15. Gambling restrictions. Made by the author.

Bearing that in mind, the lifestyle situation might get out of hand if we do not focus our efforts on curing those problems. When they are left unnoticed, it might lead the future labour force into debt due to overconsumption and overlending. Therefore, all of the blocking and cancelling opportunities that the government would create for the people could possibly help out the people who are in their possessive flickering of compulsive dopamine boost.

In 2020, the previous Swedbank Estonia CEO, Robert Kitt, brought out a problem with the lending industry: unreasonable loan conditions and overlending. This topic accumulated a lot of media attention, and the government had to take a closer look at the credit companies, although nothing specific was done. He stated that there are more than 100,000 people who have taken loans that are unreasonable. Therefore, it might be the beginning of a national outbreak, from which it would be difficult to crawl out. (Kitt, 2020)

To conclude, the lifestyle of Estonians is showing a clear mark, where people are lending more than they could have. Therefore, there should be an immediate solution on how to help those people who are suffering from this constant lack of financial wisdom. Banning and forbidding would not help the illiterate, but rather deepen the problem it portrays.

## 4. Competitive research

When looking at the financial literacy situation in Estonia, it is obvious that there is a clear and wicked problem at hand that would need to be solved in order to have a functioning society. Although it has to be mentioned that there are different kinds of people in our society when talking about money: ones who understand that they need help and others who do not, as seen from Figure 16.

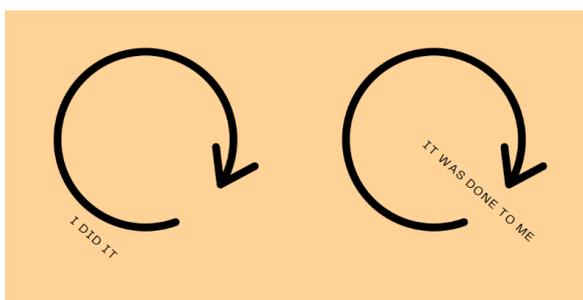


Figure 16. How people feel about taking loans. Made by the author.

It became even more obvious that the research would not include people who do not understand that they have taken excessively large loans with unreasonable conditions since the author could not conduct any interviews with them. Also on the second pillar, what the author relayed was the interview with Joonas, who also mentioned that he does not see the value in helping those who do not want it because the government is already doing that.

### 4.1 Budgeting planning tools

When there is a wish to start budgeting money, there are easy solutions such as budgeting in Excel, but in 2023, there are also other viable options that could be looked at. These applications will help show how much money is coming in and what is going out. The ultimate goal for all of these budgeting planning tools is to keep the costs under control and take care of each euro that will go inside of them. Money-budgeting tools are mainly built by financial institutions or start-ups. The author tested out the following money budgeting applications: Buddy, Balance, WalletApp, Spendee, MoneyCoach, Money Flow, Budget!, Swedbank Rahakoguja, SEB Rahapäevik, Bilance, N26, and Revolut. The author took a closer look at the solutions that are most popular in Estonia, which were Swedbank Rahakoguja, SEB Rahapäevik, and Bilance.

### 4.1.1 Swedbank Rahakoguja

On October 1, 2020, Swedbank came out with a solution called "My Budget", which allows the user to monitor the expenses and income that come to the bank. It is a convenient solution for the application and desktop. My Budget gives a clear understanding of the overview of the expenses by each category, divides the amounts of one transaction between several categories, and gives the opportunity to see all of the payments in one place. The solution is free of charge for everyone who uses Swedbank. (Swedbank, 2022)

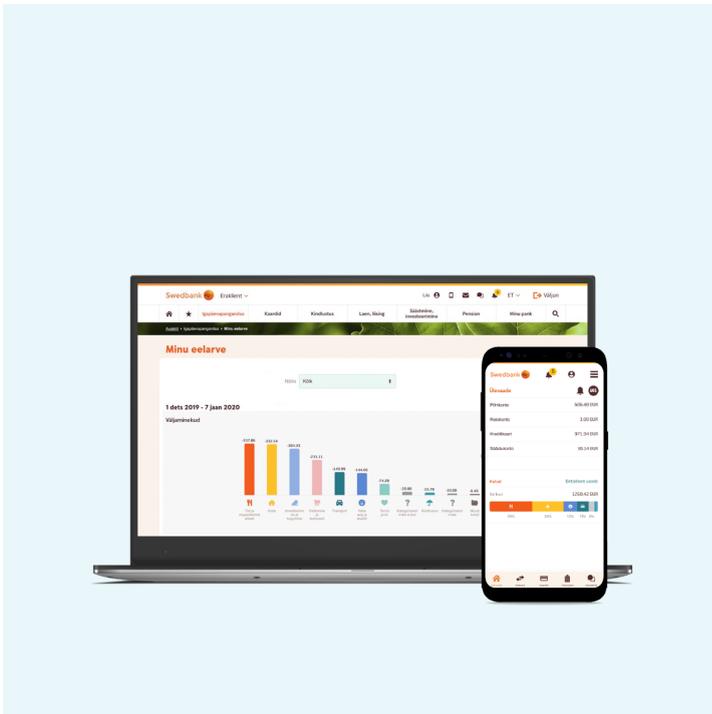


Figure 17. Swedbanki Rahakoguja. (Swedbank, 2022)

Through testing of the application, it is evident that there is a lot of emphasis on illustrations and customer experience. Using the application from desktop or mobile was quite easy, and understanding where the money goes was clear to the author. There was an easy set-up, but the onboarding process was a bit lacking since there were cool features, but it was up to the user whether they found them or not. For example, when setting the limits, how much can the user spend in each month and how much is left for the user to spend?

### 4.1.2 SEB Rahapäevik

In 2010, SEB Estonia came out with an automatic financial budgeting solution that was

only available on the desktop (Ninn, 2010). SEB Rahapäevik is an electronic income and expense analysis environment that can be accessed on desktop and mobile. Although the user interface is outdated, it enables one to plan a family budget, which Swedbank Rahakoguja does not allow.

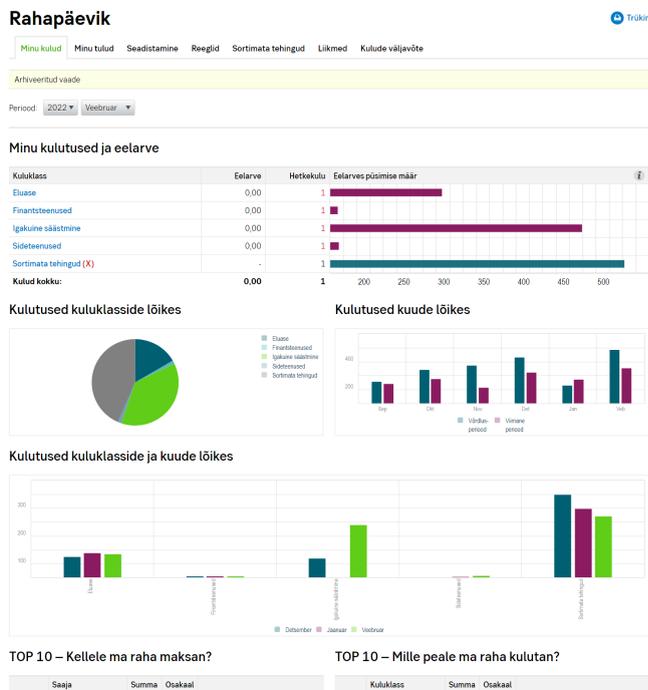


Figure 18. SEB Rahapäevik. (Swedbank, 2022)

Through the testing of the functions of the SEB Rahapäevik, it became obvious that the solution is not built to last due to the fact that the user experience looks terrible and it does not offer any specific restrictions to the user. The best functionality of the solution was the TOP 10 to whom the user is paying money and what is the group classification where the money is going. Although the system was there in early 2010, it seems that there have not been many developments to the system that would meet the user's needs today.

### 4.1.3 Balance

At the beginning of 2022 there was an Estonian start-up Balance, who launched their automated financial application, which should help people to get a better grasp and look over their finances. The application usage is much better than the one, which Swedbank or SEB has launched. The reasoning is that they have built an intelligent AI system behind the curve, where it automates and gives feedback accordingly. (Balance, 2022)



Figure 19. Bilance app. (Bilance, 2022)

When the author was testing the solution, it seemed that the application creators had spent time with the user researching and developing it. The application was intuitive, and everything was clear to understand. The outcome of the application was that the onboarding process was quick and easy, and the majority of things were well explained. In the application, the pulling of banking transactions happened quite intuitively, while the readjustments of the categories worked well.

Throughout the month, the application shows how much is saved and allows the user to start planning the budget, which would restrict the user from making some purchases if they went over the boundary. Although the application told the user again that the user was over budget and predicted the future outcome, there are no educational stories on how to deal with the limitation. Therefore, the application fulfilled the need for the user, that everything is in the red zone, but how to deal with it next was missing.

## 4.2 Money wisdom games

Looking into the money wisdom games, it is clear that one way to gain financial knowledge is through board or online games. In Estonia, there are quite a few different games that teach children and adults to manage their money better. Although it would be worth noting that several of them are just financial conversational cards, that would agitate the parents to talk more about money with their children or friends.

There are games such as Cash Flow that advance the knowledge and understanding of entrepreneurship, real estate ownership, and the purchase of stocks and bonds. The goal of the game is to exit the nine-to-five job and start earning money with the assets the player has accumulated during the game. During the game, people should learn how assets and liabilities work and how to behave like investors.

In the online game Cashy, the player's goal is to compete with friends and accumulate more profitable investments throughout the game. The game's author, Mart Vainu, states that the successful player is the one who understands that well-being and happiness should come together with raising and gaining money. (Märk, 2023) Therefore, the author has a belief that this game would actually emphasise an important topic: one might leave nine to five jobs, but do they understand that there is also happiness in between?

It would also be worth noting the world's most popular business game, Monopoly, where the players have the task of buying, selling, and renting real estate to become the richest. The game starts with all players receiving money from the bank, and it could be interpreted in real life with an example of family wealth or money that was received from the parents to start their lives. Through the game, the players pay taxes if needed, gain properties, and put others less fortunate into debt. Although it is one of the most popular games for its simplicity, the game misrepresents and glorifies the home owners, who have accumulated all that wealth. (Powell, 2004)

### **4.3 Solutions if there is nothing to budget**

When the situation has turned another way if there is a problem with loan payment, it is important to know what the overview of the solutions is that the Estonian Government has in place for the people who are in that position. Although none of them are comfortable, they are important links to getting everything in order.

#### **4.3.1 Payment disorders and debt counsellors**

When a person gets their first registration on the payment disorder list, the amount that has not been paid to the debtor is at least 30 euros and it has not been paid for 45 days after the day of the payment due date.

After that, the person should pay up, or it will take 7 days until the name or company is inserted into the payment disorder list. When a person is on the payment disorder list, then there will be many restrictions. According to the expert interview with Martin, the people do not comprehend what the name on the payment disorder list can do, such as not being able to apply for a job or being able to rent or purchase any properties with the help of a bank. (Creditinfo Eesti, 2022)

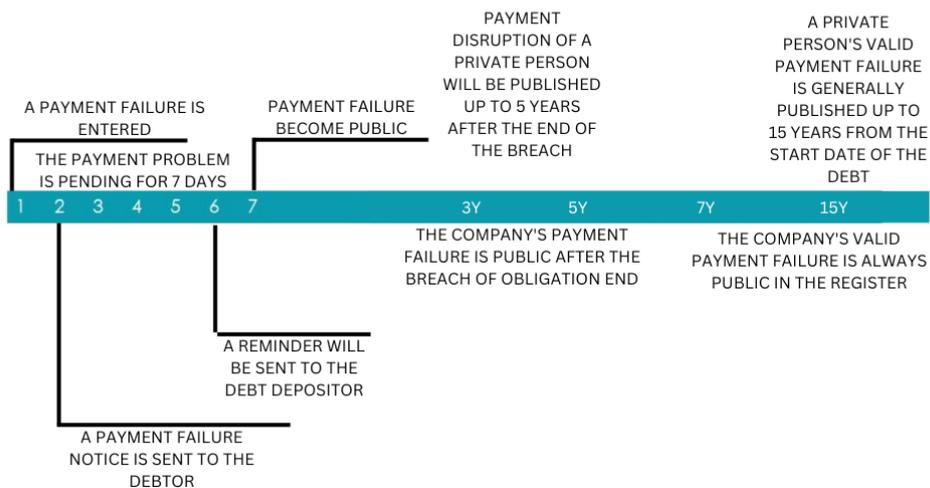


Figure 20. Register of payment disorder plan. Made by the author.

When seeking help from the debt counsellor, they will lead the way on how to cut down the budget and what agreements the person in debt should pay first. The initial idea for this job is to cut costs and show how to save money. Although people turn to these people when they understand that they are owing someone money.

Debt counsellors also help out in court when there is something that needs to be done. It is often when debt collectors send threatening mail without any basis, that some people pay it off. It is worthy of mentioning that in Estonia there are free-of-charge municipal debt collectors who are paid by the taxpayer. Usually, they are initiated through the social worker in the residential area. (Eesti Võlanõustajate Liit, 2002)

#### 4.4 Alternative future solution - positive credit registry

While the two previous solutions were something that exists already today and is somewhat of a solution to the problem that has been caused by overlending, a positive credit registry is something that tries to solve the root cause of why people fall into debt. The positive credit registry's main idea is to exchange real-time data between different financial institutions and smaller lenders. (Pangaliit, 2022)

Through the registry, the company that gives out the loan should seek out the obligations that the person has and figure out whether the person is financially capable enough to send it out. At the moment, this system is nonexistent and has been on the government's table for quite some time. (Pärli, 2020)

During the interviews with Jane, Joonas, and Liisa, it was also mentioned that

something like a positive credit registry might stop those people who have lent so much money that they can not pay it back. Joonas was one of the people who took on loans in the amount of 100 000 euros, and during the interview he mentioned that with the positive credit registry, the amount would have been 30 000€. When thinking about it, it is absurd that a person was able to gain so much loan from different parties without actually being asked if it could be paid.

A positive credit registry would remove all the bureaucracy, where people would need to pull together different bank data in order to be accepted for a loan. In Finland the positive credit registry has worked well since it is convenient and fast (YLE, 2018).

To conclude, then, the positive credit registry would try to solve the root problem, although it should be stated that it has been talked about for quite some time that this thing is coming, but it is not here yet. Hopefully, when it is live, people with payment difficulties will be left behind. Since the solution has not been developed yet, I will cover how people could start to use it without being scared.

## 4.5 Trust towards the positive credit registry

Information on how one system analyses the data points might be scarce. Therefore, it should be thought through how trust is gained with one service. In the 21st century, there is a socio-cognitive theory of trust that argues that the trust between two people varies across the independent and shared goals they have. Therefore, we ought to create trust between the parties before there is trust (see Figure 21).

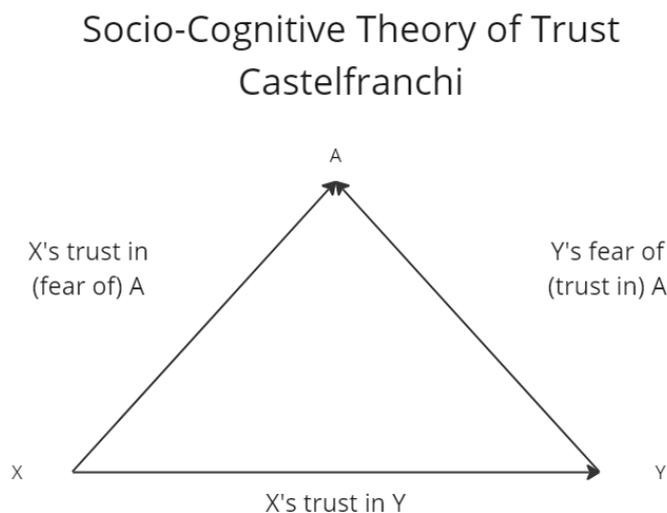


Figure 21. Socio-Cognitive Theory of Trust (Castelfranchi, 2005)

From trust, we ought to move to subjective trust, which Pauline and van Raaij's

conceptual framework tried to exploit. Namely, it states that when humans have some kind of past behaviour created, then there are specific subjective norms that would fit into the person's life. From which one perceives whether they trust one system or not (see Figure 22).

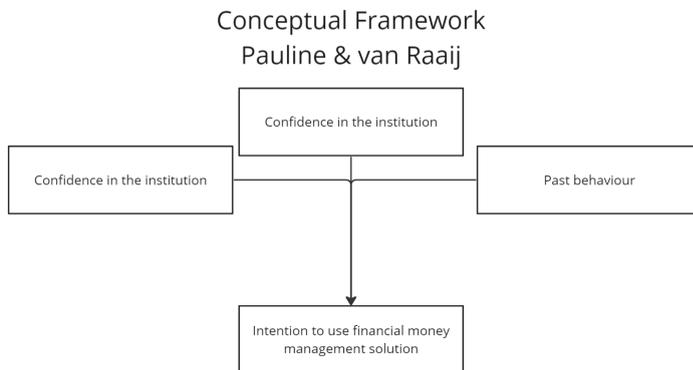


Figure 22. Conceptual Framework (W.J., 2017)

The last concept that would be needed to bring to the table is the technological acceptance model (see Figure 23.), from which we should understand whether the system could be perceived as useful and easy or something else. If it was not easy enough, then the people would want a new system and solution for it to work. This is vital for understanding because, at the moment, 9% of Estonians do not have access to the internet. Although it could be linked to their acceptance of the internet, it is also in question.

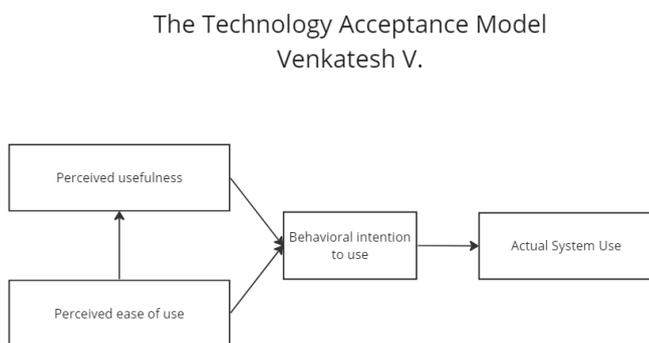


Figure 23. The Technology Acceptance Model (W.J., 2017)

When looking at these three theoretical spaces, it should be possible to create trust in the positive credit registry. There is definitely a wish to seek more models and systems that would cover gamification because the people who are using it have different backgrounds. When looking at the models, there might be a need for slight alterations, but it should explain how to implement them in a way that they could start to work in Estonia.

## 5. Conclusion of the research

The research part of the thesis shared the understanding of the human relationship with money and what are the common denominators in patterns, events and structures of it. Throughout the desktop research and interviews the author started to build up the reasoning why people crave something more than the other.

People reason with their wishes and needs differently and it is all related to the circle of people who they are surrounded with. Only one part that humans can not change is the family they are born to. Through the interviews it became clear that the relationship with money is related to how their parents perceive money. Whether it is a tool that can buy dopamine and experiences, or something that can improve life for the better.

Desktop research gave the understanding how financial literacy has different components that the system should take into consideration. At the moment current SEB and Swedbank solutions are only built upon theoretical knowledge, where the end user understands that they do not have money. On the other hand Balance tackles with theoretical knowledge, but has a twist to an investor mindset, without tackling the practical knowledge in the system. This might be an obvious inclusion to the system, but it has to be thoroughly analysed and thought through so the person would not just eliminate the information, but take it into account and think about reframing their life according to the application suggestion. The system should show a path to include all of the financial literacy components into one solution.

While there are positive factors when we are thinking about lifestyle inflation, such as economic boosts and instant dopamine for quick purchases, there is also a darker side to it, where people start to spend more financial resources on activities that they could not have, but wish for. This is mainly caused by the origin and background systems they brought with them from childhood (Ravishankar, 2021). The capitalistic Western system provides people with freedom and entertainment, but it can also lead to debt if the unknown is not properly accounted for. This might cause a pitfall since people who can borrow more money begin to quickly understand how things are creating more happiness in their lives. (University of Texas at San Antonio, 2017)

## 6. Design Brief

As mentioned in the research, the design process could be described through the double-diamond method. With the double diamond problem space, the author started to understand more about the challenges people face in everyday life with money. Throughout desk research, field research, and brainstorming, the author got a different lens on the situation. This led the author to the interviews, which gave a better understanding of how people act and react to different things that are related to money. From there, several user journeys developed, and the root cause was even closer.

Throughout the interviews, there were main pain points for people who might fall into a potential debt crisis due to their lifestyle choices. The questions were related to system thinking, which analyses and finds patterns, events, and structures in the problem. This led the author to research points that were a challenge for the people.

### **Money budgeting**

It is difficult to understand where the money is going and how to manage it quickly.

### **Financial illiteracy**

There are different journals that educate people about finances, but none of them gives real-life examples.

### **Impulsive purchases**

After the purchase from the internet shopping spree, the wallet is empty, and there is no money left to budget.

### **Weekend problem**

During the weekend, more money is spent than was planned. Therefore, it will lead to disappointment in how much they spent.

### **Money planner**

Current solutions require constant updates and reorganization of the budget list; therefore, the application is not opened often.

People's understanding of money has a strong correlation with their relationship with it. Also, other stakeholders, such as friends, co-workers, schools, governments, and family members, have talked about it. This is all related to the strong and weak links between how one perceives financial knowledge and what one does with it. Due to research limitations, the author decided to focus the system on people who have not yet fallen into the debt crisis and who might be intrigued to change their money habits.

The solution space should give the people an opportunity to gain information that they would need to get in order to change their lifestyle and save up some money. The

author listed actions when the system could come into play when the person:

- Has an increase in salary
- Starts to spend more money through the payments of debit or credit cards.
- Visits e-commerce shops often and buys things from there.
- Who spends more money than usual on the weekends?

All of the above is possible to fetch into the system if the pre-requirements are fulfilled, which are that the user accesses a smartphone a lot, pays with a card or phone, has money to spend, agrees to share data, receives a monthly salary, and is willing to make small adjustments to life. Throughout the problem space search, the author erected a question that is the basis for this design brief:

**How might we empower people to make different financial decisions that are aligned with their long-term goals?**

The design brief should take into mind different stakeholder client journeys and develop a unique informational board for each and every one. The platform Lifestyler changes the way people feel and think about money since it should understand why people act as they do while serving them with suggestions that matter to them.

The goal of the design brief was to illustrate how theoretical and practical financial education come together while thinking about the investor's money wisdom. The solution space is not agitating people to start investing, or reading about financial education materials, but rather focuses on the real-life example, where the end user manages their money and gains new knowledge. Each of the functions will be discussed in detail.

## **6.1 Lifestyler platform and onboarding**

The Lifestyler platform starts its process with an onboarding process, which would consider all of the different interactions that the person might have throughout the steps. The author understood that there were shortages in consumer journey mapping, therefore some other solution was needed. Since the project is quite complex, the author understood that the service blueprint diagram would be one of the solutions to how to portray the service.

This tool was useful, since the service blueprint portrays the entire process, without missing any stage or roles that would be required for the system to work. Also, the author believes that this creates an understanding of whether the operational objectives would be feasible and achievable. From Figure 24. it can be seen how the onboarding service blueprint would look.

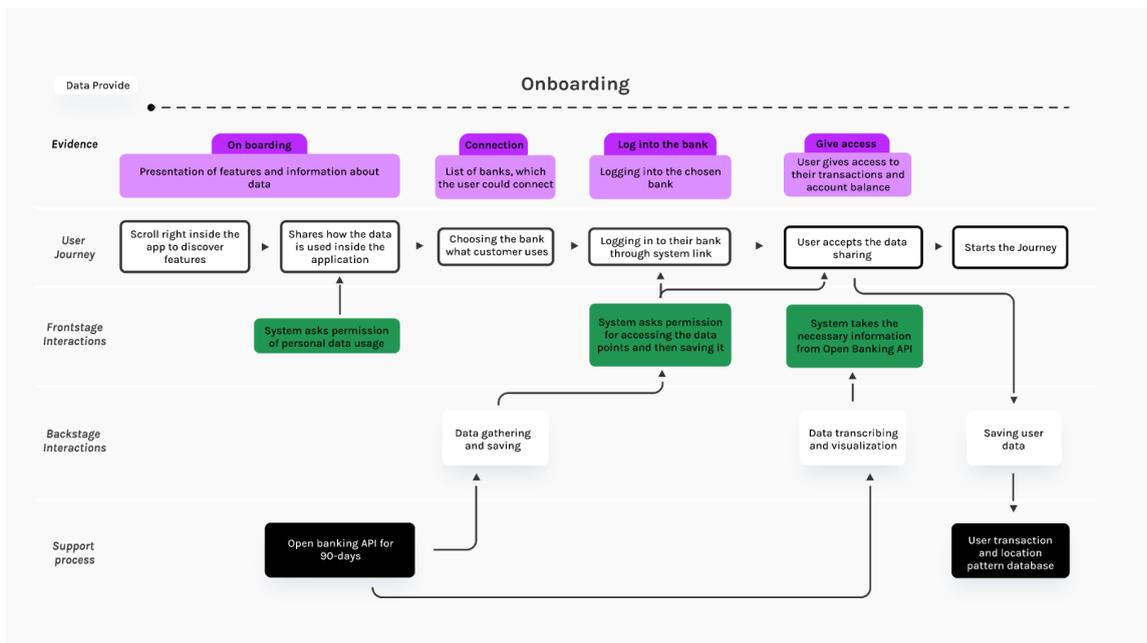


Figure 24. Service Blueprint. Made by the author.

From onboarding, it is visible that the supportive processes would need to access the Open Banking API, which would give the service access to the financial records for the past 90 days. This solution would be possible to implement since the European Union pushed traditional banks to open up that information so they would not create a monopoly. (Kotkowski, 2022) There is also the need for user transactions and location patterns to be analysed and stored.

Moving from the support process to the backstage, the data will be gathered, saved, transcribed, and visualised. This information would not yet be shown at this stage, but it would be required to collect that data during the onboarding section since otherwise if the person does not accept the conditions, then the applications could not be used. Moving to the front-stage interactions, the user has to give permissions for the data usage, and then there is a need to access the banking account in order to receive the financial record.

From the user journey point of view, onboarding works intuitively, and the flow of the customer journey should be clear. The user reads through the data that is pushed out from the application, then connects to a bank and gives all the accounts access so the

system can work. Throughout the onboarding journey, the user has shared a narrative of how the application should help the person, which is visible in Figure 25. From a visualisation point of view, the application uses animated characters for the purpose of making money management a bit more fun and not as corporate as the other applications were. The second reason is that the solution is rather targeted at a younger audience, which is having trouble with long weekend parties and impulsive e-commerce purchases. That came out of the interviews and desktop research.

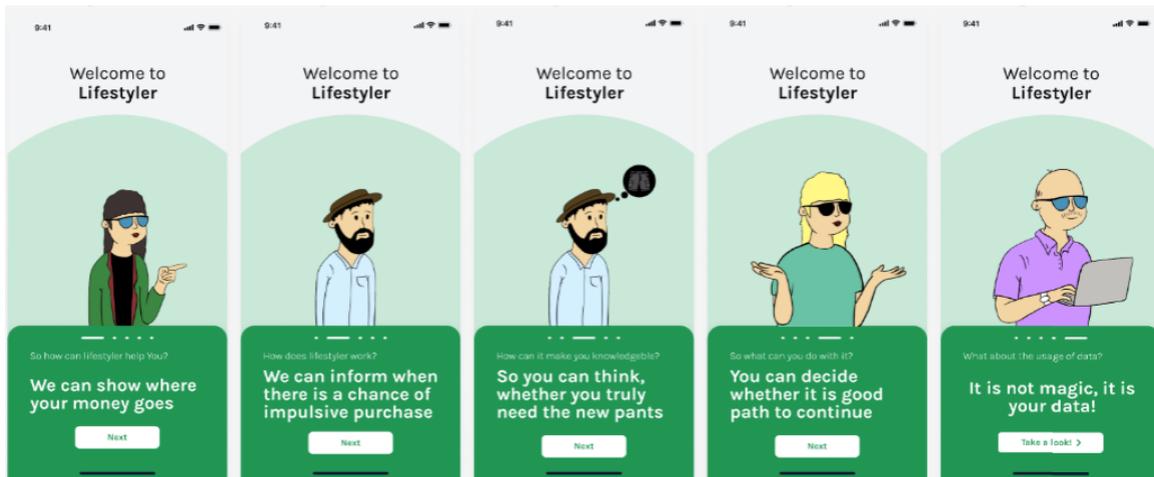


Figure 25. Frontstage onboarding process. Made by the author.

After the frontstage interaction receives information that all of the buttons have been pushed, the user is shown how their data is used inside the application, which can be seen in Figure 26. The process explains in simple language how the data is used and what it will do inside the system to provide the output.

In point three, it is explained to the user that they have three different choices throughout the journey, that they would feel most comfortable with:

- Live life as it is.
- Cut back on some of the costs.
- Make a drastic change in your life.

This was designed as such since it came out of the interviews with Jane, Uudo, Tiina, and Liisa. They stated that if there was any system in place to be more reasonable with money, then they would be in control. Even though the system might know what is best for the user, the user should still have the power to do what they want to do.

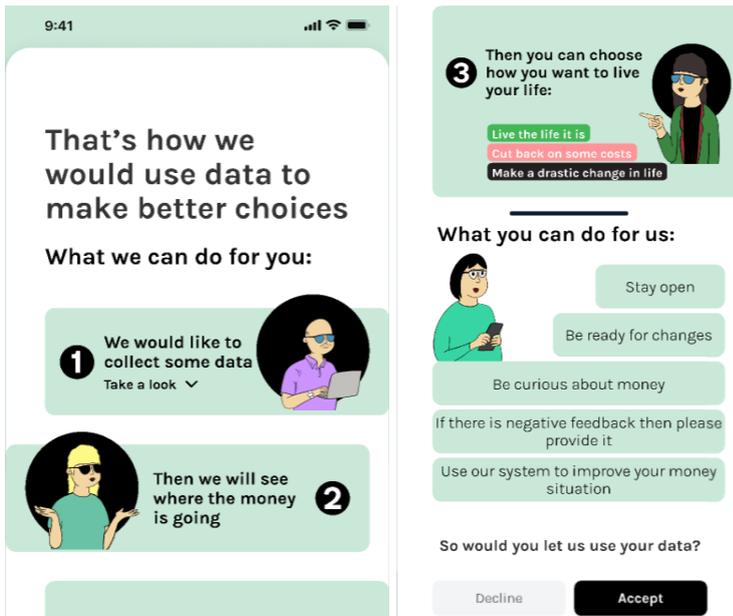


Figure 26. Frontstage onboarding process in the data layer information. Made by the author

This is a crucial part since in the European Union there is a law that states that the data gathering should be as transparent as possible and also in a clear language that everyone can understand (European Commission, 2018). Therefore, when the user clicks on the data layer information first button "Take a look", then there is a layer that will open up with the data explanation of how the system is fetching the information.

Therefore, the customer has multiple options on how to manage their lifestyle changes since the application is just there for companionship, not to lead the end user down a specific road.

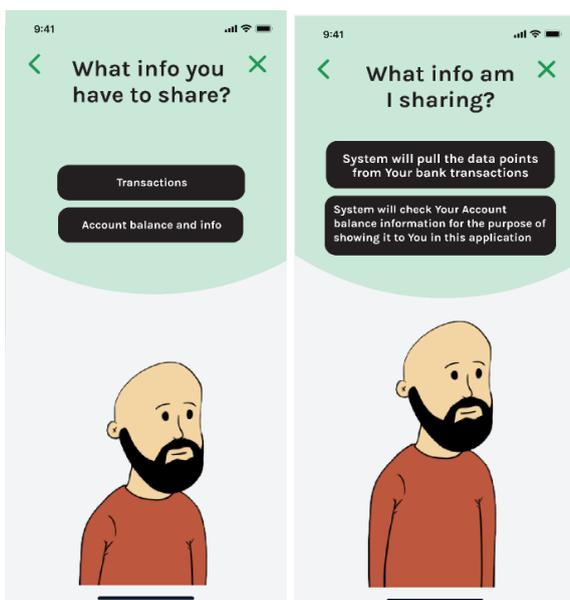


Figure 27. Frontstage onboarding process in data explanation. Made by the author

From there on, when the user accepts the data layer part, the application will push the user to reminders in order to understand how the user experience and solutions will look, which can be seen in Figure 28. The screen explains how the notifications are used and whether they would need any additional toggles to be switched on or off. This would also trigger the background system, which reacts if there are any pop-up notifications or location tracking happening. This is yet again part of the European Commission's data tracking and gathering transparency law (European Commission, 2018).

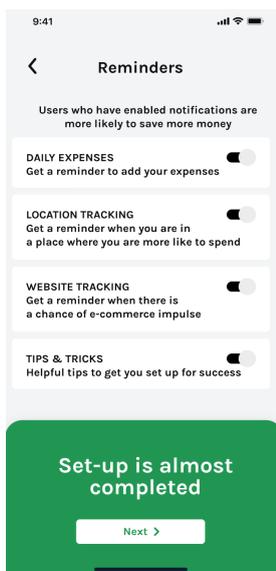


Figure 28. Frontstage onboarding process in data explanation. Made by the author

The set-up is almost complete, but before that, the last point is to connect to the preferred bank, from where the payments are regularly made. With one click, the system will log in to the user's account.

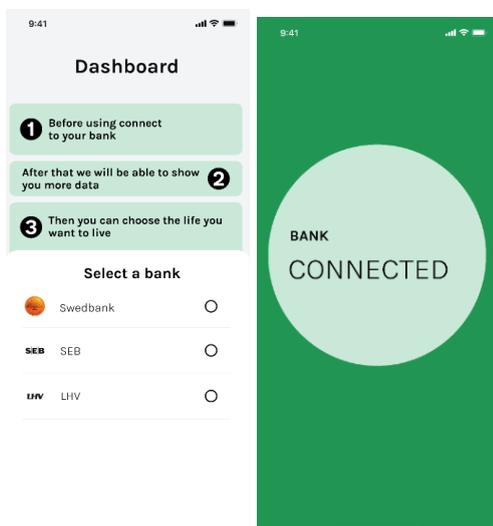


Figure 29. Frontstage onboarding process in bank acceptance. Made by the author

## 6.2 Lifestyler application

Lifestyler has now created a personalised account that is automatically logged into the phone system, which the person uses. From there, it is inevitable to talk about the service blueprint while using the application. The service blueprint is supported by the transactions and location-based patterns that are constantly running in the background. At the same time, the supportive systems in place are the Maps Embed API and the In-App Browser, which track what pages the user is going to.

Throughout the backstage process, data and information are gathered together and visualised for the end user so they can understand more of the information that is happening on the screen.

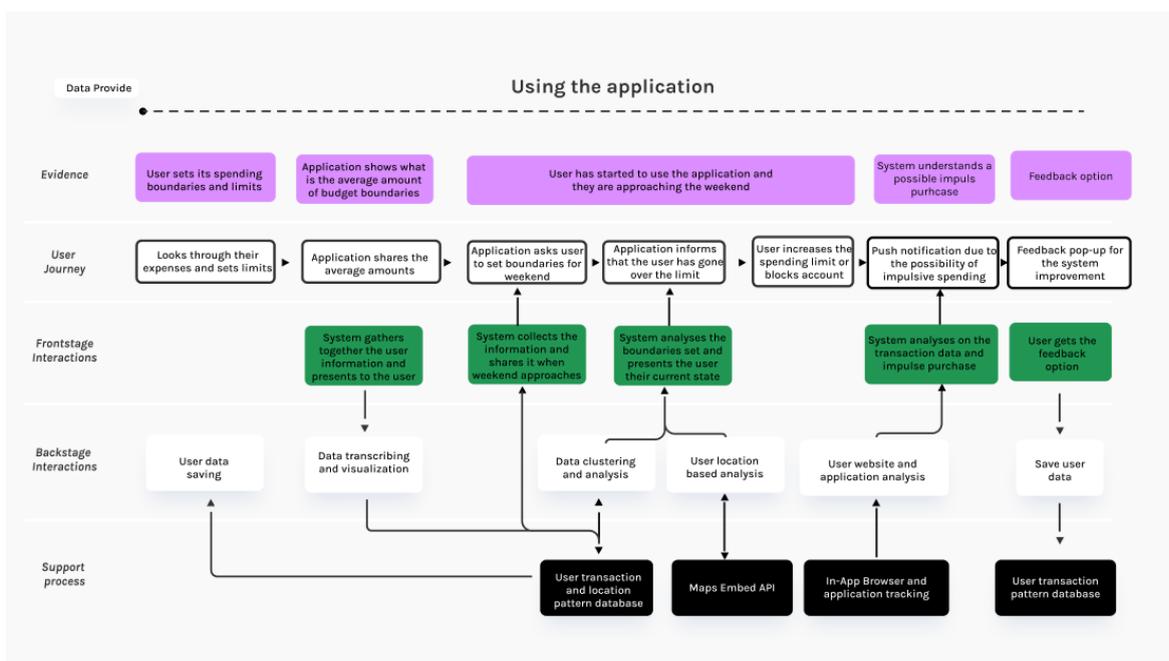


Figure 30. Service blueprint while using the application. Made by the author

From the user journey point of view, the user is welcomed with a screen where they could see their balance account and how the data privacy is in the application, which would lead to Figure 26. From the dashboard, it is also visible that they could also try out how to cut back on some expenses they have, which is visible in Figure 31. The main goal of the dashboard is to not overcrowd the user and give them free will over what they would like to do.

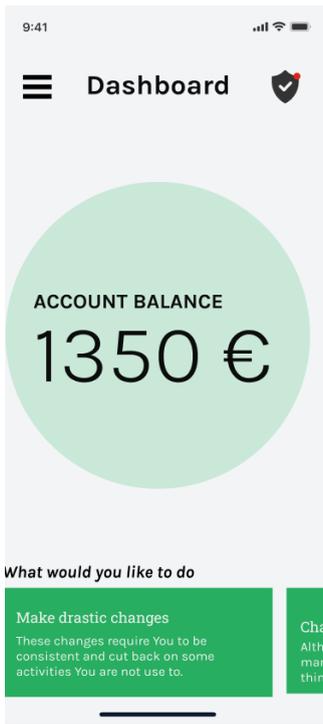


Figure 31. Dashboard. Made by the author

From the upper left burger menu, the user could navigate to set up the money, as seen in Figure 31. There, the user is allowed to set up boundaries and maximum amounts for the categories they are spending the most money on. When the expense is starting to go over the allowed amount, it will turn red, and the user is given an opportunity to expand the planned amount. Going over the budget might happen quite often, but then there are the educational tweaks that would tell you how to cut down on expenses and what needs to be changed.

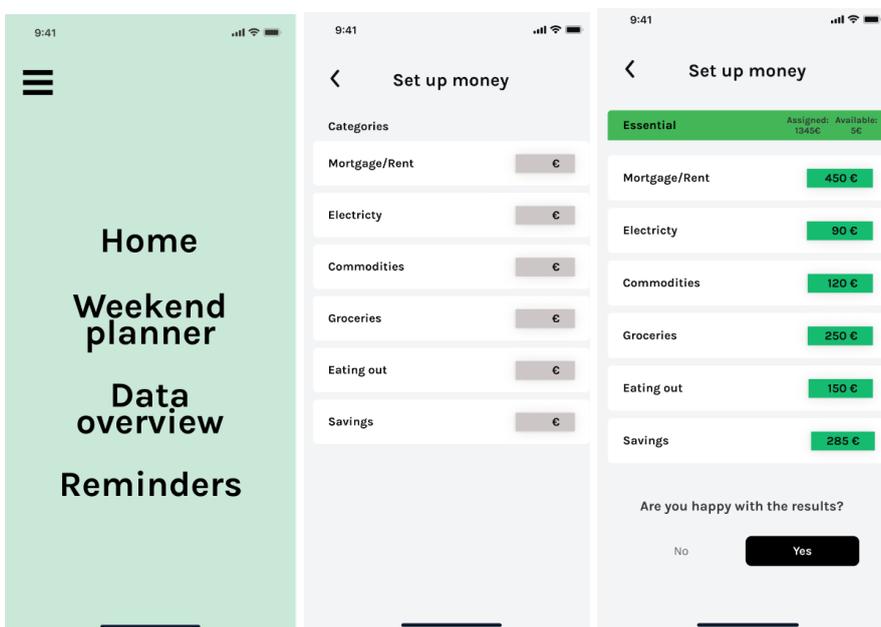


Figure 31. Setting up the money. Made by the author

If the user clicks on electricity, then a screen pops out to share knowledge on how to decrease the budget next month. This is a change that no other money planner application is making; therefore, it is a novel solution, as can be seen in Figure 32. This idea was also supported by desktop research, where the patterns showed that people did not know how to live a bit more frugally.



Figure 32. Commodities . Made by the author

The user has accepted the results of setting up the money, and they are shown how much people are on average spending on different categories, as seen in Figure 33. This is important to understand since there is the lifestyle inflation topic at hand, where the end-user would theoretically understand that on average people spend less money on mortgages, so they could either swap their house for a smaller one or accept that they are spending more money on that specific category than others. Again, the system does not want to push the person to change if they do not want to change.

The author used the system thinking model, where users compare themselves to the community, which creates a sense of belongingness. In terms of planning and budgeting, the system should state clearly what the objective is. Long-term goal setting should help the end user stop overspending and overconsumption since they always have a goal in front of them.

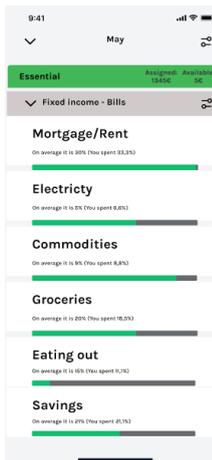


Figure 33. May bills. Made by the author

## 6.3 Weekend planner

The weekend is coming up, and Lifestyler asks the user about their plans for the upcoming days. This is done due to the reason that came out from the interviews with Liisa and Jane: they constantly find themselves broke after the weekend. The purpose of this would be to give the user a heads-up that something like this is coming, which would require them to think ahead. This would also tackle the situation where people would not constantly need to worry that they live from paycheck to paycheck since they can plan ahead.

The planner activates on Wednesday when the system asks, "What are the objectives of the weekend?" The user could choose from staying at home, going outside, or enjoying free leisure, as seen in Figure 34.

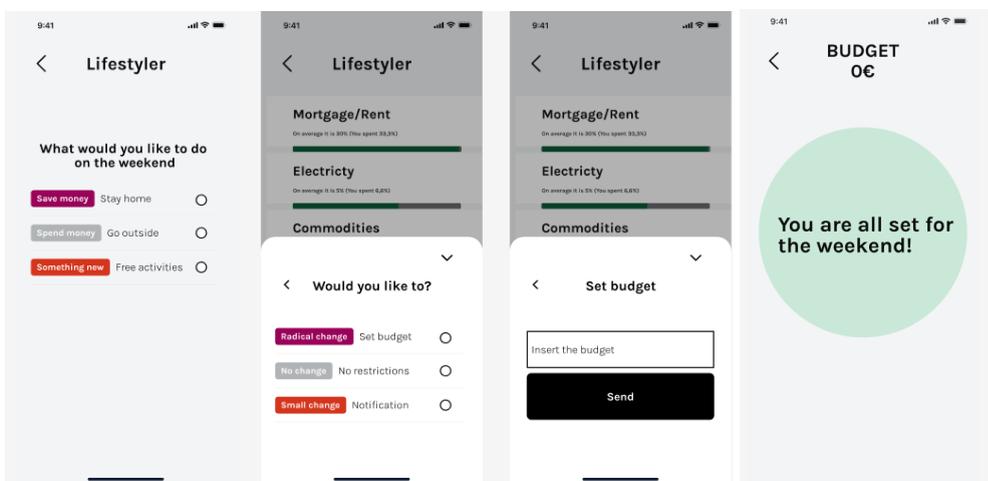


Figure 34. Weekend planner. Made by the author

If the user chooses to stay at home, then the system does not do anything, and the

journey would not lead anywhere. If the user chooses to go outside, then the system would ask whether they would need to set a budget, have no restrictions, or have impulsive tracking notifications, which would be explained in the next chapter.

Now, going back to the situation, where the user has chosen to go outside with a restricted budget. After setting up the budget, the user gets an opportunity to put in the amount they would like to spend during the weekend, and after that, the budget has been set. Throughout the weekend, users get information about how their budget is doing and whether they are keeping on track, as seen in Figure 35. If they would like to increase the budget, then it is possible, but the system also allows them to block all payments, when the user thinks that they will start to buy unnecessary things. This solution is in place for users who are impulsive buyers and understand that they would need to block their purchases for health reasons. This is a solution that no other similar applications allow but rather activates when the number is already in the red. This would mean that these systems deal with consequences and are not trying to prevent them from happening.



Figure 35. Weekend planner budget. Made by the author

If the user checked the free activities in the weekend planner, then there is a solution, where the user is brought out different variations of activities they could do with their time. This would give the user an opportunity to choose what they want.

The solution space is gamified since the application target group is on the younger side. Gamification is something, where there are elements that would create higher engagement and motivate users to do something, through the elements of game mechanics (Deterding et al., 2011). A free activity list would pop up in a way, where they could swipe right and left in order to choose the activities they would like to do. This gives a little fun activity as well for the user and gives instant gratification, as they are in charge of their weekend.

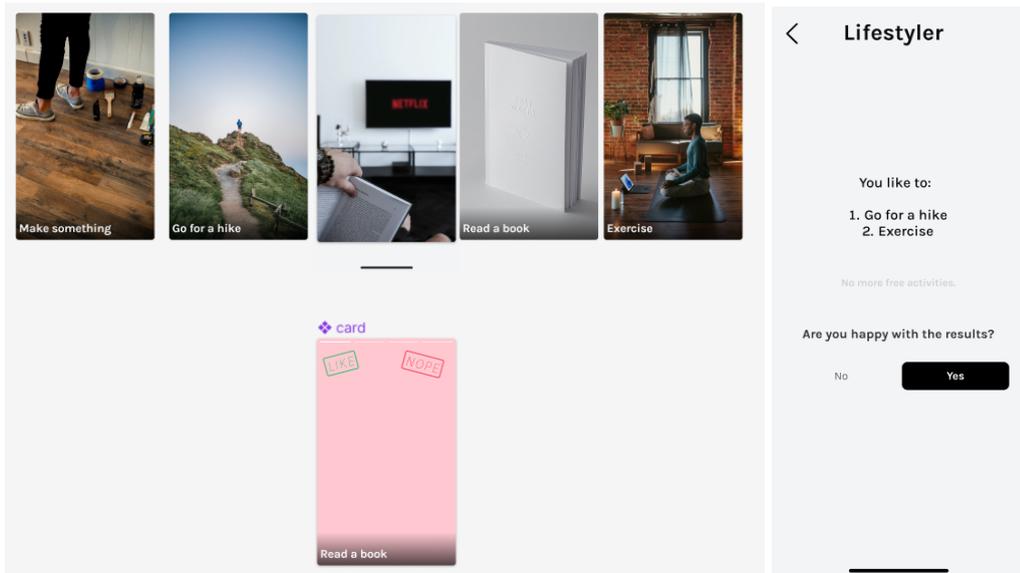


Figure 36. Weekend planner budget. Made by the author

## 6.4 Tracking systems

The users of the application must feel comfortable knowing that they are tracked. Even though the system is intentionally designed to stop impulsive decisions, it can only be as good as the company makes it.

In this case, the user journey takes the user to a place, where the person has entered the Kickstarter page, where they are constantly ordering some new stuff. This is done through the Open Banking API, where the system understands that there is a possible way that the user who visits the website might purchase something more. The user can swipe it away, but the idea is that the user should get a notice that there is a higher likelihood of that happening.

Also, there is a pop-up notification, that will come to the home screen, that there is a higher probability of an impulse purchase, which can be seen from Figure 37.

Similar visuals will pop out when the person is visiting a popular place, where they usually spend more money. For example, when the user steps into a bar, the mobile phone location understands and knows that the user has stepped into a place, where they spend more money.

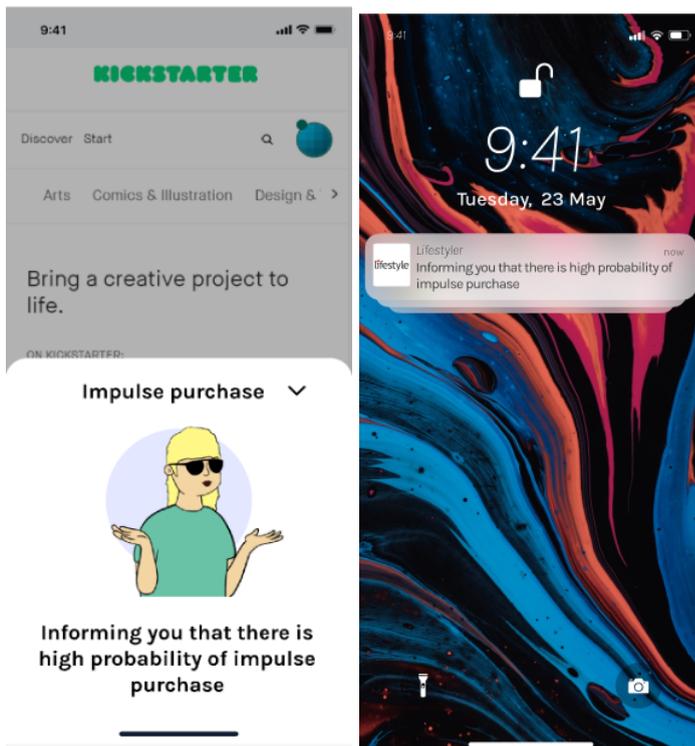


Figure 37. May bills. Made by the author

## 6.4 Design testing

The co-design workshop worked with five different people, and the idea was to test whether the system is supported to stop lifestyle inflation and whether there are any insights the author would need to change. The last important question was, whether the data gathering is trustworthy and understandable, or whether people would rather allow such a solution to access their bank accounts.

The questions that were asked were:

- What are the main elements visible in the solution?
- Is the data gathering trustworthy for the user?
- What decisions would the users make based on the information that the application showed?
- Which information is confusing for the user?
- What are the things the applications do well?
- What needs improvements, and why?
- Are there any comments about the solution?

To illustrate the common journey, the onboarding process was clear for everyone, and then the system logic started to work differently for everyone. Although there were

comments about the visuals and whether a financial planner should be done in such a happy way.

There was one user who understood from onboarding that the system starts to provide, through system tracking, cheaper pants solutions. Imagine this, when a person goes to a clothing company's website, the user looks at pants, but the system understands that the person does not have that much money or that it is not financially suitable, and therefore it offers a cheaper brand solution. Although the thought is good, the idea for Lifestyler is not this, due to the fact that this system deals rather with a situation, that these pants would never need to be bought.

One user just clicked next for all of the journey pages and wanted to see the solution already, which was interesting for the author since the whole logic was to explain the solution, so the end user would know how the application is working. This is an extreme user and therefore not within the scope of this research.

From a budget perspective, users took it well, although the author tested out two different screens, which can be seen in Figure 38. The idea was to understand whether the users saw differences between these designs and whether they would prefer one over the other. Although the majority liked the left visual style, they concluded that the visual on the right provided more information, so they would not need to click away right away. Also, in terms of the colour scheme, they enjoyed the more calm one, which is on the right.

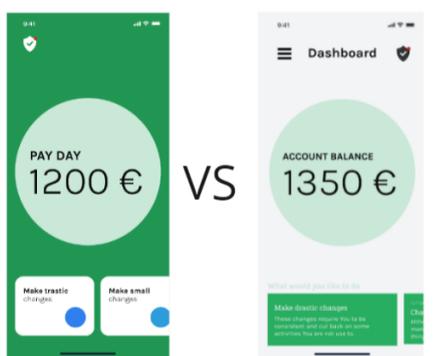


Figure 38. May bills. Made by the author

To conclude the user testing and co-design, the conclusion was that the application idea and wish are good, which would solve a couple of problems for these people, especially going out on weekends. One of the people named it an accountability booster that is in your pocket and constantly reminds you that the person is going out too much or purchasing too many things from e-commerce shops. Users also mentioned that the weekend plan of free activities was good, although there could be more free outdoor activities that would somehow be in symbiosis with Chat GPT, from

whom they could ask what to do during the weekend. there could be more free outdoor activities that would somehow be in symbiosis with Chat GPT from whom they could ask what to do during the weekend.

From an improvement point of view, they thought that the system could be more strict and say, "Do this or do that. The texts were too broad and not as strict as they were used to in other applications. Also, there were glitches that were improved after that in Figma.

The overall consensus of the journey would be taken together in Figure 39. People had their ups and downs, but the emotional rollercoaster of whether an application could lead the user towards something is still undefined. Even though the users mentioned that they would start to use the application, the underlying question would be whether this solution would help them to nudge their lifestyle even a little bit towards more understanding financial decisions.

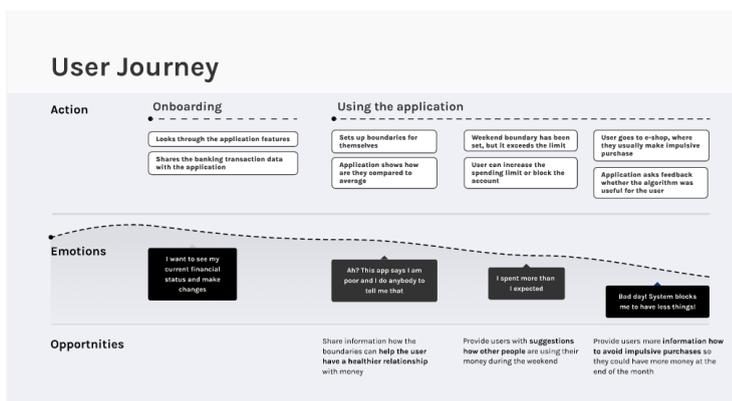


Figure 39. User journey thoughts. Made by the author

The author also made small improvements to the beginning of the application to show out all of the features of the application on one slide, so they would not be split into different pages. This solution was done for the reason that people would not just click "next" but perhaps read through one page of onboarding.

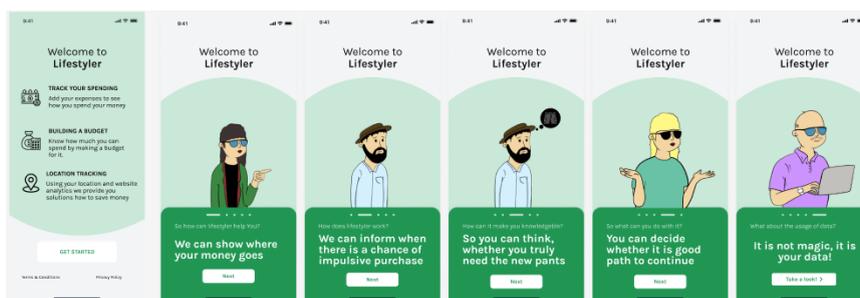


Figure 40. Login system. Made by the author.

## 6.5 Concept evaluation

Collaboration and synthesis with the end users made it possible to design a solution that would theoretically solve the problem that was stated at the beginning of the research. The lifestyle system is complex, and it relies on different data points to work. Without it, the system would not be able to activate.

A part of the design was to conceptualise whether the three pillars of financial literacy could fit together as one. The author believes that through the system that is Lifestyler, it would be possible since there are many novel ideas that are gamified in such a way that the person would not rush to close down the notification.

To improve the solution space, it would take more time and people to evaluate the lifestyle, since people are different and everyone is in their own place. Even though the co-designers were from North, South, and East Estonia, the finalisation of the concept and bringing the solution to market would need more refinement. Most importantly, from the point of view of a UX writer and UX designer who could redesign the wireframes and solutions.

From the user's perspective, they valued the following things:

- The system nudges the user not to purchase more things.
- How the educational part was inside the application
- I liked that the system informed the user about their cash flow situation and compared the overall budget to others.
- Gamified free activities that they were able to choose from

Through the double diamond method, the author was able to find the problem ground and the solution space. A complementary addition was the system thinking model, where the problem of finding structure gave away a good understanding of how patterns and events trigger people. At the same time, using the logic that problem-solving could be done through the community was a good challenge, and that succeeded.

The overall consensus from the group was that the idea is good, but the application itself would need more work. They all commonly agreed that, through small nudges and push indications, there is another way to go forward. At the moment, the solutions that exist are pushing people to save as much as possible, but the question might be whether they are happy doing so.

## 7. Conclusion

The thesis explored ways to prevent lifestyle inflation for people who are at risk of falling into debt. Throughout the design research, the author found out what the correlative triggers and reasons were why people were not able to manage their money.

The factors that affect how people fall into debt are different, but the strongest linkage the author found was with family, friends, and school. Although the research understood that even though there is strong governmental support in place for those who fall into debt, the people themselves need to understand that they are in debt. Without self-recognition, it is almost impossible to get out of that vicious circle.

From a societal point of view, it is important that the people who are in debt be helped, because otherwise society as a whole would not operate well. But it would also be important to recognize these people, who have not yet fallen into a dark debt crisis. These people are at risk since there is no governmental support for those who are on the verge of falling into one.

One of the reasons why people might fall into a debt crisis is because they are caught in the trap of lifestyle inflation. Although noticing that the person is in that situation is complex since the triggers are difficult to notice, One of the possible solutions could be a financial money planner that shows where the money is going and how it is used.

Money planner solutions are not a phenomenon since there are a lot of them on the market, but what Lifestyler does differently than the others is that it looks towards the future through the recognized impulsive patterns that the user has. By noticing these impulsive decisions, the user could take a different stand on how they deal with money, even though the system does not force them to do anything.

With the proposed solution, the system would close the gap, where people would not recognize their destructive patterns after everything has fallen into pieces but rather slowly and consistently move towards a future where there would be money and the person would not need to live from paycheck to paycheck. Lifestylers would give indications as to whether the new materialistic things bring the end user value or, rather, a long life in debt. The end goal of Lifestyler is not to make these people investors, but to let them live the life they want and give them financial knowledge they did not receive from their earlier lives without the solution.

## References

- BBC. (2021, December 15). *Positive lifestyle choices – the benefits - Health and wellbeing in sport - Edexcel - GCSE Physical Education Revision - Edexcel*. BBC. Retrieved April 28, 2023, from <https://www.bbc.co.uk/bitesize/guides/z2d9j6f/revision/2>
- Berman, C. (2015). *Social Factors Influencing a Financial Decision*. Small Business - Chron.com. Retrieved May 16, 2023, from <https://smallbusiness.chron.com/social-factors-influencing-financial-decision-81620.html>
- Bilance. (2022, May 4). *Eesti Startup Bilance tõi täna Baltikumi turule uue rahahaldamise rakenduse – Äri | GoodNews*. Äri | GoodNews. Retrieved April 28, 2023, from <https://majandus.goodnews.ee/eesti-startup-bilance-toi-tana-baltikumi-turule-uue-rahahaldamise-rakenduse/>
- Brinkhof, T. (2023, January 10). *If we live in a capitalist world, why is it taboo to talk about money?* Big Think. Retrieved April 28, 2023, from <https://bigthink.com/sponsored/why-is-it-taboo-to-talk-about-money/>
- Cartwright, M. (2023, February 8). *The Steam Engine in the British Industrial Revolution*. World History Encyclopedia. Retrieved April 28, 2023, from <https://www.worldhistory.org/article/2166/the-steam-engine-in-the-british-industrial-revolution/>
- Castelfranchi, C. (2005). (PDF) *Socio-cognitive theory of trust | Cristiano Castelfranchi*. Academia.edu. Retrieved April 28, 2023, from [https://www.academia.edu/2834045/Socio\\_cognitive\\_theory\\_of\\_trust](https://www.academia.edu/2834045/Socio_cognitive_theory_of_trust)
- Choudhury, R. (2016, January 23). *Barter system still alive in Assam*. Deccan Herald. Retrieved April 28, 2023, from <https://www.deccanherald.com/content/524765/barter-system-still-alive-assam.html>
- Creditinfo Eesti. (2022, December 3). *Maksehaireregister*. Creditinfo. Retrieved April 28, 2023, from <https://creditinfo.ee/volgade-enetamine/maksehaireregister/>
- Davies, G. (2002). *A History of Money: From Ancient Times to the Present Day*. University of Wales Press.
- Davis, F. D. (2022, November 5). (PDF) *A Theoretical Extension of the Technology Acceptance*

*Model: Four Longitudinal Field Studies*. ResearchGate. Retrieved April 28, 2023, from [https://www.researchgate.net/publication/227447282\\_A\\_Theoretical\\_Extension\\_of\\_the\\_Technology\\_Acceptance\\_Model\\_Four\\_Longitudinal\\_Field\\_Studies](https://www.researchgate.net/publication/227447282_A_Theoretical_Extension_of_the_Technology_Acceptance_Model_Four_Longitudinal_Field_Studies)

Design Council. (2005). *Framework for Innovation*. Design Council. Retrieved May 15, 2023, from <https://www.designcouncil.org.uk/our-resources/framework-for-innovation/>

Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011, September 28). *From game design elements to gamefulness: defining "gamification"*. The ACM Digital Library. <https://dl.acm.org/doi/10.1145/2181037.2181040>

Dobrin, A. (2013, August 27). *The Problem with Money*. Psychology Today. Retrieved April 28, 2023, from <https://www.psychologytoday.com/us/blog/am-i-right/201308/the-problem-money>

The Economist. (2023, March 16). *Is the global investment boom turning to bust?* The Economist. Retrieved April 28, 2023, from <https://www.economist.com/finance-and-economics/2023/03/16/is-the-global-investment-boom-turning-to-bust>

Eesti Pank. (2014). *Importance of price stability*. Eesti Pank. Retrieved May 15, 2023, from <https://www.eestipank.ee/en/monetary-policy/importance-price-stability>

Eesti Võlanõustajate Liit. (2002, May 27). *Eesti Võljanõustajate Liit*. Eesti Võlanõustajate liit. Retrieved April 28, 2023, from <https://evnl.ee/>

Ehrlich, P., & Ehrlich, A. H. (2008, August 4). *Too Many People, Too Much Consumption*. Yale E360. Retrieved April 28, 2023, from [https://e360.yale.edu/features/too\\_many\\_people\\_too\\_much\\_consumption](https://e360.yale.edu/features/too_many_people_too_much_consumption)

Elmansy, R. (2021, September 2). *The Double Diamond Design Thinking Process and How to Use it*. Designorate. Retrieved April 28, 2023, from <https://www.designorate.com/the-double-diamond-design-thinking-process-and-how-to-use-it/>

European Commission. (2018, June). *Requirements of Trustworthy AI | FUTURIUM | European Commission*. European Commission. Retrieved May 18, 2023, from <https://ec.europa.eu/futurium/en/ai-alliance-consultation/guidelines/1.html#Transparency>

- Gondor, D. (2009, December 14). *Why Do We Over-consume? - Our World*. Our World UNU. Retrieved April 28, 2023, from <https://ourworld.unu.edu/en/why-do-we-over-consume>
- Green, C. D. (2000, August). *Classics in the History of Psychology -- A. H. Maslow (1943) A Theory of Human Motivation*. Classics in the History of Psychology. Retrieved April 28, 2023, from <https://psychclassics.yorku.ca/Maslow/motivation.htm>
- Gregoire, C. (2018, February 8). *How Money Changes the Way You Think and Feel*. Greater Good Science Center. Retrieved April 28, 2023, from [https://greatergood.berkeley.edu/article/item/how\\_money\\_changes\\_the\\_way\\_you\\_think\\_and\\_feel](https://greatergood.berkeley.edu/article/item/how_money_changes_the_way_you_think_and_feel)
- Gregoire, C. (2018, February 8). *How Money Changes the Way You Think and Feel*. Greater Good Science Center. Retrieved April 28, 2023, from [https://greatergood.berkeley.edu/article/item/how\\_money\\_changes\\_the\\_way\\_you\\_think\\_and\\_feel](https://greatergood.berkeley.edu/article/item/how_money_changes_the_way_you_think_and_feel)
- Gregoire, C. (2018, February 8). *How Money Changes the Way You Think and Feel*. Greater Good Science Center. Retrieved May 16, 2023, from [https://greatergood.berkeley.edu/article/item/how\\_money\\_changes\\_the\\_way\\_you\\_think\\_and\\_feel](https://greatergood.berkeley.edu/article/item/how_money_changes_the_way_you_think_and_feel)
- Guan, N., Guariglia, A., Moore, P., Xu, F., & Al-Janabi, H. (2022, February 22). *Financial stress and depression in adults: A systematic review*. PLOS. Retrieved April 28, 2023, from <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0264041>
- Ivask, P. (2021, September 29). *Noorim võlaorjuses vaevleja on vaid kolme-aastane laps*. Äripäev. Retrieved April 28, 2023, from <https://www.aripaev.ee/uudised/2021/09/29/noorim-volaorjuses-vaevleja-on-vaid-kolme-aastane-laps>
- Iwabuchi, M. (2019, August 29). *5 Design Approaches to start a New Creative Project | by Masaki Iwabuchi*. UX Planet. Retrieved May 15, 2023, from <https://uxplanet.org/5-design-approaches-to-start-a-new-creative-project-3b548073cb90>
- Jääger, M.-L. (2020, November 18). *Uuring: Vähenenud on lastele taskuraha andmine heade hinnete või käitumise eest*. Swedbanki blogi. Retrieved April 28, 2023, from

<https://blog.swedbank.ee/rahaasjade-teabekeskus/uuring-vahenenud-on-lastele-taskuraha-andmine-heade-hinnete-voi-kaitumise-eest>

Kiseleva, A. (2021, July 29). *MAKING AI'S TRANSPARENCY TRANSPARENT: notes on the EU Proposal for the AI Act*. European Law Blog. Retrieved April 28, 2023, from <https://europeanlawblog.eu/2021/07/29/making-ais-transparency-transparent-notes-on-the-eu-proposal-for-the-ai-act/>

Kitt, R. (2020, November 3). *Robert Kitt: Eesti suur mure – 100 000 inimest võlgade küüsis*. ERR. Retrieved April 28, 2023, from <https://www.err.ee/1154540/robert-kitt-eesti-suur-mure-100-000-inimest-volgade-kuusis>

Komori, T., Makinodan, M., & Kishimoto, T. (2019, November 19). *Social status and modern-type depression: A review*. Wiley Online Library. Retrieved May 16, 2023, from <https://onlinelibrary.wiley.com/doi/full/10.1002/brb3.1464>

Kotkowski, R. (2022, May 10). (PDF) *The Open Banking Adoption Among Consumers in Europe: The Role of Privacy, Trust, and Digital Financial Inclusion*. ResearchGate. Retrieved May 18, 2023, from [https://www.researchgate.net/publication/360499220\\_The\\_Open\\_Banking\\_Adoption\\_Among\\_Consumers\\_in\\_Europe\\_The\\_Role\\_of\\_Privacy\\_Trust\\_and\\_Digital\\_Financial\\_Inclusion](https://www.researchgate.net/publication/360499220_The_Open_Banking_Adoption_Among_Consumers_in_Europe_The_Role_of_Privacy_Trust_and_Digital_Financial_Inclusion)

Kunsman, T. (2021, May 17). *Why Money Is Important And The Role It Plays in Our Lives*. Invested Wallet. Retrieved April 28, 2023, from <https://investedwallet.com/money-is-important/>

Lunceford, G. (2019, November 22). *What Is Your Relationship With Money?* Forbes. Retrieved April 28, 2023, from <https://www.forbes.com/sites/forbesfinancecouncil/2019/11/22/what-is-your-relationship-with-money/>

Luthar, S. S. (2013, November 5). *The Problem With Rich Kids*. Psychology Today. Retrieved April 28, 2023, from <https://www.psychologytoday.com/intl/articles/201311/the-problem-rich-kids>

Märk, K. (2023, March 25). *Cashy I Mängides rahatargaks*. Teeviit. Retrieved May 16, 2023,

from <https://www.teeviit.ee/juunior/cashy-mangides-rahatargaks/>

Masud, J. (2004, January). (PDF) *Financial behavior and problems among university students: Need for financial education*. ResearchGate. Retrieved April 28, 2023, from

*Need for financial education*. ResearchGate. Retrieved April 28, 2023, from

[https://www.researchgate.net/publication/228404924\\_Financial\\_behavior\\_and\\_problems\\_among\\_university\\_students\\_Need\\_for\\_financial\\_education](https://www.researchgate.net/publication/228404924_Financial_behavior_and_problems_among_university_students_Need_for_financial_education)

Mets, M. (2020, October). *Minu Facebooki laenuäri*. Levila. Retrieved April 28, 2023, from

<https://www.levila.ee/raadio/minu-facebooki-laenuari>

Moldes, O., Dineva, D., & Ku, L. (2022, July 29). *„:“--“:;,,,;“--“:;,, „:“--“:;,,,;“--“:;,, -*

YouTube. Retrieved April 28, 2023, from

<https://onlinelibrary.wiley.com/doi/10.1002/mar.21627>

Mullainathan, S., & Shafir, E. (2013). *Scarcity: Why Having Too Little Means So Much*. Henry Holt and Company.

Neufeld, D. (2020, September 17). *Infographic: Visualizing the Hierarchy of Financial Needs*.

Advisor Channel. Retrieved April 28, 2023, from

<https://advisor.visualcapitalist.com/hierarchy-of-financial-needs/>

Ninn, E. (2010, October 18). *SEB uus rahapäevik koostab eelarve automaatselt ise*. Tarbija.

Retrieved May 17, 2023, from

<https://tarbija.postimees.ee/328158/seb-uus-rahapaevik-koostab-eelarve-automatset-ise>

Oidermaa, J.-J. (2018, December 10). *Professor: maailm vajab kapitalismi kõrvale uut sorti majandusmudelit*. Novaator. Retrieved May 16, 2023, from

<https://novaator.err.ee/883834/professor-maailm-vajab-kapitalismi-korvale-uut-sorti-majandusmudelit>

Oja, B. (2021, September 5). *"Olukorrast riigis": pensionireformi mõjudega peab pikalt arvestama*. ERR. Retrieved May 16, 2023, from

<https://www.err.ee/1608328904/olukorrast-riigis-pensionireformi-mojudega-peab-pikalt-arvestama>

Pangaliit. (2022, September 18). Positiivne krediidiregister ja laenu teenindamise piirmäär aitavad ülelaenamist vältida — Eesti Pangaliit. Retrieved April 28, 2023, from

<https://www.pangaliit.ee/uudised-ja-teated/positiivne-krediidiregister-ja-laenu-teenind>

amise-piirmaar-aitavad-ulelaenamist-valtida

- Pärli, M. (2020, October 22). *Riik on pankade soovil inimeste laenukohustusi ühte registrisse koondamas*. ERR. Retrieved April 28, 2023, from <https://www.err.ee/1149862/riik-on-pankade-soovil-inimeste-laenukohustusi-uh-te-regi-strisse-koondamas>
- Perez, C. (2002). *Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages*. Edward Elgar.
- Pertman, T. (2020, May 7). *Eesti laste finantskirjaoskused PISA järgi maailma parimad*. RahaFoorum. Retrieved April 28, 2023, from <https://rahafoorum.ee/eesti-lastefinantskirjaoskused-pisa-jargi-maailma-parimad/>
- Pino, I., & Ellis, V. (2022, December 14). *Generational wealth: What it is and how to build and protect it*. Fortune. Retrieved April 28, 2023, from <https://fortune.com/recommends/investing/generational-wealth-explained/>
- Poliitikauuringute Keskus Praxis SA. (2016, May). *EUROSTUDENT VI in Estonia: Summary and Main Conclusions*. Praxis. Retrieved April 28, 2023, from [https://www.praxis.ee/wp-content/uploads/2016/05/EUROSTUDENT-VI\\_main-conclusions\\_ENG.pdf](https://www.praxis.ee/wp-content/uploads/2016/05/EUROSTUDENT-VI_main-conclusions_ENG.pdf)
- Powell, B. (2004, February 13). *What's Wrong with Monopoly (the game)?* Mises Institute. Retrieved May 16, 2023, from <https://mises.org/library/whats-wrong-monopoly-game>
- Pruul, K. (2022, June 27). *Inimeste jaoks on hinnad tõusnud rohkem, kui inflatsioon näitab*. Äripäev. Retrieved May 15, 2023, from <https://www.aripaev.ee/uudised/2022/06/27/inimeste-jaoks-on-hinnad-tousnud-rohkem-kui-inflatsioon-naitab>
- Rahandusministeerium. (2023, March 05). *Rahandusministeeriumi rahatarkuse tegevused*. Rahandusministeerium. Retrieved April 28, 2023, from <https://www.fin.ee/finantspoliitika-valissuhted/rahatarkus>
- Ravishankar, R. A. (2021, August 16). *Why Are We So Emotional about Money?* Harvard Business Review. Retrieved April 28, 2023, from <https://hbr.org/2021/08/why-are-we-so-emotional-about-money>
- Riitsalu, L. (2020, May 7). *Eesti õpilaste tulemused PISA 2018 finantskirjaoskuse uuringus*.

*PISA 2018 Eesti tulemuste raport: finantskirjaoskus, 32.*

[https://issuu.com/innove/docs/pisa\\_2018-fin-raport](https://issuu.com/innove/docs/pisa_2018-fin-raport)

Rosen, M. I., & Black, A. C. (2010, August 11). *A money management-based substance use treatment increases valuation of future rewards*. ScienceDirect. Retrieved May 16, 2023, from

<https://www.sciencedirect.com/science/article/abs/pii/S0306460310002509>

SEB. (2022, January 22). *ambassador program | SEB*. SEB. Retrieved April 28, 2023, from <https://www.seb.ee/en/school-ambassador>

Segal, J., Smith, M., & Robinson, L. (2023, February 28). *Gambling Addiction and Problem Gambling*. HelpGuide.org. Retrieved April 28, 2023, from

<https://www.helpguide.org/articles/addictions/gambling-addiction-and-problem-gambling.htm>

Staggs, K. (2021, September 30). *The Evolution of Money*. SALT Lending. Retrieved May 17, 2023, from <https://saltlending.com/the-evolution-of-money/>

Suimets, A. (2021, October 20). *Enefit Greeni erakordne aktsiapakkumine*. Swedbanki blogi. Retrieved May 16, 2023, from

<https://blog.swedbank.ee/investeerimine/enefit-greeni-erakordne-aktsiapakkumine>

*Sustainable consumption and production*. (2015, February 24). the United Nations. Retrieved April 28, 2023, from

<https://www.un.org/sustainabledevelopment/sustainable-consumption-production/>

Swedbank. (2017, May 16). *Lapsevanemale*. Swedbank. Retrieved April 28, 2023, from

<https://www.swedbank.ee/private/home/more/segments/parents>

Swedbank. (2022). *Minu eelarve*. Swedbank. Retrieved April 28, 2023, from

<https://www.swedbank.ee/private/d2d/accounts/transactions?language=EST>

Taylor, K. (2021, December 21). *4 Behaviors That Can Land You in a Credit Card Debt Trap*. Harvard Business Review. Retrieved May 16, 2023, from

<https://hbr.org/2021/12/4-behaviors-that-can-land-you-in-a-credit-card-debt-trap>

Thrivent. (2022, April 27). *What Is Lifestyle Inflation, and How Does It Affect Your Budget?*

Thrivent. Retrieved April 28, 2023, from

<https://www.thrivent.com/insights/budgeting-saving/what-is-lifestyle-inflation-and-ho>

w-does-it-affect-your-budget

- Twumasi, R., Shergill, S., & Lawrie, E. (2020, January 23). *Problem gambling: Why do some people become addicted?* BBC. Retrieved April 28, 2023, from <https://www.bbc.com/news/health-50828086>
- University of Texas at San Antonio. (2017, October 16). *How dopamine tells you it isn't worth the wait: Research findings implicated in decision-making.* ScienceDaily. Retrieved May 15, 2023, from <https://www.sciencedaily.com/releases/2017/10/171016081941.htm>
- Vedler, S. (2022, December 27). *Eestlased maksavad euribori tõusult pankadele lisatuluks sadu miljoneid.* Eesti Ekspress. Retrieved April 28, 2023, from <https://ekspress.delfi.ee/number/120000860/artikkel/120118562/eestlased-maksavad-euribori-tousult-pankadele-lisatuluks-sadu-miljoneid>
- Võlglaste Päevik. (2022, November 8). *Salakavalast hasartmängupiirangust, otse ja keerutamata.* YouTube. Retrieved April 28, 2023, from <https://volglane.blogspot.com/2022/11/salakavalast-hasartmangupiirangust-otse.html>
- Võlglaste Päevik. (2023, March 23). *Andsin oma panuse ühe lõputöö valmimisele.* YouTube. Retrieved April 28, 2023, from <https://volglasepaevik.blogspot.com/2023/03/andsin-oma-panuse-uhe-loputoo.html>
- Voomets, K. (2023, April 24). *Eestlaste finantstervis: säästupuhvri puudumine on üks oluline mureallikas.* Swedbanki blogi. Retrieved April 28, 2023, from <https://blog.swedbank.ee/rahaasjade-teabekeskus/eestlaste-finantstervis-saastupuhvri-puudumine-on-uks-oluline-mureallikas>
- W.J., P. (2017, February). *(PDF) Banking system trust, bank trust, and bank loyalty.* ResearchGate. Retrieved April 28, 2023, from [https://www.researchgate.net/publication/313361778\\_Banking\\_system\\_trust\\_bank\\_trust\\_and\\_bank\\_loyalty](https://www.researchgate.net/publication/313361778_Banking_system_trust_bank_trust_and_bank_loyalty)
- Wong, K. (2019, November 6). *How to Be a More Conscious Consumer, Even If You're on a Budget (Published 2019).* The New York Times. Retrieved May 15, 2023, from <https://www.nytimes.com/2019/10/01/smarter-living/sustainable-shopping-conscious-consumer.html>
- Woodard, D. (2022, June 12). *What Is Generational Wealth?* The Balance. Retrieved April 28,

2023, from <https://www.thebalancemoney.com/what-is-generational-wealth-5270424>

YLE. (2018, September 4). *Finland mulls "positive credit register" to help curb household debt*. YLE. Retrieved May 18, 2023, from <https://yle.fi/a/3-10386837>

YourCash Ltd. (2022, March 27). *A Brief History of Money and How It Is Made*. YourCash. Retrieved April 28, 2023, from [https://www.yourcash.com/history-of-money\\_-how-it-is-made/](https://www.yourcash.com/history-of-money_-how-it-is-made/)

Zaraska, M., & Ojanen, M. (2022). *Väikeste algatuste jõud*. Bonava. Retrieved May 16, 2023, from [https://happyquest2022.bonava.ee/wp-content/uploads/Bonava\\_Report\\_2022\\_EE-1.pdf](https://happyquest2022.bonava.ee/wp-content/uploads/Bonava_Report_2022_EE-1.pdf)

Zhen, S. (2019, August 6). *Study: More than Half of Americans Believe Children Should Manage Their Own Money Before Age 18*. MyBankTracker.com. Retrieved April 28, 2023, from <https://www.mybanktracker.com/open-data/surveys/survey-age-children-manage-money-301535>

## Appendices

For more detailed information or in the case of missing material, please contact the author: [jannodreger@gmail.com](mailto:jannodreger@gmail.com)

### Interviews

The following pseudonyms are used for the interviews:

Name	Duration	Date of conduct
Joonas	50 min	21.03.2023
Jane	45 min	25.03.2023
Tiina	60 min	17.04.2023
Uudo	75 min	18.04.2023
Liisa	40 min	19.04.2023