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Appendix I: Community Currencies In Detail

The following chapter gives an overview of the types of Community Currencies available. Currencies are categorized based upon their aims and form the clusters presented in this chapter.

Loyalty schemes
Loyalty schemes are a renown type of currencies; these are regularly brought into circulation by companies with the goal to increase the customer’s loyalty to their brand by using reward. Examples in the Netherlands are D.E. Saving points and ING Interest points, on an international level Air Miles can probably be recalled with ease. Loyalty schemes are probably the best example to explain a person new to the field of Community Currencies how the principle works. Due to a loyalty scheme’s relatively small usage as a medium of exchange between people it is doubtful whether it should be considered a currency like that of a nation. If you however take into account its exchangeability with the firm owning the scheme it can be considered one. During one of the interviews executed for this project [TH] it has been found that the D.E. Saving points are in some cases handed over to others especially right after a purchase.

Research indicates that the effect of loyalty schemes on consumer behavior varies for different markets and customer segments. A majority reports a small but positive effect on the loyalty metrics of individual customers. The impact is most notable in sectors where there is a lack of differentiation. Loyalty schemes turn out to be most effective for short term marketing campaigns. Programs with a long term focus score less positive (Taylor & Neslin, 2005). It is hard to compare the performance of different Loyalty Programs because studies often don’t take into account a range of customer types, potential selection biases or simply use a different metric (Dorotic, Bijmolt & Verhoef, 2012).

It has been found that consumers overestimate the spending power of Air Miles which is misleading; the main advantage is attained by the businesses supporting the scheme (Liston-Heyes, 2002). Interestingly the economic benefits of the scheme are also the most important incentive for enrolment (Dorotic, Bijmolt & Verhoef, 2012). Increased privacy concerns combined with the overestimation of spending power for different Loyalty schemes might lead to a decreased popularity of this type of currency over the coming years [TH].

The data generated by loyalty programs can be used to further optimize a store’s offerings or communication to specific user groups. It is also possible to use the data to give customers more personalized offerings or relevant inspiration. If done well this data can add value to the shop owners as well as the customers but there is a chance that the customer’s feel intruded in their privacy by this specific offering. Finding the right balance is essential.

Loyalty programs hosted by retailers increased most dramatically in number during the 1990s and between 2006 and 2008 (Dorotic, Bijmolt & Verhoef, 2012). This indicates that Loyalty schemes are not necessarily created at times of crisis like most other currencies.

Regional economy currencies
Regional currencies are currencies aimed to stimulate economic activity in a particular region. This is often done through support schemes initially requested by governmental bodies or locals that like to realize it. How it works is that people are using a complementary currency which gives an incentive to shop locally, causing money to circulate faster and longer nearby. The local money is often introduced in the form of bills like regular tender, it usually has a digital version along with it.

The Brixton Pound is a good example of a regional currency; here the scheme was live for a few years before the users were given an exchange bonus of 10%. Eleven Brixton Pound could be obtained for ten regular pounds. Local shops accept the currency and are able to use it to pay other local entrepreneurs or exchange it back to regular pounds. The bonus differs from regional currency to regional currency but is regularly between 5 and 10 percent and is mainly present during the growth stage.
If the bonus period comes to an end (like happened with the Brixton Pound recently) business owners can still decide to provide users with a discount when they pay with the local currency. The main incentive for businesses to join is the exposure it provides in the local media and at the platform of the currency, but also to tap into the local currency which is circulating nearby.

Brixton pound started in 2008 during the crisis, likely due to the timing and its physical nature it became a very prominent currency in the Brixton area. By using it you show that you support local business. Since 2011 users have the additional opportunity to pay through text messaging, this also helped spreading the scheme widely and is currently the most dominant form of payment [SW]. It now runs stable without the markup that was required to get the Brixton Pound to change hands at the start [SW].

Another scheme in the United Kingdom, the Bristol Pound is subject for an Electronic Money Issuance license while Brixton Pound has obtained a (Limited Network) exception for its small geographic scale (Qoin, 2014b). As mentioned in the legal chapter it is very complex to set up international complementary currencies. New regional currencies however already emerge on a smaller scale for over a decade. A famous example is the German Chiemgauer which was set up in 2003 by a group of 6 students. (Kennedy & Lietaer, 2009). The annual turnover within the Chiemgauer currency was 7.2 Million Euros by 2013. The revenues increase linearly since its introduction in 2003. According to their measurements the circulation velocity of the Chiemgauer is 3,3 times as fast as Euros (Chiemgauer, 2013). This shows the ability of regional money to stimulate local transactions and since it is useless outside the boundaries of a community it stays there increasing purchasing power of local habitants.

To stimulate the growth of a regional money in use, a malus (fee) is regularly given for businesses that want to exchange it back to legal tender, this stimulates people to keep their savings in regional money and use it wherever possible.

Regional currencies are most often connected to the value of the legal tender used in the country of origin. It is however possible to represent the value of the currency in terms of other resources like oil, coal, energy prices and more. The currency can be physically backed by these resources but they can also only represent it as their face value. The positive side to making a connection or even a direct exchangeability to a group of- or a single resource is to keep the value more stable and predictable. It is said that a group or “basket” of resources can make the value more inflation resistant than legal tender (Kennedy, Lietaer & Rogers, 2012). So far there hasn’t been proof found that a currency backed up by a basket of resources functions well with a strong economy.

A famous example of a currency backed up by a resource is the Austrian Wörgl. It was introduced during the recession around the 1930s. The Wörgl was a so called stamp scrip currency. The coal production of the local mine backed the currency, in more prosperous times the note could be traded for portion of the coals that were mined in the meanwhile. The notes were devalued on a regular basis to stimulate spending and reduce the tendency to save the currency. It is claimed that the new currency brought the town back to very high employment levels and a strong economy. Due to adoption and raising attention of the currency with other towns the Central Bank sued the townships using the stamp scrip and won (Kennedy, Lietaer & Rogers, 2012). It is likely that the government and the Central Bank saw a high risk in losing influence and taxes received from regions with their own currency.

The downside of a resource backed currency is that the spending opportunities are limited because it is harder for people to understand its workings and have trust in its transparency. Especially in times a more stable alternative to the currency is available the value would become relatively volatile. The tendency to save value in a more stable form of money in combination with speculation from outside can severely damage a currency like for example the Argentinian Peso (Nechio, 2010). It is theoretically possible to make conversion to legal tender impossible with a currency but in reality black markets can emerge.
**Barter Trade currencies**

These types of currency are often used in networks of Small to Medium Enterprises. In essence they are a way of indirect barter through the use of a community currency. To illustrate, one company offers a product or service to another one in the network, the seller will receive the price paid of the product or service on his account in another currency (commonly the value is directly connected to the legal tender). At the buyer’s side the same amount of currency is subtracted. In some currencies this results in a negative balance (credit) on the buyers account (TradeQoin or Bartercard). In some cases new members receive a positive balance when they join the scheme. In others the currency can be obtained from the schemes bank before they can be spent (WIR). The currency acts as a means to make credit more accessible to small businesses (than through a regular bank), often without interest but with a membership fee. The network also promotes bids and offers to make exchange happen between partners in the network, this gives members a promotional advantage. It is common that products or services are only partly paid in a Barter Trade currency, the rest in the form of legal tender. This depends on the financial situation of the parties.

In Bartercard and Tradeqoin the total amount of currency always adds up to zero because some members have a positive and some a negative balance. Members commonly pay a transaction fee denominated in the community currency to the currencies hosting party. To get trade started the issuer can spend the currency and receive a negative balance, through revenues from transaction fees this negative balance can be reduced over time. Because Barter Trade currencies cannot be directly exchanged for legal tender an additional subscription- or regular fee is charged in legal tender to cover the costs and/or to make a profit.

When a barter trade network is small the spending opportunities are limited. This is especially difficult for members that have been active and obtained a high positive balance [EV]. Barter Trade currencies have to go through a phase like this before critical mass is obtained. It is important that the right members are added to the currency’s network in order to make useful deals within reach for everyone. If the spending opportunities are relevant and sufficient active members can remain active. Due to this restricted spending opportunity the value in use of the complementary currency is mostly perceived to be lower than its face value.

Another type of barter trade currency is the WIR in Swiss. This is likely the largest community currencies in existence to date and is already operational since the economic downturn in the 1930s. The WIR bank brings the WIR currency in circulation as a loan for a relatively low interest rate. This currency can in turn be used by businesses to pay each other, just like the barter trade currencies described before. When the WIR is traded in the black market its value is commonly substantially lower than its face value in legal tender. Accepting the WIR can open opportunities for a business to make new deals, the WIR bank (as well as many other Barter Trade currencies) also organizes networking events where business are stimulated to do business within the network (Witt, 2008).

The WIR currency has a counter cyclical effect on the money supply in economic down turns, loans can be created in the WIR currency if it is not or only scarcely available through regular banks. The shortage on Swiss Francs also makes it more likely for businesses to start accepting the WIR at that point in time. There is evidence that this helps the smaller to medium enterprises that are part of the network through economical down turns (Stodder, 2009).

**Social cohesion currencies**

Social cohesion currencies are comparable to Barter Trade currencies in the way they work, they are however aimed at regular people instead of organizations. Social cohesion currencies are set up with the aim to increase the social cohesion of a community and stimulate collaboration and/or reward social behavior. There are different types of social cohesion currencies in circulation. There is LETS, which is a currency that consists of points which are not backed or denominated in a real value. LETS was one of the earliest forms of social cohesion currencies and was invented in 1983, before the internet became big, by than it was a physical data system in which transactions were registered (North, 1998). LETS have largely been replaced for so called time currencies. The “Time Bank” version of these
Currencies is very comparable to the barter trade currencies, the main difference between the two is that with time currencies users pay each other using hours as the denominator (reference value). This means that this currency is service oriented and assumes that every person’s hour is of equal value. These social currencies are often used for care taking and voluntarily work in neighborhoods. Usually no taxes are required for schemes like this because of its relation to voluntarily work. In the United Kingdom up to around 1.000 Time credits can be received and in the Netherlands this amount is around 650. The United Stated and Japan are other known places that are known to have regulations related to voluntarily work for community currencies. Time banks are a relatively widespread phenomenon among currencies, they can be found at many places around the globe.

Some of these time currencies are organized differently such as the Makkie in Amsterdam (Makkie, 2012). Organization Social Cohesion currencies are brought into circulation by local organizations such as the primary school or health care organizations in exchange for voluntarily work. The currency is being created based upon the possibility to hand them in, they can be used for discount at the Albert Heijn, coffee places and cultural organization.

The Makkie is an interesting Dutch example in the “Indische” neighborhood in Amsterdam. Recent qualitative research indicates that there is an interesting empowerment paradox underlying the scheme. The overall goal was to increase overall participation of the citizens, but the users don’t feel extremely motivated to use the scheme. This is due to a lacking feeling of ownership and a general consensus that the number of relevant spending options and the perceived value is limited. As of 2013 a total of 2.040 Makkies have been handed out, of this only 288 (14,1%) has been spent , the rest is saved. The usage of the Makkie between users also appears to be lacking. Some people indicate that they would see receiving Makkies as an insult, because they think voluntarily work should be something you intrinsically do. Overall the conclusion of this research is that Makkie has the potential to be adopted but it requires more involvement and a stronger feeling of ownership of citizens and organizations (Boonstra & Klamer, 2013).

A more recent example of a social cohesion currencies is Samen Doen in the south of the Netherlands. Samen Doen is also related to a Regional Currency and can be considered a hybrid, but the main purpose is offering saving points which can be used to receive discount or support local initiatives (Samendoen, 2015). With an online account you can select the local initiative you support and by buying at local businesses or in the case of one of the partner businesses pay your rent in time, you receive points which are valued at 1 cent a piece. Here the social involvement is more prone towards local organizations such as the sportsclub or local theater club.

**Crypto currencies**

Crypto currencies are quite broad in nature but the important common factor is their connection to Bottom-up exchange and ownership. The ideas for developing these currencies are thus far found by citizens rather than organizations. Probably the most famous example at this moment in time is the Bitcoin. Bitcoin was created in 2007 by Satoshi Nakamoto, rumor goes that this might be a synonym for a group of developers rather than a single person (History of Bitcoin, 2014). Other versions of so called crypto currencies have recently emerged the second biggest is the Litecoin. These digital currencies are created and maintained by the users of the currency rather than by a central authority, this makes them relatively disruptive.

The crypto currency market capitalization is currently about 4.2 Billion Euros and 21.1 Million Euros worth of crypto currencies is traded on a daily basis (Coinmarketcap, 2014). The market is still growing but remains relatively volatile. With almost 91% of the total value of crypto currencies Bitcoin is the most widely used crypto currency in the field. Based upon S&P500 daily return data it is suggested that Bitcoin is highly speculative at this moment (Baek & Elbeck, 2014). At this moment seems to be more similar to an investment than a currency which is used for consumption (Yermack, 2013). It is mainly kept as savings with the aim to make money through increased value (See appendix I for an interview with one of the
users of Crypto currencies). A study of the total transaction history of Bitcoin confirms that a vast majority is saved and not used in user to user transactions (Ron & Shamir, 2013).

Since the introduction of the Bitcoin many similar crypto currencies followed. These currencies adopted the Bitcoins element that allows for decentralized creation and management of the currencies but they often had slightly different algorithms operating them. Likely reason for these changes is to overcome the downsides of the Bitcoin in its current form. Spotted limitations that can make continuity of Bitcoin hard in the long run:

- **Transaction confirmation time** reaches a limit of about 5 minutes which would be too slow for safe use in retail (Blockchain, 2014a)
- **Pricing of products** is hard because store values would have many decimals and prices are currently very unstable (Yermack, 2013).
- **Storage space** for the block chain (all transactions) is currently about 23.7GB and doubles within a year, less users will be willing or are unable to store the transactions (Blockchain, 2014b)
- **Costs of mining** potentially surpass its accumulated value because calculations become more complex over time and average revenues from mining decrease (Blockchain, 2014c). This would make it unprofitable to continue the mining efforts even though these efforts secure the system (Lo & Wang, 2014).
- **The transactions are one way** making it hard to protect against hacking or other criminal activities,

Bitcoin can still thrive over the coming years but development of other crypto currencies is likely to continue. Over time users might migrate from one crypto currency to the other based upon the currencies efficiency and trust in its algorithm. More recently in 2011 a new type of crypto currency emerged named Ripple which became popular fairly quickly. It is currently (2015) the second largest in the market. The Ripple service functions as a currency exchange open to everyone. People can exchange different types of commodities, national- and crypto currencies. The Ripple currency acts as a medium between non-matching bids and asks. If someone wants to buy dollars using Bitcoins but there is no one offering dollars to buy Bitcoins, so called market makers in the Ripple service will automatically exchange the Bitcoins for Ripple and with the Ripple buy the desired Dollars for the customer. Transactions within the network can only take place between parties that indicated to trust each other, creating so called trust lines. (Ripple Wiki, 2014)

At this moment crypto currencies are still relatively risky. This is not merely due to its volatility but to a large extend due to vulnerable trade exchanges. In February of 2014 the largest Bitcoin exchange Mt. Gox went bankrupt because it got hacked. Since many people stored their Bitcoins with the exchange it became an interesting target for hackers 650.000 Bitcoins held by customers got stolen (worth approximately 190 Million Euros as of 10-11-2014) (Cryptocoins News, 2014). The challenge in returning the money to the customers is not only in finding the person(s) responsible for it, but also tracking the identity of the anonymous customers. As a result of growing crypto currency markets and the risks associated with it, regulations on national and international level are on their way (CNN Money, 2014).

Other factors which raise concerns about crypto currencies is the power that the first movers of a currency obtain if the value raises significantly, and that it is anonymous which makes it specifically useful for criminal activity like for example under the radar tax avoidance. For taxation purposes most governments already demand citizens to share their capital held in Bitcoins but it remains hard to track.

Volatility is probably the most negative aspect of crypto currencies as perceived by the general public. This is something which should be overcome with creating new currencies. It can lead people to fear away from the scheme and community currencies in general. This trend downward can currently be seen in Bitcoin which can impact the overall reputation of the field (Coinmarketcap, 2014). With Bitcoin the infrastructure installed with retail and actual day to day usage of the scheme is lacking behind. Such network complexity could provide the digital
coins with a higher intrinsic value resulting in more stability because demand becomes more stable.

**Saving currencies**

Most of the community currencies are focused on fulfilling the medium of exchange role. There are however very few community currencies to be found that focus on the role of Storing Value or saving. The JAK Bank is an interesting and likely the only example in this domain (expect from some similar initiatives). This bank has an interest free philosophy and its aim is to provide its customers with the ability to borrow money in exchange for saving it. The bank’s ambition is to allow for interest free banking but in reality they realize a low level of interest/service fee of about 3%.

For saving members can acquire saving points instead of interest. The points are given based upon the average amount of Euros in the JAK bank savings account. These points can in turn be exchanged for access to borrowing money from the JAK bank. If you decide to borrow you are committing to compensate this by future savings or savings you have already made so far. Without saving beforehand a new member can lend up to about €80.000. The deal for borrowing from the JAK bank is however different from that of usual banks. People pay the regular endowment, the service fee of about 3% and additionally it is mandatory to save an amount equal to the endowment. This makes the monthly costs for saving at the JAK bank relatively high. At the end of your loan you receive your savings (usually equal to your loan) on your account.

When saving you receive saving points, if you save before you acquire a loan you can reduce the amount of money you have to save during your loan. Family and friends regularly help each other by handing over saving points to reduce the saving requirement for a loan to a new saver [JT] (Burton, 2008). The saving points function as a currency in this case, in this way the saving points end up at a person who is trusted by someone who is already part of the JAK bank. This helps with converting knowledge and building a more reliable network. Interviewee Johan Thelander suggests that the relatively high monthly payment due to mandatory savings “pushes us one extra time, (to think) do I really need to do this?”. He suggests that regular banks want you to borrow as much as you can with your salary, because banks make money on the interest.

**Gamification currencies**

Gamification Currencies is a relatively wide topic. For this research it is defined as currencies used to make a game out of a situation, where the currency creates real world value which not necessarily has to be legal tender it can be skills, goods or even reputation. For this chapter an overview is given of computer game currencies making it into the real world but also services that use a gamification currency.

Gamification is used in an increasing number of services to make for a more dynamic customer experience and to keep users motivated. Increasing tests are done with currencies used in small contexts with the purpose of gamifying the situation. An interesting application is in education where real world contexts or situations can be created by making use of a currency. One of the interviews held for this graduation gives interesting insights in how these currencies can work in practice (Appendix III). Gaming currencies can change behavior and be of real value to users even without direct monetary value.

It is very likely that this type of currency used in real life got more traction due to computer games. Gamers are in general very engaged in the game due to its rewards, this is something that is also desirable for other products and services. A good example of a gamers currency is the Linden Dollar in the game Second Life, this is a virtual currency used in-game for trading. The black market for this type of currencies is also quite large, the Linden Dollar was relatively popular before crypto currencies such as Bitcoin emerged. 2012 estimates indicate that the real world value of the Linden Dollar was decreasing but in total the market was about $186 – 232 Million (Market capitalization) by 2012 the year before it was valued $102 Million higher (New World Notes, 2012). As a comparison the Litecoin (world second largest crypto currency looking like Bitcoin) has a market capitalization of $120 Million at this moment (Coinmarketcap, 2014). The gaming industry shouldn’t be underestimated in its contribution to
Many online gaming retailers such as Steam use online wallets for buying games or artifacts within games. Nowadays there are even opportunities to make bets with items in these game currencies, this can increase your Steam account’s balance.

Currencies are also an interesting tool to gamify education. The Friese Florijn is an initiative of a Dutch gaming teacher on a HBO in Friesland. Here the currency is handed out relative to the grade received by a group. The imaginative owner of the business then pays the employees for the work they do for the projects. In this way a complementary economy is created where students learn how it would work in real life. It allows for more flexibility in the group composition and also acts as a reflection on the quality of the work delivered. Overall it motivates students and provides for reflection on their behavior. The Friese Florijn’s initiator Nils Slijkerman indicates that it is interesting to see how a currency allows people with different ambitions and character types to work together and get a customized learning experience [NS]. He also uses prizes that can be bought at an auction at the end of the course.

The amount of a currency that is held can also show how well you do within a certain network. Stack Overflow is an interesting example of gamification, here programming related questions are asked and answers. Users providing useful answers to the questions receive points from helping others with issues in their coding. The points on Stack Overflow give credibility to the users (Anderson, Huttenlocher, Kleinberg & Leskovec ,2012). The interesting factor that makes the currency get value in the real world is for job applications. At the website of Stack Overflow there is a career section with job offerings. Here they use your Stack Overflow score as an indication for your skill level. Since the points don’t move from one person to the other it might not be a currency in the normal sense of the word. They are however created in the interaction between users. These networks seem to be interesting for future applications of currencies.

Other forms of exchange are social media payments. Here you can receive a document, product, a discount, etc. at the moment you share information related to a brand or its offering on social media. Here brands give something in return for advertising within your network.
Appendix II: Interview Guide

In this appendix you find the interview guide used during the interviews executed for orientation and context creation purposes. On this page you find the English version and the Dutch version on page 53.

ENGLISH VERSION

Introduction

- Outline of my graduation.
- Goal of the interview is to find out how complementary currencies are experienced, in your case it will be the Brixton Pound
- It will take about 30 minutes
- It would like to let you know that you are the expert on your experience so when you have anything to add which you think is relevant please do so. It is no problem to deviate from the questions.
- Recording
- The interview divided into three parts: General, interaction with others and the impact

Questions

General

- For how long have you been using the currency?
- Could you tell me how you got to know about it?
- Why did you find it interesting enough to try it?
  - Why is that important for you
- Did the reason of using the currency changed over time?
  - If so how did it change?
  - Why is this important to you?
- How has your participation in the currency evolved over time?

Interaction with others

- You mentioned that ... is the reason you use the currency. Do you know people around you that seem to share this reasoning?
- Do you know other users that seem to have a different reason?
- How would you describe the interaction with other users?
- Which experience using the currency do you still recall, and could you tell me more about this?
  - Clearly positive/negative

Impact

- What are/were you doing that you wouldn’t have done without the currency?
- What do you see as the advantage as compared to normal money?
  - Why wouldn’t it work with normal money?
- In which ways do you think the currency might still be improved?
  - Why?
- Do you have anything to add you haven’t shared so far?

Completion

- Usage of your name in the report
- Thanks
- If you are interested in the results please let me know
DUTCH VERSION

Introductie
- Outline van mijn afstuderend.
- Doel van het interview is om te ondervinden hoe alternatieve valuta’s worden ervaren. En in uw geval ....
- Het duurt ongeveer 30 minuten
- En u bent de expert over uw ervaring dus als u wat wilt toevoegen kan dat, het is niet erg om van de vragen af te wijken.
- Opnemen
- Interview bestaat uit drie sub delen: algemeen, interactie met anderen en impact

Vragen

**Algemeen**
- Hoe lang maakt u er al gebruik van?
- Vertel eens wat meer over hoe u erbij bent gekomen?
- Waarom vond u het interessant genoeg het uit te proberen?
  - Waarom is dat belangrijk voor u?
- Is de reden dat je het gebruikt in de loop van de tijd verandert?
  - Als dit het geval is hoe dan precies?
  - Waarom is dat belangrijk voor u?
- Hoe is uw gebruik van de valuta over te tijd heen verandert?

**Interactie met anderen**
- U heeft gezegd dat .... de reden is dat u de valuta gebruikt. Kent u mensen om u heen die dat lijken te delen?
- Kent u andere gebruikers met een heel andere reden?
- Hoe zou u de omgang met andere gebruikers van de munt omschrijven?
- Welke ervaring met de munt staat u nog bij en kunt u daar meer over vertellen?
  - opvallend positief./ negatief

**Impact**
- Wat doet u nu dat u voor het gebruik van de munt niet zou doen?
- Wat is voor u het voordeel t.o.v. gewoon geld?
  - Waarom zou het niet werken met gewoon geld?
- Op welke manieren denkt u dat het verbeterd kan worden?
  - Waarom?
- Wilt u tenslotte nog iets toevoegen wat u niet heeft kunnen delen?

Afronding
- Vertalen naar Engels in verslag + Gebruik van naam
- Bedankje
- Als u bent geïnteresseerd in de resultaten laat maar even weten
Appendix III: Orientation Interviews

The following appendix includes the summaries of interviews held to get a broader and clearer view of the community currency field as experienced by its users. The goal of these interviews was to find knowledge gaps related to the different types of currencies but also to learn more about the context they can thrive in. The interviews were done using a semi-structured interview, in Appendix II you can find the Dutch and English version of the Interview guide. A semi-structured style has been chosen to make the interview results comparable and the overall research more reliable. The open nature of the semi-structured interview kept space for input of the interviewee (Patton, 2002. Silverman, 2006).

The interviews were planned to take half an hour, the participants were asked to share anything that comes to mind because they are the experts of their own experience. It has been explicitly asked whether the participants were fine with an English translation of the things they mentioned, if they wanted to check this before publishing they were allowed to. For reference you can find the audio files of the interviews held in this phase on the added CD.

Focus was put on the user’s experience as opposed to the designer’s intention because this is where the schemes find their practical relevance. This method provided more complete information on different topics which was relevant in the orientation phase.

For the interviews, specific currencies were selected of which a user could be interviewed. The interview summaries first indicate the characteristics of the scheme to show how it looks in practice, than a list of context factors used for the ViP process derived from the particular interview and as last the interview summary has been created. Throughout the main report the names of the interviewees are regularly summarized with the first letters of their name and surname between brackets (e.g. Simon Woolf becomes [SW]).

Brixton Pound (Regional economy currency)

- Modern looking physical paper notes
- Visibility
- Conversation starter
- Digital payment through mobile > direct messaging the shop keeper
- Open for people to find their own reason for usage
- Using it for the first time raises anxiousness and a mixed feeling
- People from Brixton like to be different
- Hard to reach certain groups of the community (Low income or Ethnicity)
- Spend locally
- Limited offering of stores
- Opens the ability to explore a selection of stores
- Can be a very conscious choice for people
- Location is Brixton a region of London in the United kingdom
- Introduction in 2009

Factors found

- Idealism helps to encourage involvement (D)
- People will be engaged if they feel they can be part of the story (P)
- A regional currency can be a reminder to people that they can make a difference on a local level (S)
- Participating into something new is scary to people (P)
- People feel connected if they can be different together (D)
- People are only prepared for something new if their current way of living has been stable for a while (S)
- Seeing products or services in use spreads them out to others (P)
- Community currencies face resistance for scaling up (D)
- Low education has the tendency to keep the poor poor (S)
- Frustrations emerge out of perceived contrasts (S)
- Different cultures have other attitudes towards money (S)
- People lose fade in currencies that quickly change in value (S)
- Families become smaller (D)
- More people stay single or divorce (D)
- A credit on an account can increase loyalty towards the maker (D)
Simon Woolf [SW]

IT director

User since the launch in August 2009, he hasn’t lived in Brixton over the last 2 years but he has used Brixton Pound’s intensively for a period of 3 years. For the launch there was a lot of media attention, which got the first users in the network. Simon has always been quite interested in Localism, because he thinks it builds better communities and makes sure money is being channeled back into the community. “All the wealth is leaving the area and going to head offices that are in some cases kept on the other side of the world”

Getting to know Brixton Pound

“I saw a poster that was in the window of a restaurant that I used to go to very often and it said ‘Brixton is launching its own currency.’ I already knew about the idea because I saw it happen in Lewes (2008), which is a small town near Brighton; and I always thought that was an amazing idea. Then when I saw someone was crazy enough to try it in Brixton, I thought ‘Wow I need to get involved with it.’ ”

Simon started as an enthusiastic user, then he became a volunteer for the Brixton pound, after this an unpaid director and finally as a paid managing director. In this way he has seen many perspectives of the organization but also heard stories of other users or stakeholders of the scheme. He saw his ethical reason for being part of the currency to remain constant over time.

The localism was the reason most hardcore devotees of the scheme were behind it. The challenge is that the local currencies are currently too small of a scale to be making a big economic difference. But Simon sees them as a symbol for a problem that should be addressed. “They are a reminder to people that changing your behavior can make a real difference to your community.” To get a bigger group involved it was important that the offering was made interesting for people that were not extremely devoted due to the ethical side. The mobile phone text payment really helped for adoption because people found it cool, another group was interested in the discount offered and a third one was in for local awareness or care.

It was also scary for people to use it at times. “For me it was scary at first because you go into a shop and you wonder whether they will be going to take you seriously. It seemed incredible that you could hand over something that is not sterling”. He defined it as a mixed feeling of Scary, exciting and giving ‘a warm glow in your heart’. Even friends of him were too afraid to start using it. It was called as a mixture of afraid and laziness. “The challenge for the Brixton pound is to break out of that audience and attract a more main stream audience. That’s work in progress and it is hard work.”

“The paper notes and certainly at Brixton have become a very tiny proportion of what gets spend but they became a great visual tool”. It happens often that people start talking about the notes in the wallet or with friends in the pub. Also during payments strangers asked Simon about the means he paid with. Overall “it is a great conversation piece... Often you get a warm reaction from the shopkeeper if they believe in the scheme”. “I think it was; and still is seen as quite cool, Brixton’s always liked to be different... People like to see themselves as different, a bit rebellious so this was perfect, it really spoke to them.”

“Brixton is a very varied demographic of people, all classes, all incomes, all communities. I can remember a very distressed lady, who was obviously on a very low income, coming up to us with two crumbled Brixton pound notes in her hand. She was angry, she said ...‘one of you people told me I could use these Brixton pounds, and I exchanged them, and then I tried to go to Kentucky Fried Chicken and they told me they don’t accept them.’ And she was really angry with us that we gave her this money, that she couldn’t buy her daughter something in a fast food restaurant.” Simon indicates that this woman just wasn’t ready for nor able to participate in the discussion why the Brixton Pound is trying to encourage spending money locally.

“Even though the Brixton pound was partly designed to help people on low incomes, it was designed to help them spend in a wider range of businesses that might offer them better deals. Paradoxically people on very low incomes tend to be the hardest to reach, they are very conservative in the
way they spend their money.... They are often not ready to experiment or innovate, staring at a problem at the end of the week.”
Another example which Simon pointed out was that “You have some ethnic communities that are very sensitive about money, for example most mini Asian communities... really do not like money in anything but a physical form... They want cash, they want it in their hand.”. He also indicated that they had immigrants coming in Brixton from places like Syria and Afghanistan “Which had had a collapsed currency, they love sterling, ‘suddenly I’m in a country where the money is worth the same every day.’”. There are a lot of different attitudes depending on people’s background.

Some other users also stop using the Brixton Pound because they think the amount of shops accepting the pounds is limited or their favorite stores are not included. “There were experiences, with some of the larger businesses, where you go in there and try to spend Brixton pounds and there’s a member of staff there who doesn’t know about the scheme because their boss didn’t tell them about it, and he says “No we don’t take part in the scheme”. Than I had to say ‘no you do, there is the sign.’”. Simon mentions that “For the businesses that really put themselves behind it ... it definitely helped to build customer loyalty.” “The more successful businesses probably saw relatively little change ... but ... for new businesses in particular it has been quite helpful.”

Exploration
“It really forced me to explore all the local shops, I mean I think when I was still living in Brixton... there were somewhere between 200-300 business signed up to the scheme. And it really got me exploring some businesses I never would have found.” “The first Christmas that the Brixton pound had been launched, I decided to do all my Christmas shopping in the Brixton Pound.” Simon thinks a lot of other people that were committed to the scheme also went through a similar process even though he was an advocate of it. “I can remember a guy contacting us... He just said, I used to go to Roc'y's for lunch but they don’t take the Brixton pound so I don't go there anymore”. Lots of people discovered new places, especially with the electronic Brixton pound because that started with a much smaller selection of businesses. But it also encouraged much more loyalty because people had to sign up for it, register their mobile phone with the scheme and then credit it.”

D.E. Loyalty points (Loyalty scheme)
- Physical stamp design
- Looks like stamps
- Removed by using a scissor
- Point system (20 points for coffee 8 for tea)
- Ordering gifts in catalog, physical and online
- You have to pay extra for products ordered
- Saving takes a lot of time
- Loyal customers use it
- Hard to stop once you started saving
- Can become an automatism
- Loyalty gets promoted
- D.E. is a popular brand
- You sometimes see the items bought at the houses of people you know
- The scheme is not necessarily loved by the users
- Points are sometimes given to help each other buying more rapidly
- Realizing that the loyalty scheme raises the product’s price had negative influence on the attitude towards the scheme
- Used in the Netherlands
- Introduction around 1924 (D.E., 2014), this is the time of recovery after World War I.

Factors
- People are sometimes involved in something without paying attention to real it (D)
- There is pride to be found in a hard or slow processes (P)
- Loyalty emerges when you are part of a bigger story (D)
- Some people have the patience to delay to buy products until they are discounted (D)
- Actions in businesses impact the behavior of its users (S)
- Loyalty schemes can only make a marginal difference (S)
Truda Koster [TK]

Housewive

Uses the D.E. Loyalty points since she got married, she collects them with her tea (8) and coffee (20). She tells that she has always collected them as an automatism and that it takes very long. “It just goes automatic, everyone collects D.E. Spaarpunten... It’s a pity to throw them away”. “I never forget to take it off; I usually buy Douwe Egberts (coffee) because I like it”.

She got inspired by it because she saw others getting nice gifts from the scheme, like her sister. She especially indicates that she likes the coffee machines you can get with the points. The coffee is relatively expensive that’s also why she found collecting it relevant. “You can get very nice gifts from it even though at the end of the day you have to put in extra money.” But she is “usually not very conscious that I want to have this or that.”

Over time Truda did however become a bit skeptical about the scheme but the automatism keeps her going. She mentions that it takes about 15 years before she can finally get something from it. At her parents’ house her mother also cut out the points, overall she has quite D.E. loyal family members which like D.E. coffee machines. With shopping she mainly buys D.E. because she thinks it tastes well, she buys it when it is for sale.

Saving the points also has a self-fulfilling cycle to it, once you have more you don’t want to stop “You can be proud of the points and once you have them you won’t throw them away very quickly because I saved them for such a long time.” “Because you already have so many other points it is hard to stop.”

Truda mentions that others mainly collect the points for the coffee machines. And lately she was visiting someone that had red with white plates and cups, she did like to see that one. Then she thought “I could also order something like that” but she also mentions that it would be old fashioned by the time she could buy something with her points. Truda asked the woman about the cups. She likes to see others with D.E. stuff because she is familiar with it and she sees it as luxurious. Seeing it at someone else’s place is used by her as inspiration and Truda likes to see that others are collecting the loyalty points as well. She thinks that collecting makes her more conscious of the brand.

“There is no real advantage to it, I would rather see that they just ask less money for the D.E. ... Than you would buy it more quickly than other coffee.... ”. She mentions that they could get rid of the points. If the coffee is 40 cents cheaper she would get rid of the loyalty scheme. She prefers to always have the discounted price and adds to it “then I would never buy another brand anymore”.

The points are used for temporary exchange; this is when it’s time to buy something or when something was recently ordered with the points. “If I had something extra I would give it to my sister after buying something... Or I got something from her to buy a product, later on I would give it back”

Truda’s perspective on the currency has also changed because of a loyalty scheme at a petrol station near her house. “At the tank station nearby I used to collect points to get gifts but then I found out that you had to pay more than at other places... you even paid for getting the points on your card.”
Makkie (Social Cohesion Currency)

- Sign of gratitude
- Physical notes with friendly and colorful design
- Creation on basis of capability to spend
- Value for one hour of work is about 2 Euros in the shop depending on the accepting party
- Used to stimulate voluntarily work for social causes
- Platform to find volunteers more easily
- Volunteers are regularly jobless
- Assumes equality in terms of hour value
- Give users the opportunity to enjoy leisure experience
- Limited offering of stores for spending Makkies
- Location is the Indische buurt in Amsterdam
- Introduction in 2012 (First new letter in that year (Makkie, 2014))

Factors

- People become jealous if they do not have the opportunity to become part of something (P)
- Trust is one of the most essential factors for cooperation (P)
- A currency can become the voice that strengthens a cause (D)
- We get happy by giving gifts to others (P)
- With the aging population a larger portion of our lives will be related to taking care (D)
- Giving alternative forms of money is experienced more friendly than regular money (D)
- People intrinsically want to make a positive impact on the world (P)
- Inequality between nations is decreasing while within countries it increases (Globalization TrendLab, 2013) (D)
- Governments are cutting their budgets (T)
- Governments are increasing the responsibility they give to individuals (D)
- People have difficulty seeing others in trouble (P)

Rinkje Sorgdrager [RK]

Neighborhood nurse

Rinkje uses the Makkie for about 3 quarters of a year for a walking club that gives people with dementia the opportunity to go out for a walk. She hands out Makkies to the volunteers that help the elderly walk. And since she uses the Makkie it is easier to get volunteers. Rinkje really enjoys working with the Makkies and she is happy that she can give something for the time the volunteers put in. Rinkje has found out about the Makkie during her job as a neighborhood nurse where she already walked with demented elderly. One of her colleagues went to the district council and told Rinkje about the opportunity. It is important to have quite a substantive group of volunteers because “the elderly easily get lost while walking”.

“It is not that the people come especially for the Makkies but because it is easier to get volunteers, this can also be because of the Makkie website.” “The volunteers that like to get Makkies often don’t have a lot of money. They can for example get a free cup of coffee at a place that’s connected to the Makkie.” Rinkje agrees that Makkie gives the opportunity for relatively poor people to enjoy leisure experiences they would usually not take part in. But she hopes that people would also do it without Makkies.

“I have had 75 Makkies two times so far…. I give the volunteers 2 Makkies for each time they help out, because it takes about 2 hours of their time, 1.5 hours of walking but you also have to take the people out of the elderly home…. There are some more tasks attached to it... it is sometimes as if you take small children with you.”. Rinkje is helped out by 3 to 4 volunteers each week, three of these volunteers are coming most of the weeks but some come for a short while or on a regular basis when they are needed. Since she uses Makkies, Rinkje also has experience with volunteers whom were not really suited for working with elderly, this might be the downside of the accessibility.

Rinkje experiences the Makkie as more friendly then regular money. It helps to get volunteers which receive alimony because it doesn’t influence this source of income. But she also likes the ability of the Makkie to show her appreciation by giving something that can still be used as a financial relief.
The positive side of the Makkie is also that it gives social institutions extra liquidity without regular money being required. “But even if I had extra money I would rather give the volunteers flowers or a box of chocolates than regular money, because I see using money as a real payment... Now it remains in this friendliness that you really do it for each other.”. Rinkje gives the example that in her regular work she also doesn’t accept money for appreciation but something like chocolate would be fine. Rinkje would enjoy it if more companies become part of the scheme; she gives the example of the movie theatre.

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**TradeQoin** (Barter Trade Currency)

- Local Small Medium Enterprise Network
- Digital transactions and accounts
- Access to credit by permission to have negative balance up to 500 TQ
- Network of trust
- Working together
- Networking
- Usage of over capacity
- Offers are shared in the network
- Indirect barter within network
- Sensation of building something together
- TradeQoin organizes events to get together
- Still relatively difficult to spend TradeQoins usefully
- Value perceived lower than Euros
- Region of Amsterdam and cities nearby
- Some members motivate each other to become more active

Factors

- People become more jealous if they do not have the opportunity to become part of it (P)
- Trust is one of the most essential factors for cooperation (P)
- For entrepreneurs the difference between work and private life is thin (S)
- Spending possibilities of a currency determines the perceived value (S)
- People are willing to share their idle capacity (D)
- Investing in relationships is likely to pay itself back in one way or the other (P)
- Money alone is not enough to satisfy someone, directly or indirectly doing what you love is more important (S)
- A lack of cash is often causes a company to go bankrupt (Rujoub, Cook & Hay, 1995) (P)
Erik van der Velde [EV]
Entrepreneur

Erik is part of TradeQoin for about one year but has been involved with barter currencies for 3 years now. Erik got involved in TradeQoin by a woman he did business with, she advised him to join a TradeQoin gathering. At this meeting Erik became members and directly after this he started to trade in the network. Because he was already familiar with the concept he became an active member relatively quickly. Erik notes a clear difference between entrepreneurs and “shopkeepers”, he indicates that entrepreneurial members are really essential to make the currency successful in the long run. “If the number of members in this region becomes for example 10.000 than the TradeQoin can really be seen as regular money.” “I will for instance shop in the Bijenkorf (for private usage) this afternoon and if I could do this in TradeQoin it would be great, because that has been easily made money, which mainly comes from overcapacity.”

For Erik van der Velde the networking opportunity of being actively involved in a barter trade scheme is most crucial. “It can be correct that you can make TradeQoins and then spend them again. But I believe that it especially helps me to get a larger professional network, which directly or indirectly leads me to higher turnover; be it in TradeQoin or regular Euros. This has happened to me in my experience.” With his Search Engine Optimization undertaking Erik has seen the benefit of the networking capability of TradeQoin. “I did Search Engine Optimization for TradeQoin members, they were enthusiastic of my service and shared my name with people that were not members at TradeQoin, they did become my customers… So I think that I eventually made more Euros than TradeQoins in this way.”

Besides the financial benefits Erik also likes to be “Surrounded by entrepreneurs, they are often enthusiastic and positive people which are not afraid to take a risk. They often put their income at stake for following their passion.” This gives him a lot of positive energy.

Over time the main thing which has changed in his TradeQoin usage is that he has gained a positive balance of TradeQoin now. “But I realize now that I want to be able to spend the TradeQoins more easily… And I also don’t want to spend simply to get rid of the positive balance”. He rather sees more companies joining the network so he can spend the TradeQoin more usefully. “But because this isn’t the case, and I also don’t want my balance to get too high… So I think I spend TradeQoins faster even when I usually wouldn’t make the same transactions in Euros, just to get rid of TradeQoins.” His positive balance gives Erik a more cautious attitude towards using the TradeQoin especially when it comes to larger deals. For him the value of TradeQoin is lower than that of Euros due to the ways in which it can be spend. He finds it a “pity that he has to say this, but at this moment it is the case.” He adds that “If a TradeQoin has a slightly lower value than a Euro, in my experience, but added to this you have the network value, which is simply fun but also delivers extra deals in Euros… than that’s also great because it can compensate the loss of value.”

Erik adds that he thinks that “not everyone sees the real value of networking and sharing, it’s hard for some to understand, they still see it as a sales tool, while you should first become friends and the rest will follow later.” He describes the interaction with other active members as very friendly and supportive. Inactive members don’t show up at events or use the network to their advantage by for example calling someone. Erik tries to educate less active/entrepreneurial members by “not being too educative but by telling about my own success stories, I hope to show them how it could work for them.” He mainly tries to bring this across to make the network success. Long term thinking and cooperation should be the main aim.

Erik thinks that there is still a lot to happen before TradeQoin starts growing on itself, he thinks that a bigger community is less personal “in general but it allows for a more personal relationship with the individual members, so in that sense I think it becomes more personal.”

Erik indicates that he would like to have more informative updates on what is going on in the network to get more insights in who wants/offers what. “I wouldn’t see this as spam but as an opportunity to close deals… The current daily offer is only one thing… And it is not something I would spend my
money on if I didn’t have TradeQoins but not even with TradeQoin.” As main improvement he would like the Facebook part of TradeQoin to become more active because this has a lower threshold for the users and allows for more and faster trades. “Actively searching for offers and needs on the website is too much hassle for a busy entrepreneur.”. Erik would also like to see bigger firms joining the platform, the company which deals in business furniture is a good example for this according to him. He especially likes to see offers which he would usually also spend his regular money on for doing business.

“I have the feeling that we are building something that has future potential.”

Erik stresses that he would like to see the network increase in scale because it will be good for local business but also because of his believe that “Entrepreneurship is good for a larger proportion of the Dutch citizens than those that currently have their own business…. There will be quite a lot of people that like to determine for their selves what time they get up, with whom they close deals related to their passion and everything that comes with it. Like self-sufficiency, responsibility and the pride that comes with it... And because this makes me happy, I’m convinced... that it would make more people happy.” Erik hopes that an organization like TradeQoin helps the Dutch entrepreneurial climate to move into a more dynamic direction.

He ends by sharing some of his entrepreneurial insights: “The more people do what they actually love the lower the cost for public health can potentially be.”

### Bitcoin (crypto currency)

- Completely online
- Algorithm based
- Creation by the crowd
- New coins are “mined” into existence
- Speculative
- Anonymous
- Exchangeable for regular money
- Worldwide network
- Calculating prime numbers to mine and make the system safer
- Users that are in for the money easily migrate from one crypto currency to the other
- User are sometimes scammed when they pre order chips for mining

### Factors

- With specific knowledge a person can obtain a distinct status or position within a company (S)
- People are cautious of sharing information especially when the consequences are unknown (P)
- The calculation capacity of chips increases rapidly (D)
- People feel empowered if things get in their control while it first wasn’t (P)
- People don’t want to miss out on opportunities where they can make or save money (P)
- Under certain conditions anyone is capable of criminal actions (P)
- Speculation can result in conflicts of interest which makes it hard to assess whether actions are genuine (D)
Anonymous miner [AM]

This crypto currency miner likes to stay anonymous and has been active as user since June 2013. He decided to start mining together with his brother and they invested in mining chips. They decided relatively quickly to focus on Litecoins because in this field there were no specialized chips for this field yet. “On that moment Bitcoin already had specialized chips, so what you could make with Bitcoin at that moment was relatively little, there was no profit involved. With graphical cards you could at least get more Litecoins. With the value development of Litecoin you could make more money at that moment.”. The main focus of this anonymous miner was to make money with the crypto currencies another emerging benefit is the knowledge gained from it. “It can be very interesting if you know more about this… I’m a knowledge holder in this theme (at his job), that if someone asks a question about this they quickly end up with me. So an investment in myself, the best way to find out how something work is to do it yourself.”

“New specialized chips are developed on a continual basis… And these are every time a bit fast, so it is some sort of arms race where people are continuously investing and always looking for the lowest energy costs…. So you have people migrating from currency to currency”. The miner indicates that users are also interested in the currencies that mitigate the benefit certain specialized computer chips have. Miners are also switching between currencies to make optimal use of their (old) chips. The miner also indicates that he “never made a transaction with it (laughter), for me it is, I see it more as an investment, it is as if I bought gold or something… I’m waiting for the price to go up, that’s how I see it I never perceived it as a real currency.”

“Those are algorithms, they are all different one is more complex than the other…. The one used by Bitcoin is relatively simple, that’s also why it developed very fast as soon as people found out there was money to be made with it.”. He points out that “Bitcoin is decentralized, it is not managed by a central organization, it is done by small organizations, home users which support the crypto currency... With which you can mutually confirm payments.”

“Your address is indeed completely anonymous... If you were clever you made it on a PC that wasn’t connected to the internet, because that is risky if someone hacks your PC.... It only has to be connected to generate your address known in the blockchain, after this you can disconnect it from the internet.”

The miner knows a few persons that used crypto currencies for the purpose of learning. On forums people do claim that they use the Bitcoin for idealistic purposes but the miner doubts whether this is fully legitimate. “The question is whether they are serious or only bring this forward to keep the currency in circulation... from what I read it is mainly users that want to make money with it, there are also people that have interest in the value to increase, these propagate the use... It will then increase in value... At least I suppose that this is the reason but it could also be idealistic.”

The miner describes the collaboration with other users as very scarce, they mainly talk about the techniques they use to mine. On a professional basis he however collaborates with other users to prepare a presentation on the topic, “but this is the only reason we still talk about it”.

“There are aspects (of crypto currencies) that are still not in the grown up stage... if retailers don’t start using it, the currency can be forgotten... The question is whether the use will go beyond critical mass”. He gives the example of the transaction speed which is still very low “With Bitcoin I think the confirmation takes quite long, and that’s.... If you buy something in a shop not useful...” “You can make a transaction, but if you are a retailer and that person is scamming you, you just give your product away ... later you find out that he scammed you.... It takes between the 5 and 8 minutes now”.

In the crypto currency community there are also scams going on related to processing power. “There are companies that say they can deliver nice machines, with which you can mine quickly and make a lot of money, than
you order such a device and it never arrives, the project than fails, that’s annoying… This is the darker side of the story.”

**Friese Florijn (Gamification currency)**
- Educational currency
- Physical notes like dollars on wallpaper
- Results in competition and cooperation based on skills
- Gifts can be bought with the Friese Florijn
- Representing real life business situation
- Students get freedom to do what they like
- Fits students with different character types
- Currency is created as a reward for project progress and motivation
- Students learn to plan
- On an MBO in Friesland
- Founded in 2012

**Factors**
- You can only really get to know something if you experience it (S)
- Competitive feeling occurs only when there is enough at stake (P)
- Perceived value is very context dependent (P)
- Students are more often distracted from studying (D)
- The essence of trust in a currency is built on it not being easy to copy (P)
- It should be possible to please different characters with the same design (S)
- Reward works better than punishment for getting things done (P)
- The freedom currencies offer facilitates personalization (P)
- Common tender facilitates interaction beyond a person’s social network (P)
- Currencies can be a cost effective way to change behavior (D)

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**Nils Slijkerman**  
*Teacher MBO game design*

Nils uses the gaming currency Friese Florijn to make education in general more interesting for students in his course. “I am convinced that everything can possibly be fun... I think this is very important and education should also be fun.”. Nils has been using the gaming currency for two years now, before this there has been a test version which he developed for his graduation, “I use game mechanics to make education more interesting or students, the money system is a follow up from this, first we worked with achievements.”.

“There are no set rules, it’s one big game and the rules we form together, that’s very important.” They started using the currency system because it provides the students with more freedom to do what they like. “With every idea they come up with we can say, ‘go for it!’ “.

“Making it bully proof eventually took the most time.”

Nils used the negative aspects of the education he had and tried to bend them into a more inspiring direction, he formulates it as “In a game you can fly a jet plane within an hour and there are no limits to it, it will work out and when it doesn’t you crash it and simply restart… That feeling was still missing in education, being able to fail but also to play.”.

“Of course it are students, so our first important element was that it shouldn’t be easy to copy, so what we did is…. Printing on wallpaper which is not for sale in the shop anymore, this gives some sort of pattern in the bills which cannot be scanned... we made the images complex using Photoshop and the wallpaper of course doesn’t exist anymore.”

He asked himself “What is part of games and why does it work the way it does? How does it get people hooked or even addicted? … What elements result in which effect? Those elements can be derived from games”. “A gaming currency speaks to all four (gaming character types), because an achiever tries to do something special with it…. Making a game with a low budget, or hiring the complete class at a certain moment. The Killer wants
to make more money than another.... Or simply own more cash. The Socializer likes the ability to hire others or work together but also... have a reason to approach people... The explorer is the one that tries to wreck the system, he is to ask ‘what if I collect all the money and don’t put it back in the system I will probably destroy it’... They find the limits to the system... and absolutely bring the system forward, they add the new elements. “

“First they walk around and say, ‘everyone should have the same hourly rate’.... But eventually some find out that they are a bit less skilled, ‘and I don’t mind but I just have to ask less per hour and work a bit harder’... This causes them to get better and eventually get to the point where there price can go up. It is a self-balancing system.”

“It is the group itself to define what they want to achieve... Than you see they make realistic goals which are still challenging” Nils also shares that they do give lower grades if every goal set is achieves but the goals were not ambitious enough in the eyes of the lecturers.”

“In the beginning we had the tendency to punish students that were not using the system well... For the progression in the school system.” They first used taxes for example, this was to ensure a minimal contribution of everyone but in the end it didn’t work very well. “We now try to show them that others have fun to make them take the step back into the system.”

Another issue that was found has to do with the options to exchange the money for something of real value. “Also because we had few money drains the currency didn’t have a physical value, you can exchange whichever currency in existence for something physical and if this is only services inside the system than people will get a transparent view of this and start saying ‘but we can also do it without’.” The biggest issue seems to arise from the Friese Florijn being hard to spend.

If the teachers are viewed as users it can be said that even those that were skeptical at first are now actively using it. They said “You do it and if it works we will join you for next year, now they are also using it so they think it works. On open days.... They are also propagating it now.”

The interaction between students is competitive in one way but it also results in cooperation based upon skills. “During a job interview ‘What can you do? Can you show some work you did earlier on?’ they are taking it more serious, they take a certain role, they are not students anymore but an employer or an employee.” Overall Nils indicates that it is important to keep the system simple and don’t enforce to many requirements, because this results in administrative complexity but also reduces the ability of students to take their own learning path. “Someone that has the feeling he discovered it for himself is more likely to remember it and feel proud.” To strengthen this feeling of self-discovery they also get older students that already took the course to help out in the role of publisher. “If a second year peer tells something the students pick it up way quicker than when a teacher tells it.” Nils indicates that for him the biggest advantage of using the system as opposed to real money is that students can make mistakes with it and that’s key to learning. “If the students invest (real money) in it they at least want to make a profit, everyone wants to make a profit. But this is not possible in such a system.”

He uses the following arguments to underpin why he likes the Friese Florijn so much:

- “In a classroom groups will form relatively quickly, when you throw in money you can open this up.”
- “Value is created when there first wasn’t.”
- “We try to work as efficient as possible attract their attention with small amounts of money.”

IT WORKS AS FOLLOWS:

- First students work for their selves
- Than they come with ideas in pairs
- Those than present and the best will become the companies in the next stage
- Than the company owners and students without company are informed separately and both get the story to take most benefit of the other party
- After this the companies get a start capital and everyone is let free
- On a regular basis they meet with the “publisher” and set together goals with them and reflect on the previous set goals for grading, new Friese Florijnen flow in related to the project progress and ambition based upon a grade.

**JAK members bank Sweden (Saving currency)**

- Banking system
- Borrow what is saved
- Saving points obtained for saving
- Pay for your loan and save at the same time
- Low interest
- Education
- Involvement of members
- Shared decision making
- Not profit driven
- Admire a society without interest to make it more equal
- Locally oriented
- Helping close relations to get loans
- Internet banking
- Annual members meetings
- Volunteers help the bank
- Transparent information on website
- Payment must be made on a regular basis
- Feeling of making a difference
- No use of advertisement
- Exist since 1965 and its Danish counterpart during the great depression in 1931 (JAK bank Sweden, 2014)

**Factors**

- People prefer doing something which benefits society (S)
- Governments pay to bailout banks (T)
- If incomes are uncertain people are more susceptible of taking loans (S)
- People like to help others but they want to avoid debt relations with relatives (S)
- Deepening knowledge on a certain topic is related to how convinced you are of its truth (P)
- Distrust in the system can lead people to consider stepping out of society (D)

**Johan Thelander**

*Dancer and CEO*

Johan has been using the services for about 4 years, he wasn’t aware of it, but stumbled upon their local branch office one day. His background and the communities related to dance made him become an involved member of the JAK bank relatively quickly. People from his dancing community and the dance organization itself became members of the bank. Johan Thelander explains that as a member of the bank you feel like you can make a difference.

Johan got so passionate about the JAK bank because he has “grown up” in the dancing community in which you mainly learn from each other. The dance community “used to be very hierarchical... and when we started we always wanted to shift these things and play around, so we were doing things together and co-signing things, we developed that a lot.” During his dance career he partnered up with people and together they tried to discover how they can make dance valuable for society. “Among all these things we found economic systems and how we can deal with economy to be a key part in enabling art to actually become a service to people.” He indicates that just like any other professions artists also want to get paid for what they do.

With the dance cooperative they decided ‘we don’t want to be part of the system where we know if we have this in the big bank... what they can do is if they have just a little bit of money.. can create money in the future by giving loans, and they only need to have kept a very small part ..., so by lending them our 150,000 Euros it means that they can create several million Euros in loans from which they... make a lot of profit but also put a
lot of people in misery... And when they (the banks) cannot deal with their payments... the government bails them out... It doesn’t fit into an ideology that we work with where we want to share as much as possible between each other and that’s where the JAK bank comes, because oh ‘there is a bank that doesn’t raise interest, there is a bank that has the values that we want to... be part of... And that we feel that we do something good with the public funds we are trusted with’.

The members also learn how the bank works and why it is different from regular banking. Johan mentions JAK promotes what they call a “Fair and interest free economy”. The JAK bank doesn’t promote itself through advertising but only through lectures and sharing information at events. He mentions that with the dancing activities “A lot of what we do is publicly financed which is yet another reason to do it very properly because this is taxes”.

The dance cooperative is currently not in a position where they want to take loans because the income out of dancing is very dynamic and they don’t want to “put any of... the cooperative owners at any future risk of having to pay for a loan that we don’t have money to pay for.”. In the JAK bank system users get awarded Saving points which they can exchange for a loan on a later moment. Since the dance cooperative doesn’t use the points they are merely doing it because the money is used directly to help people in need of a loan and the bank is working to get this done fairly. Johan indicates that the JAK bank is currently working on an idea of so called “Crowd Saving” platform which works like crowd funding but with saving points in this way people can back other requesting loans.

“it’s a long tradition in Sweden ... of Association forms.... Since hundreds of years so it is basically quite easy to team up, but if you don’t know the formalities of a formal way of dealing with the association then you have to learn this first.”

JAK bank decisions are made during annual member meetings and there is one national JAK bank that has the authority over the budgets, the local branch request budgets for educational and social purposes on a local level. Johan is involved on this local level and indicates that “There is a lot of education ... seminars, I learned a lot more”. Also through getting more involved Johan has learned about the deeper workings of the bank “I didn’t know... I could learn so much, I also didn’t know that it was so easy to get involved... Also last (annual) meeting I was appointed to be a deputy auditor for the members, so I’m also like checking the bank, so I got to know a lot more about the system and the bank. “ He spends 5 to 10 hours a week working voluntarily for the JAK bank.

Johan explains the JAK bank borrowing principle as follows: “In a way you borrow from yourself from the future.” A loan has the following requirements that are different from regular loans:

- Regular endowments are mandatory (In regular banks it is possible to skip this as long as you pay interest)
- You have to pay a fixed fee of about 3% for administration, risk management, infrastructure and education. This gets lower if you decide to repay more. About 1/3 of this is used for education (+/- 700.000 EUR in 2014)
- You are required to save just as much as you borrow

The last point has to be explained a bit more thoroughly because this is why you basically borrow from yourself in the future. The loan is regularly twice as pricy on a regular basis (not taking into account the interest/fee) and at the end of repaying your loan you saved as much as you borrowed in the first place. So if you for example borrow €1000 Euros now then you pay €2000 Euros over the period you have the loan and at the end you receive €1000 Euros which you have saved. With every saving point you have you can reduce the required amount of money to be saved. Without saving points you can take a loan up to € 80.000 there will be a check up on your economic situation before you can take it. With saving points you get the ability to borrow higher amounts.

The bank is currently having some issues because they have too much money in it. There are not enough people taking loans. They have about €147 million in the bank while they give out €94 million in loans (2013). Overall it grows in number of members but only a little bit, there is overall
decrease in the amount that’s borrowed, due to the extreme low interest in regular banks.

Johan tells a personal story where he used the Saving points as a currency. “Two months ago my sister and her boyfriend wanted to buy a bigger flat... so that they had two rooms and then she wanted to take a loan because she didn’t have that kind of money and then she looked at different options to take a loan... What I could do together with my friend and with my father is when my sister was taking a loan we could give her all the saving points she needed for the entire time of her loan.... So there is only the loan and the fee.... So she still only has to pay about the same as in a regular bank but she has a much more safe and fair loan.”. He likes that he is convinced that his sister will repay it and that this trust helps making the system more stable.

Johan’s conviction that using the JAK bank services has a positive impact on the society grows stronger over time. “I now see more clearly, with banks that are crashing and how financial systems are taking over, how they control ... what we’re doing with different payment systems and ... people are losing their jobs everywhere, and still just like this week was all the big banks saying how much they made in the third quarter of this year and it is scary... And people pay taxes to bail out the banks. There is just a few people gaining anything from this.” He even indicates that “it’s easy to become very depressed (over this) and just to ... feel like building cabin and moving out in the forest, just get away from all of this, but at the same time I’m... super curious about what kind of system we can build to counter it.... And to use parts of the system to disable this hunt for profit and for own gain somehow. And then... to build a bank with 40.000 people that own it together that is pretty cool.... is a pretty impressive counter measure.”

Most people around Johan share the do good locally reasoning for using the JAK bank services, they also regularly dislike the big banks “because they earn so much money and... are controlling so much”. According to him there’s also a group of members in for the financial reasoning. They are especially active in times when regular loans are high. Other members want the ability to move their loans to JAK (which is possible) as soon as the interests rise above a certain threshold. Overall members “get very fueled” from interaction with others and talking about the topic. “I’m not gonna give up on the idea that we can make a difference, we can change it together... And there is so much energy in the people when they see the potential of making something different, or being part of something they can believe and not just having a bank account because, ye basically you cannot function without one."

Johan especially dislikes the banks because the way they invest their money and deal with speculations and “selling debts at different prices, they don’t even know themselves what they are doing, it is too complicated but I think they... are taking a lot of money from people that don’t have a lot of money... they are not interested in helping people they are interesting in making profit... There is no moral”. Johan thinks that in general people aren’t doing this consciously but that the design of the system makes us behave this way.

Johan appreciates the maximum starters loan and the saving in combination with the loans because “It pushes us one extra time, like do I really need to do this?”. He also indicates that this is different from the way regular banks promote taking loans “they want profit, and the more money I take as a loan better for them ... They want me to keep the loan as long as possible... because they make money on the interest.”.
Appendix IV: Legal Aspects

The legal aspects are an integral part of community currencies. When people get into contact with complementary currencies for the first time a lot of questions are asked related to the legal aspects. It seems an odd idea that you can make money which is not centrally regulated. This chapter gives an overview of the different legal aspects of this field such as the taxation, liability, creation and privacy issues. This chapter gives an overview of the main legal concerns in setting up a currency, it is however important to be aware that this is widely varying between countries.

The legal aspects are an important part of the community currency design. Existing laws are good at protecting a system but they can also hold back its ability to bring new currencies and experiment with the new. Future regulations can impact the field.

Creation

The field of community currencies is a relatively small and emerging, this is the reason why rules and laws are still under development in many countries. If you want to start a new currency it is important that the countries financial laws and regulations are consulted, this can usually be done through the national bank and other financial authorities. You are allowed to create a new currency as long as it doesn’t look visually too similar to a legal tender. This is judged as counterfeiting (Huber & Robertson, 2000).

As long as the new currency cannot be exchanged to legal tender for a guaranteed price there is currently no legal restriction to its creation. As soon as this exchange connection is present and the currency is digital it is required to obtain the status of electronic money issuance as long as the transactions don’t happen within a legal entity such as a cooperative association. In Europe a license is required to obtain electronic money issuance status, for the Netherlands this can be requested at the Dutch National Bank (DNB, 2013). An exemption from this rule can be obtained when the currency can only be exchanged for one product or if the scheme is only exchangeable on a small geographical scale (e.g. some regional currencies, books, vouchers or festival coins).

The exact legal aspects and supervision authorities related to the creation of community currencies differ per country. These diverse rules and regulations make it fairly complex to create a community currency on an international level. Google’s Executive Chairman Eric Schmidt stated in 2012 that the firm has tried to introduce Google Bucks, this project was however canceled because “various laws about currency in different parts of the world ... would deem the system illegal” (Yahoo News, 2012).

Liability

The liability is another factor which differs from country to country. If this is not taken care of properly the currency issuer can be held responsible for any problems within the system. An insurance can be arranged which covers injury or damage of the users. In some countries or specific regions there is already a region-wide insurance in place which protects volunteers. If this is the case a separate insurance for the scheme might be unnecessary. Another solution for ‘solving’ this liability issue is to add a clause to the terms and conditions in which you define that the customer is responsible for arranging liability/insurance and that they will be held responsible if they don’t.

Currently community currencies or digital currencies don’t fall under the protection of the Dutch Authority Financial Markets (AFM). This means that they are not monitored on quality nor does the Guaranteed Deposit Plan hold place and protect the users for losing their money due to bankruptcy of the money issuing or storing institutions. The AFM also warns for possible volatility crypto currencies are susceptible to (AFM, 2014).

Taxation

Some community currencies are governed by income- and revenue taxes at the same rate payments with legal tender are. If possible the value of the community currency should be translated into legal tender to determine
the quantity of tax to be paid through revenues and equity. The taxes can (as of yet) not be paid using a community currency because governments only accept the tax in their national money (Lietaer, Snick & Kampers, 2014). It is possible in the future that a government also starts to accept other currencies.

The parallel taxation of course comes with the price that you will always need to make money in the form of legal tender to be able to pay the bills for the revenues gained with a ‘commercial’ community currency. This enforces the community currencies to remain local/small in nature. It might be unknown to users that they actually have to pay these taxes in some cases. It is important that this is clearly communicated and explained. This lack of transparency might result in actions from the government to enforce stricter laws or regulations for complementary currencies.

Just like voluntarily work is exempted from taxes, some currencies are as well. Due to small scale and a clear relation to voluntarily work, so-called Social cohesion/time related currencies get exempted from tax regulations (Qoin, 2014b).

With the following criteria you can assess if a currency is likely to be exempted from taxation:

- **The currency is purely physical**
- **Not for profit activities**
- **The currency is not exchangeable for legal tender**
- **The transactions are clearly non-economic traffic** (Voluntarily work or helping a neighbor)
- **Hours spend or revenues gained fall within the national restrictions** set for (voluntarily) work

Participating in community currencies generally has an influence on social security received from the government. In the Netherlands, there is a threshold of €1,500 gained from voluntarily work, at this point the social security is reduced (UWV, 2014). As an example for the Dutch context:

Hours in a Time Bank currency are valued at €4,50 an hour which makes it possible to work for 333 hours without reducing social security income.

**Privacy**

Just as with any other service, privacy is a major legal concern. It is most crucial that the specific user data which is gathered is communicated in the terms and conditions. If these terms and conditions change, it should again be communicated with the customers (Lietaer, Snick & Kampers, 2014).

National authorities require companies to communicate their privacy statement with the clientele. Exemptions to privacy regulations are possible under some conditions but this is dependent upon the country. In the Netherlands, the authority which monitors the compliance of protecting personal data is the CBP (College for Protecting Personal Data) (CBPweb, 2014). The following information should be part of a Dutch (and most other) privacy statements:

- The party responsible for gathering the personal data.
- How the data is protected.
- If cookies are used, what they actually do and what they are needed for.
- How users can view their personal data, change it or even delete them.
- Why personal data is gathered.
- Whether users receive an automatic newsletter and how they can unsubscribe for this.
Appendix V: Running Autonomously
Setting up currencies usually requires an investment and keeping them operational has costs involved as well. This chapter goes into different ways of acquiring capital and running the currency’s operating system autonomously or with relatively little effort. The running section includes practices associated merely with currencies. A strong user base is obviously underlying all of the factors resulting in sustainable revenues in any complementary currency.

BOOTING UP
For booting up a community currency the following methods can be used. The ways to finance the investment are summed up.

Donations
Through donations from people or organizations a scheme can be financed without additional financial obligations.

Subsidies
Another way of financing a scheme is through subsidies; this is usually not paying for the whole scheme and requires extensive promises to be made. International cooperation is often required. Some (mainly innovation related) subsidies are for reducing the costs, this can help in the starting phase but is not enough to be used as a way to finance it completely.

Crowd funded
Another way of financing the scheme is by involving the crowd. One way to do this is through pre ordering products or access to services which are still to be made. With a currency this could mean a direct reward in the form of a (not exchangeable) community currency. It is an interesting way to promote your offering and create a base of relatively committed customers. It also offers a way to test whether business ideas can become successful at all.

The other form of crowd funding is at a financial level, project proposals are presented for requesting funds. This can be on a borrowing basis for a fixed monthly interest payment or as an investment. Here the investor becomes partly owner of the business and will only benefit from his financial transaction if the business grows or returns a good profit. The last one is relatively more risky but the loan option also doesn’t always protect you from bankruptcy of the funded party.

Borrowing
Regular borrowing from a bank or other institutions. This forces the borrower to repay the bill with interest, often at a regular basis.

Using the community currency
The form of investment that is different with community currencies is the ability to create and spend the community currency into existence. This is often done to get the network trading and as a means of reducing costs. In general this is than repaid with the currency. For example with a transaction fee for members. This currency than moves towards the party owning the scheme.

RUNNING
Previous methods can be used for running the operating system but an investment should of course be returned for an organization aiming for a profit or autonomous operation. Some forms of funding force the currency to make a profit (regular borrowing for example) or provide something in return (subsidies or crowd funding). This external money provides less stability than in the case it is obtained from regular operations.

Monthly payment/subscription
A monthly or subscription fee can be asked for being part of the platform. This is usually asked in the form of legal tender but could possibly be subtracted to the complementary currency.

Transaction fee
A percentage can be hold back by the owner on every transaction. This usually happens in the complementary currency. It can cover the investments made in the complementary unit. If the currency is exchangeable for a legal tender the owner of the currency could exchange the revenues gained by this transaction fee to cover the costs. The advantage of the transaction fee is that it is very scalable.
and it doesn’t require members to make an investment before they have a return but make this go hand in hand.

Demurrage
Demurrage is the opposite of interest; people holding a certain amount of the currency have to pay a fee for the amount they are holding. This has in the past been associated with storage or security costs of holding assets such as gold. This can however be used to pay for the service. Community currencies with a focus on circulating rapidly might decide to choose this strategy. In the past this demurrage has been done with stamps, to keep a bill valuable you were required to get a stamp on a recurring moment in time, this stamp decreased the value of the bill and kept it valuable.

Inflation is related to demurrage in a way. In case of inflation money decreases in value because more money becomes available. Inflation however happens on macro scale and demurrage on the actual notes or with the currency. This can allow a different inflation from region to region.

From achieved savings on something else (external party)
An external party can, through the rewards in a complementary currency, achieve cost savings. These savings can then be partly paid to or invested in the scheme. A good example is a reward system in the Samendoen currency in the Netherlands. Here a housing cooperative rewards its members to pay their rents in time. This decreased the sum of rent which is left unpaid generating a substantial amount of savings relative to the costs of the points.

Expiration date or unused accounts
A currency can also be equipped with an expiration date, this allows the scheme’s owner to exchange the value once it expired and add it to its own balance. This also holds for unused or cancelled accounts. Unused or cancelled accounts can in some currency forms have a negative balance this should also be paid for. Some currencies use a fee that covers these potential cancellation or bankruptcy fees.

Decentralization
By decentralizing the processing of the currency direct central costs can be brought down and additional security added to the currency.

Low operational costs
By keeping the costs for a currency low it becomes less likely for the scheme to go out of operation. Within the community currency field Cyclos is a widely used open-source software package which is open source and free until version 3. The 4th version becomes paid if you reach a predefined number of users (Cyclos, 2014). Qoin is still looking into the business model for distributing their software. They look into offering it (partly) open source.

Activate the community
With co-design the currencies can be tailor made and make users feel more connected to the scheme (Sanders & Stappers, 2008). It has for example been found that with the Dutch Makkie currency users don’t experience a sense of ownership because it was created without involving the community enough (Boonstra & Klamer, 2013). This points out the relevance of involving the community in the creation or improvement process of currencies. With their involvement bottle necks can be found and adoption stimulated.

RISKS TO STABLE OPERATION
For the years to come it is still uncertain what the influence of community currencies on each other or on legal tender will be when the size becomes significant. There is risk and potential hidden in this uncertainty. Bernard Lietaer, past employee of Belgium’s Central Bank and promoter of monetary diversity suggests that increased diversity of currencies increases overall economic stability and health (Lietaer & Dunne, 2013). Relatively small or unstable currencies can however fall subject to speculative attacks or currency runs (like bank runs, but with currencies).
Appendix VI: ViP Broad Context Factors

The following chapter gives an overview of the factors used to create the general context for the ViP method (See Table 1). The statements are categorized based upon the respective type of factor. There are Trends, Developments, States and Principles. Figure 1 on the right gives an overview of the clusters that were created using the factors.

Trends are things that are currently changing but are able to stop at any moment in time (e.g. fashion) and developments are changes that are more likely to stay (e.g. urbanization). States and principles are more fundamental, States are describing how the world currently is (e.g. 1,000 ships leave the harbor on a daily basis) and principles are about the workings of the world and mainly related to human behavior (People generally love speeches in the form of a poem).

<table>
<thead>
<tr>
<th>Factor description and id</th>
<th>ViP</th>
<th>From</th>
<th>Categorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>84. Due to many different laws it is hard to set up a currency which functions globally (S)</td>
<td>State</td>
<td>Community Currencies (Local=Empower)</td>
<td></td>
</tr>
<tr>
<td>30. Community currencies face resistance for scaling up (D)</td>
<td>Development</td>
<td>BrixtonPound</td>
<td>Community Currencies (Local=Empower)</td>
</tr>
<tr>
<td>44. A currency can become the voice that strengthens a cause (D)</td>
<td>Development</td>
<td>Makkies</td>
<td>Community Currencies (Local=Empower)</td>
</tr>
<tr>
<td>77. Currencies can be a cost effective way to change behavior (D)</td>
<td>Development</td>
<td>FriescheFlorijn</td>
<td>Community Currencies (Local=Empower)</td>
</tr>
<tr>
<td>18. People find meaning and joy in the things they created themselves (Norton, Mochon &amp; Ariely, 2012) (P)</td>
<td>Principle</td>
<td>General</td>
<td>Empowering Individuals</td>
</tr>
<tr>
<td>19. Tensions can be resolved with creative solutions (Martin, 2009) (P)</td>
<td>Principle</td>
<td>General</td>
<td>Empowering Individuals</td>
</tr>
<tr>
<td>21. People are open for a lifelong learning; quitting school is for example not per definition failure anymore (Chamberlin, 2009) (P)</td>
<td>State</td>
<td>General</td>
<td>Empowering Individuals</td>
</tr>
<tr>
<td>23. Idealism helps to encourage involvement (D)</td>
<td>Development</td>
<td>BrixtonPound</td>
<td>Empowering Individuals</td>
</tr>
<tr>
<td>38. There is pride to be found in a hard or slow processes (P)</td>
<td>Principle</td>
<td>D.E. Points</td>
<td>Empowering Individuals</td>
</tr>
<tr>
<td>45. We get happy by giving gifts to others (P)</td>
<td>Principle</td>
<td>Makkies</td>
<td>Empowering Individuals</td>
</tr>
<tr>
<td>51. Governments are increasing the responsibility they give to individuals (D)</td>
<td>Development</td>
<td>Makkies</td>
<td>Empowering Individuals</td>
</tr>
<tr>
<td>52. People have difficulty seeing others in trouble (P)</td>
<td>Principle</td>
<td>Makkies</td>
<td>Empowering Individuals</td>
</tr>
<tr>
<td>64. People feel empowered if things get in their control while it first wasn’t (P)</td>
<td>Principle</td>
<td>Bitcoin</td>
<td>Empowering Individuals</td>
</tr>
<tr>
<td>68. You can only really get to know something if you experience it (S)</td>
<td>State</td>
<td>FriescheFlorijn</td>
<td>Empowering Individuals</td>
</tr>
<tr>
<td>7. The digital age causes overall conventions to be broken because of its dynamic and liquid nature of digital (D)</td>
<td>Development</td>
<td>General</td>
<td>Global Connectiveness</td>
</tr>
<tr>
<td>22. Current technology involves people in sharing and creation of new solutions, Wikipedia and Duolingo are good</td>
<td>Development</td>
<td>General</td>
<td>Global Connectiveness</td>
</tr>
<tr>
<td>24. People will be engaged if they feel they can be part of the story (P)</td>
<td>Principle</td>
<td>BrixtonPound</td>
<td>Global Connectiveness</td>
</tr>
<tr>
<td>39. Loyalty emerges when you are part of a bigger story (D)</td>
<td>Development</td>
<td>D.E. Points</td>
<td>Global Connectiveness</td>
</tr>
<tr>
<td>63. The calculation capacity of chips increases rapidly (D)</td>
<td>Development</td>
<td>Bitcoin</td>
<td>Global Connectiveness</td>
</tr>
<tr>
<td>70. Perceived value is very context dependent (P)</td>
<td>Principle</td>
<td>FriescheFlorijn</td>
<td>Global Connectiveness</td>
</tr>
<tr>
<td>73. If you are more often distracted from studying (D)</td>
<td>Development</td>
<td>FriescheFlorijn</td>
<td>Global Connectiveness</td>
</tr>
<tr>
<td>73. It should be possible to please different characters with the same design (S)</td>
<td>State</td>
<td>FriescheFlorijn</td>
<td>Global Connectiveness</td>
</tr>
<tr>
<td>5. Progress stands in the way of our ability to listen (Treasure, 2011) (T)</td>
<td>Trend</td>
<td>General</td>
<td>Global to Local</td>
</tr>
<tr>
<td>13. Many virtual communities emerge through online platforms (T)</td>
<td>Trend</td>
<td>General</td>
<td>Global to Local</td>
</tr>
<tr>
<td>29. Seeing products or services in use spreads them out to others (P)</td>
<td>Principle</td>
<td>BrixtonPound</td>
<td>Global to Local</td>
</tr>
<tr>
<td>4. In countries where individual choice is highly valued (USA, Europe) people tend to feel more regret by not making the best choice (D)</td>
<td>Principle</td>
<td>General</td>
<td>Local Groups</td>
</tr>
<tr>
<td>25. A regional currency can be a reminder to people that they can have impact on a local level (S)</td>
<td>State</td>
<td>General</td>
<td>Local Groups</td>
</tr>
<tr>
<td>27. People feel connected if they can be different together (D)</td>
<td>Development</td>
<td>BrixtonPound</td>
<td>Local Groups</td>
</tr>
</tbody>
</table>
25. A regional currency can be a reminder to people that they can have impact on a local level (S)  
State  
BrixtonPound  
Local Groups  
27. People feel connected if they can be different together (D)  
Development  
BrixtonPound  
Local Groups  
31. Low education has the tendency to keep the poor poor (S)  
State  
BrixtonPound  
Local Groups  
32. Frustrations emerge out of perceived contrasts (S)  
State  
BrixtonPound  
Local Groups  
33. Different cultures have other attitudes towards money (S)  
State  
BrixtonPound  
Local Groups  
37. People are sometimes involved in something without paying attention to it (D)  
Development  
D.E. Points  
Local Groups  
61. With specific knowledge a person can obtain a distinct status or position within a company (S)  
State  
Bitcoin  
Local Groups  
75. The freedom currencies offer facilitates personalization (P)  
Principle  
FriescheFlorijn  
Local Groups  
82. Deepening knowledge on a certain topic is related to how convinced you are of its truth (P)  
Principle  
JAK bank  
Local Groups  
6. Expensive technological equipment can control the employees working on it because the down-time costs are higher (D)  
Development  
General  
Local Groups (Conflict raisers)  
10. People tend to be careful with the personal stuff they share online considering their career (D)  
Development  
General  
Local Groups (Conflict raisers)  
20. More creative persons are more likely to be dishonest and behave unethically (Gino & Ariely, 2012) (P)  
Principle  
General  
Local Groups (Conflict raisers)  
41. Actions in businesses impact the behavior of its users (S)  
State  
D.E. Points  
Local Groups (Conflict raisers)  
57. People are willing to share their idle capacity (D)  
Development  
TradeQoin  
Local Groups (Strengthener)  
58. Investing in relationships is likely to pay itself back in one way or the other (P)  
Principle  
TradeQoin  
Local Groups (Strengthener)  
59. Money alone is not enough to satisfy someone, doing what you love is more important (S)  
State  
TradeQoin  
Local Groups (Strengthener)  
74. Reward works better than punishment for getting things done (P)  
Principle  
FriescheFlorijn  
Position in the world/purpose  
78. People prefer doing something which benefits society (S)  
State  
JAK bank  
Position in the world/purpose  
16. You can search for answers far away but it is within that you have to find them (P)  
Principle  
General  
Position in the world/purpose  
35. Families become smaller (D)  
Development  
BrixtonPound  
Position in the world/purpose (Consequence)  
36. More people stay single or divorce (D)  
Development  
BrixtonPound  
Position in the world/purpose (Consequence)  
46. With the aging population a larger portion of our lives will be related to taking care (D)  
Development  
Makkies  
Position in the world/purpose (Consequence)  
1. Currencies get their value in use (P)  
Principle  
General  
Stable Context  
12. Due to many reasons the world in increasingly more peaceful/less violent (Pinker, 2011) (D)  
Development  
General  
Stable Context  
28. People are only prepared for something new if their current way of living is stable (S)  
State  
BrixtonPound  
Stable Context  
34. People lose fade in currencies that quickly change in value (S)  
State  
BrixtonPound  
Stable Context  
40. Some people have the patience to delay to buy products until they are discounted (D)  
Development  
D.E. Points  
Stable Context  
50. Governments are cutting their budgets (T)  
Trend  
Makkies  
Stable Context  
54. Trust is one of the most essential factors for cooperation (P)  
Principle  
TradeQoin  
Stable Context  
56. Spending possibilities of a currency determines the perceived value (S)  
State  
TradeQoin  
Stable Context  
60. A lack of cash is often causes a company to go bankrupt (Rujoub, Cook & Hay, 1995) (P)  
Principle  
TradeQoin  
Stable Context  
66. Under certain conditions anyone is capable of criminal actions (P)  
Principle  
Bitcoin  
Stable Context  
72. The essence of trust in a currency is built on it not being easy to copy (P)  
Principle  
FriescheFlorijn  
Stable Context  
76. Common tender facilitates interaction beyond a person’s social network (P)  
Principle  
FriescheFlorijn  
Stable Context  
79. Governments pay to bailout banks (T)  
Trend  
JAK bank  
Stable Context  
80. If incomes are uncertain people are more susceptible of taking loans (S)  
State  
JAK bank  
Stable Context  
83. Distrust in the system can lead people to consider stepping out of society (D)  
Development  
JAK bank  
Stable Context  
9. People tend to prefer situations in which they can “push the undo button” (P)  
Principle  
General  
Stable Context (Negative)  
65. People don’t want to miss out on opportunities where they can make or save money (P)  
Principle  
Bitcoin  
Stable Context (Negative)  
69. Competitive feeling occurs only when there is enough at stake (P)  
Principle  
FriescheFlorijn  
Stable Context (Negative)  

Table 1: VIP factor overview
Appendix VII: Questionnaire Results & Conclusions

In the following appendix the results of a questionnaire executed for this graduation is presented. This questionnaire concerned people and their relations to groups and the activities they consider meaningful. Insights in this topic make it easier to target the themes which are relevant to individuals. Sustainability is put into perspective in order to find out how urgent and relevant it is experienced. For an overview of the questions that were asked to the participants (Dutch) Appendix IIX can be consulted. The conclusions can be found on the last pages of this chapter.

The questionnaire is executed with 52 Dutch participants. First a pilot has been done with 5 participants, this helped to complete the selection for multiple choice questions and find issues with the questions.

In terms of gender the participants are equally divided over the two, 50% female and 50% male. Chart 1 shows the distribution of the participants by age in categories of 10 years. The participants are distributed normally over the different age groups. The youngest participant is 16 with the oldest being 66. The population’s mean age is 37.

FINDINGS

Participants were asked what it means for them to be part of a group, a majority of 76,5% gave an answer which indicated that they positively experience being part of a group. Some indicate that it really depends on the situation (ups and downs) or group and a minority of 9,8% indicate to have bad perceptions of groups, this minority likes to be alone and/or doesn’t like the obligations that come with it (See Chart 2).
The answers of the same question were also categorized in themes which indicate why the groups appear to be so relevant for them (See Chart 4). The top 4 reasons are the solidarity the group brings (13%), to matter (10.9%), to not feel alone (8.7%) and the accountability/safety a group offers (8.7%). Note that the self-development goals (Educative, motivating and recognition) come only after this top 4. A majority of the participants indicate that it is important for them to work towards a goal (71%), this doesn’t appear to be represented in the relatively stable meanings that were given in the top 4. See Chart 3 for this goal orientation.

If you look at the groups which are relevant to the participants you see that friends are indicated most often with a relatively high frequency. About 56% of the participants indicated that their friends were most meaningful (See Chart 5). Secondly comes work and after this on the third place family. Sports, voluntarily work and study appear less important especially because it is a relatively smaller group within the total population which is able/in the age range to be part of this group. If hobby, sports and voluntarily work are all categorized as a hobby it appears that with a total of 17 enumerations it is overall about as meaningful as work.
When asked why their most meaningful groups were relevant to the participants. The focus shifted towards more goal oriented reasons. The most recalled type of answer (15,4%) was to make a difference or positive contribution. After this comes sharing of experiences, personal issues or celebration and stories (See Chart 6). The category of support when needed and the accountability are of a similar size (+/-9%) and both on the third place.

When asked why the participants think the indicated group(s) make a positive contribution to our society a majority (23,1%) values the support within the group as an important contribution. After this with 15,4% comes the group(or individuals within the group) as a good example and 15,4% for the cases where the group directly works towards a societal goal (e.g. providing care, world food security and stimulating entrepreneurship). It is important to note that a positive contribution is almost always seen a relatively direct effect on fellow humans. A minority of 15,4% is relatively skeptical towards their contributing, they indicate the don’t contribute (5,8%) or in a relatively small way (9,6%) (See Chart 7).
In general it was found that people would like to contribute more to our society (53.8%). About a third (32.7%) is satisfied with what he/she does at this moment. A minority of 7.2% doesn’t want to contribute more or simply doesn’t see ways to do so (See Chart 8). Half of the participants (N=26) feels restricted in the contribution (Chart 9) the other half doesn’t feel restricted (Chart 10). Of the people that don’t feel restricted over half indicates that this is because there are enough possibilities to act upon. A third simply indicates they don’t feel restricted without clear reasoning. A small part of 7.7% doesn’t feel restricted because they already found a specific purpose. This doesn’t however say that it is only this very small group which has found a purpose but these are the number of participants that specifically included this in their answer.

The people that do feel restricted have left clearer reasons why they feel restricted to contribute more to the society (Chart 9). They main reason (44%) is because a lack of resources, of which time and money were the most regularly indicated reasons. 12% indicates that they are not activated to take action another group of the same size feels that their contribution is too small to make a difference. After this come physical/mental reasons (8%) and a group that simply indicates they could do more (8%).
The next step was to find out which societal values the participants experience as most important or relevant. They could pick a maximum of three values from a list. This helps to put those values into perspective. It was found that a majority (32 out of 52) indicate that equivalence is relevant for them. Apparently people find this relatively important. After the well represented number one, peace, education, safety and self-reliance follow (See Chart 12).

When asked for the deeper reason why participants find the chosen values important we see that a majority (23,1%) prefers it because it offers stability. 19,2% indicates that it allows people to be themselves. Followed by a group of people (15,4%) that state that the values are essential and that others follow. After the top 3 follow some action related reasons namely “Taking responsibility” (11,5%), Self-Development (5,8%) and Progress (5,8%) (See Chart 11). The theme of meaning is relatively complex because topics are interrelated and some are required for the other to thrive.
Now it’s time to put sustainability in perspective, the majority of values is preferred over sustainability and it seems to be at par with economic growth. If you look at Chart 12 themes such as education, safety and self-sufficiency are generally preferred over sustainability. In general it can be said that people have a relatively bad perception of sustainability. Looking at their answers it however becomes apparent that the vast majority associates the word with environmental sustainability.

A majority of 59.6% has a negative view on sustainability (See Chart 13). The main reasons for these negative associations are that they don’t perceive sustainability as a very important topic relative to others or indicate that we first need peace or education. Another important factor in terms of negative attitude is the fuzziness of the terminology (13.5%). A group of the same size feels powerless to act.

Only 26.9% has a positive attitude towards sustainability. These participants mainly argue that it is important for the future of our planet and more indirectly for humanity.

**FUTURE RESEARCH**

The current sample is relatively small to say a lot about the total Dutch population. For some projects it can be interesting to find the details about a more specific region but for now it gives some good indicators for the design of a meaningful service. It is unknown whether a different location would make a big difference to the results. It can be useful, for the sake of external validity, to use the categories that were created out of the open questions. This can make it easier to reach out to a bigger audience. It should be taken into account that it will make the acquired information less rich.

Chart 13: The reasons why sustainability is/isn't experienced as important.
CONCLUSIONS

The results of the questionnaire show that there is an opportunity to get more people engaged in contributing to society. A majority of the people indicate they would like to make a bigger contribution (53.8%).

Most people enjoy being part of a group and especially when they can work towards a goal. The most essential part of a group appears to be the joy that people get out of it. The feeling they can rely on each other is another important factor of a group, people do not feel lonely if they are part of a group. It is however important to also realize that some people simply prefer to be alone.

When participants were asked specifically why the groups they were part of were so meaningful to them the main reasons are: Making a difference and sharing. This indicates that people are more inclined to view their activities as meaningful if they feel they are making a difference and share knowledge or concerns. The positive difference is mainly made towards other individuals and not to society or the environment.

Interestingly it was found that people are not skeptical towards their overall contribution. There is however still a majority which would like to contribute more. Another contrast was found in people’s general opinion of groups and that of meaningful groups they took part in. The meaningful groups are more oriented towards learning and making a positive change. Their general perception is oriented towards stability, safety and joy. It seems helpful that people experience a source of stability at times of learning and change.

There is a clear opportunity to activate people because a majority would like to do more for society. When we focus on this group it can be seen that they perceive to have little time and or money to do this. Or simply don’t feel stimulated to take action. There seems to be a great opportunity to activate people to increase their contribution when presenting them with compelling ways to do so. It is helpful if the actions are perceived as taking little time or money. It’s advised to indicate why and how their small contribution makes a difference.

There is only a small group of people that clearly chose they don’t want to contribute more. Do not focus to motivate them because there is enough hidden potential in a general audience. Targeting for demotivated people might even work contra productive to reach the willing majority. People can be engaged by sharing a relevant story and by showing them how they can make a difference. Group goals can help to make a service more relevant for the individual but also make the service in general more engaging.

In terms of meaning it is preferred that the product or service offers the user an opportunity to make their lives more stable. Giving the space for users to be or express themselves seems a strong opportunity for making a service relevant. It is likely that enforcing values upon users has a negative effect because this goes against this self-expression. Another important value is equivalence where users get equal chances. Services are less likely to be enjoyed if it allows for imbalanced relations to occur between users.

In general there is some confusion about the term sustainability, people find it abstract and don’t really know when something is sustainable or not. A large majority appears to view sustainability as environmental sustainability as opposed to economic or social. In the product/service communication it has to be clear what is meant with sustainability and how it is achieved. Interestingly the values Education, Safety and Self-Sufficiency are preferred over sustainability. This gives an opportunity to motivate people to act more environmental friendly for alternative reasons. Only 26.9% has a positive attitude towards sustainability. These participants mainly argue that it is important for the future of our planet and humanity. There are not many people aware that action has to be taken quite soon.

Overall there is a great opportunity to motivate people to become more engaged with society. For sustainability the obstacles to motivate people seem to be even bigger but the conclusions of the questionnaire helps the designer to take actions which make it more likely to motivate individuals in their journey of making a positive contribution.
Appendix IIX: Questionnaire questions (Dutch)

In the following appendix an overview questions is given. These questions were asked to find out the meaning of a group and the values that were seen as important. The questions were asked in Dutch because they were aimed at the Dutch population, this allowed the questionnaire to be better suited for people that are not too strong with English. The results and conclusions of this study can be found in Appendix VII.
Appendix IX: Calculations Sustainability Objectives

In the following appendix you find an overview of the calculations made for setting the sustainability objectives.

Investments on an annual basis should be doubled relative to 2013 levels, this is aimed to occur in 2018.

Before 2020 total investments per users should be at a level that compensates for the lack of investments before 2018.

<table>
<thead>
<tr>
<th>TOTAL</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global climate investments (I) (CPI, 2013)</td>
<td>€ 359,000,000,000</td>
</tr>
<tr>
<td>Public climate I (PI) (CPI, 2013)</td>
<td>€ 132,830,000,000</td>
</tr>
</tbody>
</table>

Goal for 2018 py (total I - PI) * 2 | € 452,240,000,000 |

Total needed by 2020 (Goal 2018 * 6 years) | € 2,714,040,000,000 |

<table>
<thead>
<tr>
<th>PER USER by 2018 p/y</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>World population (World Population Statistics, 2012)</td>
<td>6,991,800,919</td>
</tr>
<tr>
<td>Current average private investments PP</td>
<td>€ 32,35</td>
</tr>
</tbody>
</table>

Factor between Dutch and World average | 3.3 |

Goal for Dutch users by 2018 py (Current * Factor * 2) | € 214 |

<table>
<thead>
<tr>
<th>ANNUAL PROJECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
</tr>
<tr>
<td>2016</td>
</tr>
<tr>
<td>2017</td>
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<tr>
<td>2018</td>
</tr>
<tr>
<td>2019</td>
</tr>
<tr>
<td>2020</td>
</tr>
<tr>
<td>TOTAL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FACTOR (GDP Dutch person)</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average GDP per capita (Mecometer, 2010)</td>
<td>$ 13,100</td>
</tr>
<tr>
<td>Dutch GDP per capita (Mecometer, 2010)</td>
<td>$ 43,404</td>
</tr>
</tbody>
</table>

Factor | 3.3 |

<table>
<thead>
<tr>
<th>PER USER by 2020 in total</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>World population (World Population Statistics, 2012)</td>
<td>6,991,800,919</td>
</tr>
</tbody>
</table>

Total Investment required Per person by 2020 | € 388,17 |

Factor between Dutch and World average | 3.3 |

Goal for Dutch users by 2020 in total (Total I * Factor) | € 1,286 |

References
Appendix X: Overview of Concepts

In the following appendix an overview of the concepts generated with the ideas from the ideation phase. At the end of the explanation an overview is given of additional ideas or focus points which can be part of the concept.

1. **Movement Mining**

   *By mining a currency based on a person’s movement speed and acceleration, the Movement Miner can steer users towards more healthy and less polluting modes of transportation.* It works like a Bitcoin but users mine based upon their movement speed and acceleration. Users won’t mine when they stand still and receive more when they move at walking, cycling and running speeds and almost nothing when flying or going by car. The accelerations can be used to identify the type of vehicle which is used (e.g. electric vs petrol gear shifting). The app could also detect friends that travel at the same speed, this indicates traveling together and could also provide additional mining points and make the effort more social. Another interesting aspect of a currency like this is that external investors can increase the value of the currency and with this promote the value “Healthy lifestyle and reduction of polluting miles”.

   Speed maps – space travelers – curve visible – educating – interesting means of paying transportation

2. **Earth Donor Registration**

   *By making citizens sign a “contract” in which they commit to leave the earth in the way they found it, they are more encouraged to make a change in their behavior. NGO’s or the government could take an initiative like this.* On the platform they can inform donors on the actions they can take locally and the subsidies they can receive from the government. By rewarding users with an currency when they invest green or take other measures, the organization can stimulate return to the platform (which is one of the limited places where the currency can be spend) and thus make the registration a more conscious part of someone’s life.


3. **Greenhouse Guess**

   *By rewarding the crowd when they guess and argue for the CO₂ impact of particular products and service, relatively precise outputs should be generated.* These outputs will be cheap to generate but also show the difference between the actual and most guessed levels providing interesting insights for the users or other stakeholders. Live feeds of the data can be sold to external parties.

   Requesting unknown – More reward with new entries – Fun activity – Great detail – activating

4. **Planet Save**

   *By providing children with a pocket-money bank account they can learn the benefits of saving money and by connecting the savings put on the service to sustainability they can also learn how to ‘save’ the planet.* This is aimed at parents with spare savings that like to provide their children with financial means and a learning by doing experience. A little test was run and I found out that if the children keep the money on their account they can receive pocket money from the account by the interest generated and still keep a similar amount on their account over time. In this way parents can leave their children with more financial and environmental responsibility. A currency is used in the service to provide the connection between the parent and the child, parents control the settings of the currency. The currency provides children with feedback on their behavior but it also allows setting responsibility levels of the amount of money that can be taken out at a given time.

   The interface of the service grows up with the child. Over the years it becomes more mature. Children can put saving and spending milestones in and find out whether they can meet their objectives. The service provides potential solutions to make spending goals possible. Goals such as a driver’s license, studying or a game console might be interesting events young people would like to plan for. Children get the opportunity to put pictures together to form their own planet out of a panorama picture.

   Interesting for children – see effects of smoking – driver’s license as interesting goal – learning by doing
5. Around The Corner
By rewarding people for going on holiday very close to their homes, travel pollutions will be reduced and the national economy stimulated. It speaks to the imagination that a holiday nearby can be just as joyful as a holiday on a distant resort. Around the corner offers families a good excuse to stay nearby and spare them from the stress associated with a long journey. At this platform local holiday offerings and day trips are presented. In this way Dutch vacation accommodations can market their selves to locals. A currency is handed out based upon the distance from a user’s home, this currency can be gifted to friends or used at a different time for another nearby holiday. Camping’s and other leisure time services (e.g. theme parks, car/caravan rental) can decide to accept the currency and hereby stimulates this local holiday movement. The offerings are sorted on distance to your home, or price taken into account the currency received.

The platform can be an interesting subject for governments to subsidize because more money is staying within the Dutch borders. The currency can also help the service to retain customers and users can be rewarded if they share their local holiday story. Gifting the currency to people that cannot afford going on holiday could also be a great addition.

Accommodations can pay local volunteers – realizing how much you have – families with young children

6. Nomadize
Investing with the local community becomes interesting with Nomadize. People are asked what type of renewable project they would be interested in for their region, than at a limited amount of time they get the opportunity to invest in renewable energy. Their investment can be used as a currency which represents a stake or share in the investment. If the renewable energy is installed people people get a return on their share or are able to buy the local energy from their neighborhood. This caravan service goes from neighborhood to neighborhood and comes back only every two years. Nomadize support communities so that they buy renewable energy sources at a lower price through group discounts. The limited time is there to raise interest and create a feeling of “now or never”.

With this scheme people can make an extra investment in renewable energy and get paid on a monthly basis for the additional profits made on selling the energy. It is also possible for cities to invest in projects on more distant locations because of a lack of space in the cities. The people from the regions that were not able to invest are still able to buy the energy locally produced, the shares remain tradable within the community. This provides for extra liquidity and a local currency. The currency should also be translatable to other regions.

Creating a buzz – regional competition – awareness – local news – standardize and personalize - cyclical

7. Foodies
Learn more about your food habits and get rewarded for buying more conscious. Super markets could provide their customers with rich data about their buying behavior. By handing out cards connected to an online account users could see what they bought, divided over the family members they have, insights about their diet could be very valuable (Nutritions, fat, sugar etc.). With the card people receive extra discounts on environmentally conscious items bought in the store (e.g. meat replacement) or on products which are in the season. This discount is rewarded as a currency that could, at a later stage be used to buy any other product. It is a form of indirect discount. The platform can also give suggestions and act as a personal coach based on the data people share.

Both parties can benefit from a currency like this, customers have more grip on the data they share and receive a benefit out of it in terms of education and discount. Supermarkets could receive more data on the behavior of their customers and have an additional tool than only discount to steer a consumer’s behavior. The other benefit would be that a customer is more likely to go to the same supermarket for all items if they want to learn about their eating habits. The supermarkets have to make sure the discount reward they hand out is sufficient for customers to use it.

Supermarket chains – health – reduced impact – learning – In the Season – customer intelligence
8. Sufficient
Energy self-sufficiency is the aim of this service, it is done together with a group of friends in so called pools. Users are able to learn how to live a more financially independent life and at the same time become less dependent on scarce resource. A group of friends shares their energy needs and together they start investing in renewable energy. A community currency will show them how much they have saved together. These are their savings on energy bills, behavioral change and installation cost reduction. Pooling this information makes it possible for groups of friends to compete with other groups on their way to achieving self-sufficiency. But it also allows them to reinvest what they have saved, by saving together they can invest quicker in bigger projects. The tool can record how much money they invest in the renewable energy of their friends in order to keep it balanced.

When self-sufficiency is achieved the friends can save for a nice holiday or invest in other groups on their way to self-sufficiency. Another focus can be on the increase in house value to justify the costs involved with renewable energy. And if one person lives in a free standing house and the other in a small city apartment they can still realize self-sufficiency for each other. The service can make money by offering renewable energy production devices at a group discount.

Advantage of pooling – towards a goal – Time until goal is reached on current speed – incentive and stimulation

9. Tree Planting Commemorative Coin
On an annual basis new commemorative coins are being minted in the Netherlands and other countries, they can be used as a legal form of payment. The tree planting coin would be created for Dutch national Boomfeestdag, when buying the coin your money is used for planting trees. This makes for an interesting commemorative coin which is associated with the direct action of planting trees. People buying the coin don’t have a lot to lose and maybe the action of planting tree gives the coins a higher value than other commemorative coins. The creation of the coin can be interesting, mainly as a PR tool, for the government and NGO’s.

New life for commemorative coins – government cooperation – interesting memory

10. UDONation
People share their creations and show each other how it has been made. UDO is a special cryptocurrency backed by the DIY costs for the user base. Users indicate what their creation costs, if other users confirm or adjust the estimated costs the maker gets rewarded with the community currency which represents the added value. UDONation allows people to show each other their clever ideas. It gives people a peak in the family lives of others. As a user you can get inspired by the content on the website, by clicking on ‘made’ you can indicate that you have made the particular item. This rewards you and the maker with UDO (related to costs). You are also asked to make a donation in legal tender, you are not required to do so but all donations are pooled and spread equally over all UDOs in existence. This redistribution of money gives value to the UDO just like obligations have value due to a fixed return. Of course you have to send in a unique picture of your creation to confirm that you did it and there is a maximum to the creations you can realistically make (hours).

Other users can use the currency to buy manuals but it is also transferable to normal money just like crypto currencies are. Recycling is very much appreciated in this service and results in more UDOs without having the costs associated to it. The currency is also a symbol of status; users can be ranked on this information. By buying the currency people contribute to the DIY movement and are able to receive a pay out from the donations to the movement. DIY furniture is personal and has direct effects on how your family lives, living should be fun.

DIY movement – insightful – stimulating activity – facilitating - dividend

11. Bean game
Colored beans give children a wide variety of games to play at their schools. The beans can be collected, traded and planted to multiply them in a next year. The beans can be connected to an action where children can together
save for renewable energy at their schools. A game board is available for sale with a game at which the beans can be used and children learn about sustainable behavior in a fun way.

Interesting workings through children planting rare colored beans and the next year it might become the least rare because everyone has them. In the May holidays (15th) the beans can be planted and they can be harvested in the new school year around August-September.

*Allowing children to come up with games – growing stuff - learning*
Appendix XI: Rationalized Selection

The following overview is a so called weighted Harris profile, the concepts are ranked according to a list of criteria with each one having different weights over three life cycle phases (Creation, spreading and sustaining), the other topic is the overall topic indicating the scores on theme’s such as interaction and alignment to the overall vision and context.

Table 2: Overview of scores for the selected concepts.
Appendix XII: Family Life Factors

In the following appendix an overview is given of the different context factors used to create a future context in the domain ‘Family Life’.

GENERAL

Older parents (D)
People become parent at a later age, the medical developments allow for longer lives and fertility.

People increasingly live in cities (D)
Urbanization describes the move towards the city, this effects the environment of the average families. E.g. Smaller homes, different leisure time spending, different relationship with neighbors, etc.

Families are constantly connected (T)
Social media and messaging tools such as Whatsapp keep families connected, this changes the way they interact.

Family members live together as peers (T)
The historical power relationship of fathers over the family fades and families live together as a group of peers more often.

Extremities of family planning (T)
Family planning makes for deciding to have children on a later age, often in line with the career. This is in contrast with the increase in single teen mothers where there appears to be a lack of planning.

Gender roles fade (D)
With both parents working the stereotypical task division has changed and common gender roles faded.

FAMILY COMPOSITION

Divorces have wide ranging impact on families (T)
Divorces become more common, this has big effects on the composition of the family. The may partly be caused by longer lives, this makes the choice to start again more feasible.

Fewer kids and higher expectations (D)
Parents get fewer kids on average, this leaves the kids with more attention and often raises the expectations parents have of the children.

Family life is extending to neighborhood and friends (T)
What people experience as family is extending towards their friends and surroundings. This seems to have something to do with urbanization of a younger generation and friends that remain single and become something like an uncle or aunt for the family.

Returning home (P)
The parents’ home is perceived as a safe place, in times of financial or relationship trouble people increasingly live with their parents again. This can lead to multi-generational families living in one house.

Pets as part of the family (T)
Pets are increasingly seen as a family member, this especially holds true for couples that couldn’t or decided not to take children.

FAMILY VALUES

Protection of family values (P)
Family values remain important to people, even with different family compositions people like to play games together with their family, prepare and have dinner together.
Appendix XIII: Sustainability objective in detail

It is only very recently that we saw our earth from space and realized that what we have is finite. This is a very different experience from when the earth was still flat and colonization & exploration of new lands were an everyday business. In this chapter the sustainability theme is explored and an objective set for the purpose of this graduation. The aim is to align with abundance and make it possible to live sustainably in sync with the planet.

There is quite some confusion concerning the definition of sustainability. This has to do with the use of the word as a means to an end. This confusion could clearly be seen from answers of the questionnaire (See appendix VII). Sustainability is often associated with the actions taken which are considered to contribute positively to sustainable use of this planet. It is best to define these actions as sustainable development. Sustainability in itself can be seen as a relatively concrete stage we can reach. A good definition for sustainability is “the ability to continue a defined behavior indefinitely” (Thwink, 2014). Sustainability can be reached in an environmental, economic, social and political way, with this graduation the focus is to contribute to the environmental pillar of sustainability.

We now know that human activity is the main driver of climate change. There is a limit to the amount of greenhouse gasses we can produce to keep earth livable. These greenhouse gasses (of which CO₂ is the main source by approximately 75% (Alcamo, Puig, Olhoff, Demkine & Metz, 2013)) have the property to reflect infrared and keep it in the atmosphere. This warms up the skies and our planet with consequences like drought and ocean acidification that go with this transmission (See Figure 3 for other issues related to global warming). As opposed to common thinking there is a limit of CO₂e (The CO₂ impact-equivalent that includes the other greenhouse gasses) that can be pushed off in the atmosphere. This is not on an annual basis but in total.

The limit has been framed as the ‘Carbon Budget’. A cumulative maximum emission of 1000GtC is associated with 2 degrees of global warming. This limit is set to keep the consequences of warming restorable with relatively minimal costs (Alcamo et al., 2013). The planet’s eco system doesn’t adapt rapidly to the peak of warming gasses which are produced since the industrial revolution (e.g. ocean rise). Delay in taking measures will put

![Figure 2: Projected emission pathways and their effects on the temperature (=RCP) (BCSEA, 2014)](image)

Figure 2: Projected emission pathways and their effects on the temperature (=RCP) (BCSEA, 2014)

Figure 3: Overview of climate related issues that emerge
increasingly high indirect costs on the ‘coming generations’ while this is actually later on in the lives of majority of the people alive today! As a consequence to our emissions the local weather and general climate will become more extreme. This inflicts damage to important things such as property, biodiversity and the food supply (IPCC, 2013. Hansen et al., 2013).

It is clear that something has to happen relatively soon. Staying within the Carbon Budget is not easy. The overall CO$_2e$ outputs should peak around 2020 and after this move to about half of the current output levels by 2050. Note that all IPCC scenarios are worse than what is actually required (See Figure 2). Because the Carbon Budget is limited, there should be a point where the total output is lowered to pre-industrial levels and eventually to zero (Global Carbon Project, 2014).

Because of the relatively short time span in which action should be taken, it is the most critical topic within environmental sustainability at this moment. Reducing the environmental impact in terms of CO$_2e$ will be the focus of the concepts of this graduation. Another environmental topic which can become very prominent, but predicted to do so only in the longer run is the scarcity of certain resources. Scarcity can however spur innovation by promoting recycling or the use of other resources for the same purpose. There seem to be more opportunities for technology to deal with this scarcity than to fix extinct species or reverse other effects of global warming.

**Current action**
According to the Emissions Gap Report of 2013 current CO$_2e$ levels are considerably higher than what is needed to meet the envisioned 1.5°-2°C trajectory. The levels are still raising, the main reason for this is the increasing contribution of the developing countries which accounted to 60% of the total emissions by 2010 (Alcamo et al., 2013). At this moment it appears as if the ‘developed’ world stabilizes in terms of CO$_2$ outputs but it is found that this is largely the case because (dirty) production is outsourced to the ‘developing’ nations (Ederer & Weingärtner, 2014). By not taking the emission-gap between imports and exports into account greenhouse gasses of developed countries appear artificially low. With the established focus on outputs per country we run the risk that the problem is not solved but merely shifted. People in the ‘developed’ world should realize they aren’t doing any better and jointly take responsible for more action. If we don’t act it is very likely we miss this window of opportunity and our good climate.

“Climate finance investments have plateaued at levels well below what is needed to achieve a 2° Celsius temperature stabilization pathway (359 billion dollars per year in 2012)” a majority (62%) of this money comes from the private sector (P.34, CPI, 2013). According to the International Energy Agency an additional amount of 5 trillion dollars until 2020 is required to follow the set pathway (IEA, 2013). Looking at these numbers we can conclude that global investments have to be twice the current level.

Subsidies and taxation advantages can improve the climate for investing in renewable energy. But governments seem to have trouble in setting priorities. It is estimated that just the developing and emerging economies allocate 6 times the total global renewable energy subsidies to fossil fuels (IEA, 2013).

It is also very unlikely that scarcity of fossil fuels will drive us towards sustainable energy over the coming years. Only 20% of the current fossil fuel reserves can be burned before the Carbon Budget is exceeded. This indicates that a vast amount of current fossil fuel reserves have to stay in the ground (Tracker, 2013). Barrack Obama recently acknowledges this finding and said “We’re not going to be able to burn it all. …we’re not going to … turn off a switch and suddenly we’re no longer using fossil fuels, but we have to use this time wisely, so that you have a tapering off of fossil fuels replaced by clean energy sources that are not releasing carbon … I very much believe in keeping that 2C target as a goal.” (The Guardian, 2014).

If the world commits to keep warming within the 2°C target it suggests that the fossil fuel industry holds a big asset bubble which will never be used. Interestingly it is estimated that the top 200 gas, oil and mining firms invested over 650 Billion dollars in increasing reserves and optimizing
extraction (Tracker, 2013). If the newly created reserves are really left untouched it is a waste of money at a scale which could almost triple current clean energy investments. This would be more than sufficient to stay within the carbon budget.

WAY FORWARD

For households about two thirds of their greenhouse emissions are indirect. Consumption of food takes a majority of 6.000kg CO$_2$e per household per year. The other 9.000kg CO$_2$e of indirect emissions is related to the rest of their consumption like clothing (1.000kg CO$_2$e per year). The other third of direct emissions (8.000kg CO$_2$e per year) are related to energy usage for transport, heating and electricity. This brings the total average annual outputs to 23.000kg CO$_2$e for a household (Milieu Centraal, 2010). It can be concluded that a reduction of emissions within one particular theme is not sufficient to meet the future greenhouse targets and that the impact of indirect emissions should not be underestimated.

From the questionnaire executed (Appendix VII) it became clear that people don’t feel very engaged to take actions which improve environmental sustainability. This is caused by confusion with the terminology; people don’t fully understand what it means. Only 26,9% has a positive attitude towards sustainability. These participants mainly argue that it is important for the future of our planet and humanity. The people with a negative attitude indicate that they find other values (Such as equivalence, education, peace and self-sufficiency) more important. From the answers it could be derived that not many people are aware that action has to be taken quite soon. In general people are talking about coming generations. This view is confirmed by a research by CBS (Dutch Central Statistical Bureau) in 2010. Other bottlenecks found by this research are that people perceive sustainable products as expensive and associate sustainability with reduced comfort (CBS, 2010). It appears to be crucial that a service has a clear advantage on an individual level; societal motivators seem to be too abstract to make the general population act.

Extensive research indicates that an increase in energy efficiency results in increased usage and/or spending of the savings on other relatively inefficient products or services. This so called Rebound effect is important to take into account for future products and services in the field. It’s almost certain that this effect occurs, but the extent is widely varying across studies. For developed nations it is estimated to be 15-120 percent economy wide. Different studies indicate that the Rebound effect reduces as economies become more developed (Chakravarty, Dasgupta & Roy, 2013).

Conclusions

Greenhouse gas emissions appear to be the most prominent topic for environmental sustainability which requires action on a short term basis. We shouldn’t move outside the Carbon Budget if we want to limit the effects of global warming. Getting across this threshold will damage society and nature and cause issues before the ‘next generation’. The damage is impossible or very costly to restore. Current actions to mitigate the warming are lacking because:

- Overall green investments should be about twice the current level to achieve the target for 2020 (CPI, 2013. IEA, 2013)
- Emissions of developed nations appear artificially low because the CO$_2$e gap between imports and exports is not taken into account (Alcamo et al., 2013. Ederer & Weingärtner, 2014).
- A majority of governmental subsidies moves towards fossil fuels. Evidence indicates that this amount it about 6 times the amount of renewable energy subsidies (IEA, 2013).
- Energy companies are still investing heavily in the exploration of new fossil fuels while the emissions of burning the current reserves would exceed the Carbon Budget five times (Tracker, 2013).
- Environmental sustainability is a relatively abstract matter and we imagine the consequences to appear at a distant time. The urgency of the matter is underestimated (CBS, 2010).
- People don’t feel engaged to take action for environmental sustainability (See why in Appendix VII).
- Commonly a raise in energy efficiency goes hand in hand with increased usage or spending of savings for something more harmful
to the environment, this is called the Rebound Effect (Chakravarty, Dasgupta & Roy, 2013).

There is enough evidence indicating that more action should be taken to preserve our current climate. Governments can strengthen incentives by redistributing their taxes and subsidies (beyond merely causing impulse purchases). Progress in renewable energy technology might lower relative prices. This could over the coming years disrupt the fossil fuel industry. But given the limited amount of time, relatively slow governmental bodies and big established fossil fuel industry a transition has to take place on the level of the individual. Consuming has large indirect consequences on overall emissions. There however is no single effort that can result in the greenhouse gas reductions sufficient to stay within the carbon budget. Reductions should be achieved through a wide range of products and services. Monetary savings caused by renewable energy should preferably be invested in environmental sustainability or spend with low emissions per respective Euro.

It would be beneficial if sustainability becomes a more tangible topic for an individual. To make a step towards tangibility clear goals are set to which the concepts can be weighed.

**Objectives**

It won’t be easy but it is important that efforts are made soon. The following objectives are set for product or services within the Netherlands. The objectives are on a per user basis in order to make it concrete and scalable with the amount of users reached by the service. See Appendix IX for an overview of the calculations made to set the objectives. The financial objectives can be tested by asking a small group of users what their annual investments are.

- The first objective is to make active users invest an average of €214 in environmental sustainability on an annual basis by the year 2018. This results in twice the 2013 average annual green investments (359 Billion Dollars). The investment is weighed by spending power. The spending power in the Netherlands is about 3.3 times the world average GDP per capita (See Appendix IX).
- The second financial objective is to make users invest a total of €1.286 from 2015 until the end of 2020. This demands the levels to increase every year and reach €214 by 2018 (See Chart 14).
- The third and last goal is to reduce CO₂e outputs per user with 30% within the targeted topic by 2020. This is relative to 2010 outputs of 23.000kg CO₂e per household per year.

![Chart 14: Renewable investments cumulative and annual.](chart14.png)
Appendix XIV: Bitcoin CO$_2$ estimations

The following overview includes three estimates of CO$_2$ outputs of the Bitcoin network per user. It is used to get insights into the average CO$_2$ outputs for the most popular crypto currency at this moment. It was found that the average emissions are about 850 kg's per user per year. If we calculate this back to the family assuming one user, it takes between 1 to 7 percent of their annual emissions with a most likely average of 3.7%.

<table>
<thead>
<tr>
<th>Hashrate GH/s</th>
<th>353.000.000 GH/s</th>
<th>(Blockchain, 2015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watt per GH</td>
<td>1 W</td>
<td>(Vnbitcoin, 2015)</td>
</tr>
<tr>
<td>kg CO2 per kWh</td>
<td>0.527 kg</td>
<td>(Carbonindependent, 2015)</td>
</tr>
<tr>
<td>Users</td>
<td>5.300.000</td>
<td></td>
</tr>
</tbody>
</table>

**Personal calculation (Without hardware production CO2)**
- CO$_2$ per user / y: 307 kg
- Percentage of Household CO$_2$ (23.000kg/y): 1.3%

**Calculation Source 1**
- CO$_2$ per year: 3.577.000.000 kg
- CO$_2$ per user / y: 675 kg
- Percentage of Household CO$_2$ (23.000kg/y): 2.9%

**Calculation Source 2**
- CO$_2$ per year: 8.250.000.000 kg
- CO$_2$ per user / y: 1.557 kg
- Percentage of Household CO$_2$ (23.000kg/y): 6.8%

<table>
<thead>
<tr>
<th>Average CO$_2$ per user</th>
<th>846 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average percentage of Household CO$_2$ (23.000kg/y)</td>
<td>3.7%</td>
</tr>
</tbody>
</table>

**References**
Appendix XV: Currency Impact per targeted user

The following Table gives you an overview of specific schemes from the currency categories/ types which were defined. Check Table 4 for the different sources used for the information in Table 3. By combining the Annual turnover per user with the market engagement the annual economic impact per targeted user could be calculated. It is a combination of the impact per user and the overall impact on the targeted population. The metric seems to be a good indicator for the succes of a currency and can be used as a guide line for the design of new currencies. There is however more to its positive impact than the revenue metric because it can still be a source of inspiration for action in line with values of the scheme.

The annual impact per targeted user shows interesting trend lines when they are laid over the main user interest (Individual vs social/societal). The positions can be found in Figure 3 of the main report.

As you can see in Figure 4 on the next page an individual usage-driver allows for a bigger community to be reached. But when the economic impact on the targeted users is taken into account it is found that it peaks at the center of the graph. This indicates a benefit for a currencies revenue when a good balance between individual and social/societal focus is found. When you desire to make a direct impact on the daily interactions of the users and get more grip on running the currency stable on a financial level this balance is an interesting aspect to aim for.

Barter trade currencies have the highest user impact per targeted. Gamification currencies are positioned close to Barter trade (because they also strike a good balance between individual and social interest) this is why a relatively high impact per user can be expected, but it is seems impossible to connect a monetary value to it. Note that these calculations are merely exploratory and no scientific significance can be attached to it.

Table 3: Overview of different currency categories with specific cases

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Type</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIR</td>
<td>Barter Trade</td>
<td>(CCIA, 2015a) (XE Currency Converter, 2015b)</td>
</tr>
<tr>
<td>Bartercard</td>
<td>Barter Trade</td>
<td>(Wikipedia, 2014a) (Startup Smart, 2014)</td>
</tr>
<tr>
<td>Chiemgauer</td>
<td>Regional</td>
<td>(Chiemgauer, 2014) (Wikipedia, 2013a) (Chiemgauer, 2013)</td>
</tr>
<tr>
<td>Bitcoin</td>
<td>Crypto</td>
<td>Users as of may 2012 (Ron &amp; Shamir, 2013) (Blockchain, 2015) (Reuters, 2014)</td>
</tr>
<tr>
<td>Air Miles</td>
<td>Loyalty Scheme</td>
<td>(Frequently Flyer Services, 2015) (IATA, 2013) (Wikipedia, 2014b)</td>
</tr>
<tr>
<td>Brixton Pound</td>
<td>Regional</td>
<td>(XE Currency Converter, 2015a) (CCIA, 2014b)</td>
</tr>
<tr>
<td>Ripple</td>
<td>Crypto</td>
<td>(Ripple Charts, 2015) (IEX, 2015)</td>
</tr>
<tr>
<td>Bristol Pound</td>
<td>Regional</td>
<td>(wikipedia, 2012) (CCIA, 2014c)</td>
</tr>
</tbody>
</table>
Figure 4: The graphs of community users and annual impact per targeted user vs position on the graph
Appendix XVI: General Context Visualization

In this appendix the future context visualizations are explained. Impressions gained from the deep dive into the community currency topic are translated into a model which tries to capture the tendencies and dynamics of this theme. As the end result of this step in the process the designer takes a focused position into this imagined context. The text in the coming chapters is written in the first person to emphasize that it is the designer’s personal attempt to imagine a future context. The domain for determining the context is set to be Currencies.

CURRENT CONTEXT
We live in a world which has been relatively stable since the Second World War, this allowed us to get organized on a global scale. It gave us time to steadily develop our technologies. Nations are dominantly in charge of the economy and the world politics. The USA and other world powers however slowly lose grip, they leave more room for other actors (including nations, firms, persons and organizations) to become more influential. On an international level this shift in power can be observed in the ‘rise of the east’, global platforms which provide users with powerful tools and international firms operating more independently from nations (e.g. tax evasion). On a national level I observe increased focus on entrepreneurship and other organizational responsibility put in the hands of the citizens.

In the visualization on the left (Figure 5) you find a visual representation of the current context. The circles represent groups of people, these groups can be nations but also your local tennis club. Through value exchange they interact with each other. Together they metaphorically determine how the world turns. In the past groups viewed themselves as part of their country but the knowledge abundance internet has brought over the last decade has increased the scope. The organizations that enable global sharing act at a truly global level; and visually get pulled into the globe by actors from over the world. The abundance of information has likely changed our attitude towards the national government and power relationships in general. Dominant entities lost their monopoly on the ‘truth’.

The possibility to have more impact on a global level might trigger people to work on topics that are meaningful to bigger groups. Because an individual’s opportunities to contribute are vast in this interconnected world, negative emotions towards personal performance might increase. The lava in the core represents the friction between groups that occurs as a result of their interaction. The visible connections don’t mean to say it is just for nations, they are however relatively noticeable at a global level.
FUTURE CONTEXT

I foresee a future where central authority decreases and power becomes more spread over a higher number of smaller organizations and groups. In the case of some rich individuals their power becomes more significant. The role of globally operating firms and local organizations will increase. Through groups people will feel more connected to society and satisfy their desire for meaningful activities. This group orientation in combination with decreased central authority can raise overall conflict because more groups mean a larger array of conflicting interests. Truly global platforms increasingly allow individuals to gather and put their plans into action quicker. Chances are that you will be surprised more often. Global firms offer tools to disrupt existing markets, action requires less specialization.

People will feel more empowered and connected to their surroundings but there will likely be fears related to the increase of responsibilities and a world moving into the unknown with surprises around every corner. These factors make it likely for groups to emerge that distant themselves from society and live according to different values or hold on to the past.

This increasingly interconnected less hierarchical world seems to encourage bottom-up organization. This is clearly different from the top down world where nations and international blocs of cooperation like the United Nations determined how the world turned. It's exciting to find out what solutions the top-down institutions find to remain relevant.
Appendix XVII: Interview Summaries Prototype

In this appendix you find a summary of the interviews held with two accommodations and two families. The goal of these interviews was to find out if there is demand for Around the Corner, to see if they fully understood the website at that stage in the design (Appendix XIX) and to find out what would make them use it or refrain from using it. The interview guide for these conversations can be found in Appendix XVIII.

ACCOMMODATION 1

The first accommodation that was visited is a bungalow park close to the Ijsselmeer. They rent bungalows of which a majority is privately owned. They regularly give discounts of around 20% to holiday tour operators. Even during peak season almost half of the bookings go through these agencies. Only a small margin ends up at the park because they have to pay more than half as rent to private owners. I spoke to an employee at the reception. She was very knowledgeable about the physical and administrative handlings at the park. It became clear that they try many different booking agencies and platforms. She said that this would also be the attitude towards a new platform like Around the Corner.

She was very positive towards a platform that stimulates people to stay nearby. She mentioned that she worked at a park in Spaarnwoude before and that she occasionally had people visiting the park which were from Amsterdam. She gave another example of her dad who recently visited her at the bungalow park, he mentioned that it would be great to go there for holiday and to fish, staying nearby was a clear benefit for him. She saw opportunity to get extra customers with the platform and the accommodation would use it if they are not a “thief of their own wallet”.

Especially during the low seasons there is spare time to prepare working with Around the Corner. She expected a session of about half a day to get it off the ground. The opportunities that the tokens offered seemed very interesting to her, it would be great if it could save some time when it is really busy. She has many administrative handlings. The scanning system gives the opportunity to reduce the financial handlings resulting in more time for the customers and more relaxed work. She thinks that the cards can really activate people to be more motivated to do things on the camping. Considering the negative balance she mentions it would administration-wise be easier to not get the whole sum of money and then at a later stage pay back. She prefers Around the Corner to keep the 20% and then pay back the difference.

She told that the owners of the camping would be interested in sustainable investments and they were looking into heating the swimmingpool with solar energy. It would especially be useful if money could be saved and this green behavior could be communicated to the customers for an increased number of visitors. There was clear awareness of the different types of labels accommodations could receive (Greenkey and Greenlabel were mentioned). She would also be interested in more support in obtaining labels and knowledge about the financial benefits in terms of subsidies and taxation related to sustainability.

The park currently has a well-integrated administration system which also communicates with the tour operators. It could be possible to use the tokens and payment system to make “selfies” and pay yourself to create financial bookings quickly. The lady mentioned that she experienced, through a discount offer they made before that the popularity of camping bookings is more weather dependent than houses.

Conclusions

1. Allow accommodations to try using the system and experience the advantages
2. Make sure the accommodations can prepare themselves at the low season
3. Material to share it amongst employees is useful
4. Accommodations prefer to give a lower discount during peak seasons, but in practice they don’t really
5. Parks with privately owned houses are generally able to give higher discounts because they don’t have a fixed cost price
6. People do have examples in mind of friends or family that didn’t travel far to go on holiday
7. People in cities can be an interesting target group
8. There is an opportunity for the platform to handle or support in possible labels, subsidies and taxation related to the climate.
9. Accommodations prefer to save money with green investments.
10. People working at the reception have to remember and take into account a lot of things simultaneously.
11. A negative balance is not preferred and experienced as moving money
12. The accommodations considers being more green

Ideas
- Administrative system with making selfies
- Allow camping to select higher quantities of sold goods quickly (observing her make a transaction with a girl who bought a few bags of candy).
- With booking day trips for visitors the system could be used to reserve money for the day trips and a margin for themselves. (Combined payments)
- One time use tags like the codes at the Telegraaf.

ACCOMMODATION 2
The second accommodation that has been visited was a farmers camping. This has been chosen to get some contrast with the bungalow park. The camping is located nearby a lively city and as well quite close to the Ijsselmeer. They usually give 10% discount, but a lot of offerings without costs, so it seemed quite easy to reduce the discount. The rooftop of their hall for agricultural efforts was filed up with solar panels.

The interview was held with the one of the camping owners. She was very interested in the idea because she already was thinking of starting a sustainable camping platform “Campings of the future”. She however didn’t find time to actually get it off the ground. She is interested in Around the Corner because it can reduce impact on the environment and helps her to fulfill her purpose of having a camping, namely promoting the region because she likes it so much. She is willing to participate if the discount doesn’t end up too high. She says she doesn’t want to work with a negative balance and would rather top up her account with actual money because “the interest on the bank is not high anyway”. She experiences the negative balance as confusing and a hassle. They currently receive the largest part of their customers through Strichting Vrije Recreatie which is aimed at the smaller camping’s. Members pay an annual membership fee of 10 Euros and for they get a discount of 5-10% on the connected camping’s.

With a 20% discount she mentioned she would probably set her price level somewhat higher, especially the first year. She saw many opportunities to engage customers on her camping with Locals. She mentioned she could use it for her “Bare feet” path (which is a track set out to experience walking with bare feet, all obstacles and different floors give a nice sensation when walking). Other things mentioned were renting out go-karts, selling breads, bingo evenings and drinks. The owner projected that it couldn’t save much time in her daily routines, she currently uses a card at which visitors can mark how much they consumed or how many activities they took part in. At the end of the holiday or in-between they make a payment. She mentioned that she views the tokens with Around the Corner as just as personal as using the cards. Interestingly she understood the system quite well and was open for using it while at the same time she doesn’t have an electronic payment system at her camping. Her argumentation was “I foresee that within 5 years everyone pays using their smartphones, that’s why I don’t have a payment system yet.”

When she was informed about the opportunity to donate Locals to poorer families she wasn’t very positive because she has experienced that they are picky and choose the best holiday locations for some reason. For a while the camping gave space for these type of families but they never actually came. She rather sees the money being used for the community. She mentioned that she would like the ability to have their logo on the buttons of the visitors of her camping, in the next year this could work for her.
Conclusions

1. Some campings actively try to be a greener choice for their customers and invest in renewable energy
2. Smaller accommodations have harder times to deal with high discounts but have more (low cost) spending opportunities for their customers.
3. By raising price levels the discount impact can be reduced
4. A negative balance is again not well perceived and seen as more work
5. Round the Corner could provide accommodations with an advanced payment system
6. Currencies can be beneficial to all stakeholders involved.
7. Additionally giving the opportunity for members to donate their locals to families which haven’t been on holiday for a long time is not perceived very positively.

Ideas

- Check in Check out tags to pay for the time used.
- Annual membership fee to keep Locals active and receive more solid income, you pay for the first year during booking. Can be paid with Locals.
- Taking of the balance gives a penalty, spending it on sustainable products is free. The type of sustainable products that can be thought of are: Water reducing showers, Leds, Garbage sorting bins, solar panels, basic insulation and
- Advances on refund/ deposit. Allow interest free borrowing (for investing green) from this deposit? This is also a more positive interaction because you get money back once you improve your discount from -20% to something higher.
- Giving money to a camping which gives back Locals
- Place for company logo on the tag.
- Make clearer on the website that it is about sustainability.

FAMILY 1

The first family visited consisted of parents with three children. The woman interviewed indicated, she knew people, especially from her job that already stay nearby for holidays. This is especially the case for families from the city with relatively young children. The interviewee experiences holidays requiring a flight as expensive. She found the discount offered by the service particularly interesting and it didn’t matter for her if she got it directly or indirect as is done with the platform. She indicated that a “discount” of 20% would definitely be enough to convince her. At the beginning of the interview two of her kids and a friend of one of the children were present. The families’ children didn’t mind staying nearby because they don’t like travelling. The friend was used to go to Italy every year so he didn’t mind the travel and indicated that he ‘already knew the Netherlands’.

The woman indicated that she would use the Locals to go to the accommodations cinema, use it for the washing machine, activities, playgrounds, restaurants and the swimming pool. The bonus received when sending to friends appealed to her because she doesn’t like to give money. “Something like this is great”. She preferred it over normal money because, you don’t have to give real Euros and with the name on the tag people can find the person it belongs to when it’s lost. She liked that the buttons could be blocked. Sustainability-wise the woman especially wants to do no harm to nature. The sustainability aspect would be something she tells to friends that come across as really environmentally conscious she said.

Additionally she mentioned that it would be beneficial for people that have to take care of family, if a relative is sick or if the woman is pregnant. And last but not least she said that you can buy all the food you love here in the Netherlands. “Funnily people that go for a long trip buy in the Dutch shops and then carry it all the way with them”.

Conclusions
1. Clearly communicate the discount and the usage of the currency on different camping’s (% back in locals)
2. It was hard for her to find the balance on the account
3. Desire for topping up the account balance with euros
4. Clarify connection to Euros on the website
5. Dutch food is another factor people might appreciate with staying
6. Sustainability is not something people scare away from, showing it is generally good
7. The ability to use it as a gift for friends is appreciated

FAMILY 2
The second family interviewed consisted of a dad and two children, the youngest a boy and the oldest a girl. They were all present for the interview. When asked what they thought of the idea they mentioned that they would be interested in it as a second holiday because they really enjoyed knowing what weather they can expect. “You work the whole year for it and then it is terrible when the weather is bad half of the time”. They told they were more likely to use the platform when the weather was good as a relatively late booking.

In general they were very enthusiastic; especially the kids were fanatic about how easy it was to make a transaction. It was fun to see how quickly the kids (one of about 11 the other 15 years old) got the hang of it. They came up with a lot of ideas and questions. The children were conscious of the effect of CO₂ on the planet. The dad mentioned that “This is actually a nice thing to do for saving the planet.” And he would have no problem working with it.

The youngest was also very experimental in his ideas. The community might be very able to come up with entertaining ideas using the system. He directly mentioned that by passing Locals from one friend to the other you could make a lot of Locals each time.

They indicated that 10% discount wouldn’t be enough but that 20% is a fair amount. They were however afraid that they would spend money faster with this system, but since you already received it, it wasn’t seen as a big issue.

Conclusions
1. Especially families with younger children
2. Benefits are: less travel time, lower holiday- and travelling costs.
3. Downsides are no variety in environment, and increased dependence on weather.
4. People don’t feel restricted when sustainability is presented the way it is in this system.
5. People have hard to break associations with holidays and going to a place with sun
6. Booking on short term would make it extra interesting
7. There seems to be a tendency for kids to very well understand the digital system, they might even teach their parents or the employees of the camping ways to work with it.
8. Around the Corner could stimulate visitors to spend more on the accommodation

Ideas
- Allow camping to temporarily increase the Local discount or reduce their prices, especially when there are places left in case the weather is great.
- Extra give a friend bonus when the weather is good
- Make sure that you cannot pump money back and forth or in circles by making it impossible to give away money that you already got from a friend.
- More information about climate change in general for people that want to become more informed
Appendix XVIII: Interview Guide Prototype

In this appendix you find the questions which were asked to families and accommodations. It was used as a guideline to structure the interview but when necessary more in depth questions were asked.

Questions for accommodations

- **Rough idea**
- What are your perceived pros and cons?
- What do you like and dislike?
- Would you be interested in using something like this?
  - Why or why not
  - When would you?
- **Show concept (Appendix XIX)**
- Ask for feedback and clarity > information you need?
- What do you think about it now you know more?
  - Is 20% reasonable? (consider return potential)
    - How much would you be willing to give?
- Is there personnel capacity left to use the Locals more extensively?
- Where do you think you can save time using this process?
- Are there seasonal differences?
  - Could this platform help for seasonal control?
- Are you interested in the CO2 compensation for saving the planet?
  - Is there a concrete benefit to this for the camping?
  - Where would you like to use money from the CO2 compensation fund for?
    - Do you have place for trees or like to receive led lights from the compensation fund?
- How does the process work for booking a day trip for a visitor?
  (Musea, attraction parks etc.)
  - Do you receive additional benefits with this?
  - What do you think about the process in general?
- Can the concept be improved?
- **Thank you!**

Questions for families

- **Rough idea**
- What are your perceived pros and cons?
- What do you like and dislike?
- Would you be interested in using something like this?
  - Why or why not
  - When would you?
- What do you think about staying nearby?
- **Show concept (Appendix XIX)**
- Ask for feedback and clarity > information you need?
- What do you think about it now you know more?
- Is 20% reasonable?
  - How much can convince you?
- What would you expect you can do with the Locals?
- What do you like over normal money?
- Are there seasonal differences?
- Are you interested in the CO2 compensation for saving the planet?
  - What should be done with the CO2 money?
- If it was on the market next year, would you use it?
- Can the concept be improved?
- **Thank you!**
Appendix XIX: Interview website
Here you find images (Figure 7) of the website that was shown to the interviewees for confirming and improving the concept.

Figure 7: Overview of pages of the Around the Corner website as shown during interviews
### Appendix XX: Cash flows Around the Corner

The following appendix contains a expected and minimum required cash flow for paying back the estimated investments (together with a knowledgeable currency programmer). It is found that 1.000 bookings should be achieved in the first year, this requires many merchandise to be handed out at accommodations and enough coverage to handle 1.000 or more visitors. The number of users required to pay back for the service is between 15.000 and 20.000. If the service performs as foreseen it can pay back in 2 years and 3 months with an Internal Rate of Return of almost 60%.

The Net Present Value is close to €400.000. In the minimum conditions the payback time is about 4.5 years. The Net Present Value is low but an annual interest of close to 8% would be achieved on this investment.

### EXPECTED CASH FLOW  Around the Corner

<table>
<thead>
<tr>
<th>Year (number)</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development costs</td>
<td>€ 90.000</td>
<td>€ 25.000</td>
<td>€ 25.000</td>
<td>€ 15.000</td>
<td>€ 10.000</td>
<td></td>
</tr>
<tr>
<td>Pilot</td>
<td>€ 20.000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Network developing</td>
<td>€ 25.000</td>
<td>€ 15.000</td>
<td>€ 5.000</td>
<td>€ 5.000</td>
<td>€ 5.000</td>
<td>€ 5.000</td>
</tr>
<tr>
<td>Variable running costs (*)</td>
<td>€ -</td>
<td>€ 3.637.800</td>
<td>€ 6.658.600</td>
<td>€ 8.171.400</td>
<td>€ 8.718.870</td>
<td>€ 8.481.670</td>
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<td>* Account</td>
<td>€ 0,30</td>
<td>€ 0,30</td>
<td>€ 0,30</td>
<td>0,30</td>
<td>0,30</td>
<td>0,30</td>
</tr>
<tr>
<td>Labor costs (0.5 FTE)</td>
<td>€ -</td>
<td>€ 15.000</td>
<td>€ 15.000</td>
<td>€ 15.000</td>
<td>€ 15.000</td>
<td>€ 15.000</td>
</tr>
<tr>
<td>Payment to Accommodations (80% of revenues)</td>
<td>€ -</td>
<td>€ 2.880.000</td>
<td>€ 5.280.000</td>
<td>€ 6.480.000</td>
<td>€ 6.912.000</td>
<td>€ 6.720.000</td>
</tr>
<tr>
<td>Payment to CO2 compensation (8% of revenues)</td>
<td>€ -</td>
<td>€ 288.000</td>
<td>€ 528.000</td>
<td>€ 648.000</td>
<td>€ 691.200</td>
<td>€ 672.000</td>
</tr>
<tr>
<td>Payment to Users (12% of revenues)</td>
<td>€ -</td>
<td>€ 432.000</td>
<td>€ 792.000</td>
<td>€ 972.000</td>
<td>€ 1.036.800</td>
<td>€ 1.008.000</td>
</tr>
<tr>
<td>Marketing and support costs (70% of the new users gets €5 start bonus)</td>
<td>€ -</td>
<td>€ 21.000</td>
<td>€ 38.500</td>
<td>€ 47.250</td>
<td>€ 50.400</td>
<td>€ 49.000</td>
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<tr>
<td>Sales revenue(**)</td>
<td>€ -</td>
<td>€ 3.600.000</td>
<td>€ 6.600.000</td>
<td>€ 8.100.000</td>
<td>€ 8.640.000</td>
<td>€ 8.400.000</td>
</tr>
<tr>
<td><strong>Families</strong></td>
<td>€ -</td>
<td>€ 6.000</td>
<td>€ 11.000</td>
<td>€ 13.500</td>
<td>€ 14.400</td>
<td>€ 14.000</td>
</tr>
<tr>
<td><strong>Revenues per family in total</strong></td>
<td>€ 600</td>
<td>€ 600</td>
<td>€ 600</td>
<td>€ 600</td>
<td>€ 600</td>
<td>€ 600</td>
</tr>
<tr>
<td>Revenues from membership (10% per year) (paid for 2 years)</td>
<td>€ -</td>
<td>€ 60.000</td>
<td>€ 170.000</td>
<td>€ 245.000</td>
<td>€ 279.000</td>
<td>€ 284.000</td>
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<tr>
<td>Revenues transaction fee (5%, based on User revenue)</td>
<td>€ -</td>
<td>€ 10.900</td>
<td>€ 23.760</td>
<td>€ 29.160</td>
<td>€ 36.288</td>
<td>€ 40.320</td>
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<tr>
<td><strong>Percentage of savings used</strong></td>
<td>0%</td>
<td>50%</td>
<td>60%</td>
<td>60%</td>
<td>70%</td>
<td>80%</td>
</tr>
<tr>
<td>Revenues Compensation balance (20% profits on sales)</td>
<td>€ -</td>
<td>€ 17.280</td>
<td>€ 42.240</td>
<td>€ 64.800</td>
<td>€ 82.944</td>
<td>€ 107.520</td>
</tr>
<tr>
<td><strong>Percentage of CO2 compensation used</strong></td>
<td>0%</td>
<td>30%</td>
<td>40%</td>
<td>50%</td>
<td>60%</td>
<td>80%</td>
</tr>
<tr>
<td>Net cash flow</td>
<td>€ -135.000</td>
<td>€ -7.000</td>
<td>€ 105.160</td>
<td>€ 172.760</td>
<td>€ 216.418</td>
<td>€ 227.650</td>
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<tr>
<td>Cumulative net cash flow</td>
<td>€ -135.000</td>
<td>€ -142.000</td>
<td>€ -36.840</td>
<td>€ 135.920</td>
<td>€ 352.338</td>
<td>€ 579.988</td>
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<tr>
<td>Present Value</td>
<td>€ -135.000</td>
<td>€ -648.41</td>
<td>€ 90.158</td>
<td>€ 137.142</td>
<td>€ 159.074</td>
<td>€ 154.935</td>
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</table>

<table>
<thead>
<tr>
<th>Assumptions</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net present Discount value</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Labor costs</td>
<td>€ 30.000</td>
<td></td>
</tr>
<tr>
<td>Pay back period</td>
<td>2.33 years</td>
<td></td>
</tr>
<tr>
<td>Break even time</td>
<td>3.33 years</td>
<td></td>
</tr>
<tr>
<td>Customers</td>
<td>19.835</td>
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</table>


Table 5: Expected Cash flow for Around the Corner
### MINIMUM CASH FLOW Around the Corner

<table>
<thead>
<tr>
<th>Year (number)</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development costs</td>
<td>€ 90,000</td>
<td>-</td>
<td>€ -</td>
<td>-</td>
<td>€ -</td>
<td>-</td>
</tr>
<tr>
<td>Pilot</td>
<td>€ 20,000</td>
<td>-</td>
<td>€ -</td>
<td>-</td>
<td>€ -</td>
<td>-</td>
</tr>
<tr>
<td>Network developing</td>
<td>€ 25,000</td>
<td>€ 15,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Variable running costs (*)</td>
<td>€ -</td>
<td>€ 618,800</td>
<td>€ 1,343,660</td>
<td>€ 1,827,360</td>
<td>€ 3,639,660</td>
<td>€ 4,245,260</td>
</tr>
<tr>
<td>* Accounts</td>
<td>-</td>
<td>0</td>
<td>€ 1,000</td>
<td>€ 3,200</td>
<td>€ 6,200</td>
<td>€ 12,200</td>
</tr>
<tr>
<td>* Hosting costs per account</td>
<td>€ 0,30</td>
<td>€ 0,30</td>
<td>€ 0,30</td>
<td>€ 0,30</td>
<td>€ 0,30</td>
<td>€ 0,30</td>
</tr>
<tr>
<td>Labor costs (0.5 FTE)</td>
<td>€ -</td>
<td>€ 15,000</td>
<td>€ 15,000</td>
<td>€ 15,000</td>
<td>€ 15,000</td>
<td>€ 15,000</td>
</tr>
<tr>
<td>Payment to Accommodations (80% of revenues)</td>
<td>€ -</td>
<td>€ 480,000</td>
<td>€ 1,056,000</td>
<td>€ 1,440,000</td>
<td>€ 2,880,000</td>
<td>€ 3,360,000</td>
</tr>
<tr>
<td>Payment to CO2 compensation (8% of revenues)</td>
<td>€ -</td>
<td>€ 48,000</td>
<td>€ 105,600</td>
<td>€ 144,000</td>
<td>€ 288,000</td>
<td>€ 336,000</td>
</tr>
<tr>
<td>Payment to Users (12% of revenues)</td>
<td>€ -</td>
<td>€ 72,000</td>
<td>€ 158,400</td>
<td>€ 216,000</td>
<td>€ 432,000</td>
<td>€ 504,000</td>
</tr>
<tr>
<td>Marketing and support costs (70% of the new users gets €5 start bonus)</td>
<td>€ -</td>
<td>€ 3,500</td>
<td>€ 7,700</td>
<td>€ 10,500</td>
<td>€ 21,000</td>
<td>€ 24,500</td>
</tr>
<tr>
<td>TOTAL revenue</td>
<td>€ -</td>
<td>€ 611,800</td>
<td>€ 1,356,752</td>
<td>€ 1,858,480</td>
<td>€ 3,705,120</td>
<td>€ 4,350,160</td>
</tr>
<tr>
<td>Sales revenue(**)</td>
<td>€ -</td>
<td>€ 600,000</td>
<td>€ 1,320,000</td>
<td>€ 1,800,000</td>
<td>€ 3,600,000</td>
<td>€ 4,200,000</td>
</tr>
<tr>
<td>**Families</td>
<td>0</td>
<td>1,000</td>
<td>2,200</td>
<td>3,000</td>
<td>6,000</td>
<td>7,000</td>
</tr>
<tr>
<td>**Families per family in total</td>
<td>€ 600</td>
<td>€ 600</td>
<td>€ 600</td>
<td>€ 600</td>
<td>€ 600</td>
<td>€ 600</td>
</tr>
<tr>
<td>Revenues from membership (10€ per year) (paid for 2 years)</td>
<td>€ -</td>
<td>€ 10,000</td>
<td>€ 32,000</td>
<td>€ 52,000</td>
<td>€ 90,000</td>
<td>€ 130,000</td>
</tr>
<tr>
<td>Revenues transaction fee (5%, based on User revenue)</td>
<td>€ -</td>
<td>€ 1,800</td>
<td>€ 4,752</td>
<td>€ 6,480</td>
<td>€ 15,120</td>
<td>€ 20,160</td>
</tr>
<tr>
<td>**Percentage of savings used</td>
<td>0%</td>
<td>50%</td>
<td>60%</td>
<td>70%</td>
<td>70%</td>
<td>80%</td>
</tr>
<tr>
<td>Revenues Compensation balance (20% profits on sales)</td>
<td>€ -</td>
<td>€ 2,880</td>
<td>€ 8,484</td>
<td>€ 14,400</td>
<td>€ 34,560</td>
<td>€ 53,760</td>
</tr>
<tr>
<td>**Percentage of CO2 compensation used</td>
<td>0%</td>
<td>30%</td>
<td>40%</td>
<td>50%</td>
<td>60%</td>
<td>80%</td>
</tr>
<tr>
<td>Net cash flow</td>
<td>€ -135,000</td>
<td>€ -22,000</td>
<td>€ 13,092</td>
<td>€ 31,120</td>
<td>€ 65,460</td>
<td>€ 104,900</td>
</tr>
<tr>
<td>Cumulative net cash flow</td>
<td>€ -135,000</td>
<td>€ -157,000</td>
<td>€ -143,908</td>
<td>€ -112,788</td>
<td>€ -47,328</td>
<td>€ 57,572</td>
</tr>
<tr>
<td>Present Value</td>
<td>€ -135,000</td>
<td>€ -20,370</td>
<td>€ 11,224</td>
<td>€ 24,704</td>
<td>€ 48,115</td>
<td>€ 71,393</td>
</tr>
<tr>
<td>Income as a percentage of total revenues</td>
<td>0%</td>
<td>2%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>4%</td>
</tr>
</tbody>
</table>

**Assumptions**
- Net present Discount value: 8%
- Labor costs: € 30,000
- Price of average booking (Nibud, 2012): € 600

**Conclusion**
- Net Present value: € 66
- IRR: 8.01%
- Pay back period: 4.45 years
- Break even time: 5.45 years
- Break even customers: 15,350 customers

Appendix XXI: Currency Working

The following appendix shows visually how the currency works including the user’s workflow.
References
Here you can find the references related to the appendices.


IPCC. (2013). *Stocker, T. F., Qin, D., Plattner, G. K., Tignor, M., Allen, S. K., Boschung, J. & Midgley, B. M. Climate change 2013: the physical science basis.*


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