Design for Trust

Farmer Data Sharing Platform for Rabobank

Oscar van Beek
Strategic Product Design
Industrial Design Engineering, TU Delft

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Graduation Report
Friday, 10 July 2020

Chair
Prof. dr. Schoormans, J.P.L.

Mentor
Prof. dr. Snelders, H.M.J.J.

Company Mentor
Prof. dr. Vorst, R.R.R. van der

COVER ILLUSTRATION
Visualisation of Trust
Oscar van Beek
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Summary

Trust is a human mechanism that opens doors to innovation and progress. Especially when risk is involved, trust will create a bridge between you and an opportunity and will enable that crossover. I believe design can form such a bridge, and in this project I explored how design can create trust.

This project was done in the context of a connected farmer platform for Rabobank. The bank wants to move from a service provider to a connector between clients. This will change the relationships they have and new relationships will be established. These new types of relationships are unknown and trust does not exist here.

Rabobank, like many other cooperations, used to be able to produce and control trust themselves. Now, this way of creating trust no longer works, and people are looking for other ways to create trust relationships. Technology enables a new type of trust in which people place trust in one-another in stead of a service provider. This creates an interesting opportunity for Rabobank as a connector, because it enables the establishment of trust between clients with Rabobank as facilitator of that trust relationship.

Two main strategies for creating trust can be defined. Contextual trust relies on contextual properties to inform a person about their trustworthiness. Contextual trust is confirmed by control mechanisms such as formal agreements and structural controls. Very different from that we can define intrinsic trust. This type of trust is centred around one's intrinsic motivations and is communicated through observable actions that eventually accumulate into a reputation.

The strategies enable different types of relationships and collaboration structures. Contextual trust works best in situations with hierarchy and authority. Intrinsic trust is very different and enables self-coordination though autonomy. These strategies are very different but also go well together. Most relationships leverage both strategies to create trust. But also it is important to be cautious with them because contextual trust mechanisms can potentially hurt the foster of intrinsic trust.

A historical analysis shows how Rabobank has always been able to work from a trust relationship. The way the bank works has changed immensely and these types same relationships are no longer an option. The bank is still very allied to the agricultural sector and a new dynamic between bank and sector has to be found in order to work together.

Rabobank is a cooperative bank, and even though not many people really understands what this really means it tuned out to be an interesting asset.

Especially because farmers are so very used to work in these types of structures. A cooperative structure enables new ways of working, and enables a new structure in which Rabobank has to define its role.

All findings and insights were synthesised into a design proposal (Figure 2) for a data sharing platform for Rabobank. The setup of the platform also highlights Rabobanks role (Figure 1), with its many trust consequences. The visualised platform highlights many trust mechanisms and shows what they would look like in this context.

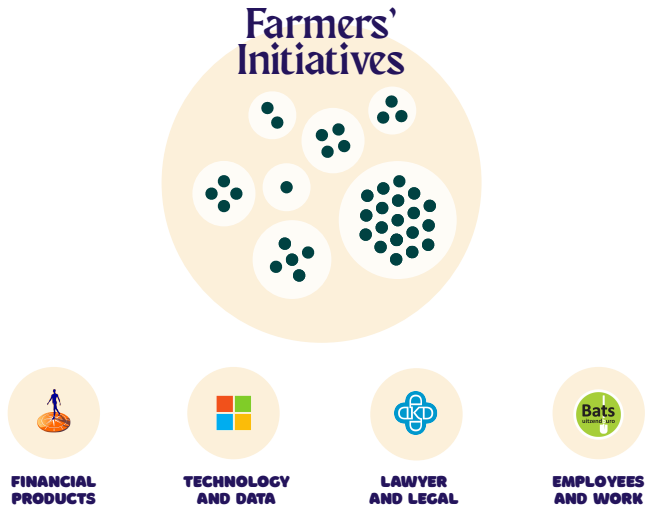


Figure 1
Visualisation of the structure of the platform

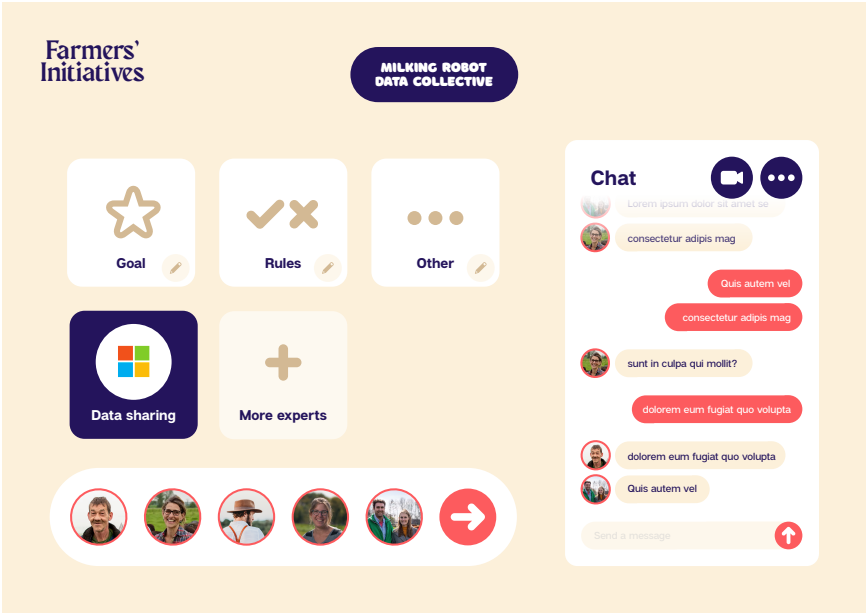


Figure 2
Illustration of the farmer data sharing platform

Introduction

The time and context in which this project was executed is quite unique. In the midst of a global pandemic I was forced to work from home and do remote research. At the same time, the world was awakened by the many Black Lives Matter protests that exposed the institutional racism in America, and everywhere around the world.

The subject of this project is trust, and how designers can design for trust. This is especially interesting in times in which risk and uncertainty seem so high. Established powers are being questioned and trust seems to decay in places of authority and power. The *Black Lives Matter* protest that fight against police brutality is a good example of this (Figure 3). The systems that are designed to keep people safe turn out to be designed with a defect. White people systematically benefit from a system that seems to favour white over colour. This has led to black communities to distrust law enforcement and the bigger system it is part of. (Hall et al., 2016)

At the same time the world is dealing with the spread of the coronavirus. Governments have to exercise some of their power to contain the spread of the virus. Some applaud governments for acting fast and effectively, others are not that positive and blame the government for economic consequences of the measures installed to contain the virus.

During one of the press conferences from the Dutch government some measures were explained. The Minister of Health explained how technology could play a role in managing the virus. The ministry was looking at several mobile phone applications that could track people in an effort to warn if you have come near an infected person. His announcement was concluded with an important note; "This can only be done with trust from society."

> "This can only be done with trust from society."
>
> Original quote: "Dit kan alleen met vertrouwen van de samenleving." - Minister De Jonge (Public Health) during a press conference about the coronavirus approach

The potential of an app in this context is huge, and can possibly save lives. But this can only be done if many people will actually download and use that app. I have learned throughout this project that this is a more complicated trust action than it seems. The trust relationship is layered and is subject to many risks from various sources. First, trust in the government should be granted to handle data with care. When you do trust the government to handle data with care, can they really assure you that the data is not leaked or misused? And if that happens, what risks are we facing?

Figure 3 A sign that was held during the *Black Lives Matter* protest in Rotterdam, June 3rd 2020.

The way people trust is changing and trust cannot be taken for granted. This poses an interesting opportunity for designers. Can designers design systems in such ways that they can be trusted, or that they produce trustworthy behaviour?

In this report I will present theory and recommendations that designers can use to design for trust. It first aims to explain the concept of trust. After that, the topic is discussed from a design perspective, and specific recommendations and considerations are presented that are specific to certain types of trust relationships. The findings and recommendations are illustrated by a case for Rabobank, in which a platform is designed in which farmers can share data with one another. A series of semi-structured interviews were conducted with Dutch farmers that is concluded in several insights in how farmers work together and use data. The theory and qualitative research is synthesised into a design proposal for a data sharing platform for Rabobank.

What is Trust?

There is not much of an agreement about the concept of trust in literature. This can be explained by its multi-dimensional character (Shankar et al., 2002), which creates different manifestations in different contexts. The various contexts all address different dimensions in trust that create another lens through which trust is observed. Because this project is executed in context of financial services an applicable definition is '*the willingness to be vulnerable to a trustee's actions*' (Shankar et al., 2002). This definition implies that risk is involved and that there is an action that defines the trusting relationship.

> "The willingness to be vulnerable to a trustee's actions."
>
> Definition of trust by Shankar, et al. (2002)

If we look at a trusting relationship in its most basic form, we see that you need a *trustor* (trusting party) and *trustee* (trusted party) (Riegelsberger et al., 2005). These parties are people, organisations, social groups or governing powers that are able to interpret and form judgements about the respective other. It is interesting to note that the trustor has to rely on his own perception of trustworthiness of the trustee (Riegelsberger et al., 2005). This perception is subjective and can be manipulated and is therefore hard to trust (Riegelsberger et al., 2005).

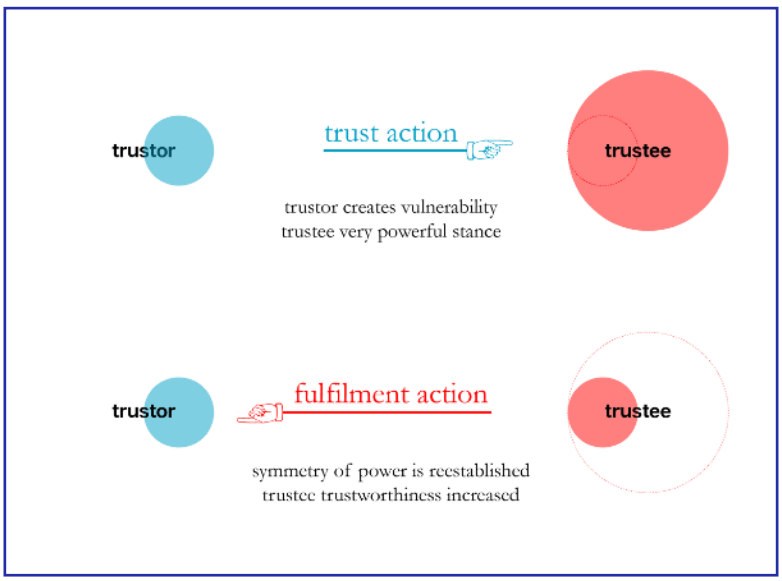


Figure 4
Sequence of actions in a trust interaction

When a trustor decides to trust a trustee, a *trust action* takes place (Figure 4). The trustor willingly creates vulnerability by performing this action by providing resources to the trustee. Resources can take many forms, such as information, money, time and services. The trustee can do two things; they can either choose fulfilment, which means that the promise is delivered, or they can choose to constrain from fulfilment and take advantage of the trustors vulnerability. This sequence of actions demonstrates the asymmetry of power between trustor and trustee (Greenwood et al., 2010), in which a trustee always holds the upper-hand. It could be tempting for a trustee to choose opportunistic (non-fulfilment) behaviour, as it will generate a high short-term benefit. However, the consequences are more catastrophic, as they decrease the long-term benefits of the relationship (Koenders et al., 2018).

Predictability is an important element of trust that is often mentioned or confused with trust itself. It describes the extend to which the actions of the trustee can be predicted (Muir, 1987), and thus merely focuses on the risk of a trusting action. Predictability is not a synonym for trust, as it only covers its actions. Elements such as trustworthiness and internal properties of the trustee are not included. These will be elaborated upon down below.

It is important to understand that trust is a subjective matter. (Riegelsberger et al., 2005) It very much depends on the signals available and the ability to interpret those signals. *Signals* are small packages of information that are (deliberately) sent by trustor or trustee to create a desired effect. Note here that these signals can be altered or manipulated in order for the sender to benefit.

In a relationship that involves risk, a trustor must first estimate the trustworthiness of trustee before they expose their vulnerability (Eberl, 2004; Schnackenberg et al., 2016). Trust is necessary in situations that involve risk, which creates vulnerability for both trustee and trustor. When a trusting action takes place between trustor and trustee, the trustor willingly creates vulnerability (Swift, 2001). The trustee in turn has to deliver on the agreement by not taking advantage of the vulnerability of the trustor and fulfil the trustor.

Elements of Trust

There are three main elements that affect the magnitude of trust in a trust-relationship; *ability*, *integrity* and *benevolence* (Schnackenberg et al., 2016; Wang et al., 2005).

Ability (or competence) describes the skills and knowledge required to perform a fulfilment action. Ability is signalled though observed actions. The accumulation of observed actions is called a *reputation*.

Benevolence describes the goodwill of another party, and their motivation to act in a way that benefits all people involved. It also entails empathy for the other party and an intrinsic gratification for fulfilment. Benevolence is created over time, as a by-product of a relationship and can especially be fostered through interpersonal interactions (Riegelsberger et al., 2005). High levels of benevolence can even establish a moral character for an organisation.

Integrity is the belief that the trustee has a set of ethical norms that he conforms to, and therefore believes that the trustee will not behave opportunistically (Eberl, 2004).

Promise of Trust

Trust in most relationships is essential and create many by-products that benefit the relationship itself. The most prominent mechanism of trust is that it decreases risk, and in turn lowers perceived uncertainty. Trust can be seen as a form of organisational control. Because of this decrease in perceived risk and uncertainty, it also eliminates the need for costly control structures (Riegelsberger et al., 2005). With that, systems with high levels of trust have the ability to sustain themselves (Swift, 2001). When trust is present it doesn't only smoothes transactions (Li et al., 2010), but it also lowers transaction costs for intra- and inter-organisational transactions (Wang et al., 2005). Trust-based relationships increase satisfaction, foster collaboration and tend to have a long-term orientation (Shankar et al., 2002).

Trust is Fragile

In the preceding paragraph, trust was promoted as effective form of organisational control with its many benefits. It is important to note here that trust is a costly and risky mechanism because it is less predictable and solid than other forms of organisational control. With that, trust is fragile, and can be effected by many factors. When we apply *prospect theory* (Shankar et al., 2002) to the concept of trust we conclude that loss of trust has more impact than a gain of trust. With that, trust is a concept that doesn't hold in legal settings as that is not binding.

Trust in All Components

Trust between trustor and trustee is not enough to trust the system. Trust in all components of the relationship must be established before trust can be created. Components include; all parties involved, the mediating technology and systems that are used, and the organisation or party that regulates the system (Jones et al., 2000; Riegelsberger et al., 2005; Sultan et al., 2001). Figure 5 shows the many elements that should be trusted in a trust interaction.

Sometimes trust is embedded, which means that the trustee is a trustor of his own, relying on the fulfilment of some other trustee (Riegelsberger et al., 2005). This complicates the relationship. The trustor has to have a clear overview of the entire system, or choose to attribute all trust in the direct trustee to have that overview. This increases risk for the trustor, because they cannot be sure that the trustee has chosen trustworthy parties.

Trust in an institution is a very efficient way of managing a relationship (Greenwood et al., 2010; Riegelsberger et al., 2005), for both trustee and trustor. Trust in an institution is not bound to a specific person, and the relationship is therefore much more flexible as it can be transferred from one to the other representative of the institution. This construction can be seen in big companies that cannot rely on specific people to maintain relationships with stakeholders. They attribute all trust to the organisation itself to be perceived trustworthy throughout all touch-points.

In order for people to trust institutions, they first need to trust the system it is based in (Jones et al., 2000). Trust in a legal framework that will remain, even when the institution falls apart, is necessary for the relationship to prevail. Also other contextual factors have to be taken into account in this context. Environmental stability decreases risk, and therefore creates trust (Muir, 1987). Trust is therefore very much influenced by the stability of the environment.

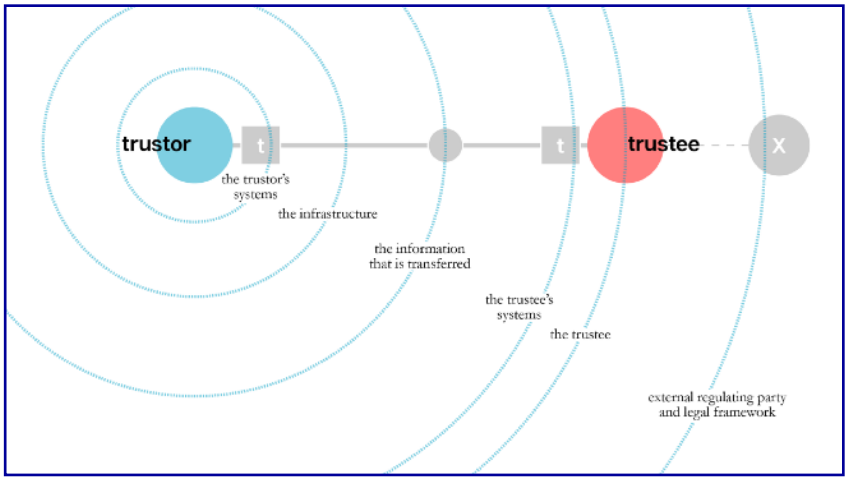


Figure 5
Overview of components of a trust relationship

Split Trust Continuum

Swift, T. (2001) introduced the *split trust continuum* that distinguishes between the dimensions of trust and mistrust. By splitting this continuum and defining them as separate scales it was demonstrated that they have different elements and characteristics. This also means that one action that decreases mistrust can actually decrease trust itself. (Swift, 2010; Riegelsberger et al., 2005) A summary of Swift's work, synthesised with the rest of the literature on trust is provided in Figure 6.

Contextual Trust

One of the scales in Swift's separation of the trust continuum is trust that is established by control mechanisms. These mechanisms install *contextual trust* in a more artificial way by providing structural controls and formal agreements and primarily focus on predictability. As mentioned above, these control mechanisms can actually hurt trust that is generated though trustworthy behaviour (Swift, 2010; Riegelsberger et al., 2005). These mechanisms work well in context that are static and predictable with high hierarchy and authority (Eberl, 2004). They are for example very applicable to mediating technologies that have a static function (Riegelsberger et al., 2005). They are less applicable to mediating technologies such as social media because they have a social element that requires more ambiguity and change. Installing control mechanisms will mean that you have to compromise on your swiftness and agility, and will make processes slower and more difficult to change (Flechais et al., 2005). In this context, it does not make much sense to install these control mechanisms in processes with high ambiguity and uncertainty (Flechais et al., 2005). Eberl, P. (2004) therefore argues that in ambiguous systems, trust is more effective than hierarchy.

Contextual properties are control mechanisms that are exercised from outside of the relationship itself (Riegelsberger et al., 2005). This includes a legal framework and governmental policies in order to motivate trustees to concern themselves with trustworthy behaviour.

Self-Reporting

Self-reporting is when a company reports on their own operations and accomplishments. It can be seen as a control mechanism as it deliberately sends out signals that have a specific audience and intended purpose. Trustees can construct, frame and manipulate these signals to have a trust enhancing effect (Wang et al., 2005).

On the other hand, self-reporting can be an altruistic exercise that helps trustees make themselves accountable for their actions. This also tackles the asymmetry of power between trustee and trustor. But be aware that other motivations, such as organisational objectives, could be at play here too. It is therefore very important to understand the motivations behind self-reporting (Swift, 2001), in order to make an informed judgement about a report.

An example in the context of Rabobank is their annual report[1], that states both their past accomplishments as well as their revised goals for the coming years. This concretisation of operations and aspirations signals a clear goal and purpose. This helps customers, employees and other stakeholders understand what the bank has does, and is committed to doing. This will enable all stakeholders to hold Rabobank accountable for the things they have done, and will do.

Intrinsic Trust

The alternative to contextual trust created by control mechanisms is *intrinsic trust*. This trust is a by-product from trustworthy behaviour and originates from intrinsic motivations of the trustee. This type of trust works best in dynamic contexts that need agile control mechanisms. (Swift, 2001)

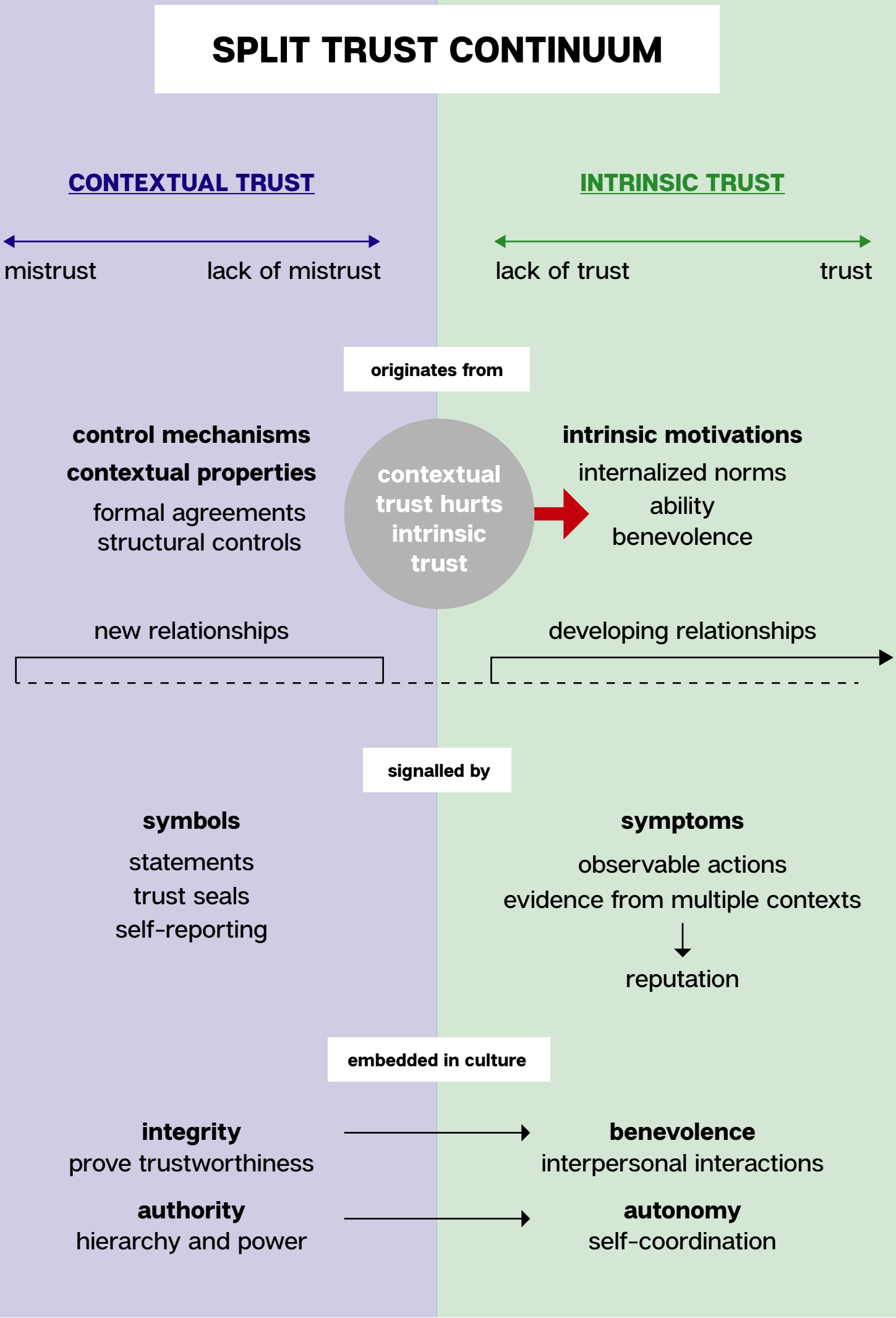
Intrinsic Motivations

Intrinsic properties are characteristics from the trustee that value fulfilment of emotional and moral dimensions (Riegelsberger et al., 2005). Actions that show a trustees intrinsic motivations influence trust more than the dependability actions itself (Muir, 1987). These properties are usually stable (Riegelsberger et al., 2005) and intrinsic trust as described above is solely based on these properties.

Emotional bonding is created through fulfilment on the emotional dimension and has a positive influence on fulfilment performance. For emotional bonding to foster, communication channels must enable the transfer of emotional conditions, and lets people interact on their own terms (Eberl, 2004). Increasing the interaction frequency will result in more interaction points which ultimately creates a more stable reputation (Eberl, 2004).

[1] Annual Report 2019. (n.d.). Retrieved April 7, 2020, from https://www.rabobank.com/en/about-rabobank/results-and-reports/index.html

Figure 6
Split trust continuum



Trust Signals

Signals are small pieces of information that are either provided by one of the parties, or by the context in which they interact (Riegelsberger et al., 2005). As mentioned before, it is hard to trust these signals. Not only because it is hard to know the true motivation of those signals, but also because you need to be able to interpret these signals (Riegelsberger et al., 2005). With that, untrustworthy parties will try to mimic these signals to receive the same benefits (Riegelsberger et al., 2005). Figure 7 shows that signals can be embedded in three different ways.

Signals or control mechanisms that aim to influence behaviour through organisations, governmental powers or regulating parties are *institutionally embedded* (Riegelsberger et al., 2005). All beliefs about the institution are attributed to the signals or control mechanisms itself and therefore help establish trust. Auditing is a good example of this (Schnackenberg et al., 2016); where behaviour is assessed by an independent external power. Trust in the external power is transferred to the audit report, and therefore, in the case of a positive audit, transferred to the institution itself. Also material parts of an institution—such as buildings, advertisements and people—signal institutional embeddedness (Riegelsberger et al., 2005).

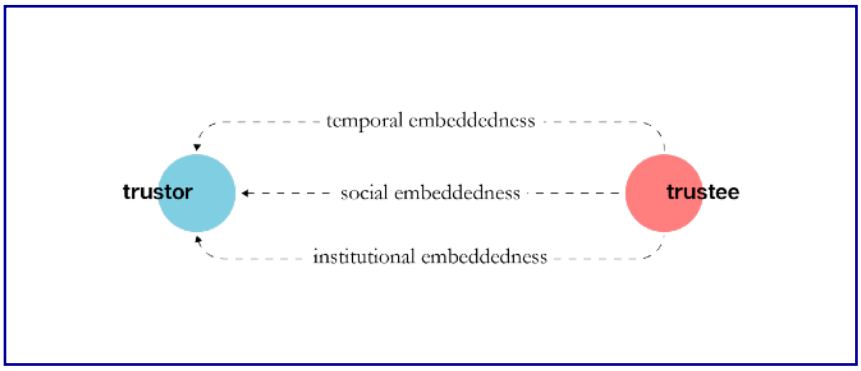


Figure 7
Signals, derived from Riegelsberger, et al. (2005).

Things are *socially embedded* when they are part of a social network or other social structures (Riegelsberger et al., 2005). The closeness of a trustor to trustee could therefore be a determinant of fulfilment action. The trustee cannot risk to lose their reputation in that particular social environment, and will chose to fulfil to uphold its reputation.

Temporal embeddedness describes the likelihood of the trustee encountering the trustor in a recognisable form (Riegelsberger et al., 2005). When temporal embeddedness is high, the trustee might be more motivated to fulfil (Riegelsberger et al., 2005; Eberl, 2004). A high temporal embeddedness

therefore signals trustworthiness (Riegelsberger et al., 2005). Membership of groups and geographical location are determinants of temporal embeddedness (Riegelsberger et al., 2005), and these can be used to increase (or decrease) the temporal embeddedness. The more temporal embedded a trustee is, the more interactions will naturally emerge. This enables trustors to build up a repertoire of observed actions to more successfully estimate the trustworthiness of that trustee (Riegelsberger et al., 2005).

Symbols and Symptoms

Symbols are signals that are institutionally embedded, and have a trust-loaded message (Riegelsberger et al., 2005). Examples of symbols are trust seals and statements that aim to generate contextual trust. Creating effective symbols takes time and effort, as trustors have to be educated about their meaning.

Trust seals work as an effective institutional embeddedness mechanism (Riegelsberger et al., 2005). Especially when conditions are harder to determine and no reputation can be leveraged from the organisation itself. Sultan, et al. (2001) recommend to leverage the reputation of other known brands to the organisation's advantage. Trust seals is a way to do this, because they transfer their reputation onto the seal (Riegelsberger et al., 2005).

Statements also work well because they publicly state their commitment to a certain cause. In turn they will be held accountable for their commitment and creates trustworthiness. (Sultan et al., 2001) Rabobank's most recent slogan *"Growing a better world together"* (Figure 8) illustrates a clear commitment to a suitable cause. The bank states its historical alliance with the agricultural sector as well as address the need for sustainable transformation. It also encompasses their cooperative organisational structure that reinforces their bonds with their members and clients.

Symbols are important signals for both trustors and trustees in new relationships. In new relationships evidence from previous interactions are absent and therefore parties have to solely rely on symbols.

Symptoms signals are created as by-products of trustworthy actions. Symptom signals come for free to trustworthy parties through their actions, but need lots of investment when they are mimicked. (Riegelsberger et al., 2005)

Figure 8
Rabobank's current slogan

Reputation

Corporate Reputation can be divided into two common attributes; subjective collectivity and cumulativeness of cognitive presentation (Ji et al., 2017). Subjective collectivity describes a subjective perception of a company that is created by individual experiences (Ji et al., 2017). This repertoire of previous interactions and encounters (Greenwood et al., 2010; Riegelsberger et al., 2005) is therefore grounded in the observable actions of the company (or, in this case, the trustee). It functions as a signal to the trustor about the trustees trustworthiness. This reputation helps mitigate risks in future encounters (Greenwood et al., 2010). When something is encountered before, it is perceived as less risky (Flechais et al., 2005; Snelders et al., 2011). When the reputation is fed with evidence from multiple contexts, it becomes stronger and more specific (Eberl, 2004). Eberl, P. (2004) therefore recommends to make actions observable in order to build up a reputation.

The establishment of a reputation does not only signal the trustor, but it also gives an incentive for the trustee to fulfil and uphold its reputation. (Riegelsberger et al., 2005)

If you have multiple encounters than cannot be linked to one-another, they will lose their cumulative power. It is therefore important to be able to trace back actions to the respective party. Maintaining a stable identity that trustors easily recognise is an effective way to create traceability. Organisations use brands to create consistent touch-points and to maintain a stable identity (Shankar et al., 2002; Sultan et al., 2001). Attribution theory explains how inferences are made about other attributes of the trustee on the basis of this reputation. (Eberl, 2004)

In the second attribute, cumulativeness of cognitive presentation, more stakeholders contribute to a collective assessment system over time (Ji et al., 2017). This system takes evolution and history into account and is therefore more holistic and ambiguous. Things such as Rabobank's history and initial

establishment in the agricultural sector play a big role, and contribute to today's corporate reputation. This second attribute takes Rabobank's past behaviours into account, but doesn't assume that it is solely based on those (Kobrak, 2013).

It is important to consider the evolution of a reputation in the social, political and economic context (Kobrak, 2013). The establishment of the very first Boerenleenbank was in response to an agricultural crisis in the 19th century (Groeneveld, 2016). Its cooperative structure and customer base created a legitimate *reason to be*, and remained so for the following decades. This structure is much more questionable in our current context—where banks, as well as the agricultural sector, are heavily criticised and questioned. Rabobank's once so great reputation might seem less glorious through a contemporary lens.

The evolution of the financial sector as a whole has had many consequences for banks and their reputation. Where banks once heavily relied on their reputation, its importance seemed to have diminished once transactions became routine, short-term and taken over by technical elements (such as ATMs and mathematical algorithms) (Kobrak, 2013). Between 1980 and 1995 Rabobank started offering "the complete spectrum of financial services" (Groeneveld, 2016) and thus became an all-round banking organisation. This established their generic product- and service-offering between banks. It became harder to create, and less important, to have a distinct reputation.

Evolution of Trust

Trust is crucial in new relationships because trustors have no repertoire of observed behaviour to make inferences from (Riegelsberger et al., 2005; Sultan et al., 2001). A stable and visible identity is crucial here; for example in the form of a brand (Sultan et al., 2001). In the first phase of a relationship, integrity is the most salient component of trust (Greenwood et al., 2010). Signals must prove that the trustee has internalised norms that are obeyed, and therefore can be trusted.

In developing relationships other elements become salient (Greenwood et al., 2010). Through the interactions between trustor and trustee, benevolence will be created as a by-product (Riegelsberger et al., 2005). Trust will rely more on this element in developing relationships. A shift from rational to emotional can be identified here (Greenwood et al., 2010), and as a result more intrinsic trust is created. Trust in the benevolence of the trustee is most important.

Trust Antecedents

Transparency

Transparency describes the disclosure of intentionally shared information and is an important antecedent of trust (Schnackenberg et al., 2016). The level of transparency can vary in quality and quantity. Low quality transparency can be observed through the use of encryption and shift visibility (Schnackenberg et al., 2016). For transparency to create trust, it must be perceived as relevant and timely, and it must be understandable (Schnackenberg et al., 2016). A way to operationalise transparency is through the use of an open-source sharing strategy. (Schnackenberg et al., 2016)

Transparency has its limits and not all trustees can afford to be completely transparent. In this context we define *sanctioned* and *unsanctioned secrets* in order to distinguish between secrets that are kept intentionally with a legitimate motivation and those that are not (Schnackenberg et al., 2016). An example of sanctioned secrets is a recipe that needs to be protected in order for the organisation to keep their competitive advantage.

Material Parts

Material elements—such as people, buildings, products and interfaces—signal institutional embeddedness and help establish trust (Wang et al., 2005). In mediated relationship the interpersonal interactions are replaced by systems or interfaces. This touch-point becomes a primary source of trust (Li et al., 2010), and with that, more inferences will be made about the organisation. Physical elements such as buildings and people signal trust through institutional embeddedness (Riegelsberger et al., 2005).

Figure 9
Rabobank headquarters in Utrecht[3]

[2] Mulder, K. A. (2011). Picture retrieved from https://klaasantonmulder.wordpress.com/2011/08/11/nieuwe-hoofdkantoor-rabobank-utrecht/

The tower of Rabobank's headquarters in Utrecht is an interesting case in the context of trust (Figure 9). It was designed to fit with Rabobank, with a focus on sustainability, transparency and innovation[3]. The all-glass facade shows transparency while the smooth curved lines hint to an agile way of working, and adapting oneself to changing environments. Even though it is a 105-meter high tower, it aimed to be perceived as approachable and friendly. When you take a different perspective you will see that the glass facade is extremely reflective, and seems to hide the things that are going on inside. With that, it is a huge building that towers over the city. This might further establish Rabobank as a huge impersonal cooperation. Despite Rabobank's best efforts to show their trustworthiness through this building, it might still be perceived as untrustworthy. The tower clearly illustrates how martial parts of an organisation inform people about their trustworthiness.

Interpersonal Interactions

A relationship with an organisation is often mediated through people and trust is created as a by-product of those interpersonal interactions (Wong et al., 2002). It was demonstrated by Zaheer, et al. (1998) that a correlation between trust in the organisations and its representatives can be observed. We can look at an organisation as a moral agent, but its actions will always be performed by representatives of that organisation (Greenwood et al., 2010). How an organisation controls and regulates all these separate interactions becomes a concern. The development of *organisational virtues* help here, and establish a way of working that all representatives have to adhere (Greenwood et al., 2010). Koenders, et al. (2018) explains the importance of encounters that leave space for irregularity. These organisational virtues might inhibit interpersonal qualities and make the interactions seem fabricated and over-regulated.

Interpersonal interactions help develop trust, especially when they are perceived as timely, relevant and personalised (Egger, 2001). Even if the interaction is with a synthetic party (virtual assistant or chat-bot), they still enhance trust as they signal interpersonal cues (Riegelsberger et al., 2005). They serve as a strong supporter of institutional embedded trust (Riegelsberger et al., 2005).

Disembedding is a term used in sociology to describe interactions that are replaced by non-face-to-face interactions due to advancing communicating technologies (Riegelsberger et al., 2005). This process can be clearly seen in innovation where more and more interactions are replaced by systems or interfaces in an effort to make processes more efficient or effective (Li et al., 2010). This can be seen throughout the financial sector, as well as within Rabobank. Hans Groeneveld (Cooperation at Rabobank) noted that "All physical interaction with clients that concern financial services have been replaced by digital interactions. Almost no

[3] Kantoorcampus Rabobank: Kraaijvanger. (n.d.). Retrieved April 7, 2020, from https://www.kraaijvanger.nl/nl/projecten/kantoorcampus-rabobank/

physical services exist today in this context at Rabobank." In 2016, the bank merged all its local locations into one centralised bank. "We had to say goodbye to many people, and local banks became a lot smaller." - Groeneveld[4]. In this process many physical and interpersonal interactions were compromised for a more efficient organisation. We have to acknowledge that due to the change in channel, information can get lost (Riegelsberger et al., 2005). An example of lost information is social cues, that are quite unique for people and are hard to mimic by technology (Shankar et al., 2002). Social cues usually lowers uncertainty and increases trust (Riegelsberger et al., 2005). On the other hand it must also be recognised that other channels and mediums facilitate to other kinds of information transfer such as visual information and complex data (Riegelsberger et al., 2005).

Shared Social Norms

Social norms will naturally emerge over time in a system (Flechais et al., 2005). These are accepted by all actors in the system because they are produced and enforced by these actors themselves. The production of the norm by a system, in this sense, creates its own legitimacy. These norms become especially effective when they become habitual and are regularly enforced by habit (Riegelsberger et al., 2005). In order to enable the development of shared social norms Riegelsberger, et al. (2005) recommended to promote group identity and information exchange. A more tangible norm in an organisation is a mission statement that informs employees and customers about their policies and goals (Riegelsberger et al., 2005).

[4] Groeneveld, H. (2020, March 24). Skype interview.

Common Goals

Creating common goals between trustors and trustees is an effective way of creating trust in the relationship (Teicher et al., 2006). Both parties committing to a single purpose will unite their motivations and helps prioritise the commonalities over their differences. This commitment can be seen as a social contract that solely relies on trust (Teicher et al., 2006).

An example of this structure in the financial sector is the insurance company *Lemonade*, that defines a common purpose between company and user, see Figure 10. Lemonade website: "We believe in good karma through balancing profit and purpose. So, we donate unused [money] to causes our users choose."[5] This might also be a marketing strategy, but at least it tries to create a common cause between company and customer. It motivates the user to only apply for legitimate claims, and also helps Lemonade demonstrate their benevolence by not claiming the profits for themselves. You could also argue that not choosing causes themselves demonstrates a lack of commitment to specific groups or ideologies.

Shared Responsibility

Sharing responsibilities can create trust. When risk—the reason why trust is necessary—is shared, an immediate increase of trust can be expected (Teicher et al., 2006; Eberl, 2004).

A risk sharing relationship needs trust because of shared vulnerability by trustor and trustee. These types of relationships are more risky as they are harder to predict. Because they are risky, they are more expensive to monitor and control.

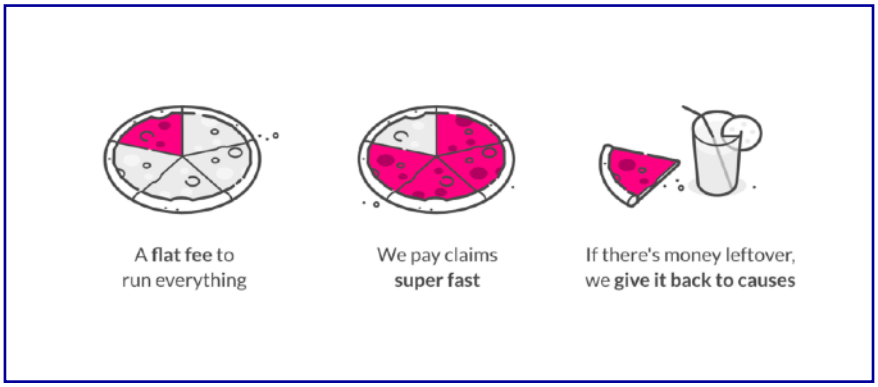


Figure 10
Lemonade's insurance model, as explained on their website

[5] Lemonade Homeowners & Renters Insurance: Protect The Stuff You Love. (n.d.). Retrieved April 7, 2020, from https://www.lemonade.com/

Trust in Relationships

The following paragraphs provide recommendations to enhance or establish trust for five different types of relationships. We will elaborate on the following relationships; stakeholder-organisation, human-technology, connections in an online environment, connections in a social network and connections through service encounters. A summary of these recommendations can be found in Figure 11.

Symmetry of Power

The organisation-stakeholder relationship is in part defined by its *asymmetry of power* (Greenwood et al., 2010). This asymmetry is created through an asymmetry of information between stakeholder and organisation (Swift, 2001). The organisation has a less vulnerable stance because they have more information and can thus act opportunistically if they want. The stakeholder must trust the organisation to also have their best interest at heart.

A way to counteract this asymmetry is purposeful vulnerability by the organisation to restore the symmetry of power (Shankar et al., 2002; Riegelsberger et al., 2005; Eberl, 2004; Schnackenberg et al., 2016). A way to create vulnerability is through the disclosure of information and granting other resources. These actions will show benevolence towards the stakeholder, which in turn creates trust.

Trustworthiness

Trust towards an organisation is mediated through the perceived trustworthiness of that organisation (Wang et al., 2005; Schnackenberg et al., 2016). The asymmetry of power creates the need for this trustworthiness, and informs stakeholders as well as treat them morally (Greenwood et al., 2010). Trustworthiness demands individuals to take responsibility of their role in the

bigger system of the organisation. They have to oversee the consequences of their actions by understanding how their actions affect the lives of the stakeholders (Greenwood et al., 2010) and the organisation as a whole.

If you look at an organisation as a moral actor, a problem emerges for stakeholders in how to find true intentions of the organisation. If you work with individuals you have several interpersonal cues to interpret their intentions, but if you interact with an organisation this becomes much more difficult (Greenwood et al., 2010).

Stakeholder Perspective

In order to generate trust, it might be helpful to take a *stakeholder perspective*. By first understanding and then mapping the needs for trust for all stakeholders, you can work towards finding a balance in those needs (Shankar et al., 2002). These needs can be either knowledge or information requirements, and are specific for every stakeholder. A strategy that was recommended towards enhancing trust in a stakeholder perspective is described by Shankar, et al. (2002). They recommend to first understand the stakeholders and their requirements and identify common and conflicting requirements. After that, an assessment of these requirements about their alignment or contribution to organisational objectives should be made, whereafter a direction should be chosen that is in line with this analysis.

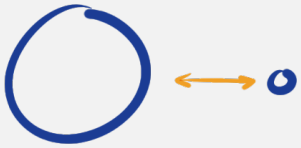
A way to operationalise a stakeholder perspective is through the use of *outsider frames*. These outsider frames are tailored to the stakeholders abilities and knowledge and help stakeholders understand the disclosed information (Schnackenberg et al., 2016). An example of a stakeholder perspective outcome is to allow for product comparisons from competitors. Vulnerability is created by allowing competitor information in your system.

High- and Low-power Stakeholders

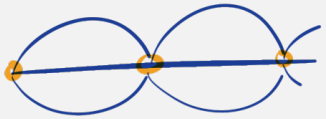
High-power stakeholders have different options to exert power onto the organisation in a stakeholder-organisation relationship. They can exert economic pressure by withhold an essential resource. They can also use political power by relying on regulations of external parties. In some situations, high-power stakeholders even have a vote and can use that to influence (strategic) choices in the organisation (Greenwood et al., 2010). This is definitely true in the cooperative structure of Rabobank. Rabobank does not have shareholders, but has a group of members that influence decisions on local and central level. Groeneveld explains; "Clients of local Rabobanks can participate in the democratic processes by becoming a member." This makes the orientation of Rabobank different from other banks.

Low-power stakeholders, also mentioned as dependable stakeholders, have a weak stance and have no ground for negotiation. They are easily replaced and

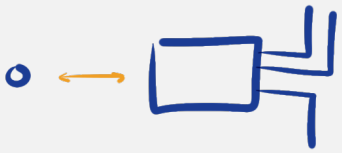
STAKEHOLDER | ORGANIZATION



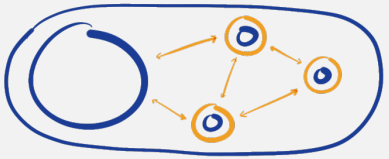
SERVICE ENCOUNTER



HUMAN | TECHNOLOGY



ONLINE ENVIRONMENT



SOCIAL NETWORK

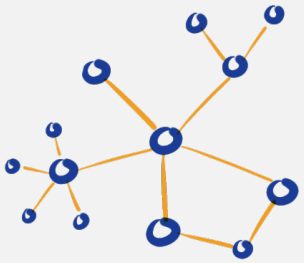


Figure 11
Trust recommendations in different relationships

recommendations

symmetry of power
symmetry of information
purposeful vulnerbility

stakeholder perspective

customer engagement
customer motivation
customer roles

design of encounters
humane (not over-regulated)
personalized

relationship reciprocity

invest in first interaction

educate human
how to interpret
how does it work

educate technology
communicate intentions

calibration period

observability of actions

personalization

transfer of offline attributes

tracability

transparancy

social cues

social balance theory

self-coordination

community participation

feedback system
behavior not regulated

neutrality

anonymity
multi-party computation

human/technology balance
authorty and control

facilitate communication channel
on own terms
enables emotional bounding

design aesthetics
ease of use
customizability
interactivity

adapted to cultural differences

common goals
shared responsibility
shared social norms

common goals
shared responsibility
shared social norms

therefore have no other option but to accept the offer that they are given (Greenwood et al., 2010). Consent can not always be assumed in a stakeholder-organisation relationship. Especially for low-power stakeholders because it cannot be assured that consent is freely given. When consent is coerced, vulnerability is increased for low-power stakeholder. (Greenwood et al., 2010)

Because low-power stakeholders don't have the same opportunities to influence the organisation, they have to rely on trustworthiness to receive a fair treatment (Greenwood et al., 2010). A problem here is that organisational trustworthiness is not bound to legalisation or regulation and can therefore be moulded by the organisation to its own benefit, ultimately influencing the stakeholders in a way that fits their needs.

Trust in technology-mediated relationships is essential because of the absence of interpersonal cues and materiality (Shankar et al., 2002). It is therefore appointed by Riegelsberger, et al. (2005) that designers should actively design for relationships that creates or sustains trust.

Technology can have several roles in a trust relationship. Technology can transmit signals about trustworthiness and past behaviour, prior to the trusting action. It can also serve as channel for the trusting action itself, or it can be used to fulfil the trusting action by the trustee (Riegelsberger et al., 2005).

Trust in technologies like decision aids or software agents hold a certain amount of power because they have (restricted) authority and autonomy in a specific domain (Riegelsberger et al., 2005). This action can have impactful consequences, and trust in these technologies is therefore essential for the acceptance of stakeholders. Semi-autonomous machines are usually distrusted. The fact that the machine cannot perform the entire action with full authority is interpreted as a weakness and results in a decrease of trust. (Muir, 1987)

Design Aesthetics

The aesthetics of material parts of a relationship influence trust though their usefulness and ease of use (Li et al., 2010). Technology that is useful and easy to use signals competence to the trustor and triggers trust. It is therefore recommended by Li, et al. (2010) that the design aesthetics of online environments should support elements such as usability, customisation and interactivity. With that, visuals must support the main intended message. (Li et al., 2010)

Education

In a human-technology interaction it might take a while for the human operator to understand the system boundaries and how to effectively work together with it. The operator is also constrained by its own limitations as a decision maker (Muir, 1987), and must find the right balance of control together with the technology. This requires hands-on experience, also described as a *calibration period* (Muir, 1987). In this calibration period a series of trial-and-error experiences are performed that inform the user about the systems boundaries and its skills, capabilities and weaknesses.

Rabobank has successfully made use of a calibration period before. Figure 12 shows the *Demobiel*, that was equipped with two mini-computers. Demonstrations and courses were given inside this truck to make Rabobank employees acquainted with computers.

Figure 12
The Rabobank Demobiel, 1983[6]

[6] Stap, B. (1983). Demobiel. Retrieved July 3, 2020, from https://bedrijfshistorie.rabobank.com/beeldbank/detail/2882b3eb-1f0a-50b8-b8d2-fdadb1364171/media/4a41e516-1877-3de2-bd8b-41865b7565cb?mode=detail&view=list&rows=1&page=37&sort=random%7B1593800756188%7D%20asc

The balance of authority between human and technology can also be influenced by other factors. If the human operator finds themselves in a position that is threatened by the technology, their need for the technology to fail might emerge. In this situation, human operators might overestimate the competence of the technology, in the hope for it to miserably fail (Muir, 1987). The human operator could use this evidence to prove their own worth, while diminishing the worth of the technology. If the human operators questions their own capabilities, or if they don't want to do the task, they might underestimate the capabilities of the technology (Muir, 1987).

An effective calibration period can establish a suitable and educated judgement about the technology and its capabilities. The consequences of trusting an incompetent machine are more catastrophic than when a competent machine is distrusted. When a competent machine is mistrusted, its actions can be taken over by the human operator and are still managed. When an incompetent machine is trusted, the human operator does not have an overview to interfere and the consequences are final (Muir, 1987). The operator has to rely on the advice of the technology because they probably don't have the expertise themselves. This is problematic because the operator has to assume that the technology is right (Muir, 1987).

People might also overestimate the technology, and let it operate outside the system boundaries. If the system then fails, trust could diminish again, also within system boundaries (Muir, 1987). That is why it is very important to communicate the system boundaries to the people that operate or interact with technology.

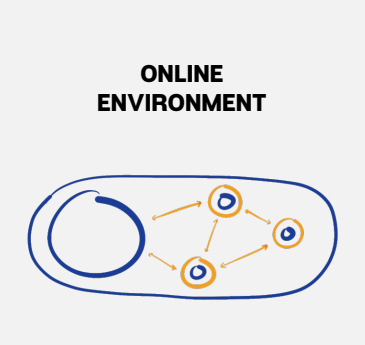
If the machine cannot explain its intentions, or these are hard to interpret, operators have no clue what happens, and full faith has to be granted to this '*black box*' (Muir, 1987). It is therefore recommended by Muir, (1987) that mediating technology should be able to communicate their intent of their actions (that is also easy to interpret by humans) so that an appropriate expectation can be created by the operator of the technology. It is also important that system boundaries are clearly communicated and that actions should be made observable for operators (Muir, 1987).

Balancing Human and Technology

Technology is much more predictable than human behaviour (Flechais et al., 2005). In an effort to lower risk in systems, a lot of touch-points have been replaced by technology that replaces the human element. This strategy is not always applicable because the technology has failed to implement some of the human characteristics. From a human we can expect expert knowledge, technical facility and everyday routine (Muir, 1987). These cannot be assumed for a technology. With that, people have the ability to evolve in their behaviour and adapt themselves to changing environments. Flechais, et al. (2005) recommend to leverage this huge strength to its benefits in systems. They also

noted that replacing people with technology is not always the best option, since people are more flexible, learn, and often perform more than one action.

A more successful strategy must both address human and technology and the strengths of both elements (human and technology) must be leveraged to its potential (Flechais et al., 2005). A good strategy to make people feel in control is to let the operator overrule the technology's actions. To prevent a power conflict, the human has full authority and technology will have an advisory role (Muir, 1987).



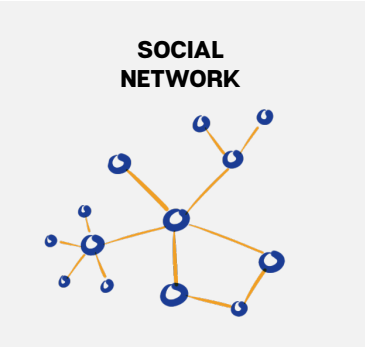
Creating trust in online environments is harder because the traditional bases of trust don't apply in these new environments (Jones et al., 2000). The materiality of interaction and physical interpersonal interactions have been replaced by an interface on a digital screen. As the medium matures, a shift in approach by online operators can be observed. Where operators primarily focused on privacy and security, they now also acknowledge the need for emotional comfort and take a multi-stakeholder approach (Shankar et al., 2002).

Digital assets must be protected from modern threats. Large scale open networks require cooperation from stakeholders and protection from cyber-crime and fraud. The globalisation of services makes it harder to create (and understand) trust locally (Jones et al., 2000).

Online trust is even more important because of the availability of information on the web (Shankar et al., 2002). We can assume that stakeholders are very informed, and it is therefore harder to differentiate yourself as a service provider.

Cultural Differences

Cultural differences determine different local styles that all create trust in a different way. It was demonstrated by Snelders, et al. (2011) that adapting the design of online environments to local customs can enhance user trust. These local customs are embedded in cultural values, and communicated through the design elements of the online environment. This way, web design can foster a sense of belonging through community culture.



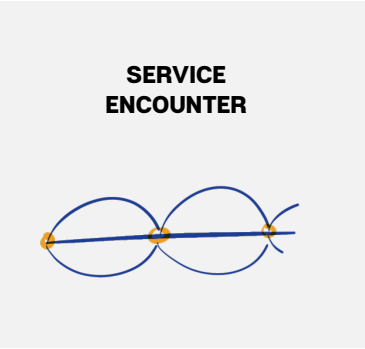
Trust in virtual communities and teams is difficult to create and maintain (Shankar et al., 2002). The high levels of security and anonymity create a reality in which it is hard to attach accountability to actors and their respective actions.

Social Balance Theory

Social balance theory helps to hypothesise trust between actors in a social network. The theory assumes a trust relationship between two actors if there is an intermediate actor were there is a continuous trust sequence (Bachi, et al., 2012). This helps to assess unknown actors in a system on their trustworthiness.

Self-coordination

A very efficient way of creating trust in a social network is through *self-coordination*. By letting users create their own groups and organisations and let them have full authority over them enables them to coordinate and organise themselves into effective structures (Riegelsberger et al., 2005). The groups are able to create their own requirements for membership and enforce their own rules over their members. Self-coordination stands perpendicular to hierarchy and authority and the culture must therefore facilitate to this way of organising (Eberl, 2004). Although self-coordination is risky and costly, it can be an effective way of establishing trust in a social network (Eberl, 2004).



Koenders, et al. (2018) identified two manageable sides of customer engagement. They can identify the *customer's motives to engage*, and define the *desired customer roles*. They should both be explored by the organisation to spot opportunities and construct service encounters and the service system as a whole.

Three prerequisites to construct these service encounters that are useful to determine the nature of the encounter were identified (Koenders et al., 2018). First, *acceptance* is a motivation that describes the direct benefits of the relationship for the customer. *Attribution* goes beyond benefits, and focuses on an emotional attachment between service and customer. *Confirmation* describes a relationship that is equal, and where both parties enjoy a fair share of benefits. These prerequisites are helpful for designers as they describe the nature of the different service encounters, and can help design for desired encounters.

Customer Engagement

Customers can have several motives for engagement. The relationship might increase their *resources*, such as the development of skills, materials or knowledge. An *ethical* motivation appreciates non-opportunistic behaviour. A service encounter might also empower the customer by the experience itself. *Individualising* is a motivation that helps the customer to reach their own goals. A *relating* motivation strengthens social ties through the encounter with the service.

Customer Roles

Six different customer roles have been identified to create positive customer engagement (Koenders et al., 2018). A *co-producer* participates in the system to enable the service itself. A *co-interactor* offers resources to better the offer of the service provider. *Co-designers* contribute to the service by innovating together with service provider. A *co-marketeer* helps the distribution of marketing efforts. *Buyers* fulfil a sales role, and *motivators* support employees or customers in the context of the service.

Service Quality

Wong, et al. (2003) successfully argued that service quality is an important antecedent for consumer trust. Here, the service quality serves as the primary threshold for trust in the service. Once the service has proven its quality, trust can be build up between trustor and service through service encounters.

Chang, et al. (2013) have mapped the influence of service encounters on perceived service quality and trust in an interpersonal-based medical service. They describe that service personnel influences service quality at first hand in such service encounters. Both attitude and professionalism have a big impact on the service quality that is perceived (Chang et al., 2013). Also physical environment and space had an influencing effect that eventually impacted trust in the service.

Role Expectancy and Role Performance

With that, role expectation and role performance was mentioned an important influencing factor (Chang et al., 2013). Even though the study focussed on medical services, we elaborate on extending this into services provided by Rabobank. The importance of role expectancy tells us to have a clearly defined and communicated role. Service participants must understand Rabobank's role, and therefore it must be clearly formulated. Role performance describes the the ability to successfully perform that respective role. This suggests to find a role that fits Rabobank's skills and attributes to make sure Rabobank is equipped to successfully carry out that role, in order to be perceived as competent in that role.

Historical Analysis of Rabobank

The book *'Het coöperatieve alternatief. Honderd jaar Rabobank, 1898-1998'* (van Zanden et al., 1998) was used to get an idea of how Rabobank was founded and how the bank has changed over time. It gave a solid overview of Rabobank's history as well as a clear definition and materialisation of what it means to be a cooperative for Rabobank. The book was used as backbone for this historical analysis.

Foundation Boerenleenbanken

Before there were complex calculation tools to estimate risk, people were responsible for estimating risk in loans. It was especially hard to mitigate risk for agricultural projects for banks. There was a lack of trust in farmers, and a general distance between the city banks and the rural farmers. This made it very hard for farmers to acquire a loan.

Figure 13 Local bank offices were often situated inside people's homes[7]

The solution for this problem came with the structure of the first Boerenleenbanken. The founders of the bank would seek out trusted people in a rural community to become ambassadors of the local bank, hereby building up social capital in the community. It was normal for a head teacher or a trusted church worker to be affiliated with the bank in this way. By working with the

[7] [Photograph]. (1955). *De Coöperatieve Boerenleenbank Hoendekenskerke, midden in het dorp*. Retrieved from https://www.rabobank.com/nl/about-rabobank/profile/history/images-from-the-past/index.html

bank, they actually became liable for the risks of the bank. To enter the cooperative structure, they had to invest some capital into the bank that could be claimed by the bank when needed. This structure installed a shared responsibility between bank and community though incapsulated interests. Both bank and community benefit when loans are provided to trustworthy parties. This created trust towards the bank, but it also worked the other way around. By knowing the people in the local community, though the ambassadors, trust could be built up in specific members. It turned out that this worked well for effectively estimating risk. Because risk was mitigated so well, a better interest-rate could be offered to those community members.

At the time, the task of a local banker was usually performed by the local notary and took just a few hours a week. A bank office did not exist, and the house of the notary usually functioned as the bank office (Figure 13). These personal and intimate encounters created lots of trust in the local banker and towards the Boerenleenbank.

The organisational structure was distributed over all independent local bank offices. Autonomy for these bank offices was very high; they were able to calculate their own interest rates and could choose with whom to do business.

Merger between Ra and Bo

From 1895 different banks appeared in the Dutch market that were modeled after the Raiffeisen-system. Friedrich Wilhelm Raiffeisen was a German mayor that wanted to support local farmers. He invented a deposit system with good conditions for farmers that used local saved up capital.[8] Two 'Centrales' eventually acquired a solid position in the Dutch market; the Raiffeisen-Bank located in Utrecht, and the Boerenleenbank located in Eindhoven.

Raiffeisen-Bank and Boerenleenbank seem so alike, that a collaboration could have be expected. The Boerenleenbank was very much embedded in Catholic Christianity. The more liberal Raiffeisen-Bank did not have the same religious fundament, which remained to be the biggest threshold for collaboration for a long time. The first time the Raiffeisen-Bank and Boerenleenbank worked together was during the first world war. In 1948 this collaboration became more concrete, and the first joint bank office was opened. They remained to be separate bodies for a while, but communication and relationships were good from that point on. The biggest struggle for both banks was that they were operating in overlapping geographical areas. This sometimes meant that a Raiffeisen-Bank and a Boerenleenbank were both situated in one small town. It even happened once that they were situated right next to one-another (Figure 14).

[8] Unknown (2018). *Rabobank door de tijd.* Retrieved from https://www.rabobank.com/nl/about-rabobank/profile/history/about-our-history/index.html

Figure 14 Boerenleenbank and Raiffeisen-bank situated next to each other in Utrecht (around 1970)[9]

The Raiffeisen-Bank and a Boerenleenbank eventually merged into Rabobank, becoming the biggest bank in the Netherlands. Their democratic mechanisms and cooperative structure made this merger complicated and difficult to accomplish. Both banks needed to find broad agreement throughout the organisation in order for the merger to happen. The news of the merger leaked to the press before all local banks could be updated. Some of the local banks found out about the merger through the press, which infuriated the local banks. The merger between the banks came as yet another change in organisational structure that deteriorated autonomy for independent local banks even further.

[9] Stap, B. [c. 1970]. *Boerenleenbank en Raiffeisenbank naast elkaar op de Rijnlaan in Utrecht* [Photograph]. Retrieved from https://bedrijfshistorie.rabobank.com/beeldbank/detail/82b0d438-e111-5017-928a-e89744821f7f/media/2b97a841-5327-aa39-a2e4-bdabf3f4bbf8?mode=detail&view=list&rows=1&page=136&sort=random%7B1593800756188%7D%20asc

Becoming a Generic Bank

From 1960 onwards a clear change in the bank can be identified. Their focus on the agricultural sector shifted and Rabobank promoted itself to be a bank for everyone. This meant that private savers became an important new customer group. Even though many new customer found their way to Rabobank, not many of them became a member of the bank. As a result of that, membership and the cooperation was losing its importance. In an effort for membership to remain relevant, the bank eventually became an open cooperation, which means that everybody (also private clients) could become a member of the bank. A strange contrast between members and non-members spurred the question of who are most important for Rabobank. At the time, Rabobank had 12 million account holders of which were only 900.000 member, which implies that all customers, including non-members, are important. 1987 signifies an important milestone, because it was the first year where the amount of loans to the agricultural sector was exceeded by the mount of non-agri loans. This bigger change deteriorated the bond between bank and sector.

Figure 15 House style is updated on the facade of head quarters in Utrecht (1995)[10]

Being a bank for everybody meant that they had to extend their product offerings. Rabobank's portfolio was extended to other sectors as well as to the private market. With that, automation of processes had an effect on the relationship between customers and the bank. Many interactions were replaced by technology which limited the amount of personal interactions between people from Rabobank and their clients. The introduction of debit cards and internet resulted in a drastic drop in customers visiting the bank offices, which

[10] Jonkman, H. (1995b). *Verandering huisstijl hoofdkantoor Croeselaan* [Photograph]. Retrieved from https://bedrijfshistorie.rabobank.com/beeldbank/detail/fb68e8b0-1656-5063-96c1-d8773acb76ac/media/8d5b15e9-27d7-ed3b-e905-a39e06435b59?mode=detail&view=list&rows=1&page=142&sort=random%7B1593800756188%7D%20asc

resulted in the closure of many offices. Rabobank was slowly disappearing from the street scape, especially from rural areas. At the same time, many customers were starting to expect more from services and products. Rabobank started to look for intimacy in these changing times and introduced a personal banker in an effort to reestablish personal connections. Rabobank found itself in a individualised society, where the individual was more important than the collective. What role did the cooperation have in this context? The value of being anonymous was discovered and even further changed the dynamic between bank and consumer.

The brand update from Rabobank shown in Figures 15 and 16 signified a shift of emphasis in clientele. In stead of focusing on business clients, they wanted to focus on private customers. The renewed logo aims to describe their way of working; personal, professional and looking for collaboration. The male figure on the logo resembles the human that they want to put in the center of all their operations.

Figure 16
Current Logo Rabobank[11]

Cooperative Structure

Rabobank is a cooperative bank, which means that it doesn't have any shareholders. In stead of shareholders, the bank works with members that participate in democratic processes to influence local and central decisions. Rabobank has another orientation than other banks, because it doesn't have to look at profits and no dividends have to be payed. Through membership, the bank is socially embedded and can easily cooperate with members. Rabobank looks further than just financial products, and wants to stimulate the change in local living environment for members.[12]

Historically, the cooperation also meant that you as a member would have to vouch for the bank with personal capital. In 1980 this was limited to 5 thousand gulden (around 2200 euros), and was eventually abolished. Hereby dismantling the encapsulated interest between bank and community.

This organisational structure effectively used personal relationships to establish trust in customers. A disadvantage of this structure is that doing business with Rabobank could feel as if it is a favour in stead of a business transaction. This allows for discrimination, where people are assessed on their reputation more than their factual risk.

[11] [Logo]. (2020). *Logo Rabobank*. Retrieved from https://www.rabobank.com/nl/home/index.html

[12] Groeneveld, H. (2020, March 24). Skype interview.

If you look more closely at the organisation you will see what the democratic processes look like at Rabobank. Rabobank uses *'kringvergaderingen'* (hereafter; general members meetings) in which members have the possibility to influence the course of Rabobank through voting. This plenary moment was one of the most important moments for bank and members to connect and exchange ideas and knowledge (Figure 17).

Figure 17 General members meeting in 1971 in Utrecht[13]

Because of the cooperative structure, the bank was able to offer better interest rates to members of the bank. This created some exclusivity for members that made them feel valuable. When Rabobank was questioned about the value of membership, they answered with quite the ambiguous answer; "they would have their member's backs longer than other banks." This comment was targeted at the agricultural sector which made up most of the clientele of Rabobank. This shows that the bank is committed to the sector, but cannot completely side with the sector. The focus of the initial Boerenleenbank has shifted to more than just famers.

The question is whether the cooperative structure has any value as for today. Already in 1966 only 13% of all customers understood what a cooperation consists of, and it sometimes happened that general members meeting was attended by nobody. With the dismantling of the incapsulated interest and blurring of target audience it has become more difficult for Rabobank to uphold its cooperative structure.

Rabobank survived the financial crisis (2007-2010) fairly well. The bank had to endure a loss of equity of around 6 percent, but survived without government

[13] Stap, B. (1971). *Centrale Ringvergadering CCRB* [Photograph]. Retrieved from https://bedrijfshistorie.rabobank.com/beeldbank/detail/b3ab4073-e5b4-57f4-bcaf-1220d22697d4/media/a2f41cae-75ba-958a-598d-6ae78568a729?mode=detail&view=list&rows=1&page=213&sort=random%7B1593800756188%7D%20asc

support. In 2010, Rabobank even had its highest net profit in history. Rabobank did suffer more losses in the economic recession that followed. The reputation of the sector was bad, and banks lost their reliability. The Libor affaire—where employees of Rabobank manipulated the Libor interest rate for years—created another dent in Rabobank's reputation. The reason why Rabobank survived the crisis so well can be led back to their cooperative governance structure with member influence. Also their capital and and high credit ratings helped to remain relevant for customers. Going forward, the bank focused on making even more products and services virtual, and was looking for ways to participate in society to "address social-economic issues together with members" (Groeneveld, 2016), while further strengthening its distinctive cooperative nature.

In 2016 all local bank merged with Rabobank Nederland in yet another efficiency effort. The local banks were independent establishments that ran all bank operations locally. By merging these with the central organisation a lot of processes became more efficient. Two-thirds of all employees disappeared at the local banks due to this change. The people that did remain at the local bank offices could more effectively spend their time in their communities because a lot of operations were moved to the central organisation. The local Rabobank offices now primarily focused on maintaining a embeddedness with the local communities.[14]

Hans Groeneveld is Senior Vice President Strategic, Governance and Organisational Issues at Rabobank and focuses on cooperative issues and membership. After the merger of the local banks, the relevance of a cooperative structure was questioned. That is when the project *Cooperative Renewal* was started, that aims to create new value and relevance for the cooperative. Groeneveld recognises that many customers don't even know Rabobank as a cooperative bank, as research showed that was done by the bank last year. Also many members of the bank don't know what it means to be a member. Even some employees of Rabobank are unaware of the fact that they work at a cooperative. Groeneveld is now focusing on creating a new meaning for the cooperative and emphasises that "there can be no discrepancy between what you sell and what you say." The cooperative mindset should be translated to the projects they start and the products they offer. "Rabobank has always profited from physical contacts between bank and members", but things have changed. Groeneveld explains that they now provide an app in an effort to involve members in decision processes. This project shows that Rabobank is conscious of the fact that little is left of a true cooperative structure, but it also shows that they are willing to create new meaning and value in this context.

[14] Groeneveld, H. (2020, March 24). Skype interview.

Conclusion

A lot has changed since local independent Boerenleenbank offices were situated in small rural towns around the Netherlands. Since then, automation of processes, diversification of services and multiple mergers contributed to a relationship between farmers and Rabobank that seems more distant than ever. It has become a huge impersonal cooperation in which individuals get tailor-made services and products. Although most farmers are still customers of the bank, their relationship has been diminished into one of a business partner that is of transactional nature.

What we have seen is that over time, through upscaling, more contextual mechanisms were installed. From working locally in small communities with social embedded trust, the bank has grown to be an international cooperation that needs more complicated governing structures that seem to have harmed trust between farmer and banker. Take for example the local bank offices, which used to have full autonomy over their operations and had their own identity. Through automation and other changes to increase efficiency, independent local bank offices have disappeared. Also their cooperative ideology had to make place for other ideas and ways of working. Even though Rabobank still has a good reputation in the agricultural sector, we cannot say that their bond is similar to what it was in times of the Boerenleenbank.

Trust in Technology and Platforms

To get a better understanding of how trust has evolved and what role technology plays in that, the book *"Who Can You Trust?"* by Rachel Botsman was consulted (Botsman, 2017). The book creates a contemporary perspective on trust and provides concrete recommendations for trust in technology mediated services.

The Breakdown of Institutional Trust

Rachel Botsman argues in her book *"Who Can You Trust?"* that a shift in trust can be identified. Long ago, trust was situated locally, because people lived and interacted locally (Figure 18). Trust reached no further than people from a closed community. Trust shifted to institutions with the introduction of brands. Brands were a way to create a stable identity for a product or service that is transferrable to other people and places. This enabled trading and interactions beyond people's trusted communities. Trust could now be attributed to brands, and was no longer bound to specific people. This top-down strategy towards generating trust worked well for a long time.

A similar shift can be observed in how Rabobank moved from local and independent Boerenleenbanken to a more centralised governing model. First, the Boerenleenbanken operated independently and could define and maintain their style and image themselves. Later, the *'Centrales'* started offering neon-signs and other merchandise to make styles between Boerenleenbanken more coherent. I imagine this to be an interesting proposition for independent Boerenleenbanken, because this enabled them to leverage the reputation of the centralised organisation onto the local independent bankoffice. After the merger that created Rabobank, the need for coherence between all bank offices became more pressing, and local styles disappeared completely.

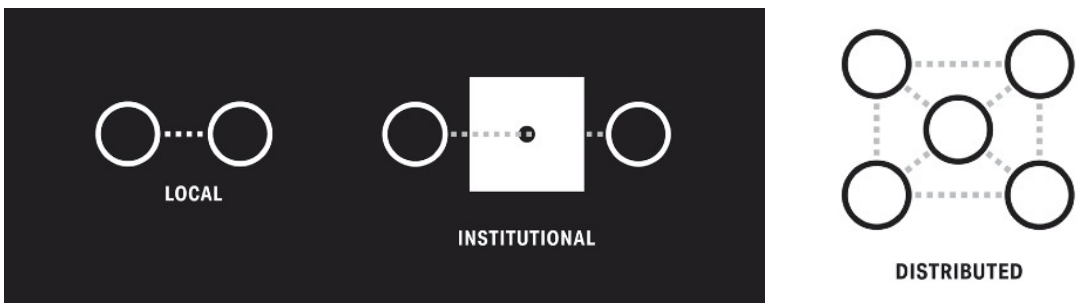


Figure 18 From Botsman, R. (2017). *Who can you trust?*

Now, we see that institutional trust is falling apart. With a decline in trust in experts and the overall flattening of hierarchies, it is much harder for institutions to produce and control trust themselves. Trust in banks dropped from 60% to an all-time low of 18%.[15] These numbers become more alarming when you look at younger generations, where 86% of millennials mistrust financial institutions. Ennew, et al. (2007) also describe a change between generations, which tells us that trust in institutions will probably further decay in the future.

Contributing to the decay of institutional trust are new tools for people to hold institutions accountable for their actions. We live in a digital age where most interactions with banks and other institutions happen online. This made it much easier for people to hold institutions accountable for their actions. Though the internet, people are informed and institutions can easily be exposed about their wrong-doings. This public exposure makes institutions more vulnerable to the influence of customers, effectively installing accountability for institutions.

The gap that institutional trust leaves has been filled up by technology in a remarkable way, where it has enabled trust to live distributed. The success of the many peer-to-peer platforms (e.g., Airbnb, Uber) as its prime example. Technology offers a way to link supply and demand locally, without the need for complex governing bodies. Botsman (2017) therefor argues that distributed trust is a successor of institutional trust. Technology, and platform solutions specifically, have proven themselves to be effective distributed trust systems.

Botsman (2017) recommends these distributed trust systems to be transparent, democratic and equal. This might me more difficult than it seems, because they pose a serious liability to the institutions that run them. An institution has limited control over a system that works with democratic and equal mechanisms and thus might produce things that are not supported by the institution itself. An example of a system like this is Reddit, that uses up- and down-voting to create a democratic mechanism to select quality blogposts. The website featured hateful and racist content that complied to the transparent, democratic and equal nature of the website. Although it was rightfully approved by the mechanisms of the website, Reddit was held accountable for the content and it was eventually removed. Also being transparent has its disadvantages. Systems that clearly communicate about their intentions and decision process are more easy to hack, because people understand how it has been built up. Malicious users have the opportunity to manipulate the system, which ultimately harms trust in the system.

15 Gallup, Inc., Wood, J., & Berg, P. (2011, August 8). Rebuilding Trust in Banks. Retrieved May 26, 2020, from https://news.gallup.com/businessjournal/148049/Rebuilding-Trust-Banks.aspx

What we have seen is that it is harder for institutions to produce and control trust themselves, and have to become accountable and transparent about their actions. Technology enables distributed trust, where people place trust in people though technology. This means that institutions don't have to stop exist, but they have to start operating in a transparent, accountable and inclusive way.

Trust Leaps

In order for people to trust a new system or technology, they need to take a leap of faith (Figure 19). Things that are encountered before are easily trusted, but it's the things that we have never done before that scare us. This has all to do with risk. To make people take that trust leap, it first needs to be very clear why it's worth the risk. The proposition has to offer something that is valuable to people.

Designers have the unique position to lower the threshold for taking that leap of faith. To do so, it is important to understand where people fear most risk, and try to mitigate that risk as much as possible. A good example is BlaBlaCar that lets you travel on another (strangers) empty car seat. It simply links people with an empty seat to people that need to go somewhere with a similar destination. A simple change of letting people pay up front mitigated risk for both driver and buyer and resulted in a drop in no-shows and cancellations. This has proved to be very successfully for BlaBlaCar and resulted in the platform to grow immensely. That is also why Airbnb is so generous with reimbursing people when their houses are trashed or demolished. All to lower risk for people using the platform.

What is interesting about this trust leap is that it only has to be taken once. The first time might feel weird and risky, but when this initial leap is taken, it becomes quite normal. They are extremely valuable because taking trust leaps can open up new possibilities and new markets. Now it's up to designers to convince people to take that leap.

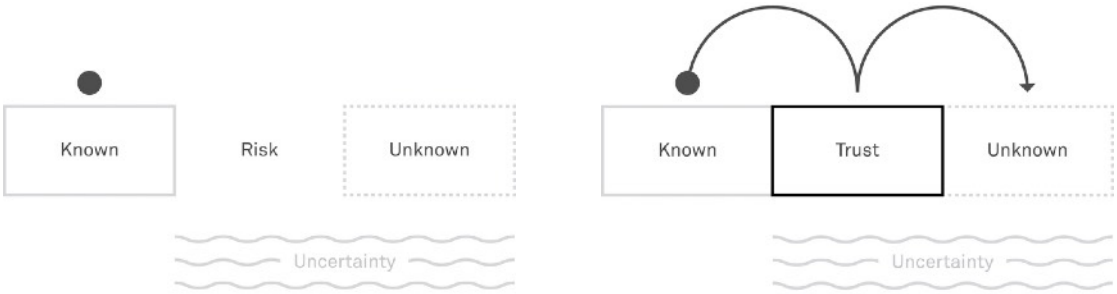


Figure 19 Trust Leaps, from Botsman, R. (2017). *Who can you trust?*

Technology the Answer to Trust Issues?

As we have seen above, technology offers solutions for trust, and enables trust to live distributed. This seems very appealing and effective, but we must not forget that it is human interaction and behaviour that makes trust necessary and relevant. Replacing the 'untrustworthy' intermediary person in a system seems like a legitimate thing to do in an effort to mitigate risk, but doesn't it defeat its purpose? Botsman (2017) describes a trust leap as exciting and makes us feel alive, and is therefor so human that it is valuable. If we are going to replace all uncertainties with technology that very effectively mitigates risk for you, why does trust exist? And what does it do to us humans?

Looking at technology and its possibilities towards creating trust is one strategy. An alternative approach to creating trust in a system is by focussing on its user, by looking at their needs. Going beyond looking at the individual user, it could be useful to include community participation and common goals to establish trust. This approach does not exclude technology, but merely empathises on users and their needs.

The role of technology is changing. And this had consequences for the amount and what kind of trust should be attributed to it. Where technology used to perform a pre-specified and limited action, it is more and more deployed to make decisions. Technology—more specifically; algorithms— created a new role for technology that is quite new. From it being a tool, it has become a brain in itself. This has created new issues such as the lack of functioning accountability mechanisms for technology. When a user is trusting a technology to make the right decision and it fails to do so, who is accountable? Is it the technology, the user, the designer of the technology, the institution selling the technology, or all of them? All of this is quite unclear as for now. To tackle this problem, it is recommended to dismantle the 'black box', and create transparency that enables users to look inside it and observe what is happening. This means that the technology should be able to explain its intentions and decision processes. This would enable a user to feel included in the decision process, which in turn creates some accountability to the user. This might require a calibration period for the interpreters of these explanations, because when technology will present its tradeoffs and inconclusive results, people have to be prepared to deal with those.

Technology enables new organisational structures such as self-organisation and self-governance. This can be most clearly seen in social networks, in which people have found themselves very able to create and sustain communities without a governing party. Because these systems allow for a bottom-up approach, they generate specific and relevant groups.

Strategies for Creating Trust in New Technologies

Botsman (2017) explains 3 strategies to create trust in new technologies. These strategies aim to lower the perceived risk of the service or product. Designers use these strategies to create 'bridges' between the known and the unknown, in an effort to demonstrate their benefits and contents. The bridges should be tailored to the users so that they are "easy to find and cross." (Botsman, 2017)

WIIFM stands for *'what's in it for me?'* and describes the benefit of the system to the user. This serves as the primary threshold for taking a trust leap and should therefor be clearly communicated. Locker and Kaczmarek (2009) recommend to communicate the WIIFM in a way that is "1) adapted to the audience; 2) based on intrinsic advantages; 3) supported by clear logic and explained in adequate detail; and 4) phrased in you-attitude". This all to make it clear why the benefits outweigh the risks.

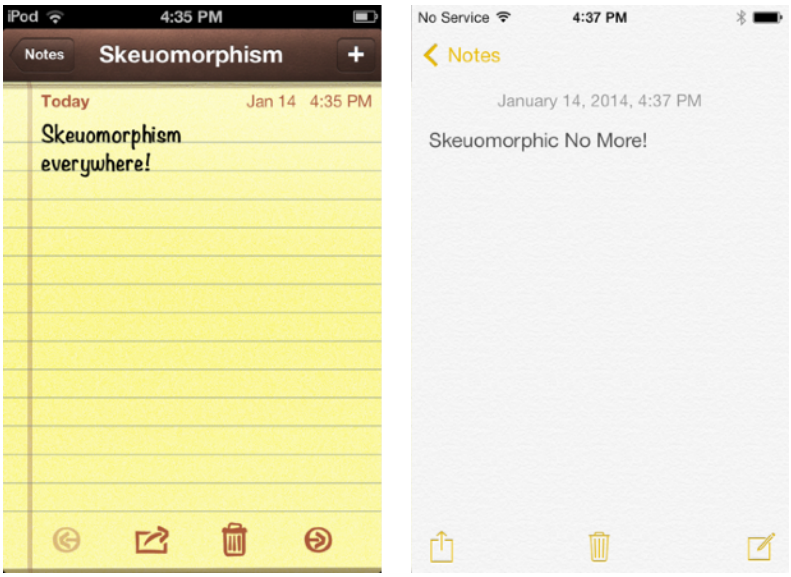


Figure 20 The evolution of the notebook application on iOS

The California Roll Principle takes something so familiar from the user's world, and applies it onto the new system or technology. The name originates from a Japanese sushi-chef that wanted to sell sushi in America. At first, there seemed to be no market for it. But when the chef made a California Roll, featuring things very known to Americans; mayonaise, avocado and cucumber, demand increased and America was able to take that trust leap. We see the same with technology companies such as Apple, that uses the term 'skeuomorphism'. In the first operating system of the iPhone, you would find a notebook-app that features a classic yellow notebook (Figure 20). When you are reading a book on your iPad, you even get to flip the page as if it is a physical book. These are

examples of how the California Roll Principle can be applied to new technologies, all to let users understand what it is and make them feel comfortable for the first time in a new context. Once the trust leap is taken, and the world had accepted an iPhone as a notebook as well as a phone, there was no need for the notebook app to look like a notebook. In more recent versions of the app you will see that the design has little to none elements that hint to a notebook.

Trust influencers are described as people that have the ability to influence a specific group of people and create new social norms. This principle is based on professor Robert Cialdini's theory of social proof. In this case, that person—the trust influencer—embodies the bridge between the known and the unknown, and offers socially embedded proof about the product or service. Of course, a trust influencer is much more effective when that person is socially embedded or is an important public figure for the target audience.

Trust in Platforms

The promise of platforms is that it cuts out (untrustworthy) middlemen and does not rely on complex organisational structures. It creates an infrastructure that links supply to demand, in a way that seems self-sustaining. It relies on the self-organisation of people and trusts them to do things in in a trustworthy way.

It is clear what the role of participants is, but much more unclear is the role of the institution running that platform. We can only assume that an institution is only facilitating interactions between users of the platform. We do not know for sure. The question that arises here is; should the platform aim to be neutral in their role as facilitator? Can an organisation even be completely neutral? Or should it be more than that? And if it's more, what does it do?

First, the institutions role and position inside the platform should be communicated clearly, whether neutral or not. This informs users of the platform about the mechanics inside the platform and empowers them to make an educated choice about the platform. We have seen that it can be quite dangerous when a platform promotes itself as neutral, and in fact does influences operations inside the platform and takes stake in internal operations. An example of this is Facebook, that promotes itself to be a platform that is connecting people, when in reality they were doing more than that. Facebook has major interest in the platform, such as user data and their use of advertisements.

A big advantage of not being a neutral facilitator of the platform is that it becomes much more easy to control it. A centralised party that collects and interprets interactions and data enables the institution to interfere when necessary. Uber changes fares and has the final say in who gets appointed what ride. This is not neutral, but offers an opportunity for Uber to effectively control and govern the platform, creating a safe and fair situation for both drivers and buyers.

Trust Signals in Platforms

In platforms where people have first-time interactions with strangers, trust signals become very important. The big benefit of online platforms is that some signals are very easily communicated. The most pressing trust issue concerns reliability. We see that an online environment enables new kind of signals that help people trust strangers. An example of this is response times, which is the average amount of time that it takes for a person to reply to a message, which signals reliability. Because of the vast amount of options online and the lack of interpersonal cues, reliability becomes a very important base for trust.

Many effective signals in platforms are socially embedded. An example of this is reviews, where people who have used or interacted with a service or person write a small piece of text describing their experiences for the world to see. This doesn't only provide social proof, but it also informs the users about the dynamics of the whole interaction or transaction (in contrast with a rating, that simply expresses an experience through a number.) Especially effective are those reviews of people that you know in real life. Showing the reviews of people you know about someone unknown helps create trust more than any other review. A recent development that can be seen throughout platforms is that buyers and providers can rate each other. This creates a symmetry of accountability and further makes the interaction more equal between the actors on the platform. Another useful mechanism in supporting the development of fair and unbiased reviews was launched by Airbnb, that let you review the other without seeing the review in return. Both reviews were published when both were submitted.

For signals to be socially embedded, the actors inside the platform must be recognisable and have a stable identity. Airbnb has introduced the Airbnb verified ID in 2013, in an effort to create more trust in the buyers of rental homes. A consequence of stable and recognisable identities is that they can be held accountable for their actions through, for example, reviews. A more negative consequence is that is also allows for discrimination, and affects privacy of users. A study by Harvard Business School demonstrated discrimination on Airbnb by finding that "non-black hosts charge approximately 12% more than black hosts for the equivalent rental." (Edelman et al., 2014)

We see that the primary promise of platforms is that it can link supply in demand in an unbiased and effective way. But we have to realise that it goes beyond just that. After linking supply and demand, a interaction will take place, in which real life people will interact with one another. Who is responsible for this interaction? The institutions behind platforms must realise that this is part of the service that they are offering, and start designing in ways that these interactions are safe and fair. This makes the platform more than just a mechanisms that links supply and demand. They become a social facilitator. And therefore, it's responsibility must reach that domain too. Designers of platform solutions must design in a way that creates safe and fair social interactions. This means for Airbnb to verify their users, compromising on privacy and allowing discrimination. For Uber it means that it performs not a solely neutral role, in an effort to control and govern the platform.

Roles and Consequences

In the following chapter we explore different roles for Rabobank in a platform. Every role will be explored though different set-ups in which benefits and disadvantages are presented. An overview of all roles and setups is presented in Figure 21. With that, specific recommendations and concerns are presented that help designers be aware of possible threats. This chapter aims to get an idea of what role could fit Rabobank, and what role would be perceived as most legitimate for Rabobank. At the same time it will demonstrate trust benefits and consequences for all roles for Rabobank.

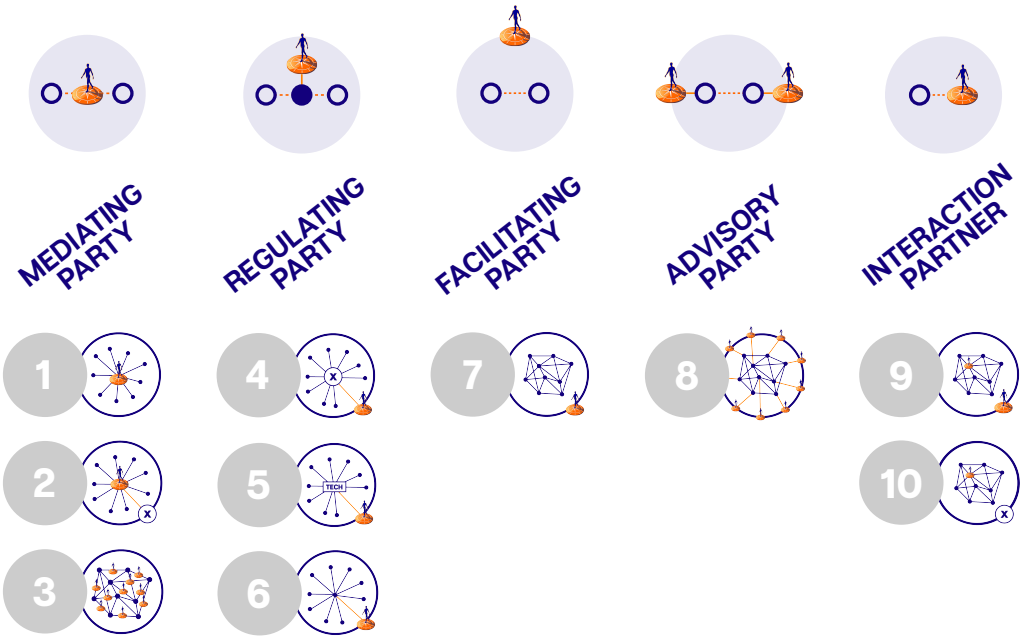
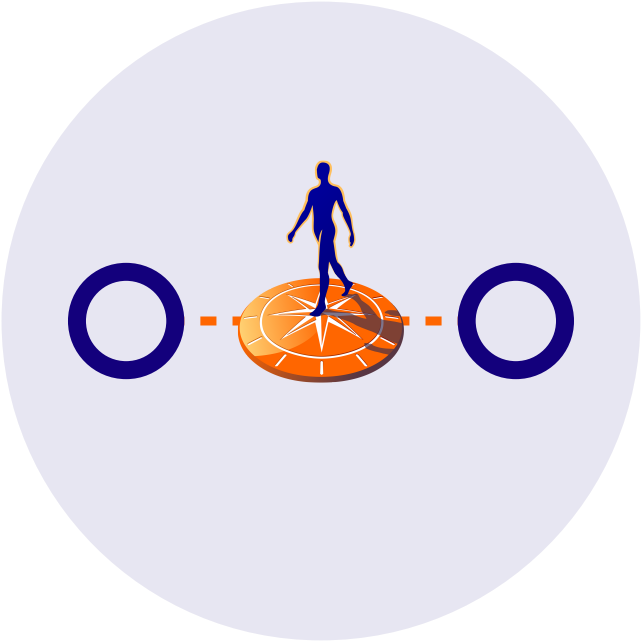
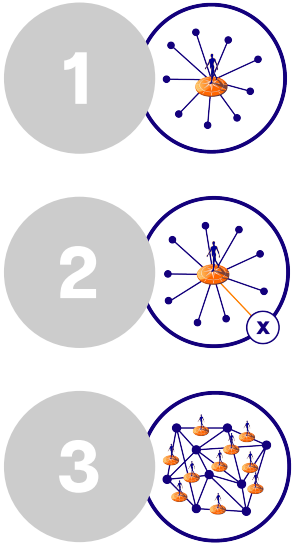


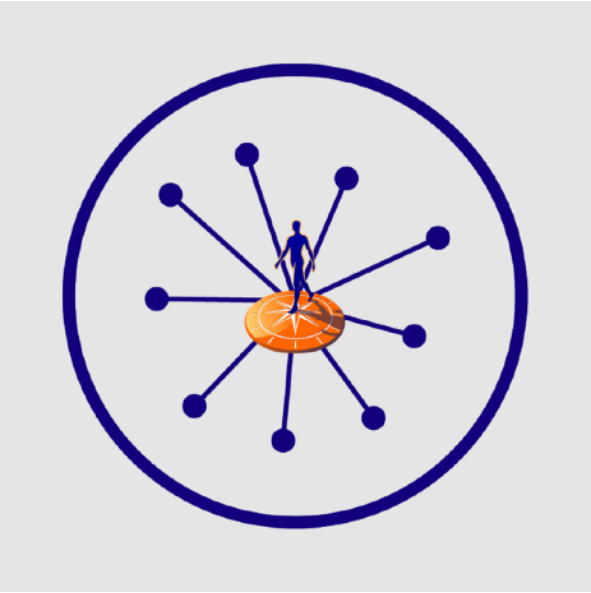
Figure 21 Overview of roles and setups

MEDIATING PARTY

In this role, all interactions between stakeholders are mediated through Rabobank. This will give Rabobank the unique opportunity to collect and process the data that is generated and transferred in the system. This will also enable Rabobank to make sense of the data, and to communicate usable and applicable findings to the respective stakeholders. Framing the information in a tailored and understandable way will help the stakeholders use the insights to their potential. With that, a centralised position (only applicable to setup 1 and 2) enables the cumulation of data. The cumulation of data will generate even richer and more solid insights that will ultimately help all stakeholders.







1. Rabobank as centralised mediating actor in a self-organised system

When we place Rabobank as a mediating party in the centre of a centralised network, we see that Rabobank holds all data that is available in the system. This is a huge benefit to both Rabobank and other stakeholders. Rabobank can learn from the data to better their advice and service offerings to stakeholders outside this system. Stakeholders will receive insights that are based on more data, which heightens validity of the insights. These insights in turn may attract even more stakeholders to the network, ultimately creating more value in the system.

CONCERNS

Rabobank will have a very powerful stance in this setup. All stakeholders will provide their data and Rabobank will have full authority over it. This leaves the stakeholders in a vulnerable stance, and trust in this system is therefore harder to generate. Rabobank must prove to not behave opportunistically with the data that is available.

The way in which Rabobank will use its power remains the primary trust concern in this setup. If not legally constrained, Rabobank is free to use the data and accompanying knowledge to its advantage, in whatever setting Rabobank sees fit. Applying the benefits that are generated within the system outside of the system will decrease trust in the system.

RECOMMENDATIONS

To overcome the power balance between Rabobank and stakeholders in this setup, control mechanisms must be installed to make Rabobank accountable for their actions. After that, actions must be made observable to generate true trust. Also making processes transparent and educating stakeholders will help in this context. With that, a reputation should be built up as a reliable processor of data by observable actions. Rabobank should demonstrate its skills and explain its intentions. This will help generate trust.

Creating a shared vulnerability by installing a mutual responsibility can re-establish the symmetry of power between Rabobank and stakeholder. Another way to do this is by creating common goals, whilst creating an emotional bound and focussing on genuine outcomes for all parties in network. Another relevant recommendation is to take a stakeholder perspective. This could be achieved to use *outsider frames*. This in order for stakeholders to understand the provided insights, but also for stakeholders to understand the way in which Rabobank functions in its role.

Other benefits:

→ Motivator
→ Processing and Interpretation of Data
→ Closeness to Interactions
→ Mediation Between Stakeholders

Other concerns:

→ Legitimacy of Role

Other recommendations:

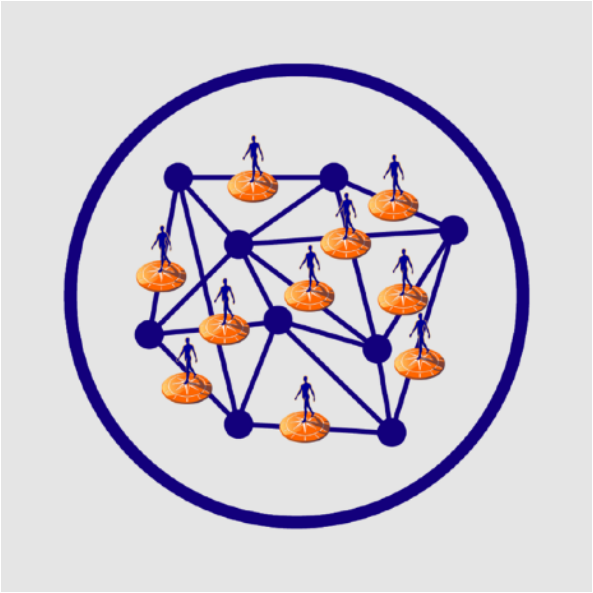
→ Reputation of Data Processing

EXAMPLE

An example that illustrates this type of setup is Google. The data giant provides a variety of products and services that are used by people all over the world (Figure 22). The data that is generated in this process is then used by Google to their advantage, by, for example, helping companies attract the right and retain the right audience. Google's stance is very powerful, but because the system itself generates many benefits to (all) stakeholders, people seem to trust the service and company. An interesting consideration here is that people might become dependent on the services provided by Google, and find themselves stuck in an involuntary partnership in which they rely on Google from which they cannot easily break free. In this case, that particular stakeholder can be considered a dependable (low-power) stakeholder. In this relationship, consent by that stakeholder cannot be assumed. To illustrate this situation, we imagine Google updating their terms and conditions of one of their online services. A particular stakeholder depends on that service because it performs a vital role in their business. The stakeholder has no alternative and has no choice but to agree to the terms and conditions. This demonstrates the power asymmetry and its consequences for a dependable (low-power) stakeholder.

Figure 22
The Google Ecosystem[1]

[1]Business-Managed Democracy. (n.d.). Retrieved April 7, 2020, from http://www.herinst.org/BusinessManagedDemocracy/culture/socialmedia/Google.html



3. Rabobank as moderator of interactions between stakeholders in a self-organised system

In this setup Rabobank will act as a middleman between all stakeholders in the system, and will facilitate all interactions between stakeholders. This will give Rabobank the ability help processing and interpreting data that is being transferred.

An additional fee could be asked for facilitating interactions between the stakeholders. An additional benefit here is that Rabobank can provide loans if an interaction between two stakeholders is fruitful and an investment is required for execution.

The power dynamic is especially interesting here. The dynamic between the two famers is mediated through Rabobank. By both trusting Rabobank, Rabobank has the ability to balance power between stakeholders and treat both fairly and evenly. Rabobank will have no power in this relationship as they only provide a channel for communication and a service for data processing and interpretation.

Social balancing theory can be used to assume trust between stakeholders in the system. By identifying customer roles and motivations, Rabobank establishes insight into the world of both stakeholders. This will help Rabobank construct and design for these interactions between stakeholders. When these interactions are designed, they should not be over-regulated and should feel 'humane'. This will help establish trust in Rabobank, as well as the other party involved. With that, it makes sense to use tailored frames for both stakeholders, in order for both stakeholders understand and use the insights that are presented.

Other benefits:

→ Closeness to Interactions
→ Neutral Actor
→ Processing and Interpretation of Data
→ Mediation Between Stakeholders

Concerns:

→ Legitimacy of Role
→ Relevance of Role
→ No Cumulation of Data
→ Active Participation
→ Embedded Relationship

Recommendations:

→ Self-Organisation
→ Reputation of Data Processor

EXAMPLE

United Wardrobe is an online platform and app that lets users sell their clothes to others[2]. United Wardrobe performs a (very much needed) moderating role in the selling-interaction between buyers and sellers. The organisation holds the money (that essentially belongs to the seller) until the order has been delivered and approved by the buyer, see Figure 23. This structure makes sure the power imbalance is overcome by being a middleman that ensures a fair treatment for both interaction parties.

Figure 23
The secured system of United Wardrobe

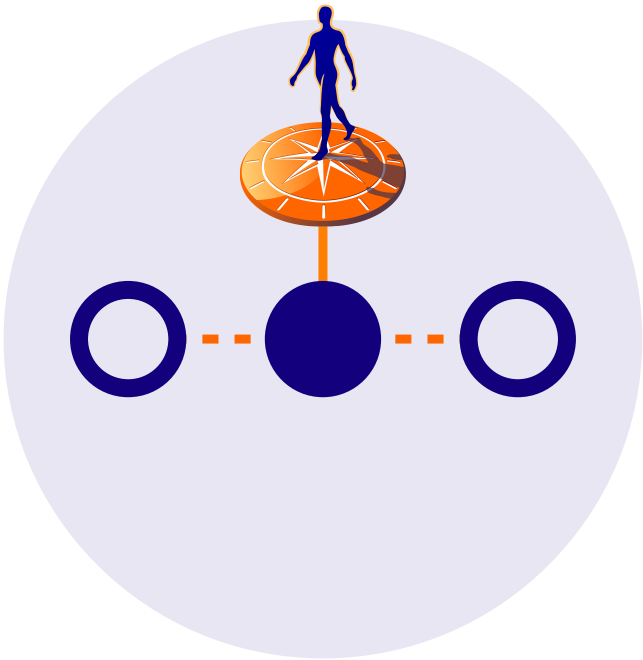
[2] About United Wardrobe. (n.d.). Retrieved April 7, 2020, from https://unitedwardrobe.com/en/about

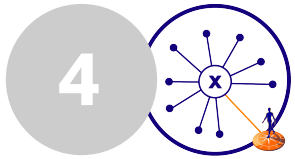
REGULATING PARTY

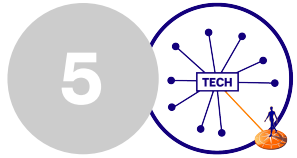
Rabobank will appoint a third party (or another entity, such as a specific technology) to be a centralised actor in a network of stakeholders. That party will collect all data, make sense of it, and communicate it back to the stakeholders in a way that is suited and applicable for them.

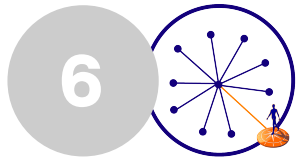
This third party will be governed by Rabobank, and Rabobank will look at how the party handles data. By transferring the power to a third party, Rabobank weakens their stance and does not have full authority over the data. A problem here is that the stakeholders must also trust this third party. The stakeholders have to deal with embedded trust, first they must Rabobank for creating this system, and secondly for appointing that certain third party.

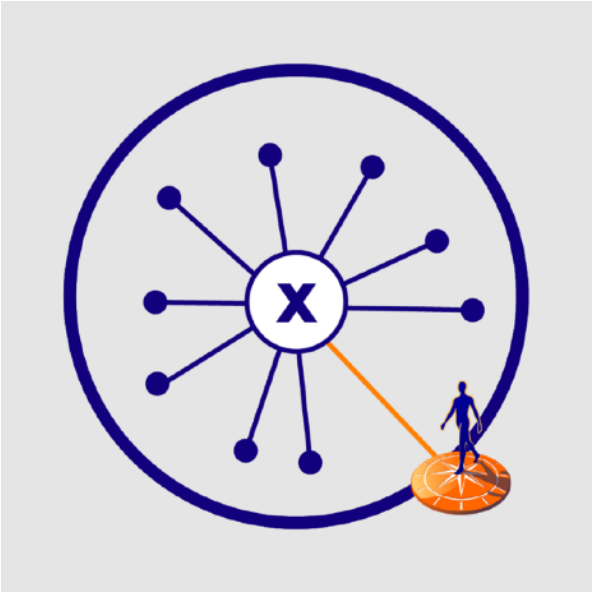
It is important to create a clear overview of the system so that all stakeholders understand the role of Rabobank and the appointed party. It is also recommended to be transparent about the boundaries of autonomy for the appointed party, and the way in which the party is governed. Governing a third party can be done by installing contextual mechanisms to constrain their power. It is important to be very clear (explain what they entail) and transparent (make the actions observable) to the stakeholders, as this will enhance trust.











4. Rabobank appoints and governs an external party as centralised actor in a self-organised platform

Another option is to appoint an independent third party as mediating power. It makes sense to appoint a party that is either socially embedded, or holds other capabilities that benefit the system (such as data processing skills and knowledge).

Other benefits:

→ Neutral Actor
→ Processing and Interpretation of Data
→ Mediation Between Stakeholders

Concerns:

→ Relevance of Role
→ Embedded Relationship

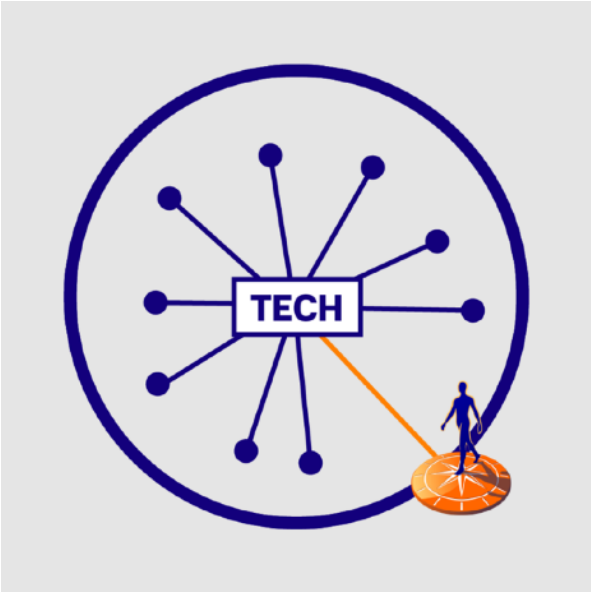
EXAMPLE

Companies that make use of the services of a payroll company are a great example of this structure[3]. We imagine a bakery that has many employees, and a payroll company that takes care of paying the wages to those employees. In this case, we have to make a distinction between a *data controller*, and a *data processor*[4]. The data controller is the legal entity—the bakery in this case—that determines the goal and means for the data processing[5]. Data controller and data processor have a contract that states the duties of the data processor. The data processor—the payroll company— provides an IT solution, and stores all employee data. The bakery needs only to provide the working hours of all employees, and the payroll company does the rest.

[3] What is a data controller or a data processor? (2019, December 18). Retrieved April 7, 2020, from https://ec.europa.eu/info/law/law-topic/data-protection/reform/rules-business-and-organisations/obligations/controller-processor/what-data-controller-or-data-processor_en

[4] Data Protection Working Party (2010). Opinion 1/2010 on the concepts of "controller" and "processor". *Ref. WP*, *169*.

[5] Elgesem, D. (1999). The structure of rights in Directive 95/46/EC on the protection of individuals with regard to the processing of personal data and the free movement of such data. *Ethics and Information Technology*, *1*(4), 283-293.



5. Rabobank appoints and governs an technology as centralised power in a self-organised platform

In this setup, Rabobank facilitates the system and appoints a technology that will collect and interpret data, and communicate findings back to the stakeholders. Rabobank will still govern and maintain the technology. In theory, both Rabobank and technology can be considered as neutral actors in the system, and as a result there is no need for power conflict in this setup. Trust in both Rabobank and the appointed technology is crucial for them to be perceived as truly neutral actors.

CONCERNS

A concern here is to what extend a technology can effectively perform this role. Can it act autonomously in this space and can it be completely trusted. It is also unclear how much involvement of Rabobank as governing power is needed. More involvement might have consequences in trust towards both Rabobank and technology.

RECOMMENDATIONS

A calibration period between stakeholders and technology must take place before trust in the technology can be established. Also, these stakeholders must be educated on how the technology works and how the technology should be interpreted. It is therefore important that the technology is able to communicate its intentions and makes its actions observable.

Other benefits:

→ Neutral Actor
→ Processing and Interpretation of Data
→ Mediation Between Stakeholders

Other concerns:

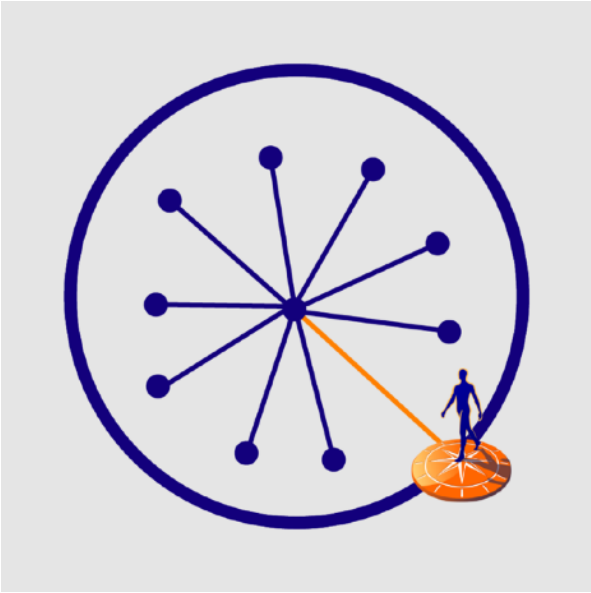
→ Relevance of Role
→ Embedded Relationship

EXAMPLE

An example of a technology that can be used here is *multi-party computation*. The technology helps share data in a way where all data cannot be traced back to its originator, nor can it be retrieved in its original form (Figure 24). This ensures privacy and lowers vulnerability for the stakeholders, while they can benefit from the mutually accomplished benefits and insights.

Figure 24
Multi-Party Computation[6]

[6] Secure multi-party computation (MPC). (n.d.). Retrieved April 7, 2020, from https://www.tno.nl/en/focus-areas/information-communication-technology/roadmaps/data-sharing/secure-multi-party-computation/



6. Rabobank appoints and governs an stakeholders as centralised power in a self-organised platform

In this setup, stakeholders inside the system will appoint one of the stakeholders to be a centralised actor in a network of stakeholders. This stakeholder needs to be educated to be able to do so effectively. The appointed stakeholder will be governed by Rabobank and will continuously be inspected on how data is handled and communicated. In doing so, Rabobank will ensure that this stakeholder will not behave opportunistically in his powerful stance. Next to this governing role, Rabobank will also provide the system itself. This setup will ensure safety in the system for all stakeholders and will therefore generate trust.

This stakeholder is appointed by the stakeholders in the system and ensures that the stakeholders will accept its authority. A huge trust benefit that comes from this, is that the mediating power is socially embedded. The appointed stakeholder is embedded in the social network of all stakeholders and can be seen as an equal actor. Once that stakeholder is given this position, their power will naturally increase. Since the relationship between appointed stakeholder and other stakeholders is socially embedded, the stakeholder feels accountable for their actions and the probability of opportunistic behaviour is lowered.

CONCERNS

A consideration here is that the appointed stakeholder should be trusted by all stakeholders in the system. This is somewhat harder for Rabobank to oversee, as Rabobank does not have an influence on the stakeholder being appointed.

A trust problem in this setup is the sudden power of the appointed stakeholder. How do we ensure that the appointed stakeholder doesn't behave opportunistically? Of course, this stakeholder was chosen by its peers and is governed by Rabobank, but control mechanisms might be necessary to create a solid base for trust.

Another concern is that the appointed stakeholder might not have the required set of skills to perform these actions. It could be necessary to educate this stakeholder on how to collect, process and communicate these data and insights in a way that all stakeholders will benefit from.

Other benefits:

→ Neutral Actor
→ Processing and Interpretation of Data
→ Mediation Between Stakeholders

Concerns:

→ Relevance of Role
→ Embedded Relationship

EXAMPLE

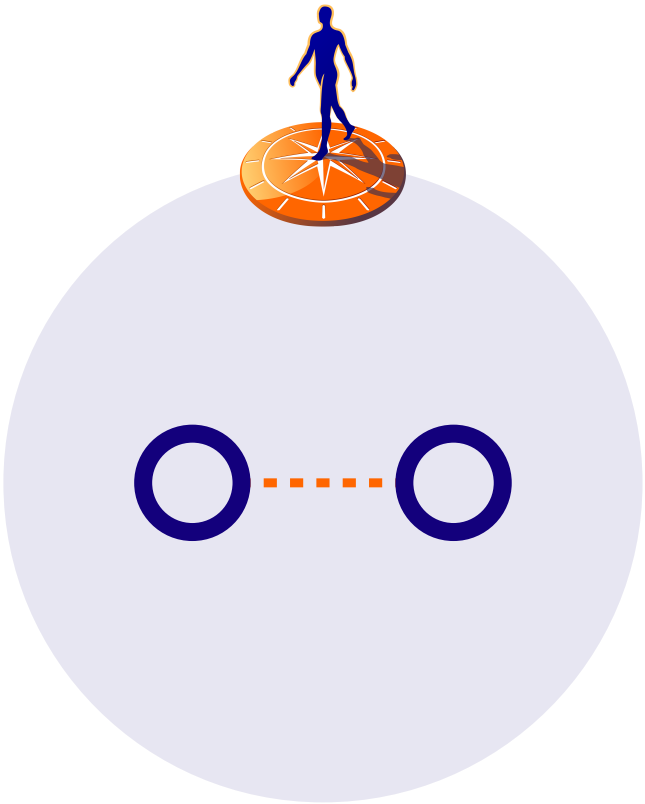
A good example of this setup is how Reddit uses *Reddit moderators* to effectively govern the Reddit pages[7]. Reddit is a very popular blogpost discussion platform with various *subreddits* that all discuss different topics; varying from a subreddit exclusively dedicated to cute pets (r/aww/), to a subreddit dedicated to the American Conservative party (/r/Conservative/). Users from these subreddits can apply for a moderator position. Moderators make sure that the subreddits stick to their boundaries (nothing other than pets on the pets subreddit), and that community guidelines are adhered to. These moderators have more power and can, for example, delete posts and comments. The moderator is still accountable to the users of reddit though the Reddit management team.

[7] Peck, R. (n.d.). The Punishing Ecstasy of Being a Reddit Moderator. Retrieved April 7, 2020, from https://www.wired.com/story/the-punishing-ecstasy-of-being-a-reddit-moderator/

FACILITATING PARTY

As facilitating party, Rabobank develops and maintains the system without interfering within the system itself.Being the facilitator of the network will enable Rabobank to ask for an entrance fee for the system. For people to actually sign up to the system, it is important to make sure that value is created and in the system.

Rabobank excludes themselves from any power struggle because they will have no internal stake in the system. A consequence of this role is that Rabobank does not have any claim to the generated benefits within the system between stakeholders.



7. Rabobank facilitates an open-ended platform

In this case, Rabobank will develop a system in which stakeholders can freely interact. This means that the initiative for interaction is up to the stakeholders, and that they can do so in a way that they see fit. Of course, the system must facilitate communication channels, but how they are used is completely up to the stakeholders. Rabobank will solely function as an external provider that does not have any stake within the system.

CONCERNS

To what extend stakeholders and other stakeholders will perceive this role as legitimate is a question that arises here. A bank that usually provides financial services now offers a technology driven service that seems to have limited overlap with their expertise and history. This can create a potential trust problem.
If Rabobank only provides the network, and does not deliver any extra value, what would stop stakeholders to go around Rabobank and create a system themselves? Another consequence of this role is that Rabobank does not have any claim to the generated benefits within the system between stakeholders.

A big concern in this setup is if stakeholders are able to use the data in a fruitful way. The data is transferred in bulk that is hard to interpret. In this case, a third party is necessary to process, conclude and frame the insights from the data. Another concern here is whether the data from two interaction partners is enough to conclude an insight or fruitful outcome. The generated insights might be very context specific or have low validity. So the question becomes; to what extend does this really help the stakeholders? Or do they need much more data to have fruitful outcomes?

Other benefits:

→ Neutral Actor

Other concerns:

→ Legitimacy of Role
→ Relevance of Role
→ No Cumulation of Data
→ Active Participation

Recommendations:

→ Self-Organisation

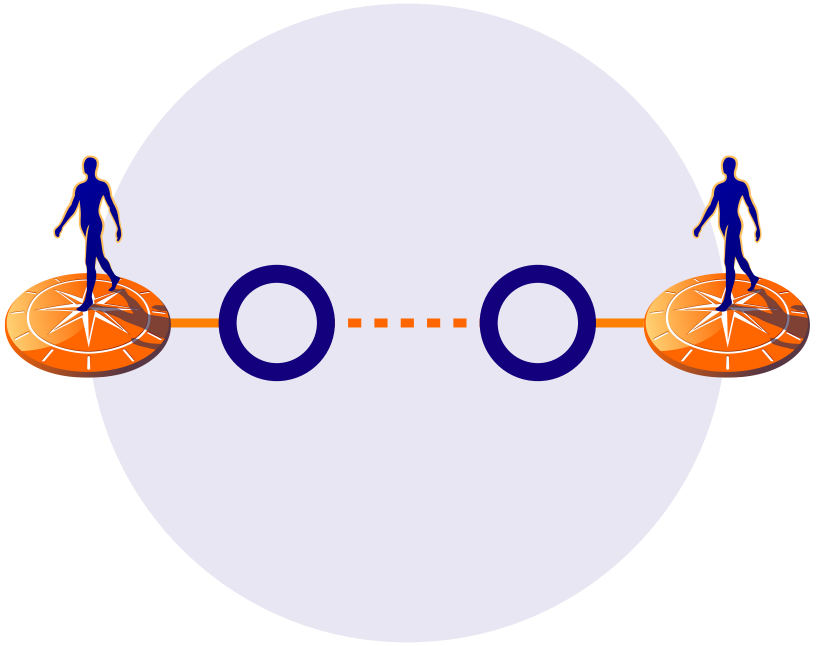
EXAMPLE

An ordinary bar can be seen as physical example of a system that works like this. The bar owner does not interfere in any of the conversations between people, as long as they behave. He also doesn't care about the topics or deals that are made between them, and is content when everybody pays for their beers. The bar is a service provider that facilitates both beer and a platform for interaction.

ADVISORY PARTY

In this case, Rabobank will take an advisory role. This role helps stakeholders make sense of data that is shared within the system. Rabobank will not interfere with interactions between stakeholders, and only helps the farmers with their received data and insights.

This setup creates trust in Rabobank in various ways. It puts Rabobank in a position that is neutral and therefore vulnerability is lowered and trust is increased. It also lets farmers interact with one another without a mediating power, which helps establish a neutral position for Rabobank. The advisory position also creates trust in Rabobank as a partner that can be relied upon.



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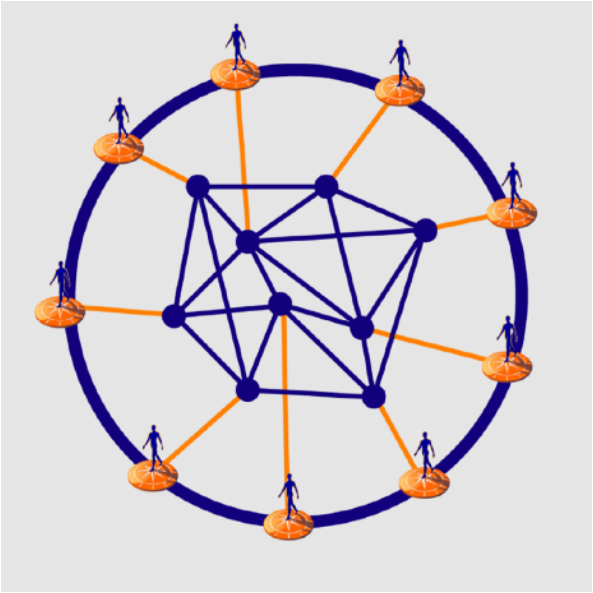


8. Rabobank facilitates an open-ended platform and supports internal stakeholders

Trust can also be attributed to Rabobank by fulfilling these advisory services. Helping the stakeholders in that position can feel as if Rabobank is their ally and helps and supports them. Their role can be seen as a service provider that mainly helps the stakeholders to freely interact within the system.

Other benefits:

→ Closeness to Interactions
→ Neutral Actor
→ Processing and Interpretation of Data

Concerns:

→ Legitimacy of Role
→ Relevance of Role
→ No Cumulation of Data
→ Active Participation

Recommendations:

→ Self-Organisation
→ Reputation of Data Processor

EXAMPLE

An example of a system with an embedded supporting role is Uber that offers car rentals to Uber drivers in Singapore. Cars are very expensive in Singapore and are usually owned by the rich. To support ordinary people in Singapore to make a living, Uber started *Lion City Rentals* that rents cars to Uber drivers[8]. In this setup, Uber does not only provide the platform but also actively supports stakeholders within the system to better their service offering.

[8] Horwitz, J. (2017, August 4). Buying its own cars went disastrously wrong for Uber in Singapore. Retrieved April 7, 2020, from https://qz.com/1046351/buying-its-own-cars-went-disastrously-wrong-for-uber-in-singapore/

INTERACTION PARTNER

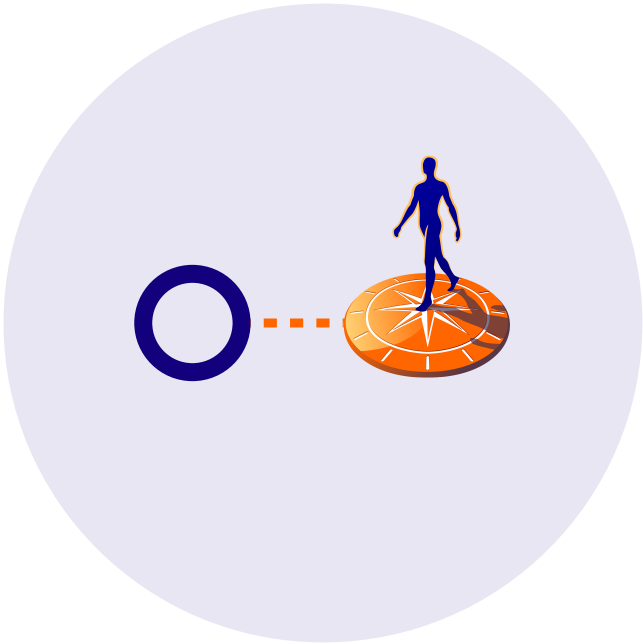
By taking a similar role as all other stakeholders, Rabobank is positioned as an equal player in the system. This creates some vulnerability and can re-establish the symmetry of power between Rabobank and stakeholder.

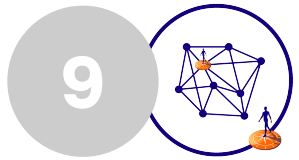
Rabobank could also function as a financial service provider, and offer loans to those who need financial support to kick-start their initiatives. Being an equal actor inside the system is a legitimate role for Rabobank because Rabobank holds relevant data of its own, and can use those to share and learn from one-another.

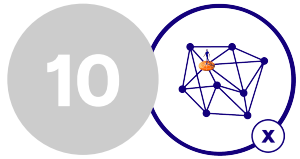
GENERAL RECOMMENDATIONS

When you take a stakeholder perspective in this case, allowing other financial service providers on the system would be a good idea. This creates vulnerability for Rabobank and shows trustworthiness to the stakeholders.

Rabobank also has the unique opportunity to seek for stakeholders with ambitions and aspirations that are in line with the objectives of Rabobank. When these are found, common goals and mutual responsibility will help establish trust in this partnership.







9. Rabobank acts as an equal player inside a self-organised open-ended platform

This embedded position enables Rabobank to interact with stakeholders without having too much power. The position might also be confusing and stakeholders might distrust Rabobank as an equal actor because of its facilitating role.

Other benefits:

→ Closeness to Interactions

→ Motivator

Concerns:

→ No Cumulation of Data

→ Active Participation

Recommendations:

→ Self-Organisation

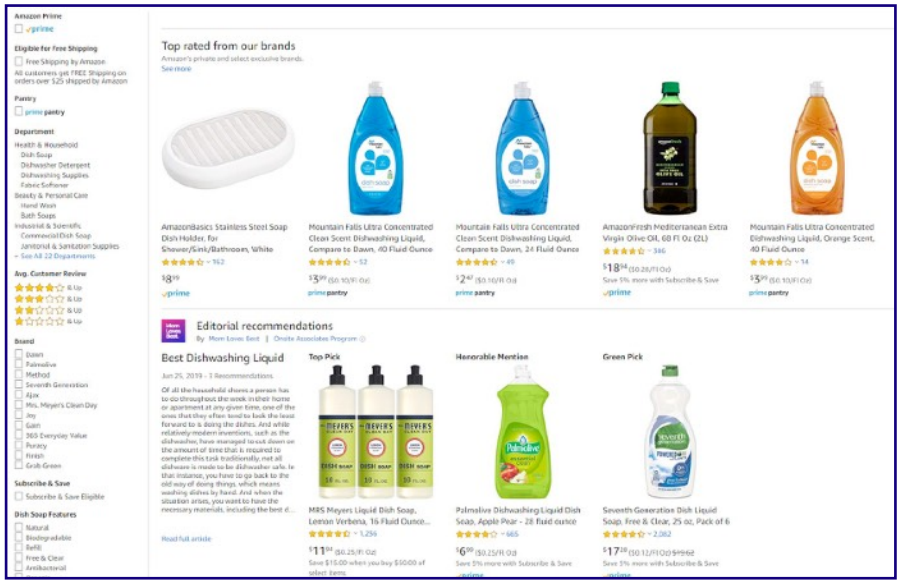


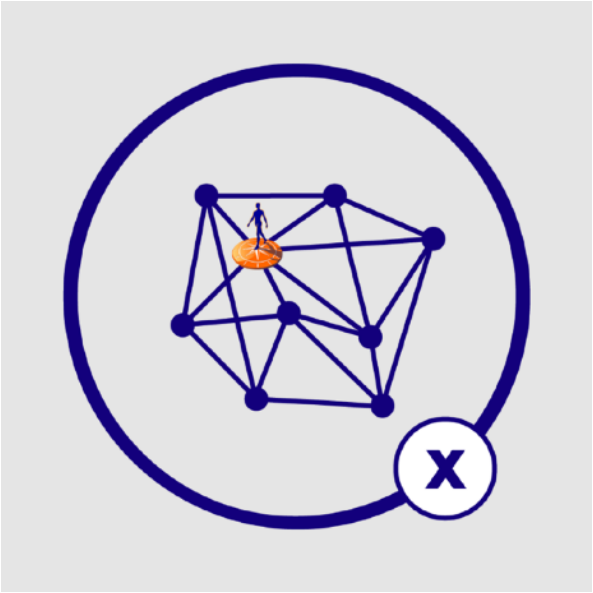
Figure 25
Amazon added a section in their search page where their own brands are highlighted

EXAMPLE

An example that shows this double positioning is Amazon. Amazon is a huge e-commerce platform that sells almost anything you can think of. They usually sell third-party goods though their platform, but they now also offer products of their own. They are now not only positioned as facilitator of the system, but also as a direct competitor to the vendors on the platform. The resulting power imbalance was demonstrated by Amazon that used selling data to design and sell their own products[9]. An example of this is the way in which Amazon promoted their goods on the platform. At the bottom some product-pages, a button was added that said; *"Similar item from Our Brands"*, that would show a similar product designed by Amazon[10]. This shows how this double positioning enables Amazon to manipulate the market and it's offerings.

[9] Feiner, L. (2019, November 20). Amazon admits to Congress that it uses 'aggregated' data from third-party sellers to come up with its own products. Retrieved April 7, 2020, from https://www.cnbc.com/2019/11/19/amazon-uses-aggregated-data-from-sellers-to-build-its-own-products.html

[10] Hruska, J. (2019, September 17). Amazon Changed Its Search Algorithms to Boost Its Own Products, Despite Internal Pushback. Retrieved April 7, 2020, from https://www.extremetech.com/internet/298503-amazon-changed-its-search-algorithms-to-boost-its-own-products-despite-internal-pushback



10. Rabobank acts as an equal player inside an externally facilitated open-ended platform

In this setup the system is facilitated by an external party. The power balance between stakeholders and Rabobank can be seen as symmetrical because they act as equals in a system that is governed by an external party. This will ensure the fair treatment of all stakeholders within the system. By only allowing Rabobank to be an internal stakeholder many of the power asymmetries are resolved. This enables Rabobank to interact as an equal player.

Other benefits:

→ Closeness to Interactions
→ Motivator

Concerns:

→ Embedded Relationship
→ No Cumulation of Data
→ Active Participation

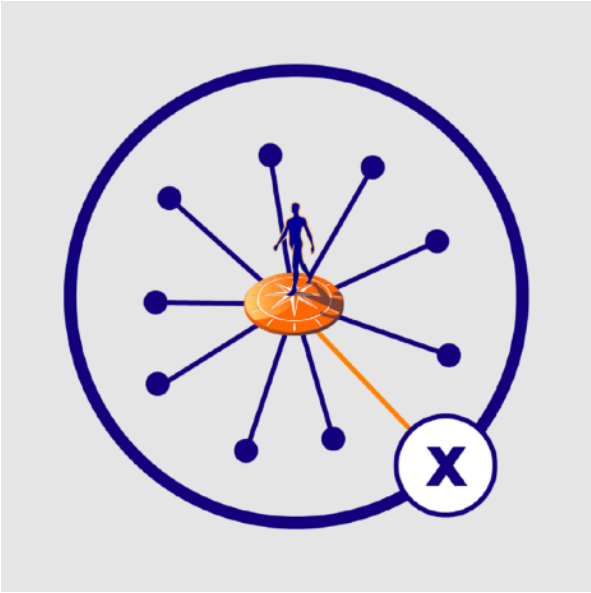
Recommendations:

→ Self-Organisation

EXAMPLE

Almost all vendors that sell on Amazon can be considered a good example of this structure. An interesting case in this context is Apple, that cut a deal with Amazon that would make it much harder for small Apple vendors to continue their business on the website[11]. This resulted in a situation where almost all small Apple vendors disappeared from Amazon. This shows how a power imbalance can still occur between high- and low-power stakeholders in a system without a mediating power.

[11] Statt, N. (2019, May 21). How Apple's deal with Amazon screwed over small recycling businesses. Retrieved April 7, 2020, from https://www.theverge.com/2019/5/21/18624846/amazon-marketplace-apple-deal-iphones-mac-third-party-sellers-john-bumstead



2. Rabobank as centralised mediating actor in a self-organised system, governed by an external power

This setup also features Rabobank as a centralised mediating actor, but here, Rabobank will be governed by an external power. This ensures that Rabobank will be held accountable, and cannot freely perform opportunistic behaviour. Some power is transferred to the governing party, and Rabobank therefore holds a less powerful stance. This increases trustworthiness and lowers the asymmetry of power between stakeholder and Rabobank.

Other benefits:

→ Motivator
→ Processing and Interpretation of Data
→ Closeness to Interactions
→ Mediation Between Stakeholders

Other concerns:

→ Legitimacy of Role
→ Embedded Relationship

Other recommendations:

→ Reputation of Data Processing

EXAMPLE

A very known organisational structure like this is the installation of an *auditing committee* (or *cash control committee*) for organisations. This committee is an independent group that is appointed by the organisation to check the organisation's finances from an outsider perspective.

Benefits

→ Closeness to Interaction

When Rabobank is an embedded player in the system, they can offer financial services directly to stakeholders. Because of the relative closeness of Rabobank to these developments in the system, Rabobank has the unique possibility to help the initiatives that need financial support. This would make a lot of sense for Rabobank, because they hold these capabilities historically. This *role fit* would also mean that Rabobank will probably be perceived as competent, and therefore trust in Rabobank will increase.

→ Neutral Actor

When Rabobank does not interfere in interactions between stakeholders, or has other motivations of its own within the system, their role can be considered as *neutral*. Letting stakeholders interact with one another without a mediating power helps establish this neutral position for Rabobank. A neutral position will lower vulnerability for stakeholders, which in turn creates trust. A consequence of this role is that Rabobank does not have any claim to the generated benefits within the system that is created between stakeholders.

→ Motivator

When Rabobank is positioned inside the system, it holds the possibility to actively promote and support the system by pushing new initiatives, insights or frames into the system. By making sure the system is active and fruitful, he potential of the system is maximised. Rabobank, in this case, takes a motivator-role that helps the system flourish, and will help create value in the system. This could be seen as a huge benefit for the system as a whole.

→ Processing and Interpretation of Data

The big benefit of *mediated interactions* is that the stakeholders can interact with one-another while their data is being interpreted and presented in a way that they can actually use. When the bare data is transferred in bulk, specific skills are needed to synthesise these into something that can be of use. By placing a mediating party or technology between stakeholders, we make sure that that the generated outcomes can actually be used by the stakeholders. This will create trust in both the mediating party or technology, and the system as a whole.

→ Mediation Between Stakeholders

When a mediating power is placed between stakeholders it enables that party to mediate between low- and high-power stakeholders. In this situation, monopoly stakeholders are prevented for, and this will ensure a fair balance between stakeholders. This serves as a big trust benefit.

Concerns

→ Embedded Relationship

Embedded trust relationships are harder for the stakeholders to oversee. Stakeholders must first trust Rabobank, and trust that the bank has appointed trustworthy other parties in the system. This could complicate their attribution of trust to Rabobank, and the system as a whole. As we have seen before with semi-autonomous machines, a system is trusted less when it doesn't hold full authority. Enabling other parties inside the system to perform specific tasks could be seen as a weakness, and therefore trust in the system is potentially decreased.

→ Legitimacy of Role

A question that arises is whether Rabobank's role will be perceived as legitimate in many of the setups described above. A bank that usually provides financial services now offers a different services (e.g. technology driven service) that seems to have limited overlap with their expertise and history. This can create a potential trust problem. Rabobank can reposition themselves as a company with capabilities that fit these new roles, and should make efforts to both build up these capabilities and communicate that. Other options include creating a new- or sub-brand that focuses mainly on the capabilities that are needed to perform that role.

→ Relevance of Role

A concern for several roles is what their relevance is for Rabobank. Some roles have limited power and does not give them insight in data, nor can Rabobank motivate or promote initiatives within the system. This is an important consideration. We cannot focus on creating a very trustworthy system while forgetting about the

quality of the service itself. As described before, service quality serves as an initial threshold before trust can be generated. This means that the quality and benefits that the system produces should be of top priority. After that, we should explore ways to create trust in the system and trust in Rabobank in its role.

→ No Cumulation of Data

Benefits in a system without a centralised mediating party could be impacted by the lack of substantial data. In an open-ended system, stakeholders are free to share data with whomever they see fit, but if that results in fruitful outcomes remains a prime concern. Data that is shared in an interaction between two stakeholders is very minimal if you consider the vast amount of data available in the whole system. The generated insights might be very context specific or have low validity. So the question becomes; to what extend does this really help the stakeholders? Or do they need much more data to create fruitful outcomes?

→ Active Participation

An open-ended system requires active participation from stakeholders. They need to actively seek for other stakeholders to interact with. This might require education or knowledge that the stakeholders don't have. This could be seen as a potential threshold for stakeholders to actually use the system. In some of the other setups these interactions are automated and processed by a mediating (centralised) party. The question that comes up is whether the stakeholders are willing to perform this active role, and whether the (trust) benefits outweigh the benefits of an automated system.

Recommendations

→ Self-Coordination

When stakeholders act as equals in the system and the interactions are not mediated or governed by an external power, *self-organisation* is an applicable mechanism to build trust. The promotion of shared social norms and common goals will help foster interaction and create value in the system. Also enabling the formation of a group identity will help. To stimulate this, communication channels must be provided that enable the transfer of information and emotional conditions, and that lets stakeholders interact on their own terms. Allowing stakeholders to customise the online environment will also help create a group identity.

→ Reputation of Data Processing

Rabobank is a provider of financial services, and doesn't naturally hold the capabilities of performing the role of a data processor. Although the required skills and capabilities might be available within Rabobank, they might not be perceived as competent in that role as for now. When Rabobank wants to be perceived as a trustworthy data processor, a reputation should be built up as a reliable processor of data by observable actions. Rabobank should demonstrate its skills and explain its intentions. This will help generate trust.

Subjective Analysis of Roles

A subjective analysis was conducted in an effort to get insight in the dynamics and specifics of the setups. The setups were assessed on their fit or score within certain themes, from which distinctive clusters could be concluded. These were used to observe similar characteristics and can help distinguish between the different setups. This all helps to get a more in-depth feel of the setups, and a clear view on their implications and trust consequences.

Contextual and Intrinsic Trust

The different setups all work in a different way, and therefor different strategies to enhancing trust should be applied. To get insight in this, we plot the different setups from contextual to intrinsic trust by looking at what strategy would work best. In Figure 26 we show how some overlaps have emerged. We see that an open-ended platform leaves more space for self-coordinations and autonomy by stakeholders. As an embedded player inside the network, Rabobank is able to provide support to the farmers. On the other side, a defined platform with a centralised mediating actor works well in creating contextual trust. Rabobank can either take this centralised role themselves, or they appoint another party that is governed by Rabobank.

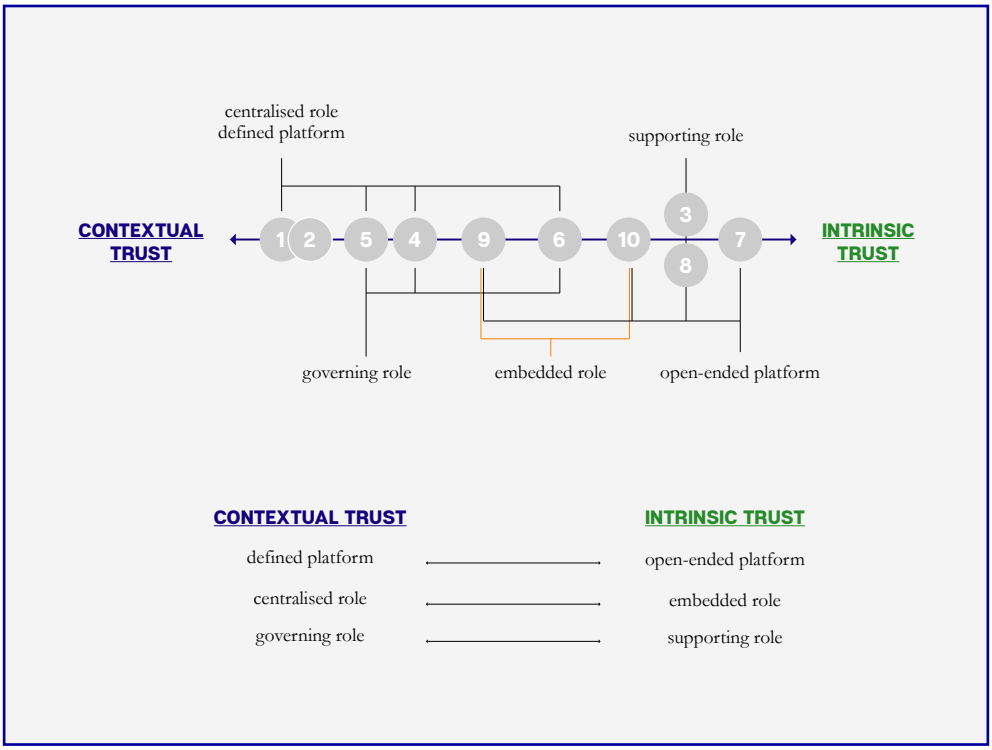


Figure 26 All setups plotted on a scale between contextual and intrinsic trust

If we also consider the benefits for both Rabobank and the network as a whole, we can see smaller clusters emerge with similar elements. See Figure 27.

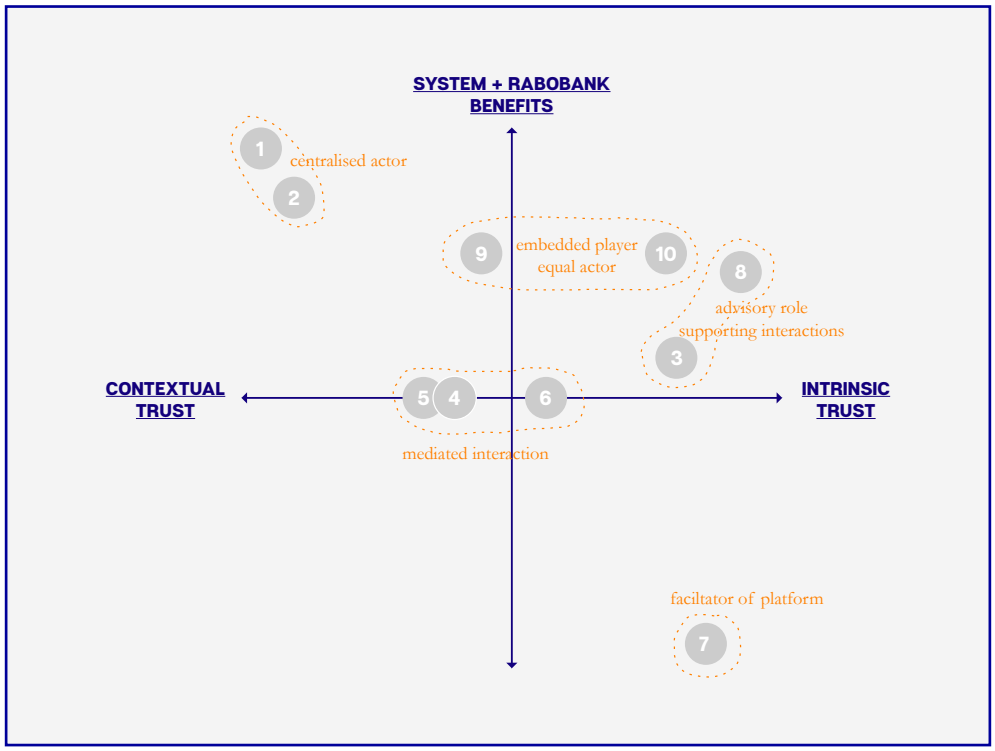


Figure 27 Matrix that adds the system benefits and Rabobank benefits to the contextual-intrinsic scale

Setups 1 and 2 both have a high level of benefits, and work well in creating contextual trust. This is created by their centralised position for Rabobank. Setups 5, 4 and 6 have limited benefits, and fall somewhere between contextual and intrinsic trust. These setups make use of an appointed party to be governed by Rabobank. Setups 9 and 10 place Rabobank as an embedded player inside the network, and therefore lean towards intrinsic trust. Note here that when an external party is governing the network it can be considered a form of contextual trust. Setups 3 and 8 work well in creating intrinsic trust and provide mediocre benefits. They create intrinsic trust because of their supportive or advisory role. Lastly, setup 7 works very well in creating intrinsic trust because of the high levels of autonomy and freedom, but unfortunately don't create so many benefits for the network or Rabobank itself.

Interaction Symmetry

When we look at the symmetry between stakeholders and service providers or other involved parties, we can also see a clear divide. Figure 28 shows how the 10 setups score on how equal the balance between parties are in an interaction, described as interaction symmetry. We see that when interactions are closed—defined by the system or automised—an interaction asymmetry emerges. The asymmetry is enlarged when the interactions are mediated by some other party. In open interactions more symmetry can be seen because of the equal stance of both interaction parties, especially when the interaction parties are supported in that interaction.

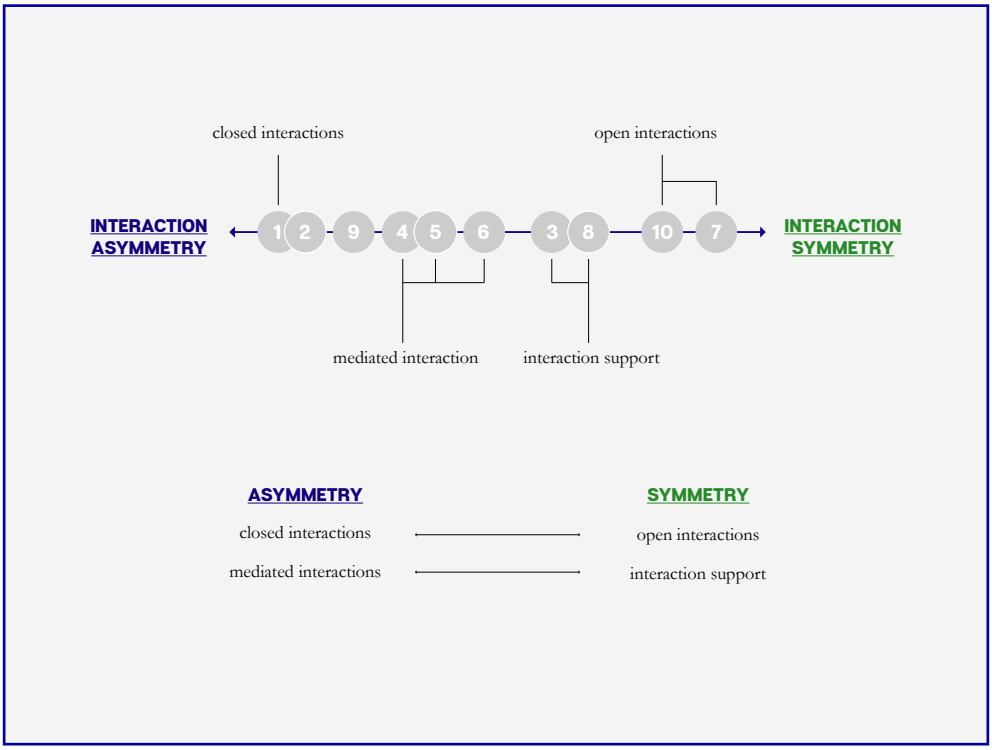


Figure 28 All setups plotted on a scale of interaction symmetry

If we plot the setups on a similar scale we see other clusters emerge (Figure 29).

Setups 1, 2 and 9 show signs of interaction asymmetry because of a very powerful stance of one of the interaction parties. This is either created by a centralised mediating position, or a double positioning (e.g. both interaction partner and facilitating party). Particularly setups 1 and 2 provide many benefits to the system and, potentially, for Rabobank. 4 and 6 both use an appointed actor to be a centralised mediating player, which makes them score low on both interaction symmetry and benefits. Setups 3, 8 and 10 score relatively high on interaction symmetry and provide benefits for the system as well. This cluster is quite diverse, as several roles can be observed. Setups 3 and 8 provide support to the interaction parties, both in a very different way. Setup 10 creates interaction symmetry by giving Rabobank an embedded interaction player position. These roles all show a relative closeness to the interaction, and help the interaction parties with their interaction (either supporting them, or interacting with them). Setups 5 and 7 score relatively high on interaction symmetry, but do not provide many benefits to the system. In these setups, neutral actors are appointed, like technology or a facilitating party.

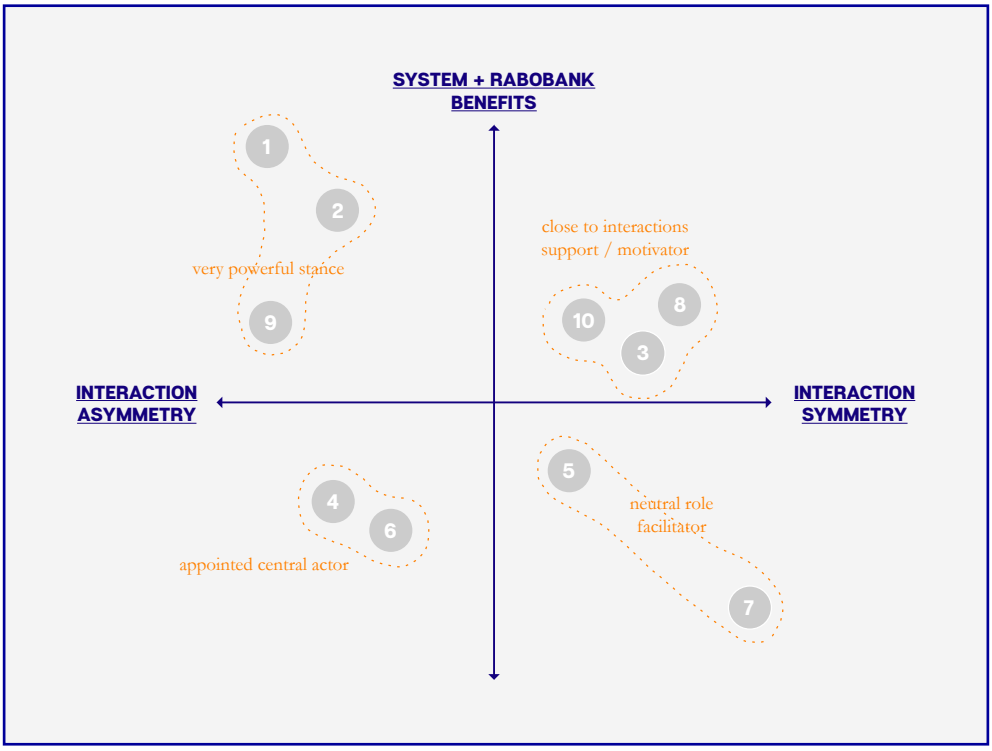


Figure 29 - Matrix that adds the system benefits and Rabobank benefits to the interaction symmetry scale

This chapter is hidden because of confidentiality

Method

To get an understanding of farmers and their needs, a semi-structured interview was conducted with 12 Dutch farmers. The interview lasted around 30 minutes and was conducted through video call (Figure 30). All interviews were conducted in the time of the coronavirus, and Covid-19 was spreading in the Netherlands. The research was affected by the 'intelligent' lockdown because it made it harder to have physical meetings and face-to-face interactions. Even though visiting farmers had been an option, most famers indicated that they preferred to have a digital meeting.

Of the 12 participating farmers 9 kept a diary farm, 2 of them a crop farm and one of them a pig farm. Only one female farmer was interviewed, and a wide variety of ages were present in the interviewed sample.

The goal of the interviews was to get an idea of the way they collaborate now and how their world is organised. Another goal was to get insight in what data they collect, and how they use that data for the better. The relationship between farmer and Rabobank was explored though a series of questions that aimed to expose the current reputation of Rabobank amongst farmers. Find the interview guide in Appendix 2.

Figure 30 Setup for farmer interviews from home

A specific section of the interview was created to explore the farmers' preferences within a platform solution. The two trust strategies were used to create contrasting theses in an effort to expose what strategies worked best in specific elements of the platform. Prior to the interview, four elements of the platform were selected that could be designed in several ways, that all had different trust consequences.

The first element in the platform concerns *autonomy and choice*. This element describes the ability of farmers to exercise their own freedom of choice. Contextual trust is created though standardisation and hierarchy, which compromises freedom of choice and autonomy. Intrinsic trust is created though high levels of autonomy and self-coordination, that lets farmers define their own actions and directions on the platform.

The second element is *mediation and interaction*, and describes interactions between farmers in the platform. In interactions, contextual trust is created by control mechanisms, such as mediators and verifications. Intrinsic trust is created by open interactions without mediating parties.

Norms and rules describe the way in which the farmers are subject to regulations. Predefined rules are a clear form of contextual trust. Enabling a natural emergence of rules and norms by the farmers can be seen as self-coordination, and therefore installs intrinsic trust.

The last element is *guidance and advice* and questions the amount of support farmers want and need in the platform. Supporting farmers and giving them advice on how to act on the platform can be seen as contextual. A intrinsic trust strategy would be much less guiding and would let farmers figure things out by themselves, and amongst each other.

These theses were presented to farmers, and they were asked to choose which of them they preferred. This to get an idea on how the elements of the platform should be designed, and what strategy works best for what element.

After that, they were asked about Rabobank's role in the platform, and if the bank could be perceived as a legitimate owner of the platform. It was also discussed whether the owner should, or should not have a stake in the platform.

Analysis

After conducting all interviews, the audio files were transcribed into written text. All transcripts were uploaded in the qualitative research software *Atlas.ti*, in which the transcripts were labeled into codes. The individual codes were explored and relationships between codes were established. This created networks that exposed a structure in the data. After this digital analysis, the same thing was done physically. The established codes were laid out on a table, and a structure between the codes was established by looking into the transcripts (Figure 31). Synthesising these two methods created several insights that are highlighted in the next chapter.

Figure 31 – Exploring structure in the codes

Insights Farmer Interviews

Farmers are Entrepreneurs

Farmers are entrepreneurs and the farms they run are businesses, and that's exactly how they want to be approached by a bank. Their choices and considerations are led by an entrepreneurial perspective and therefore value autonomy. They are independent and have full authority over the businesses they are running.

> "I'm a free man"
>
> Original quote: "ik ben gewoon een vrij man"

> "If they are going to make things difficult, I might as well switch to another [bank]. That's very easy for me."
>
> Original quote; "Als ze moeilijk gaan doen dan stap ik net zo goed over naar een ander. Dat is heel makkelijk."

Their entrepreneurial mindset can also be recognised in the way they talk about their relationship with Rabobank. They see Rabobank as an essential part of their business for the financial products and services they offer. This relationship has little to do with loyalty or connection, but can merely be seen as a business transaction. In this context they look for banks that offer the best benefits and help them with their goals and challenges.

> "I think I am an individual company and that I should be able to make individual choices that serve me. I have to be self-sufficient, so I have to be able to keep some autonomy, otherwise I have no freedom of trade. That's of great importance to me."
>
> Original quote: "Nou ik vind dat ik een individueel bedrijf ben, dus dat ik individueel keuzes moet kunnen maken die mij dienen. Dus ik moet mijn eigen broek ophouden, dus ik moet wat autonomie kunnen bewaren, anders heb ik geen handelsvrijheid. Dus dat is van grote waarde."

KEY INSIGHT

→ Farmers are entrepreneurs and value their autonomy

Because all farmers work with an entrepreneurial mindset, trust between farmers is affected by competition. Famers acknowledge each other's position as entrepreneur and realise that all farmers will have their own interests at heart. As

a result of this, some mistrust between farmers emerged. Some farmers could withhold information or would not be completely truthful or complete, which in turn affected their trust towards other farmers. These assumptions might be true, because it is hard for farmers to expose their vulnerabilities and shortcomings because it might harm them in the long run.

> "It has to be beneficial for… myself, I have to make a living from it after all."
>
> Original quote; "Het moet wel aantrekkelijk blijven om… ja voor mezelf, ten slotte moet ik er van leven…"

Although most farmers spoke passionately about their business, it became clear that running a farm will not make you rich. Many of the farmers ran side activities to support their farm and family. Some of them leveraged the space and countryside to their advantage, and offered a bed and breakfast, a camping pitch or rented out a meeting room. Others were active in other branches of the agricultural sector, and did some contract work for other farmers or worked with municipality or government.

What's In It For Me?

When you confront a farmer with a proposition, it is very important to clearly demonstrate the benefits because they value autonomy and are driven by a economic pressure. Farmers like that Rabobank is connected to the agricultural sector, but prefer when that shows in their offerings towards the sector. One of the farmers expressed this quite clearly when he was looking for a bank. "You look for 80% at the conditions and 20% at the relationship." If the initial proposition is good enough, the rest will be taken into consideration after that.

> "I think Rabobank is the best bank, but if they are also the cheapest…"
>
> Original quote: "Ik vind Rabobank wel de beste bank, maar of ze ook de goedkoopste zijn…"

> "You look 80% at the conditions and 20% at the relationship."
>
> Original quote; "Dan kijk je 80% naar de voorwaarden en 20% naar de relatie."

KEY INSIGHT

→ Benefits of a proposition should be clearly explained and should offer the farmers that they actually need

Cooperative Structures

The agricultural world is very used to working in cooperative structures. Big players in the sector are based on this structure, including a sugar beet cooperative and one of the biggest milk companies FrieslandCampina. Farmers have also been able to create cooperations on a smaller scale. A common collaboration for farmers is a local machinery cooperative in which farmers buy and share machinery.

> "Looking for individual autonomy within a certain safety and connectivity."
>
> Original quote: "je zoekt individuele autonomie binnen een bepaalde geborgenheid of verbondenheid."

Working this way works perfectly for independent entrepreneurs because it enables collaboration with individual interest. It is a very effective trust mechanism, because individual interest is encapsulated in common interest. In the case of Friesland Campina, it is hard for farmers to see each other as competition because they have a common interest; a high milk price. It also creates some connection between farmers, which in turn creates solidarity and a feeling of connectedness between farmers.

KEY INSIGHT

→ Farmers are very familiar with cooperative structures

Performance Pressure and Uncertainty

All farmers indicated that their business is subject to many forms of pressure, especially in recent times. The pressure is not only created by a lack of resources and, for example, the ever unpredictable weather. One of the biggest pressures the famers are experiencing originates from regulation and other political changes.

Limited agricultural land is available in the Netherlands, which means that is hard for farmers to expand their business. Over the last years farmers were therefore forced to work more efficient with the space available to them. This has resulted in many efficiency efforts though automatisation and robotisation. However, farmers indicate that this transformation has now delivered the biggest benefits, and that they are now looking at other ways to better sustain their business.

> "Optimisation? I am so done with optimising."
>
> Original quote: "Optimalisering? Want ik ben klaar met optimaliseren."

Pressure from big cooperations and legislations push the sector into producing big-scale with the minimum amount of farmers. Individual farmers feel overlooked and are done with being even more efficient, and are now looking for things that will add value.

> "It's just from big to bigger to biggest, with as little farmers as possible"
>
> Original quote: "Het is gewoon groot naar groot naar groot, en zo min mogelijk boeren"

KEY INSIGHTS

→ Farmers experience pressure from multiple sources on their performance

→ Farmers are looking for creating new types of value

Sustainability

The fast changing regulations are often fuelled by the need for a more sustainable agricultural sector. This is something that is clear to farmers, but how exactly this will take shape is unclear. This troubles the farmers into planning for their sustainability transformation. They want to become more sustainable but lack the means to do so. It's not a lack of will, but farmers have been cutting for years now, and their reserves have been emptied.

> "The reason that we are not sustainable is because we have been cutting back for years."
>
> Original quote: "De reden waarom wij niet duurzaam zijn is omdat we al jaren aan het bezuinigen zijn"

KEY INSIGHT

→ Farmers want to become more sustainable, but lack the means to do so

Economic Pressure

The farm is under constant economic pressure and thus many decisions are based on a financial consideration. The farm is not solely business, but is tightly interwoven with the family running it. When your own financial situation is affected by things happening in the farm, things become that much more intense. Also some of the farmers indicated that their loan at Rabobank added to this pressure, and felt like a responsibility.

Changing Regulations

The unstable political climate and societal debate around agriculture and farming has resulted in an unclear future for many farmers. Farmers have to deal with changing regulations that seem to lack a clear future-oriented vision. One of the farmers indicated that it would help if a goal or vision was agreed upon that the entire sector agricultural sector could work towards.

> "…when are you doing well? [...] When are you doing the right thing?"
>
> Original quote: "wanneer doe je het goed? […] Wanneer ben je nou goed bezig?"

> "If only there were a clear policy, […] and that there are rules that are clear to everyone, then I can do my thing."
>
> Original quote; "Als er nou een duidelijk beleid was […] als er maar regels zijn die duidelijk zijn voor iedereen. Dan kan ik makkelijker mn ding doen."

Collaboration

Although many farmers feel pressure to perform, almost nobody looked at other farmers as competition. Many farmers think that collaboration is actually a way to deal with the continuous pressure. By uniting farmers, a better position of negotiation could be accomplished which could give them more power to ultimately lower pressure on their businesses and the sector as a whole.

One of the farmers concluded that they have a unique position, because they have full autonomy on what they produce. Farmers essentially have control over what is produced and what eventually end up in our supermarkets. That's a powerful stance, but unity between farmers is needed to effectively exercise that power. Only when farmers agree to work together and trust one another they can start taking back control.

> "We can be much better off with less things, but we need to be on the same page."
>
> Original quote: "met veel minder dingen kan je het veel beter hebben, maar ja, dan moet je wel met z'n alle op een lijn staan"

> "If we grow less, prices will go up. But you would have to be with such a large group, […] that's impossible to do."
>
> Original quote; "we gaan telen dan gaan de prijzen omhoog, als we minder gaan telen bijvoorbeeld. Maar ja, dan moet je met zo'n grote groep zijn, […] dat is niet te doen"

KEY INSIGHT

→ Farmers see collaboration as a way to deal with the continuous pressure

Current collaboration between farmers lives local and is socially embedded. The community of farmers in a geographical area are assigned to each other and have no choice but to deal with one another. Collaboration between farmers usually emerges because of temporal or social connection. Many collaborations are between friends, family or neighbours.

> "My eldest son is so old that he sometimes helps my brother. He is a single farmer and sometimes needs some extra hands around the farm."
>
> Original quote; "mn oudste zoon is zo oud dat die ook wel eens bij die broer wat helpt. Dat is een alleenstaande boer dus die heeft ooit wel eens wat extra handjes nodig om te helpen."

KEY INSIGHT

→ Collaboration between farmers is local and socially embedded

Active Participation

One of the farmers explained his experience with working in cooperatives and that many other farmers wanted to get involved for the benefits of the cooperation. But that's not how it works, being a part of a cooperative requires active participation by members.

> "You have to commit to the cause"
>
> Original quote; "je moet jezelf wel inzetten."

> "We have seen a trend that things become less cooperative, and I ask myself whether things are going to get more cooperative from now on. Now that more pressure from regulations and climate change is happening. We might seek for connection in times of crisis."
>
> Original quote; "een trend hebt gezien dat het wat minder coöperatief wordt, en ik vraag me af of het nou wat meer coöperatiever gaat worden, nou dat er meer druk komt vanuit de regelgeving zeg maar, vanuit klimaatverandering, dat je elkaar toch meer gaat opzoeken in tijden van crisis."

Is a cooperative structure something that can help farmers with their challenges? Does this structure enable farmers to unite and work collectively towards fixing the challenges ahead?

Type of Challenges

Collaboration is much needed because the agricultural sector will remain to be faced with challenges. Not only goals for the sector as a whole concern farmers, especially those challenges that are faced locally need active participation from community members.

> "We've got 7 million consumers in a radius of 20-30km, that means we need much more land and I can't produce that much with my company. So maybe some collaborations can be found there in the coming years."
>
> Original quote; "We zitten met 7 miljoen consumenten binnen een schaal van 20-30km, maar dan heb je veel meer land nodig, en ik kan dat niet in mn bedrijf ophoesten, misschien zijn daar samenwerkingen in te vinden de komende jaren"

Lack of Resources

A lack of resources makes it hard for farmers to innovate. Innovation projects often involve investments that are unrealistic for an individual farmer.

> “Farmers simply don’t earn that much money in agriculture, so it is difficult to create budget for innovation.”
>
> Original quote; “er wordt gewoon weinig verdiend in de landbouw, dan is het lastig om heel veel budget vrij te maken voor innovatie.”

Battle Against the System

When farmers want to innovate, collaborate and move forward they are sometimes met with resistance from government or players from the value chain. Some players in the current value chain benefit from the current situation and thus prefer to sustain the system as it is. Especially when these players are powerful or have positions of monopoly it becomes harder to fight the system, especially as an individual farmer.

> "... you will meet powerful parties that do not like your cooperation. Or you have to take people out of the existing value chains, which is of course not appreciated. or they will try to block you and there are some monopoly positions here and there."
>
> Original quote; “… tegen machtige partijen die jouw samenwerking niet zo grappig vinden, of je moet mensen uit de bestaande ketens weghalen, nou dat is je natuurlijk niet in dank afgenomen, of die gaan je dwars zitten en eh er zijn hier en daar wat monopolieposities.”

Competition

Competition between farmers is often grounded in ground property issues. Ground is scarce and farmers are under constant pressure to produce, optimise and upscale. That results in a competitive attitude in the ground market. With that, there is a need for a more nature-inclusive agricultural sector, which means that even less ground will be made available for the sector which increases pressure on the ground market even further.

> “There is rivalry among farmers, especially because it is their own property.”
>
> Original quote; “Er is wel rivaliteit onder boeren en zeker omdat het hun eigen land is.”

> "… We are actually forced to see each other as competitors, in the sense that we remain a bit of a scum in the Netherlands."
>
> Original quote; “… worden wij eigenlijk gedwongen om elkaar als concurrent te zien, in de zin van dat we er een beetje een uitschot blijven in Nederland.”

Farmers and Data

Data is all around the farm. Especially in diary farms the collection of data is obligatory or is so tightly knit with the supply chain of diary production. This means that almost all farmers have to deal with data. Although most farmers do collect data, almost none of the farmers used the data to their advantage. Data was mainly used to check whether the operations are moving smoothly. E.g., are the cows giving enough milk, does the soil have enough nutrition? This is very helpful for farmers in their day-to-day operations at the farm.

Some of the farmers work with a milking robot or other technology provided by an external party. Farmers would authorise the external party to use their data by using that particular technology. In this case, farmers would be able to see their own performance reflected against a benchmark of all other farmers using that technology. This gave the farmers extra information about their performance. Although this feature is helpful for farmers, it also robs them of the ownership of their data. They have to hand over their full data-set, without clearly understanding what is done with it.

> "Lely (technology provider) is owner of the data? I'm not sure who owns the data really…"
>
> Original quote; "Lely is ook eigenaar van de data? Niet duidelijk bij wie de eigenschap eigenlijk ligt…"

Some farmers do see the value of data and want to use it to their benefit. A group of 7 farmers wants to take matters into their own hands by capturing data before allowing them to be sent to technology providers. This would create a valuable data set that could be sold to other parties as well as a technology provider such as Lely.

The data might be able to be monetised, but their data might also serve a second purpose. As mentioned before, farmers feel pressured from the ever changing regulations that often deal with sustainability. One of the farmers wanted to provide evidence that would support their stance in the debate. The emissions and negative environmental impact of farmers are quantified and broadcasted that fuel the public debate. But what if also their contribution and positive environmental impact was quantified so that farmers could actually prove their worth and efforts with solid evidence. This would enable farmers to more actively engage in the public debate as well as provide concrete evidence about their farms.

> "We believe that the value in this cooperation is that we will be able to provide evidence about the things we are producing."
>
> Original quote; "Wij geloven dat de meerwaarde van zon coöperatie gaat zijn dat we bewijs kunnen aanleveren voor iets dat wij leveren."

The farmers indicated that data was valuable, but that it did not (yet) provided them with tangible outcomes. Their inability to make sense of the data might lie in the fact that there are no easy to understand tools available that help the farmers process data in a way that is valuable to them. They indicate that they don't have time to do it, and when they do that it is quite hard to find valuable insights.

> "That's all very nice, but I don't do anything with it really."
>
> Original quote; "dat is allemaal heel leuk, maar ik doe er eigenlijk helemaal niets mee."

> "I have to sit at the computer for 3 hours to watch and do it all, and you have to take something valuable from that, and that is quite challenging."
>
> Original quote; "3 uur achter de computer moet zitten om het allemaal te bekijken en doen, en dan moet je er iets uithalen wat dan waardevol is, en dat valt me nog niet helemaal mee."

KEY INSIGHT

→ Farmers fail to put data into use

Study Clubs

Some farmers created their own so called *'study clubs'* in which they share their (technical) farm data with each other. In this closed-off group they speak openly about their struggles and solutions, in an effort to learn from each other and move forward together. Creating this small circle of trust works very effectively, and helps the farmers to open up about things that they normally wouldn't share. The social-embeddedness of members of these study clubs is very important, and helped create trust.

> "When I share data, it is on paper. When it is with an advisor, he cannot take that home. We don't do that anymore."
>
> Original quote; "Dus als ik al data deel is dat op papier en als er een adviseur bij is dan mag hij dat echt niet mee naar huis nemen. Dat doen we niet meer."

Farmers have become careful with sharing data because of negative experiences that have backfired. One of the farmers indicated that when he shares technical data, other parties can easily calculate the profits he makes. That's when he decided to never share (digitally) data anymore.

> "Nobody wants to expose their own vulnerabilities. So, people are willing to share what is going well, but they prefer to keep the things that are going not so well to themselves."
>
> Original quote; "Niemand wil zijn eigen pijnpunten blootleggen om het maar zo te zeggen. Dus, mensen zijn wel bereid om te delen wat goed gaat, maar wat minder goed gaat dat houden ze liever binnenskamers"

At the same time we must not forget that the farmers are entrepreneurs that participate in a healthy competition with others, and each other. That contributes to a "closed data sharing culture" which hinders the collaboration on data.

KEY INSIGHT

→ Farmers already share data in study clubs on a small scale

Farmers and their Community

According to farmers, creating collaborations with and between farmers might be difficult. They have been formed by their harsh lifestyle an work ethic and have a unique outlook on life and their businesses.

> "Most farmers do not want to work together because they don't know how to do so, they are a bunch of mistrusting oafs."
>
> Original quote; "de meeste boeren die werken ook niet samen want die kunnen helemaal niet samen werken, zijn allemaal stugge wantrouwende harken"

> "[Farmers] are people that have been made hard for generations because of the hard life that we live; irregular working times, a lot of concessions. It seems like a we are some kind of cold figures. Just look at 'Farmer Wants a Wife', they are all certain types, strange people. Something so normal can be very strange in the farmer world and fail to work."
>
> Original quote; "Het zijn toch mensen die generaties lang, ja hoe zeg je dat, zijn een soort hard gemaakt, door het harde leven wat we hebben toch wel, over het algemeen, onregelmatig en gaan en werken, en dan weer incasseren en dan lijkt het wel een soort kille figuren zijn we. Kijk maar naar boer zoekt vrouw, dat zijn toch allemaal wel bepaalde types, apart volk, wat soms zo normaal lijkt dat is bij de boeren wereld werkt dat dan niet, weet je wel."

The autonomy they cherish might lead to farmers solving problems individually. Also production seems to be more important than adding value. One of the farmers explained that when you have invested in your farm, of course, you

need to run production to sustain that. A moment of reflection is overlooked, which is why innovation and change come slow.

> "And we think we can solve everything ourselves, and we keep producing, producing and producing and we work quite a bit below the cost price, just to be able to produce."
>
> Original quote; "En we denken het allemaal zelf te kunnen oplossen, en we blijven maar telen telen telen en we werken best wel iets onder de kostprijs, om maar te kunnen telen."

Communication and Technology

Over the last years, most farmers have learned to work with technology because of the technological advancements in the sector. To keep up, many farmers went through some sort of automation or robotisation. That being said, working with technology doesn't come naturally to all farmers. Many of the farmers are over 40 years old and weren't brought up in a world surrounded by technology. This generational contrast was illustrated by father and son, running a farm together; "My father works from stable to office, and I work from office to stable."

> "You just can't do without it anymore, but being on platforms and such is not something I do for pleasure, it's not by hobby so to say."
>
> Original quote; "je kunt ook niet meer zonder, maar ik zit niet voor mijn lol altijd op platforms en dingetjes. Het is niet mijn vrijetijdsbesteding zeg maar."

> "In the the pig farmer world 3/4 of all farmers is over 40 years old. Some people look at new technology, but they can also be a bit suspicious."
>
> Original quote; "de varkenshouders wereld is 3/4 over de 40 en er zitten wel mensen bij die wel naar nieuwe technologie kijken, maar sommige kunnen ook wel een beetje argwanend zijn,"

KEY INSIGHT

→ A group of farmers are not tech-savvy and need support when dealing with new technologies

Community

Farmers have local communities that are tightly knit. Because their life and work are so connected, so is their community. Most farmers know each other from local encounters more than business contacts.

> "We have parties and such, in that way you are still connected to each other. Those farmers, it's some sort of community. You meet each other everywhere."
>
> Original quote; "Maar ja feessies, en ja noem maar op, dan ben je toch verbonden met elkaar weet je wel, ik weet niet wat het is, die boeren, het is toch wel een soort community. je komt elkaar overal tegen."

They have established a network of official and non-official groups that enable the farmers to work together and share information. This network lives locally and is very socially embedded. Most of these groups are formed between friends or family and work with voluntary involvement.

> "I feel I have a pretty good idea of the farmers around me. I have several app-groups or study clubs to my disposal if I need something."
>
> Original quote; "Ik heb voor mijn gevoel een best goed beeld van de boeren die om mij heen zijn. Als ik iets nodig heb dan heb ik wel verschillende appgroepjes of studieclubs om eens te gaan achterhalen of ik er achter kan komen."

Cooperative Rabobank

Rabobank still works with a cooperative structure. When talking to the farmers they indicated that this felt like something of the past. The bank has changed so much that using the term cooperative felt illegitimate.

> "It's just another bank. I don't feel like Rabobank is a cooperation at all."
>
> Original quote; "Het is gewoon een bank. Ik voel de rabobank absoluut niet meer als een cooperatie."

What it means to be a member of Rabobanks was quite vague. Not many of the farmers are members, and when they are, they hardly know what it consists of. Rabobank might be a functioning cooperative but farmers are completely unaware of the way it works and how they can have a say in the democratic mechanisms. That's unfortunate to say the least.

> "My wife is a member of Rabobank, oh, I believe I also ... At Rabobank I believe we are both members..."
>
> Original quote; "Mijn vrouw is lid van de Rabobank, oh, ik geloof ik ook nog… Bij de Rabobank zijn we geloof ik allebei lid…"

KEY INSIGHT

→ Farmers do not see Rabobank as a cooperative bank

Sentiment of Old Image of Rabobank

Rabobank is still leveraging from its past image of the cooperative local Boerenleenbanken, and still is somehow is profiting from the residues of that image. Many bankers at Rabobank originate from the agricultural sector and that lets the farmers feel understood.

> "I remember it so clearly, when interest rates were almost negotiated back in 1999. The deal was made with a hand with the accountmanager on basis of trust."
>
> Original quote; "ik weet nog zo goed, toen werd er nog bijna onderhandeld over de rente in 1999, en daar werd een hand gegeven op het vertrouwen, met accountmanager"

> "It still has to do with the feeling of the Boerenleenbank, and the cooperative idea that's still around and the type of banker with a farmer's background. Luckily they're still there, and that makes that you feel connected."
>
> Original quote; "maar dat heeft altijd nog te maken met het gevoel van de Boerenleenbank, en de coöperatieve gedachte die altijd nog wel een beetje speelt, de type bankier die er rond loopt met toch een boerenachtergrond vaak, die lopen er gelukkig altijd nog, en dat maakt dat je je verbonden voelt."

KEY INSIGHT

→ Rabobank's old image still creates trust

Growth of the Organisation

The growth of Rabobank has had an impact on the relationship between bank and farmers. The deterioration of the cooperative created a space between the two, and the international allure of the bank only increased that space.

> "It now says with sender; Amsterdam metropolitan region, which I find very typical, that has changed."
>
> Original quote; "het staat nu in de afzender, metropoolregio Amsterdam, dat vind ik wel tekenend ja, dat is veranderd."

> "We used to have regional meetings and membership, and as a customer you became a real part of Rabobank, that part is definitely gone now."
>
> Original quote; "Vroeger had je natuurlijk regionale, lidmaatschap, regiobijeenkomsten en werd je als klant was je echt een onderdeel van de Rabobank en dat is er eigenlijk vanaf."

> "I don't have a warm welcoming feeling when I call Rabobank."
>
> Original quote; "Maar ik heb geen warm gevoel als ik de Rabobank bel,"

Farmers indicated that the size and complexity of the bank might hinder their innovation processes. Because of their size, the organisation has become unwieldy and cumbersome to deal with. Even when farmers themselves initiate new ideas or innovation projects, they are often met with resistance from the bank itself.

> "It has become quite a big cooperation, in my opinion they are unwieldy. They have not responded enough to innovation and have invested far too little time and energy into it."
>
> Original quote; "En het is een heel lichaam geworden, ze zijn in mijn beleving log, en hebben veel te weinig ingespeeld op innovatie, veel te weinig tijd en energie gestoken."

Self-Reporting

When you look at Rabobanks communications, you will recognise a strong agricultural narrative. They show their commitment to the sector proudly and seem to value their agricultural clients. Farmers question this, and wonder if their commitment is genuine. Rabobanks communications can be seen as self-reporting and can therefore not automatically be trusted.

> "In the end I think it is just a windowdressing"
>
> Original quote; "Maar uiteindelijk is het ook een stukje windowdressing denk ik wel eens"

"[Rabobank is a bank that] tries to distinguish itself in the market by saying that they are very agricultural and cooperative, in reality you see very little of that."

Original quote; "Die zich probeert te onderscheiden in de markt door te zeggen dat ze heel agrarisch zijn, dat ze coöperatief zijn, in de praktijk zie je daar natuurlijk heel weinig van terug."

Relationship Between Farmer and Bank

As mentioned before, farmers want to be approached as entrepreneurs and their relationship with Rabobank should be formed by it. A personal relationship between te organisation and the farmer hardly exists. Their product offering and personal approach through accountmanager is something that suits the farmers and Rabobank is therefor preferred. Even loyalty to the bank is scarce, the loyalty that exists originated from the fact that Rabobank is so connected to the sector that they feel assured that the bank will have their backs, also when things change.

"I think Rabobank sees me as an entrepreneur, which is good because that's how it should be."

Original quote; "ik denk dat de Rabobank ons gewoon ziet als een ondernemer, en gelukkig, want dat hoort ook zo."

"ABN dropped out very quickly because they have a very clear click-call-face policy; if you have any questions, just click online first, if you can't figure it out, just give us a call, if you still can't figure it out, then maybe someone will visit you. That doesn't attract me and it doesn't suit us."

Original quote; "ABN viel heel snel af want die hebben een heel duidelijk click-call-face beleid; als je vragen hebt, click eerst maar eens online, kom je er niet uit, bel maar eens, kom je er dan toch nog niet uit, dan komt er misschien een keer iemand bij je langs. Dat stoot mij eerder af, dat past niet bij ons."

Accountmanager

The bank itself might feels distant and unapproachable for farmers but the relationship between farmer and bank is taken care of by one very important player; the accountmanager. The relationship between farmer and Rabobank is mediated by the accountmanager that, to a great extend, is responsible the development and maintenance of trust. This was confirmed by farmers, who indicated that it all stands with the trust in the accountmanager.

"It is mainly because of that person, because the bank has become such a huge cooperation where we don't know anyone."

Original quote; "maar dat komt hoofdzakelijk wel door die persoon, voor de rest is het natuurlijk een heel groot orgaan geworden waar we… je kent er natuurlijk bijna niemand meer."

KEY INSIGHT

→ Accountmanagers embody the trust relationship between bank and farmer

An Involuntary Bond Between Farmer and Bank

Many farmers hold multiple loans and mortgages with Rabobank. This is beneficial, also for the farmers, but also makes it hard for farmers to change banks. They feel stuck in the system at Rabobank and cannot really escape it.

> "We have kind of been sentenced to them, […] we could buy them off, but in that case our discount on interest will be gone. So we actually can't go to another bank. "
>
> Original quote; "We zijn toch wel een beetje tot hen veroordeeld, […] ja je kunt ze afkopen, maar ja dan is je rentevoordeel weer weg. Dus dan kan je ook niet naar een andere bank."

Rabobank has provided so many loans to farmers over the last decades that they now have the majority of the Dutch farmers as a client. They have so many clients from the agricultural sector that they are embedded into the sector. You could speak of encapsulated interest, because both parties benefit when the sector succeeds. The assurance that the bank will remain to support the sector is a huge trust antecedent for farmers.

> "They still have a strong agricultural character because they have a lot of land on their capital balance, as collateral and mortgages, I think they still have a very large interest in agriculture, and they can be very important to us."
>
> Original quote; "Daarnaast hebben ze nog een sterk agrarisch karakter omdat ze op de vermogensbalans enorm veel grond hebben staan, als onderpand en hypotheken, denk ik dat ze nog een heel groot belang hebben in de landbouw, en ook voor ons heel belangrijk kunnen zijn."

Genuine Commitment

The farmers value that Rabobank is publicly committed to helping the agricultural sector, and they feel supported by that. It gets sketchy when their commitment and advertisements are not followed by concrete actions that actually help farmers forward. Especially when farmers try to show their goodwill and devotion towards becoming more sustainable and it doesn't pay of.

> "They turn their backs on the farmers. That is frustrating, especially when you put so much energy into it. Just a pity. "
>
> Original quote; "Laat die boeren maar barsten. Dus dat frustreert wel eens een beetje, vooral als je er zoveel energie insteekt. Ja, is gewoon jammer."

> "When you do something to better animal welfare and you get nothing in return, that's something I miss."
>
> Original quote; "doe je meer aan dierwelzijn en daar krijg je dan niets voor terug, dat mis ik dan wel."

Also the farmers feel as if many of the innovation projects they initiate are shut down because they are too risky. When Rabobank really wants to innovate in the sector, risk is necessary.

> "Rabobank is not very eager to make funds available for innovation, they have an image of; we want to finance, but not risky things, and innovations quickly fall under a risky investments."
>
> Original quote; "Naar de buitenwacht toe is met niet zo scheutig met innovaties om daar geld van los te peuteren, daar hebben ze toch wel bij mij een beetje het imago van… we willen wel financieren, maar geen risicovolle zaken, en innovaties vallen al heel snel onder een risicovolle investeringen."

> "Being innovative means taking risks"
>
> Original quote; "innovatief zijn is risico's nemen."

> "They do a lot of advertising and stuff, and what they're doing is quite innovative, but when you get there; what can we do?"
>
> Original quote; "ze maken een hoop reclame en een hoop gedoe maar… het is best innovatief waarmee we mee bezig zijn, en dan kom je daar, en dan; wat kunnen we dan?"

Platform Elements and Trust

The same 12 farmers were asked to choose between two theses. One of them always describing a strategy towards creating contextual trust, the other describing a strategy towards creating intrinsic trust. Several relevant elements were picked from the platform that could be designed in both ways.

Autonomy and Choice

The first topic focused on autonomy and choice. The farmers were asked if they preferred to have the system select farmers and process data for them, or that they wanted to select farmers themselves without anyone else receiving their data.

A structure in which a centralised actor automatically collects and processes data into understandable insights was preferred by half the farmers. The biggest benefit that was mentioned concerned trust. Trust in the system, in the data and in other farmers. They indicated that when a centralised actor collects data, they have a unique position to make sure that data makes sense and is compared with the right dataset. It also ensures that the data that is provided is true and fair. Also being able to interpret data in their appropriate context was very important, as it will prevent comparing apples and oranges. When data is not processed and presented in the right way, their value diminishes and trust will disappear.

> "You will not get a factual picture when farmers will choose with whom they will share data."
>
> Original quote; "Als je gaat kiezen met wie je gaat delen dan krijg je geen reëel beeld."

> "When things go wrong, the value of data decreases and you are less likely to actually use the data because you will wonder; is this correct?"
>
> Original quote; "Op het moment dat er dingen misgaan, dan wordt de waarde van de data minder en dan ja, dan ben je ook wel minder snel geneigd om er iets mee te doen want dan heb je zoiets van; klopt dit wel?

> "Reliability is very important"
>
> Original quote; "Dus betrouwbaarheid is wel gewoon heel belangrijk."

KEY INSIGHT

→ A centralised player with authority can very effectively create trust based on reliability

Another benefit of this structure is that farmers will be exposed to new inputs that they had never thought of themselves. These inputs are important for farmers because they might have been doing things a certain way for a long time, and this fresh perspective might enable farmers to innovate.

> "On the other hand, I may also be surprised by it, because maybe I'm not focussing on the right things. […] That you can give you a different perspective on things."
>
> Original quote; "anderzijds ook wel verrast worden, want misschien focus ik op dingen, maar niet op de juiste. […] Dat je toch op een andere manier kan gaan kijken."

An automated system like this requires no active participation. This works well for farmers that work under continuous pressure and don't have much time to spare. This structure also enables for anonymous data sharing. This contextual trust mechanism makes sure the privacy of the farmers is protected and installs trust in the system.

The structure in which farmers choose their data-sharing partners themselves has very different benefits and creates trust though very different mechanisms. Their autonomy in selecting farmers makes them feel in control over both their data and the system. It also creates a sense of privacy because your data is not distributed to all, but to a selected amount of farmers. A boundary condition in this structure is trust in other farmers. When a farmer doesn't build trust for any farmers, this structure will fail to help that farmer.

> "I don't want everybody to know everything about me."
>
> Original quote; "Omdat niet iedereen altijd alles hoeft te weten van mij."

KEY INSIGHT

→ Letting farmers choose their own interaction partners created a feeling of control and privacy

Mediation and Interaction

The second topic concerned an intermediate party. The platform will facilitate interactions between farmers, but can they handle this by themselves? Or is an intermediate party necessary to create trust in the interaction?

An intermediate party between two farmers in an interaction makes sure that both farmers act fair and true. The intermediate party can also check the data to make sure they are correct. Checking whether data sharing between two farmers makes sense can be done. In this case, even without exposing any data, both farmers get an idea about the benefits and prospects of data sharing.

> "He keeps his cards close to his chest"
>
> Original quote; "hij laat het achterste van z'n tong ook niet zien."

The intermediary party also creates trust by being able to negotiate between the two farmers. When things go wrong, there is always that neutral facilitator that can interpret the situation and act accordingly. Also, specific arrangements can be made so that the availability of the data is inhibited by the intermediate party. In this case, both farmers could submit all their data, and only a portion of it would be made available for both to see. This creates a way to collaborate without compromising on privacy.

Interactions with another farmer without an intermediate party requires trust in the other farmer, and this serves as an initial threshold for collaboration. It was recommended to somehow standardise this interaction in a way where an intermediate party was not necessary. Another farmer proposed technology to fulfil this role. Technology such as algorithms could normalise data and make sure data was compared to the right datasets.

> "… algorithms that normalise your data, and that you don't compare apples and oranges."
>
> "dat je een soort van algoritmes hebt die je data normaliseert, en dat je appels met appels vergelijkt, en niet met peren."

KEY INSIGHT

→ Technology can perform the role of an intermediary party

Rules and Norms

How the platform was controlled and governed is another element of the platform that can be designed in different ways. Rules could either be predetermined or could naturally emerge.

Establishing clear rules was preferred by the majority of the farmers. The rules would create a concrete framework on which the collaboration was founded. It created clarity and transparency. These rules must be in line with the goal of the platform and must support it. When you take the goal as a framework, you can work back and establish rules yourself. It is essential that these are created fairly and communicated clearly. One of the farmers indicated that they already have so much rules to follow, that they preferred it to be more open-ended.

> "I believe the most important thing is to have a clear goal. Then you basically have principles, which forms your framework. In that case, I think rules can emerge in a group. But it must be communicated very clearly."
>
> Original quote; "het belangrijkste is geloof ik als je het doel helder hebt, dan heb je in principe de principes, en dat vormt dan je kader. Dan zou ik zeggen, dat moet wel lukken binnen een groep waar dat ontstaat. Maar dat moet wel heel helder uitgesproken worden."

KEY INSIGHT

→ A goal serves as a framework from which rules can be determined

Guidance and Advice

Whether farmers should be supported and guided in the platform was another element that would change the ways in which farmers trust each other, and the platform. When farmers are guided and supported you make interactions between farmers more equal because they both have the same support. When you don't help and support farmers they have to rely more on their own skills and motivations.

All farmers indicated that they would like to be presented with suggestions and tips when using the platform. It is essential that farmers understand the platform and know what it can do for them. The first step in this is to define WIIFM, and communicate that clearly with the farmers.

> "It shouldn't be obligatory and it should be challenging. If an entrepreneur realises that he can make more money, then he will go for it."
>
> "Het moet niet moeten zijn, maar het moet uitdagend zijn. Als een ondernemer door heeft dat hij iets meer kan verdienen dan gaat hij daarvoor he."

Farmers might need additional help because they might struggle with the technology in the platform, given their (for some) general lack of tech savviness. It might also help farmers to present them with new insights and information, which can broaden their horizon. This input might create a new perspective that enables the farmer to learn and grow.

> "They are not so smart. Well, they are very smart but not with things like this."
>
> Original quote; "Die zijn nog niet zo snugger. Nou ze zijn wel heel snugger maar niet met dit soort dingen."

> "You always have a certain perspective, but that does not always mean that it is the right perspective. So if you get options, which might make you look at your data differently, that might also bring other insights, and ultimately a better company."
>
> Original quote; "je hebt zelf een bepaalde bril, een bepaalde blik, maar dat wil niet altijd zeggen dat het de juiste bril en blik is. Dus als je die opties krijgt, en waardoor je eventueel anders gaat kijken naar je data, kan dat ook misschien andere inzichten brengen, en een beter bedrijf"

Some farmers indicated that they were very interested in the availability of experts in the platform. This would enable farmers to collaborate with each other, supported by knowledge and resources of experts.

KEY INSIGHT

→ Multiple experts inside the platform can support farmers in reaching their goals

Role Rabobank

Next, the role of the owner of the platform was discussed. Should the owner be a neutral facilitator, or should it share the same goals as farmers?

Most farmers indicated that they preferred an organisation without interest in the platform. The biggest concern here was that an organisation with interest would use the accumulated data for things other than helping farmers. Especially for Rabobank this is a tricky position because they provide financial services. Farmers are dependent on the services of Rabobank and when they will be assessed on their data it could mean that Rabobank would offer them different services.

Farmers indicated that this is concern is not farfetched because it has happened before in the sector. Agri tech companies try to gather as much data from farmers to develop new products or knowledge which ultimately is sold back to farmers. This feels unfair to farmers because they provided that data in the first place. Farmers understand that this is part of a business model and if their generated products or knowledge offers benefits it is fair that it comes at a price. But it also means that the provided data has value and that the farmers should be payed for it.

> "You get payed for it, why don't get I payed for it?"
>
> Original quote; "Jullie worden er toch voor betaald, waarom wordt ik er dan niet voor betaald?"

> "Imagine Rabo setting up this platform and turning the knobs, no thanks."
>
> Original quote; "Stel dat het de Rabo is he, die stelt dat op, en dan dat die een beetje aan de knoppen zit te draaien, nee."

> "In that case you would develop new products over the backs of farmers with their data."
>
> Original quote; "dan ga je over de ruggen van de boeren met hun data proberen nieuwe producten te ontwikkelen."

KEY INSIGHT

→ Farmers worry that their data is used against them if Rabobank owns such platform

Because the data belongs to the farmers and the platform exists to support farmers, it only makes sense that also the platform is owned by farmers. In this case we would still need an external party that takes care of managing the

platform. Ownership of the data and the platform then ultimately lies with the farmers themselves.

KEY INSIGHT

→ The data should be owned by farmers

→ An external party should be appointed to manage the platform

When the organisation that sets up the platform holds the same goals as the farmers, this was seen as a benefit by some. It helps establish a bond between farmer and organisation by installing a shared responsibility for that goal. Farmers also expect more motivation and determination from a party with interest. This might help create trust between the two, as well as support one another to reach their goals.

> "We all strive to the same goal, in a way that's quite beautiful."
>
> Original quote; "we streven allemaal naar één doel ergens, dus dat is wel mooi ergens."

> "Someone with interest has much more motivation than a someone without interest."
>
> Original quote; "de drijfveer van iemand die belang heeft ligt vele malen hoger dan bij een belangeloze club."

Rabobank as Owner

When the farmers were asked about whether Rabobank would be an equipped owner of a farmer data sharing platform they responded with mixed messages. On the one hand this felt like an extension of their current operations but farmers also realised that it might give Rabobank a very powerful position.

Their main concern is that Rabobank is not neutral, and cannot be neutral. Although Rabobank is very affiliated with the sector, they might hold their own motivations and challenges. Trust in Rabobank and the system would immediately crash when data was used for their own interest in stead of those of the farmers.

KEY INSIGHT

→ Rabobank is not a neutral party, and cannot perform a neutral position in a platform like this

Providing Rabobank with a large amount of data from many farmers will make Rabobank a powerful player. Farmers have a concern about who's interests are really served here. In this case Rabobank is the trustee that is given a powerful stance. It then up to Rabobank to prove their trustworthiness towards the trustors (the farmers.)

> "By owning a platform like this, Rabobanks wealth of data could increase. When they start using that to take an advising or guiding role, I'm not sure who's interest it really serves."
>
> Original quote; "Kan wel zijn dat door de beheer van zon platform dat de dataschat van de rabobank natuurlijk ook gevuld wordt, en ja, als die vervolgens weer gebruikt wordt om een adviserende of sturende rollen in te nemen, bijv bij een overheidsoverleg, dan weet ik niet of het dan het belang van de sector of het belang van de rabo ingevuld gaat worden."

> "A bank that will start managing a platform like this, no I don't like that. A cooperative such as the sugar union or something of the cultivation companies is different…"
>
> Original quote; "Een bank die dan ook nog een keer zon platform gaat beheren, nee dat zie ik niet zo zitten, kijk een coöperatie zoals de suikerunie ofzo van de teeltbedrijven…"

KEY INSIGHT

→ The goal should be clear and farmers should be able to benefit from the platform

Worst case for farmers is when Rabobank will use the accumulated data against them. This will feel as the ultimate betrayal and will diminish trust in Rabobank as a whole. Especially when you realise Rabobank is a bank that was founded for farmers. This is something so engrained in the bank that it is something they will have to do for the rest of their existence.

> "Now the biggest financier of agriculture wants to know everything about the farmers so they can intervene quickly."
>
> Original quote; "Nu gaat de grootste financier van de landbouw wil nu alles weten van de boeren dus dan kunnen ze snel ingrijpen."

> "Dutch agriculture will say; we once founded that bank to finance farmers, and they will always have to carry out this task in the Netherlands. "
>
> Original quote; "De landbouw die zegt wij hebben ooit die bank opgericht om boeren financier. En die taak zullen ze altijd in nederland moeten blijven doen."

It needs to be clear what the goal of the platform is. This goal instructs farmers as well as Rabobank on the way it should work. If the goal is clear, farmers can start to trust the system and Rabobank as an owner.

Rabobank already holds a lot of data from farmers though the accountmanagers. Through this, they feel as if a lot is already known at Rabobank, so providing more data to Rabobank doesn't feel very risky. Farmers know how Rabobank treats and handles their data and this reputation can be extended into this platform.

Because Rabobank is so affiliated with the agricultural sector it also holds similar goals. When you take that perspective, you will see that new opportunities emerge.

Some farmers also doubt whether Rabobank has the ability to do this. They feel like expertise is missing and that more experienced players are out there that are much better equipped. Other farmers find this direction rather sketchy and prefer Rabobank to focus on their core business. They feel like these projects cost a lot of time, money and effort that could also have been spent other things; such as lowering interest rates.

> "That's not your core business."
>
> Original quote; "Dat is niet jouw core business."

KEY INSIGHT

→ Rabobank might not be best equipped to set up a platform like this

Two Archetypical Designs

These two archetypical designs of the platform aim to demonstrate the two strategies for creating trust in a platform service. The manifestation of both strategies will present clear differences between the two, enabling to talk about them in a practical way.

Archetypical Design based on Contextual Trust

This setup visualised in Figure 32 defines Rabobank as owner of the platform. A technology provider (such as Microsoft) was appointed to take care of data processing and interpretation. In this platform, farmers can share their data with predefined datapools. The datapools visible to a specific farmer are tailored to the farmer's data. In this way, irrelevant datapools are not presented and a very narrow and specific tailor-made selection is presented that aims to help the farmer in the most optimal way. The system has full access to the farmer's data, but the farmer acts anonymously on the platform.

Transparency and Traceability

Although the system uses the data to generate the selection of datapools, it presents a clear overview of what data is going where. The setup aims to clearly indicate where data is, and to whom it is available. The setup visualises data being shared with a bright line that connects the farmer's data to a specific data sharing pool. This structure aims to make the farmer feel in control over their data. That feeling is strengthened by the availability of the option to turn data sharing on and off with a click.

Contextual Trust Signals

The setup uses many contextual trust signals to create trust in the proposition. On top of the datapools, a world map is visualised that shows the geographical locations of all farmers that share data in that data pool. Together with the amount of farmers, and the amount of countries, this demonstrates the diversity of farmers. It also shows that all data being verified by a third party, which is a strong contextual mechanism that uses lowers risk for farmer. All these signals aim to prove the farmer that the system is trustworthy.

Anonymity

Personal details about the farm or farmer are only presented to the user of the platform. Other user's of the platform will only receive randomised and anonymised data that they can only use for their own operations. They are not able to look at a specific farm or data set. The identity and privacy of the farmer is protected by these contextual mechanisms and makes the farmer feel protected against possible exposure of vulnerabilities.

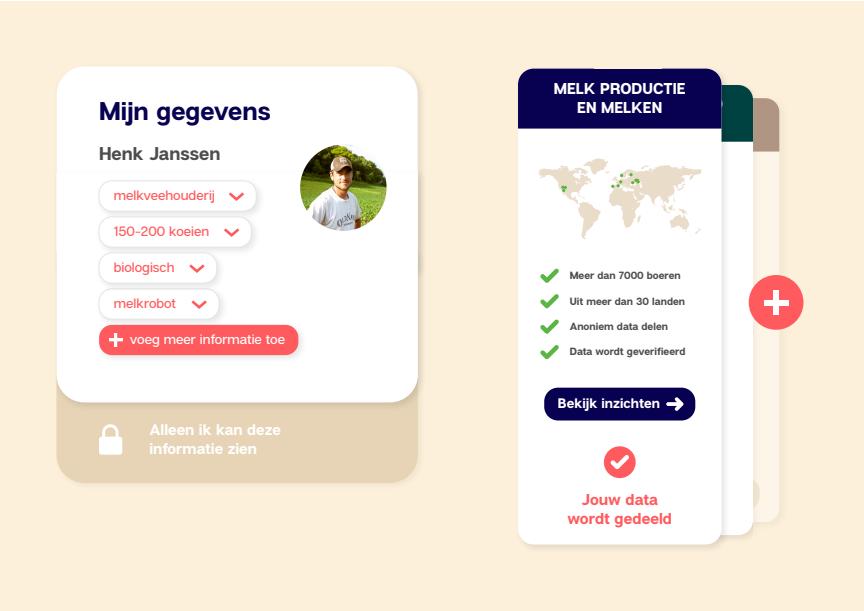


Figure 32 Visualisation of archetypical design based on contextual trust

Archetypical Design based on Intrinsic Trust

In this setup, Rabobank enables farmers to connect to each other, in an almost social-media-like way. The platform facilitates various options to find other farmers; through common goals, similarity of farm and geography (Figure 33). When a farmer is found, a connection can be made. These farmers can also start their own groups, in which they can collaborate and share information.

Common Goals and Challenges

The first option provided by the platform to find farmers is though common interests, goals or challenges. The top graphic shows a Google-like search bar in which farmers can type keywords that describe the problem or goal they have. The platform will generate a selection of farmers that have been vocal about these topics before. This option aims for farmers to create common goals and execute them together. An open format was chosen to not influence their goals. Recently sought terms are presented below the search bar to help guide and inspire farmers.

Similarity of Farmers

A very important basis for collaboration was the extend to which farmers would be able to compare data and results with the other farmers. The second tab therefore enables farmers to target very specific other farmers that overlap on specific areas. This will generate a list of farmers with the set requirements, and will enable them to effectively work together (and possibly share data.)

Local Challenges and Contacts

As we have seen before, collaboration currently happens mainly locally between farmers. This might be convenience on one hand, but might also have a more interesting reason. Local areas deal with similar challenges and might have similar goals. It might therefore be very important to creating collaboration between farmers that live in the same community. When the cooperation is of very physical nature (sharing machinery or employees), this option could come in handy too.

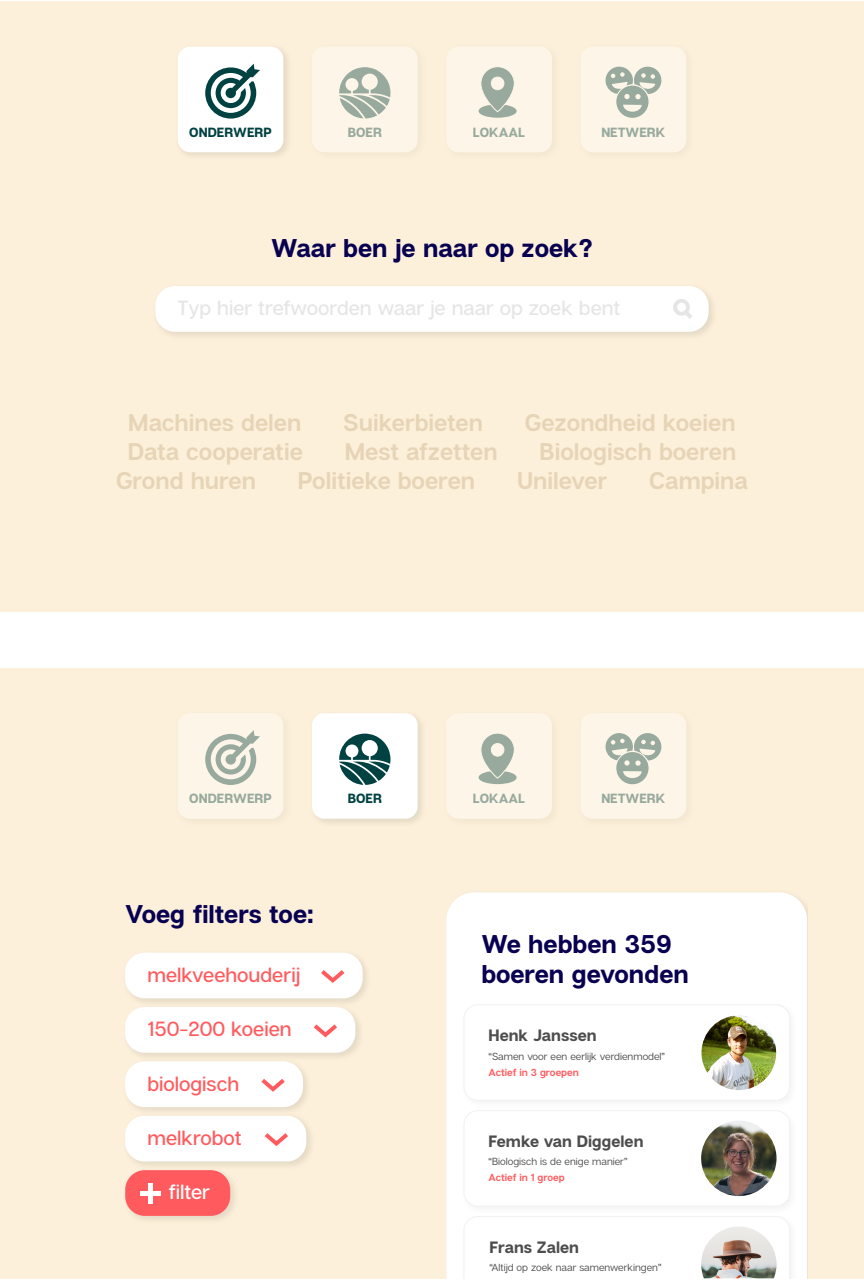


Figure 33 Visualisation of archetypical design based on intrinsic trust

Social Contacts

The platform allows for farmers to get aquatinted with one another and establish a connection. This farmer will then present itself in the 'network' tab. It features an overview of all farmers with whom a connection was made.

Self-Organisation and Coordination

Through any of the 3 strategies the farmer can build up a network of connections. After that, farmers can create a private group in which their challenges and goals can be further discussed (Figure 34). Within this space, the group must be able to share ideas, create plans and execute them together. It must therefore facilitate a way to share, process and interpret data. It should also enable social interaction through video or audio. This space will facilitate a platform for farmers to organise and coordinate themselves towards creating value together.

Personalisation

The groups must be able to be personalised to the needs of the farmers and their goal. Creating a name and uploading a photo is the first step to a personalised space that should feel completely as if it is theirs.

Social Norms

Members of the groups define their own norms and rules. There will no authority figure within the group that has the ability to overrule or mediate. Therefore, the farmers depend on their own ability to self-organise.

Intrinsic Trust Signals

The platform aims to connect people together. When a farmer is looking for other farmers, signals about their intrinsic motivations are clearly presented. Their name and photo is presented to create a stable and recognisable identity. Below their name, a motto or slogan is presented that signals their motivations and intentions. Below that, it is indicated in how many groups this member is involved, which signals their activity on the platform. All these things signal the intrinsic motivations of the farmer at hand.

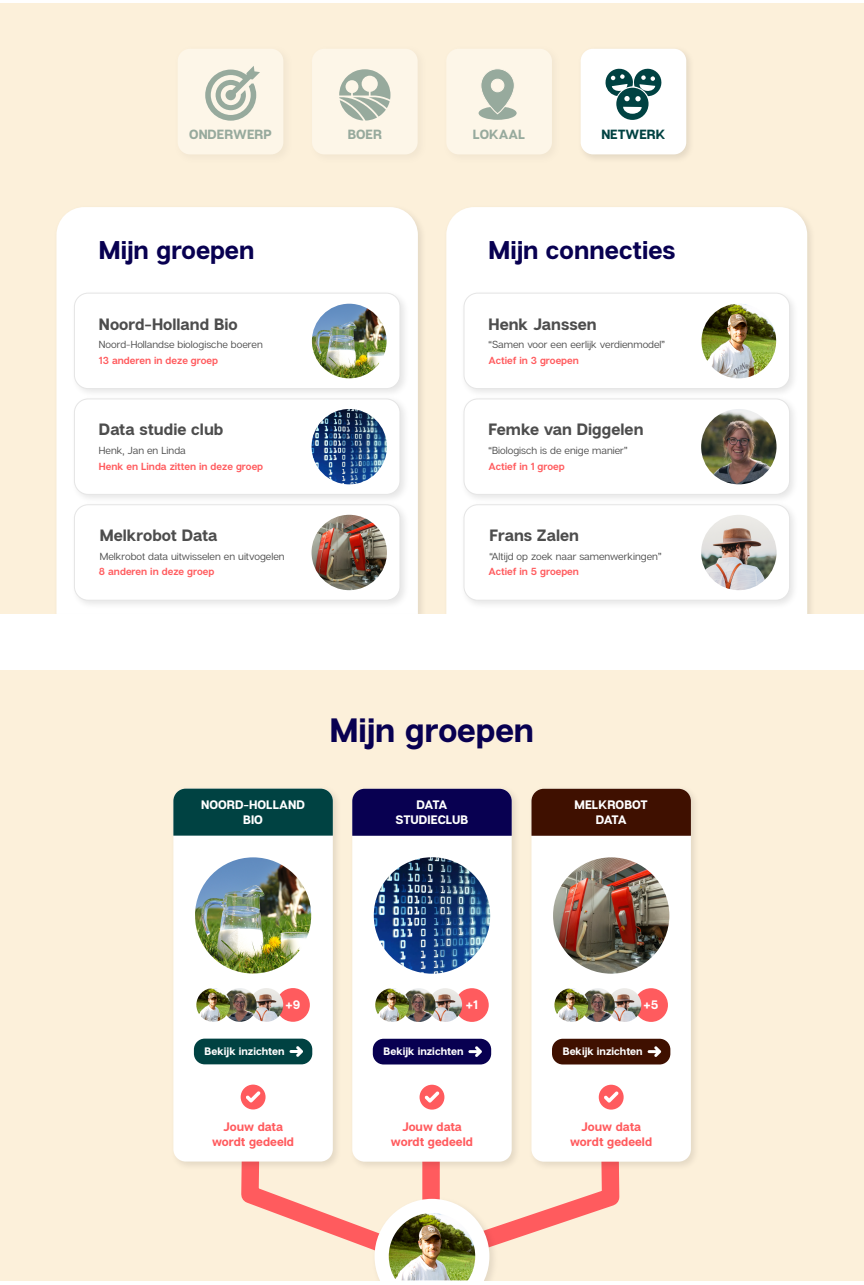


Figure 34 Visualisation of connections between farmers and formed group

Feedback on Archetypical Designs

The archetypical designs were presented to some of the farmers from the first round of interviews. The designs were discussed in open format and farmers could comment on anything they felt necessary. This spurred interesting conversations about what they would do with the platform. It also exposed some unforeseen goals that the platform enabled.

Overall, an automated system that would select the most relevant data-set for farmers was seen as very valuable. And being able to see their own data presented against a benchmark was mentioned as one of the most valuable features. This instructs farmers on their performance, as well as help them define their own goals.

With that, protecting one's identity was also valued. Especially when you deal with farmers in close proximity. Interacting and sharing data with farmers far away was seen as easier than with people in their close context. As it turns out, requirements of other farmers are more important than their identity. Eventually it comes down to the data they hold. You might really like a farmer, but if that farmer holds data that are unusable for you there's no point in collaborating.

> "I don't necessarily have to see who all they really are."
>
> Original quote; "dan hoef ik niet per se te zien wie dat allemaal zijn zeg maar."

KEY INSIGHTS

→ Protecting privacy is especially important when you deal with farmers in close proximity

→ When dealing with data, a farmers requirements are more important than their identity

An online platform solution offers benefits over other ways of collaborating. An online platform enables the easy transfer and interpretation of data. The platform could collect all data and process that data in an effort to connect farmers. It could select farmers with similar requirements and goals and link them to each other.

"These farmers are interesting for you on that issue. Then it has real added value for me."

Original quote; "Deze boeren zijn interessant voor jou op dat vraagstuk. Dan heeft het voor mij echt toegevoegde waarde."

"Because you want to bring together the data."

Original quote; "Omdat je juist die data bij elkaar wil brengen."

KEY INSIGHT

→ The biggest benefit of a digital platform is that data can be collected and presented

Enabling local collaboration between farmers was also mentioned by farmers as a valuable feature. Many goals have a local fundament, which could mean that farmers in the same geographical area have more similar goals. With that, it could enable farmers to unite and work towards solutions together. One of the farmers illustrated this very clearly with a striking example of using local collaboration. Farmers work under continuous pressure, mainly created by a need for a sustainable way of working. Collecting local data, and assemble data from various farmers and resources could enable farmers to deliver evidence about their collective performance. Especially between crops and livestock farmers. Crops farmers usually have yield to spare and require fertiliser. Diary farmers need extra yield to feed their cows, and have natural fertiliser which the cows emit. The exchange of resources in this context is not new, but calculating emissions of (e.g.) nitrogen connected to them is.

"In that case we can work much more efficient with CO2 emissions."

Original quote; "En dan kun je vee efficiënter omgaan met bijvoorbeeld CO2."

KEY INSIGHT

→ Many challenges have a local fundament and therefore local collaboration is very important

Of course the idea of sharing and exchanging resources between farmers can be translated into many fields. One of them that was mentioned by the farmers is employees. Agricultural employees can be very expensive because they hold a specific expertise, such as an employee that knows how to work with a specific pesticides spray. If farmers could exchange resources like employees, they could hire and outsource work more efficiently.

> “Why don’t we start using each others employees?”
>
> Original quote; “waarom gebruiken wij elkaars personeel niet?”

Some farmers indicated that they wanted to take matters into their own hands. They felt like the sector is over regulated and things are determined by big players such as Rabobank. By enabling farmers to create their own goals and groups, they can actually do this.

> “We believe that too little is initiated by the farmers themselves. And we let Rabobank, Friesland Campina, Agrifirm and others do these things for us. We no longer think for ourselves. We don't want that anymore.”
>
> Original quote; “we vinden dat er te weinig gebeurt vanuit de boeren zelf. En we vinden dt we te veel neerleggen bij een Rabobank, een Friesland Campina, bij een Agrifirm, we denken zelf niet meer na. Dat willen we niet meer.”

KEY INSIGHT

→ Farmers want to take matters into their own hands

When these self initiated groups and goals are formulated, motivation for the cause naturally emerges. The farmers work from their intrinsic motivations and these are very strong and work well in a team effort. It is a self-sustaining mechanism like one of the farmers explains;

> “How do you manage to enthuse 12 farmers for that issue? Well, it works because it is initiated by the farmers themselves. When do you encounter resistance? When things are imposed upon farmers of when things are decided for them.”
>
> Original quote; “Maar hoe krijgen jullie het voor elkaar om 12 boeren enthusiast te krijgen over dat onderwerp? Nou, dat komt omdat het uit de boeren zelf vandaan komt. En wanneer heb je weerstand? Als jou wat opgelegd wordt of als iets voor jou beslist wordt.”

KEY INSIGHT

→ When goals are self-initiated, motivations naturally emerge

Final Concept

In the interviews and the archetypal designs it became apparent that both strategies generate a different kind of platform with a very different value proposition and features.

Contextual trust focuses on efficiency and installs as many control mechanisms in an effort to make things safe and effective. It uses the cumulation of data to generate generalisable insights that help farmers innovate and become better at what they do. This value proposition was recognised as a very valuable and most farmers indicated that they would use such a platform. The owner of the platform would be seen as a centralised player with a lot of power.

The platform generated from an intrinsic trust strategy is very different. It doesn't offer a very apparent and solid value to the farmers but works in a way that farmers appreciate. The agricultural sector is bombarded with regulations and powerful parties which makes the farmers feel constrained and fragile. The intrinsic trust strategy generates a platform that focuses on intrinsic motivations from farmers, and enables farmers to create a context in which they can exercise their own goals. The platform can be seen as a facilitator and does not have its own direction.

In the remainder of the project I focused on designing a platform in which farmers could use define their own goals, connect with farmers, and collectively work towards reaching that goal. I chose for this type of platform because it is most interesting in the context of trust. The alternative — a centralised party that anonymously collects and processes data into understandable insights — will mainly be designed though contextual trust mechanisms and doesn't leave much space for novel propositions. Especially interesting in a platform in which farmers can define their own goals is that it will probably use a combination between contextual and intrinsic trust mechanisms.

Farmers' Initiatives

Het Boeren Initiatief

Farmers' Initiatives (or in Dutch *"Het Boeren Initiatief"*) is a concept of a platform in which farmers can create their own groups, and work towards reaching their self-determined goals collectively. The platform is owned by an independent company who is responsible for managing the platform. Embedded experts support those groups with reaching their goals.

How does it work?

Farmers create a profile on the platform by uploading a picture and stating their goal or motivations. This will help other farmers in understanding that farmer and their motivations, and shows the willingness to expose one's identity. The availability of stable identities among farmers enables for trust to be attributed to specific farmers, which ultimately creates a reputation. See Figure 35.

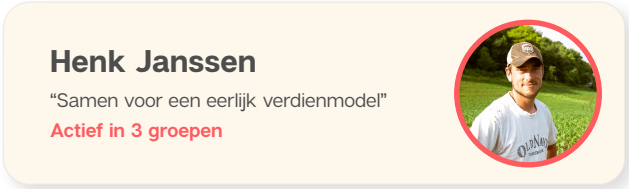
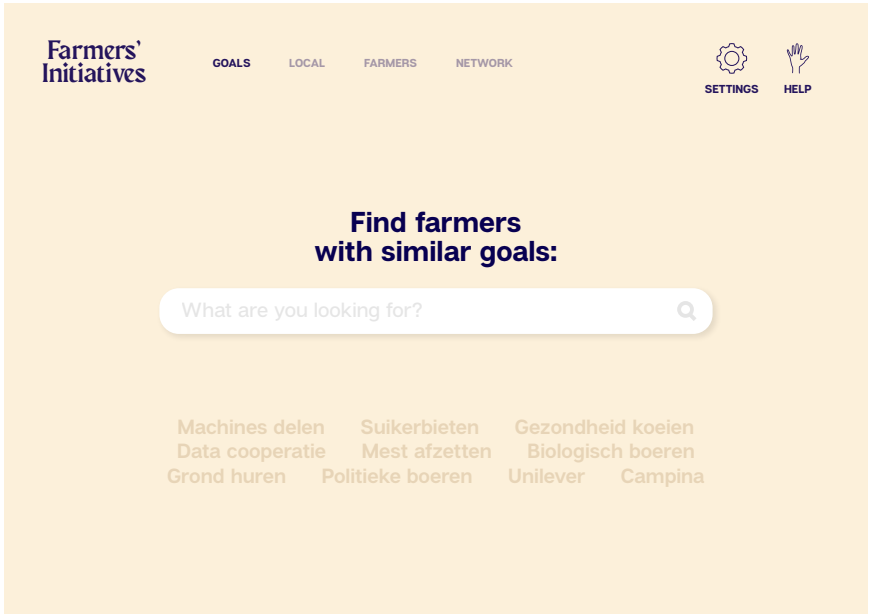
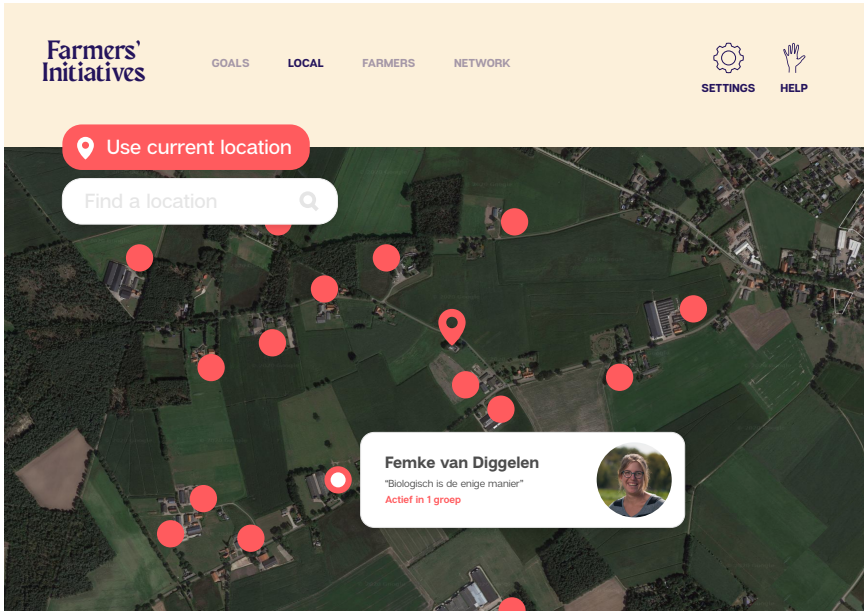


Figure 35
Farmer's identity presented including photo, motto and activity

Several ways to find other farmers are presented. They can find other farmers by goals, geographical location or similarity between farmers. These strategies are based on insights from farmer interviews. These three criteria were mentioned as important when selecting other farmers to work with. The three options are visualised in Figure 36.





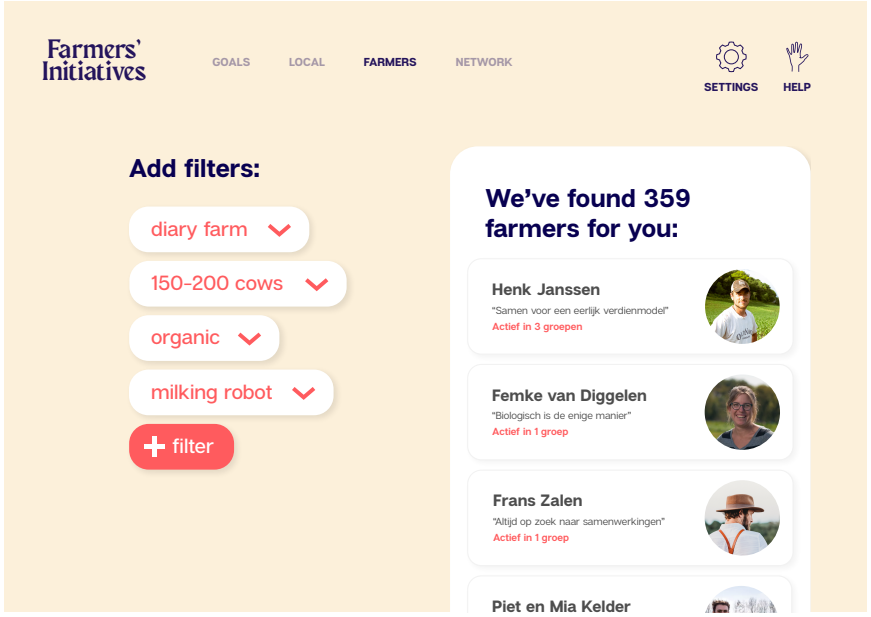
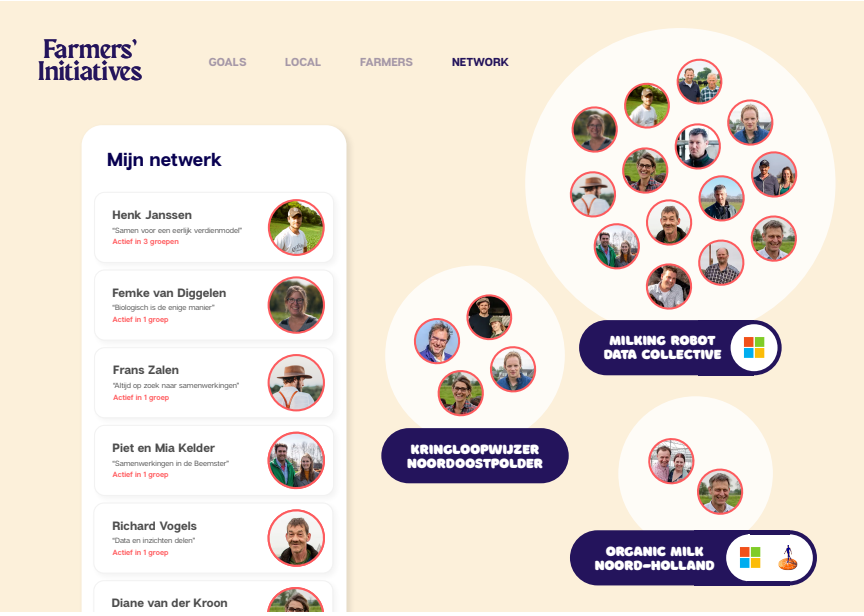


Figure 36 Visualisation of 3 strategies to find other farmers

Once other farmers with similar goals are found, they can create a group in which they can work together (Figure 38). When a group is formed is is very important that its goal is stated clearly. After that, rules should be established aligned with this goal. The formation of goal and rules should be a common and democratic effort. Channels for discussion are provided that help the farmers establish goals and rules. Figure 37 shows how farmers can chat with the group or start a video conference.

When the farmers feel the need to involve an expert, they can do that right within the platform. Several experts can be appointed when necessary, such as a data processor (Microsoft), financial advisor (Rabobank) and many more. When they are appointed, a new space within the group is created in which the expert will appear. When Microsoft is appointed, this will be the space in which data can be shared, processed and interpreted.

Figure 37 Visualisation of communication channels



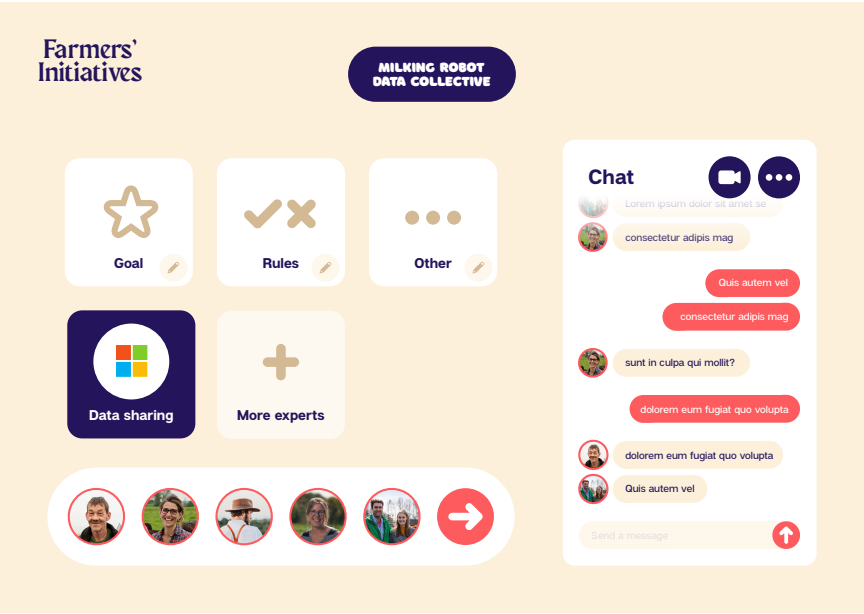


Figure 38 Visualisation of segregated groups and group space

Role Rabobank

Rabobank is an embedded player in this platform. In this role, Rabobank will be able to do what the bank is good at; providing financial services and financial advice (Figure 39). Because this role is very close to Rabobanks current role, *role expectancy* (Chang et al., 2013) is affirmed and the role fits Rabobanks skills and attributes. The legitimacy of this role is high because of Rabobank's reputation in this area and trust will be attributed to Rabobank in this role. This will help users of the platform understand the motivation for Rabobank to be a part of a platform like this.

Figure 39 Rabobank and other experts in the platform

Farmers have indicated to want to innovate, but plead themselves unable because of a lack of resources. This is where Rabobank has a unique possibility to support farmers and their initiatives. Rabobank as embedded player inside the platform places them very close to the groups of farmers. This will enable Rabobank to quickly support the emerging initiatives by farmers.

Another role that is very applicable to Rabobank's position towards farmers is being a connector for farmers and the platform. Farmers can be quite conservative and struggle with new innovation and technology, which create a high threshold for farmers to participate. Rabobank is very uniquely positioned to convince farmers to take that trust leap. Rabobank has a lot of clients that they interact closely with though an accountmanager. This person is the perfect person to introduce such a platform and help them work with it. Trust will be generated through interpersonal interactions between accountmanager and farmer. Demonstrating what value it can have for farmers is essential for farmers to start using it themselves.

Role Farmers

The role farmers will take in this platform will mainly be motivated by *individualising* (koenders 2018), which describes a customers motivation to reach their goals. While doing so, they might also be motivated by *resources*, because the platform also enables for the exchange and share of resources such as machinery. Also less tangible resources such as emissions can motivate farmers to join the platform. When the farmers have joint a group, they will perform a *co-interactor* role, in which they offer resources (data or other insights) to better the service offering of the platform. The experts in the platform perform a *motivator* role, as they support farmers in the platform to reach their goals.

Distributed Trust

The platform solution enables distributed trust between farmers (Figure 40). In stead of trust being attributed to an institution like Rabobank, the majority of trust from the platform will be generated by the farmers themselves. Explicitly placing powerful institutions outside a position of power helps here. Institutional trust is still necessary when an expert is appointed for a specific task.

Botsman (2017) argued for distributed trust systems to be democratic, equal and transparent. The concept aims to define goals and rules though democratic decision processes in the segregated groups. All farmers are equal on the platform and connect to one another based on their intrinsic motivations or other requirements (such as scale, location or type of farmer). Transparency in the platform is demonstrated though the explanation of roles and a clear indication of user interface elements.

Figure 40
Visualisation of one of the groups formed by farmers

Common Goals

The platform will enable farmers to define their own goals from their intrinsic motivations. This will empower farmers to take matters into their own hands, breaking free from the system in which they work and are kept small and held within a box in the value chain. The platform enables for the creation of tailor-made coalitions with their self-determined goals. Common goals between farmers and the responsibility for them, which is shared among group members, automatically generates motivation for farmers. (Teicher et al., 2006)

The platform also aims to facilitate ways for farmers to provide evidence for the things they are doing. As we have seen before, the farmers work with performance pressure from buyers and consumers, legislation and society at large. This evidence will give them a solid answer to the many questions that are asked in the current public debate. Collaboration between farmers will also enable a sustainable use of resources. Through the platform, farmers can share resources and make them more effective in use.

Rules and Norms

After a clear goal has been established, rules can be deducted from that. The goal will serve as a sort of framework in which the rules fit. It is important that these rules only apply within this group and are therefore not universal to the platform. Enabling farmers to create their own rules strengthens the feeling of autonomy and independence from Rabobank, see Figure 41.

Figure 41
Goals and rules can be established and changed at any time

After some time, social norms will also emerge. These will especially be fostered though the promotion of group identity and interactions between group members. (Riegelsberger et al., 2005) It is therefore very important that the members of a group feel ownership over the group space (interaction space in the platform.) This can be created by personalisation (such as the creation of a specific group name) and communication channels (such as chat and video availability.)

Experts in the platform

It was explained by farmers that they needed some other experts too when dealing with their challenges. That is why the platform enables for a variety of experts to support their goals. Some of them offer a system, like Microsoft that could facilitate a data sharing system. Others, like Rabobank or AKD (example of a legal aid company) could help farmers with advise and expertise. These experts do not take part in the groups as equal player, but merely take a facilitating role when they are appointed, see Figure 42. They have acces to data in the groups only when data is explicitly shared with them. The experts ask for a fee for their services or advice and are not directly allied with the organisation of Farmers' Initiatives.

Governing Structure

The platform solution empowers and connects farmers. A cooperative structure might work very well for the generated groups of farmers inside the platform. Farmers make connections inside the platform towards achieving a common goal. When they join forces and create a group dedicated to that cause, a specific group is formed. Farmers inside these groups will hold full authority over the group, and will determine the norms and rules. It will also enable Rabobank to translate their cooperative heritage into something tangible that farmers can actually use. Farmers are very used to working in these type of structures and it therefore will resonate well with farmers. Trust in this way of working naturally exists because they have a repertoire of other cooperatives that they are a part of. Setting up the platform with a cooperative structure will also show benevolence from the organisation to farmers.

Figure 34 visualises the structure of the platform that can be seen as a combination between a facilitation and advice. A facilitating party will make sure the platform runs and other organisations are embedded and perform an advisory role.

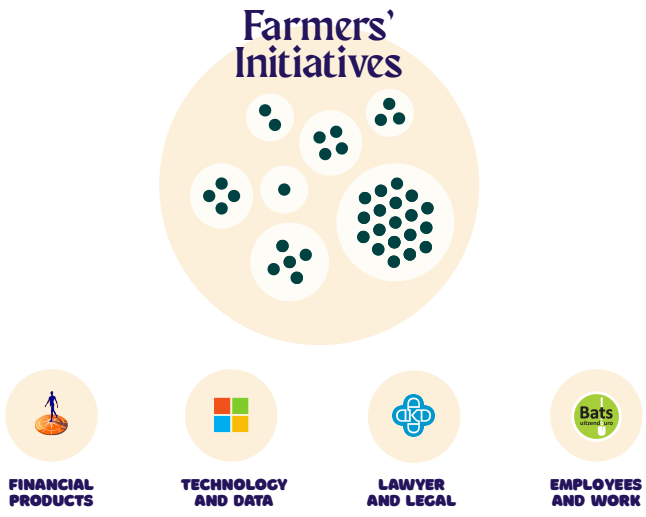


Figure 42
Visualisation o the structure of the platform

The platform is owned by an independent organisation that is not allied to any of the companies of the experts. Their task is to make sure the platform runs and works as it should. Their role should be clearly stated and communicated to farmers. Because the platform serves the agricultural sector, it makes sense to involve people from the sector. Especially *trust influencers* (Botsman, 2017) that have the ability to influence farmers and create new social norms are important. These influencers are socially- (and sometimes institutionally-) embedded and therefore have a unique position to influence farmers. When they are accepted as early adopters, many others that trust them will follow.

The platform cannot be owned by, for example, Rabobank. The consequences of trust of this role are catastrophic when we look back at a similar setup that was described in chapter *Roles and Consequences*. The setup *"Rabobank acts as an equal player inside a self-organised open-ended platform"* (p. 66) shows that the owner of a platform that also performs an embedded role has a very powerful stance. This powerful stance does not create trust and their double positioning is a reason for mistrust if we look at the Amazon example on that same page.

The independent organisation that runs the platform takes care of managing the platform, but has no internal stake in the collected data or generated insights. Still, there will exist an asymmetry of power between organisation and farmer. The organisation potentially holds all power and can claim authority. It is important to be aware of this imbalance and the organisation should be designed in such way that it will not develop a position in which the data or insights can be used for self-serving purposes.

Technology provider

Microsoft (or any other technology provider) can be appointed as technology provider in the platform to create contextual trust in the data processing and interpretation. The role of this technology provider should be neutral, and should not have a stake or benefit in the data and insights inside the platform. Their embedded role takes care of both providing a trust in the technology, whilst remaining as neutral as possible.

Setup *"Rabobank appoints and governs an external party as centralised actor in a self-organised platform"* mentioned in chapter X describes the role of a technology provider very well. In this setup, an external party is appointed to perform a certain task. In this case we have Microsoft that is appointed to process data. The distinction between *data processor* and *data controller* are very important here. Data control will solely lie with the farmers, and Microsoft will not own any of the data. Goal and means for data processing are determined by farmers. Microsoft is only appointed as data processor, which only allows them to process the data without claiming data or insights for themselves.

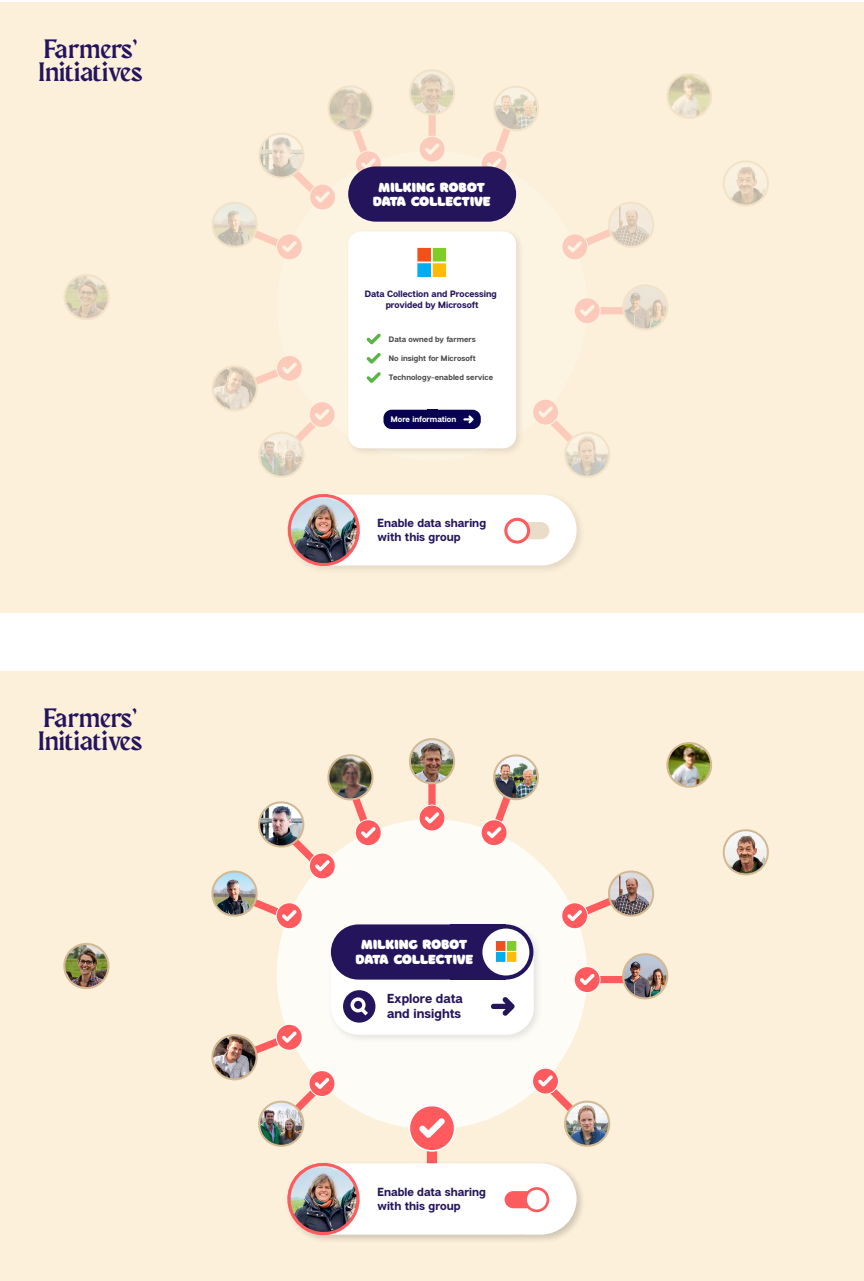


Figure 43 Visualisation of authorising data transfer to a technology provider

As Muir (1987) explained, it is very important for technology to explain its intent of their actions and where the boundaries of autonomy lie. The concept aims to clearly describe the way in which Microsoft manages the data (Figure 43). It is also clearly stated that Microsoft does not own the data and that Microsoft has no insight in the data (Figure 44). This seems strange, but can be accomplished through technology. Mechanisms such as *multi-party computation* (p. 59) that were discussed before offer these benefits. It is important to consider that Microsoft will still hold a more powerful stance than farmers inside the platform. Trust in the company and their way of working will eventually make farmers use the service.

Figure 44
Contextual trust signals in data sharing with Microsoft

Local and Global

We have seen that many of the challenges farmers face live locally. That is why farmers must be able to create local groups as well as global ones. Both collaborations are different in nature, so are their goals. Local collaborations will probably focus on local issues and challenges, and will enable farmers to collaborate also on physical resources. Global collaborations will much more make use of intangible assets such as data, knowledge and insights.

Study Clubs

Many farmers already share data with a small group of acquaintances in study clubs. This is a very trusted way of sharing data because the group only exists of socially and temporal embedded people. Also the scale and medium of data-sharing might feel easy to oversee. Sharing data with strangers though a technology service might feel much more risky. That is why the platform enables farmers to create their own groups in which they can share data. This actually really resembles the study club structure, but also enables farmers to look further then their own closed community.

In this case the *California Roll Principle* (Botsman, 2017) is applied to data sharing for farmers. Something very familiar from the farmers—the study clubs—are taken as a means of explaining the mechanisms of the groups and the platform. This "bridge" can be used by accountmanagers and other people that want to involve and educate farmers about the platform.

Design Aesthetics

Li et al. (2010) mentioned usability, customisability and interactivity as important considerations for online environments. The final concept has been visualised in a way that aims to focus on all three. The structure of the platform aims to focus on what is important while maintaining a simple and clear overview, example in Figure 45. Unnecessary and complicated functions are not included so that the features and their value take center stage. Extra care and consideration was given to the visualisation of data, and the way authorisation and warrant was provided to others.

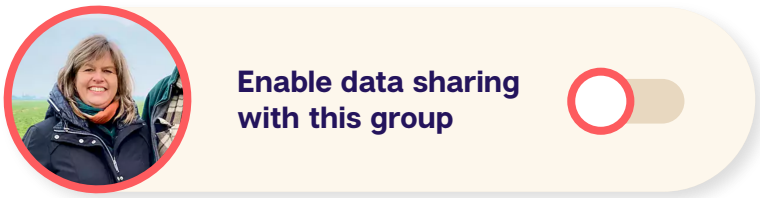


Figure 45 Clear and understandable user interface elements

Strategy for Trust

This strategy aims to instruct designers about how trust can be designed for new propositions for Dutch farmers. Especially in the context of collaboration and data sharing. Even though the research has partly been done in the context of a data sharing platform for farmers, I believe these findings can be extended beyond a platform. This strategy defines a step-by-step roadmap towards building trust, created by both contextual and intrinsic trust signals and mechanisms. The strategy is visualised in Figure 46 and elaborated upon below.

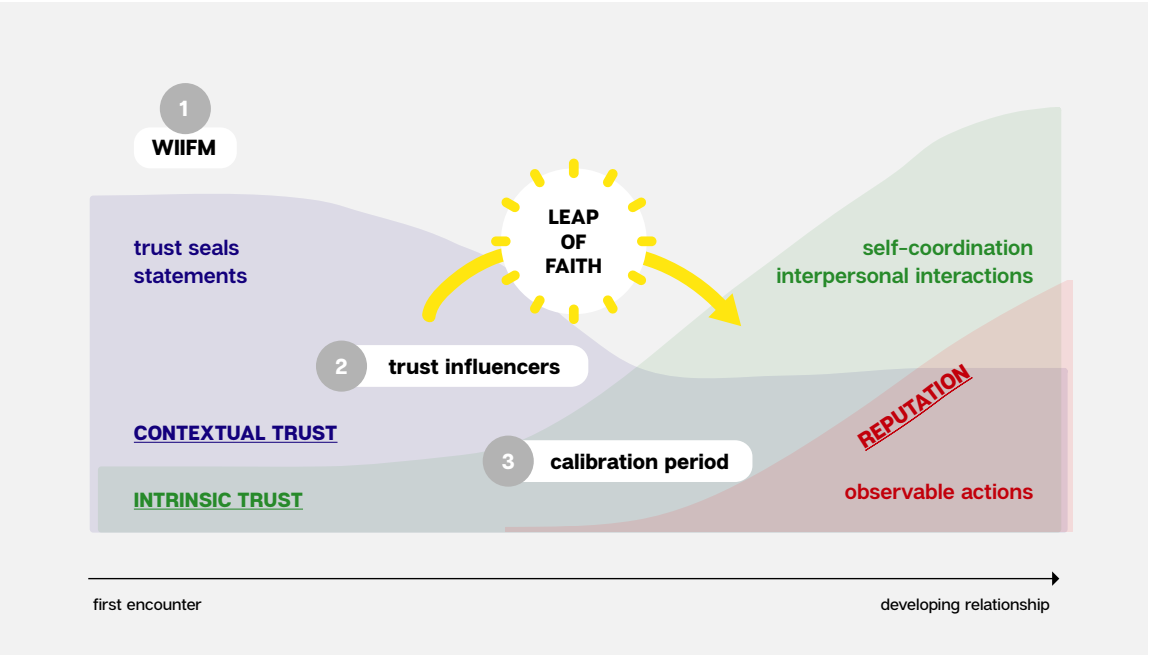


Figure 46 Strategy towards creating trust in a system for farmers

WIIFM

Before a farmer even considers joining in on a new proposition, it must be made very clear *'whats in it for me?'*. Farmers are entrepreneurs that are driven by economic pressure, and it is important to clearly communicate the benefits of the platform. It could help in this stage to use *outsider frames* (Schnackenberg et al., 2016) to communicate benefits of the platform.

Contextual Trust Signals

Especially in a first interaction with the proposition, it can best be accomplished though contextual trust signals such as trust seals and statements. In this stage the platform aims to prove its trustworthiness through *integrity*. Statements help to publicly state a commitment or goal that informs the farmers about Rabobank's intentions.

Trust Seal

Lack of trust in Rabobank to run a data-driven service can be compensated by a trust seal from a technology provider. The reputation of a technology provider could be transferred onto the platform through the trust seal and will help establish trust in the technology of the platform. This helps farmers trust in the platform through *ability*.

Calibration Period

Besides explaining what it can do for farmers, a more effective strategy might be to demonstrate what the platform can do through a *calibration period* (Muir, 1987). This can be accomplished though intensive support and assisting the farmers though the new proposition, so that they get acquainted with the technology and know how to use it themselves. Especially because farmers indicated that they need this kind of support, especially with new technological advancements. This will empower farmers to see opportunities and start to take matters into their own hands.

Trust Influencers

Another strategy that can be used to create trust throughout the agricultural sector is by using *trust influencers*. Prominent and trusted figures in the sector can be onboarded and involved in the start-up of the platform. Especially enabling them to pursue their own goals right inside the platform would work well. This would demonstrate the way the platform works as well as the value it can produce. This is also beneficial for these initiators, because they will be given a platform to reach their goals whilst collecting other farmers in the process to collaborate with.

Autonomy

When farmers have become acquainted with technology and potential of the platform, their own autonomy rises. They can start to define their own goals and work with the proposition to improve or innovate. This is very important for the farmers. They do not want to rely on big players in the agricultural sector for innovation and progress. Their drive for autonomy is fuelled by their entrepreneurial spirit, and works very well for uniting farmers for a common cause.

Leap of Faith

Once enough trust has been created by contextual trust signals and the farmer has a good understanding of the proposition, a leap of faith can take place. This happens when the farmer decides to take a chance and trust in the proposition. After the leap of faith, trust comes more easily and very different. Now, contextual trust signals are less effective because they have served their purpose.

Intrinsic trust signals become more important and explain intrinsic motivations. In this stage, *trust symbols* gives way to *trust symptoms*, because the concrete actions in the trust relationship become most salient, and the resulting effects of those create trust.

Self-Coordination

Intrinsic trust mechanisms such as independence and *self-coordination* (Riegelsberger et al., 2005) can flourish. These mechanisms go hand in hand with autonomy of farmers. Farmers can use these mechanisms to exercise their autonomy and shape their own goals and challenges.

Building a Reputation

In this stage, a reputation can be built up. Because this is a novel proposition for Rabobank, reputation will be built up from *subjective collectivity*. Farmers start building up a repertoire of interactions with Rabobank and the proposition. After every interaction that reputation is confirmed and reinforced. The visibility of these actions help establish and confirm *ability*.

Intrinsic Trust Signals

With that, it is important to enable for interpersonal interactions and cues between farmers and Rabobank. This will help communicate *benevolence*, as well as deepen their trust relationship. It will make relationships more intimate and it will make sure that the encounters don't feel over-regulated.

Contextual Trust Signals

Contextual trust signals remain important, even after the leap of faith. Especially because farmers indicated that trust in a system that deals with their data needs to adhere to restrictions and rules. The concern that powerful parties will claim their data and use it against them creates the need for contextual trust signals can continuously confirm these elements.

Discussion

As we have seen before, most collaboration between farmers happens with acquaintances and family, is socially embedded and is mainly done close to home. These are all very strong ties that are based on solid trust. A concern in the context of this concept if it will be able to replace this type of trust. Especially because the platform is online and interpersonal interactions are much harder created than offline. With that, farmers might struggle to work with the technology which makes it an even bigger threshold for trust. The benefit of a platform solution is that it collects and transparently presents data. It also enables farmers to collaborate with farmers beyond their own community. The question remains whether trust can be reached that is similar to that in close farmer communities.

Another unanswered question is whether the system is as self-sustaining as it promises to be. Self-coordination and high levels of autonomy promise a way of working that doesn't need additional governance or support. But are farmers determined enough to be able to deal with this? Especially because they have indicated that they already work with performance pressure and do not have much time left for things like these. A platform with high levels of autonomy require active participation, only value will come from it when time and effort is invested. Whether farmers are actually willing to do this has yet to be proven.

The structure of the platform also holds a contradiction. On the one hand it it is designed as an open platform that farmers can use any way they want. On the other hand we see that specific experts have been selected to offer support. A completely open platform would enable farmers to choose whichever expert they want to involve, including other banks. This would diminish the value of Rabobank's role in this setup.

In some of the interviews with farmers it became apparent that farmers expected Rabobank to focus on their core business. Meddling in the farmer's business was expressed as as an illegitimate action, and felt intrusive. Rabobank's true intentions were questioned by the farmers. This demonstrates that setting up a platform like this can potentially backfire and harm the trust farmers have in Rabobank.

Many things remain undefined for the independent organisation running the platform. The reason why none of the experts should own the platform is that it will give them a double position in which they hold a lot of power. This structure is suggested to counteract such a powerful player. In chapter X we have discussed platforms and whether or not they should aim to be neutral. Of course, complete neutrality cannot be expected from any party. It was suggested that people from the agricultural sector should hold positions in the

independent organisation, and it can therefore be assumed that they will act in benefit of the sector. This is a huge trust benefit for farmers, because they might trust other farmers more easily than bankers.

It is still interesting what happens if interests clash and contrasting opinions of farmers meet. How will disagreements between farmers be resolved? Will the organisation running the platform take a stance, or should it aim to be neutral in situations like these? The platform is designed in a way where segregated groups can be formed, and therefore these situations might not even occur. But if you look at the bigger picture it becomes more complicated. What if an initiative is created that works well, but other members of the platform disagree with its goal or way of working. This becomes problematic when members don't want to be associated with the platform because of that. This shows the negative side of an open network in which farmers define their own goals and way of working. It could affect trust in the platform and diminish the potential of the platform.

Conclusion

Rabobank is a bank with a very special relationship with the agricultural sector. Little is left from the small decentralised organisation that supported farmers right within their communities. But the bank still profits from that image to this day, and trust is attributed to the bank because of it. Rabobank's alliance with this sector might feel like a liability now that the sector is so heavily criticised and regulated. As it turns out, this alliance feels involuntary from both sides because farmers are stuck in a structure of loans that are provided by Rabobank over the years.

The growth of the bank has made the relationship between bank and farmer disappear. The only relationship that exists today is manifested in the accountmanager that embodies the trust relationship between farmer and bank. The bank has developed way beyond a bank for farmers and there's no way back. If the bank wants to invest in this relationship it is important to focus on value for farmers, and intentions must be clear. It must be clear who's interest it really serves. Concrete actions could legitimise their reputation and could restore trust in Rabobank.

> "I don't know if the interest of the sector or Rabobank is served here."
>
> Original quote; "Weet ik niet of het dan het belang van de sector of het belang van de rabo vervuld gaat worden."

Rabobank has always been a supporter of the initiatives for farmers. In fact, the Raiffeisen-system was based upon it. Their role has evolved and changes in ways that make it impossible to take that same stance. In this projects I have looked for other roles in which Rabobank can still support farmers in a way that resembles the way the German mayor started the bank. It aims to create collaboration between farmers to reach self-determined goals.

The *Farmers' Initiatives* platform creates a channel for Rabobank to observe what is needed in the farmer community. Because Rabobank is embedded in the system, they are very close to the initiation of these projects and can be involved in an early stage. This is quite similar to what Rabobank's local bank offices used to do, as they served as a way to be "locally embedded"[17], in small rural communities.

The way in which the structure of the platform is designed links back to Rabobanks cooperative heritage. The way farmers interact and work towards common goals resembles a cooperative that is independent and self-sustaining. The platform facilitates a way to collaborate in segregated groups but will not interfere in the things that are undertaken inside them.

[17] Groeneveld, H. (2020, March 24). Skype interview.

The platform leverages the intrinsic motivations of farmers to create goals. The platform facilitates a place to work these out and connect with other farmers. This structure requires a proactive attitude from farmers and assumes that the farmers want to take initiative. In the farmer interviews we have seen that farmers are ready to take matters into their own hands and want to work towards creating new kinds of value. According to the farmers it is collaboration between farmers that will enable such real change.

Figure 47 Trust in Rabobank is affected by the growth of the organisation and alliance with the agricultural sector

Acknowledgements

That went very differently than I would have ever imagined. The first two weeks of the project were spent in Utrecht at Rabobank in some crazy cool VIP lounge that held an innovation team. When everything changed, I found myself working in my bedroom, the shared living room or sometimes at my parents' house. I would like to thank my housemates for dealing with me working at home, day in day out.

I would like to thank Roland, Eline and Linda for helping me on Rabobank's side. Roland is a busy man but still managed to push and inspire the project into what it is now. Eline has been working with me more closely, and I would like to thank her for all advice and personal support. Also Linda was of tremendous help, and made sure everything was arranged and managed correctly.

I would also like to thank Jan and Dirk for the inspiring and refreshing meetings. The way you have supported me during this project helped me to push the project further and seeing a bigger picture. Thank you so much for doing that.

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Appendix

1. Project Brief
2. Interview Guide
3. Archetypical Design based on Contextual Trust
4. Archetypical Design based on Intrinsic Trust
5. Final Concept

3895

DESIGN FOR our future

DOS 3000 13/2/20

TU Delft

IDE Master Graduation

Project team, Procedural checks and personal Project brief

This document contains the agreements made between student and supervisory team about the student's IDE Master Graduation Project. This document can also include the involvement of an external organisation, however, it does not cover any legal employment relationship that the student and the client (might) agree upon. Next to that, this document facilitates the required procedural checks. In this document:

- The student defines the team, what he/she is going to do/deliver and how that will come about.
- SSC E&SA (Shared Service Center, Education & Student Affairs) reports on the student's registration and study progress.
- IDE's Board of Examiners confirms if the student is allowed to start the Graduation Project.

USE ADOBE ACROBAT READER TO OPEN, EDIT AND SAVE THIS DOCUMENT

Download again and reopen in case you tried other software, such as Preview (Mac) or a webbrowser.

STUDENT DATA & MASTER PROGRAMME

Save this form according the format "IDE Master Graduation Project Brief_familyname_firstname_studentnumber_dd-mm-yyyy"
Complete all blue parts of the form and include the approved Project Brief in your Graduation Report as Appendix 1 !

family name	van Beek
initials	O.A. given name Oscar
student number	4971434
street & no.	
zipcode & city	
country	The Netherlands
phone	
email	

Your master programme (only select the options that apply to you):

IDE master(s): ( ) IPD ( ) DfI (★) SPD

2nd non-IDE master:

individual programme: - - (give date of approval)

honours programme: ( ) Honours Programme Master

specialisation / annotation: ( ) Medisign ( ) Tech. in Sustainable Design ( ) Entrepeneurship

SUPERVISORY TEAM **

Fill in the required data for the supervisory team members. Please check the instructions on the right !

** chair	Prof. dr. Schoormans, J.P.L.	dept. / section:	MCR
** mentor	Prof. dr. Snelders, H.M.J.J.	dept. / section:	MOD
2nd mentor	Prof. dr. Vorst, R.R.R. van der		
organisation:	Rabobank		
city:	Utrecht	country:	The Netherlands

comments (optional)

Chair should request the IDE Board of Examiners for approval of a non-IDE mentor, including a motivation letter and c.v..

Second mentor only applies in case the assignment is hosted by an external organisation.

Ensure a heterogeneous team. In case you wish to include two team members from the same section, please explain why.

Procedural Checks - IDE Master Graduation

TU Delft

APPROVAL PROJECT BRIEF

To be filled in by the chair of the supervisory team.

chair Prof Dr J Schoormans date 11 02 2020 signature

CHECK STUDY PROGRESS

To be filled in by the SSC E&SA (Shared Service Center, Education & Student Affairs), after approval of the project brief by the Chair.
The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total: 17 EC

Of which, taking the conditional requirements into account, can be part of the exam programme 17 EC

List of electives obtained before the third semester without approval of the BoE

(X) YES all 1st year master courses passed

( ) NO missing 1st year master courses are:

name date 14-2-2020 signature CB

FORMAL APPROVAL GRADUATION PROJECT

To be filled in by the Board of Examiners of IDE TU Delft. Please check the supervisory team and study the parts of the brief marked **.
Next, please assess, (dis)approve and sign this Project Brief, by using the criteria below.

- Does the project fit within the (MSc)-programme of the student (taking into account, if described, the activities done next to the obligatory MSc specific courses)?
- Is the level of the project challenging enough for a MSc IDE graduating student?
- Is the project expected to be doable within 100 working days/20 weeks ?
- Does the composition of the supervisory team comply with the regulations and fit the assignment ?

Content: (V) APPROVED ( ) NOT APPROVED

Procedure: (V) APPROVED ( ) NOT APPROVED

- the Board asks to make in title more clear what to be done (e.g. building trust.....)

comments

name Mv Meijer date 2-3-2020 signature

Initials & Name Student number

Title of Project

Trust in relationships for Rabobank

project title

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

start date - - end date - -

INTRODUCTION **

Please describe, the context of your project, and address the main stakeholders (interests) within this context in a concise yet complete manner. Who are involved, what do they value and how do they currently operate within the given context? What are the main opportunities and limitations you are currently aware of (cultural- and social norms, resources (time, money,...), technology, ...).

Rabobank is a Dutch multinational bank that operates mainly in the Netherlands and in the Food & Agri sector. The bank operates on cooperative principles, which implies that all stakeholders and customers have a say in important decisions and its strategic course.

The bank is the market leader in the Food & Agri sector in the Netherlands and is publicly committed to becoming the world market leader in this sector. Their strong agricultural roots were grounded in the foundation of the bank. Because of its history and the closeness to these customers, the bank has a very good understanding of the sector as a whole.

Rabobank has a new innovation plan that aims to change the position from a service-provider to a connector. This new position will change the relationships they currently have, as well as create new relationships between the bank and other stakeholders. An opportunity here is to explore these relationships and actively design for them.

space available for images / figures on next page

introduction (continued): space for images

TO PLACE YOUR IMAGE IN THIS AREA:
- **SAVE THIS DOCUMENT TO YOUR COMPUTER AND OPEN IT IN ADOBE READER**
- **CLICK AREA TO PLACE IMAGE / FIGURE**

PLEASE NOTE:
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image / figure 1:

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image / figure 2:

Initials & Name Student number

Title of Project

PROBLEM DEFINITION **

Limit and define the scope and solution space of your project to one that is manageable within one Master Graduation Project of 30 EC (= 20 full time weeks or 100 working days) and clearly indicate what issue(s) should be addressed in this project.

In their new role as connector, existing relationships will change and many new relationships will enfold. All these relationships will have different dynamics and values. Because the new relationships do not exist today, it is hard to imagine the implications and potential of them. We also cannot oversee the system as a whole. How will the all very different relationships be leveraged and managed? The challenge is to maintain trust in the relationships they currently have, even though the nature of the relationship might change.

Creating trust between bank and customer is of paramount importance because the similarity of service offerings between banks. Dasgupta (1988) suggests "trust to cover expectations about what others will do or have done in circumstances that are not explicitly covered in the agreement." This definition is applicable for this context because of the presence of elaborate financial contracts (that are fairly similar for all banks). What happens around those contracts is what creates trust.

If Rabobank is going to experiment with different (new) relationships, it is important to understand that trust comes in different forms; between individuals, groups and organisations. With that, we could add 'technology', because today many relationships are mediated though or even replaced by technology. Trust in these material parts of the relationship could have a big influence on the relationship between bank and customers.

Dasgupta, P. (1988), “Trust as a commodity”, in Gambetta, D. (Ed.), Trust: Making and Breaking Cooperative Relations, Basil Blackwell, New York, NY.

ASSIGNMENT **

State in 2 or 3 sentences what you are going to research, design, create and / or generate, that will solve (part of) the issue(s) pointed out in “problem definition”. Then illustrate this assignment by indicating what kind of solution you expect and / or aim to deliver, for instance: a product, a product-service combination, a strategy illustrated through product or product-service combination ideas, ... In case of a Specialisation and/or Annotation, make sure the assignment reflects this/these.

I will research different ways in which trust is generated in different relationships. From that, design principles will be developed that instruct on how to design for trust in the different relationships. This will come together in a framework dat prescribes design principles for different relationships and helps Rabobank prepare and design for new relationships.

After the framework has been established, several solution spaces will be explored within the Food & Agri sector. Together with Rabobank solution spaces will be chosen, after which I will design for these relationships conform to the framework. I will then experiment with these relationships in different scenarios with stakeholders of the bank in an effort to test the design principles and validate the framework.

With that, one of the solution spaces will be further developed in an effort to illustrate the proposed framework and design principles.

Initials & Name _____ Student number _____

Title of Project _____

PLANNING AND APPROACH **

Include a Gantt Chart (replace the example below - more examples can be found in Manual 2) that shows the different phases of your project, deliverables you have in mind, meetings, and how you plan to spend your time. Please note that all activities should fit within the given net time of 30 EC = 20 full time weeks or 100 working days, and your planning should include a kick-off meeting, mid-term meeting, green light meeting and graduation ceremony. Illustrate your Gantt Chart by, for instance, explaining your approach, and please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any, for instance because of holidays or parallel activities.

start date - - - - end date

TO PLACE YOUR GANTT CHART IN THIS AREA:

- **SAVE THIS DOCUMENT TO YOUR COMPUTER AND OPEN IT IN ADOBE READER**
- **CLICK AREA TO PLACE THE GANTT CHART**

PLEASE NOTE:

- **DO NOT IMPORT XLS OR ANYTHING LIKE THAT, MAKE SURE TO USE AN IMAGE**
- **GANTT CHART WILL SCALE TO FIT AUTOMATICALLY**
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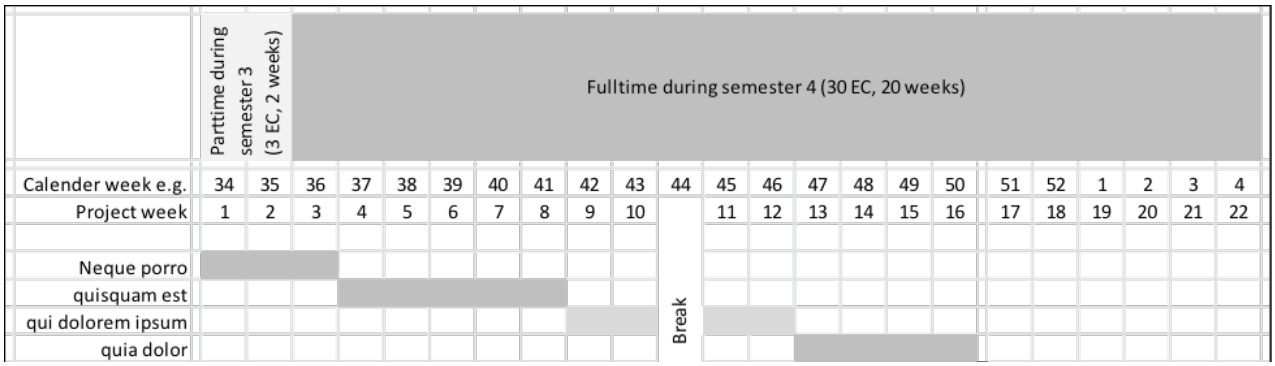
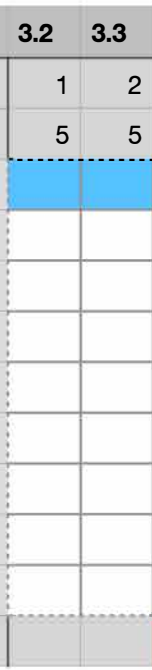
- **IF YOU EXPERIENCE PROBLEMS, COVERT YOUR GANNT CHART TO PDF AND TRY AGAIN**



Initials & Name _____ Student number _____

Title of Project _____

week number	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.10	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	4.10	4.11	5.1	5.2	
week count	1	2	3	4	5	6	7	8	9	10		11	12	13	14	15	16	17	18	19	20	21	total
amount of days working	5	5	5	5	5	5	5	4	4	5		4	5	3	5	5	5	5	5	5	5	5	100
LITERATURE RESEARCH																							
DEFINITION FRAMEWORK																							
SELECT RELEVANT SOLUTION SPACES																							
DESIGN FOR RELATIONSHIPS																							
TEST DIFFERENT SCENARIOS																							
SELECTION OF ONE DESIGN																							
DEVELOPMENT DESIGN																							
TEST FINAL DESIGN																							
CONCLUDE AND REPORT																							
meetings			kick-off					midterm										green	light		graduation		



MOTIVATION AND PERSONAL AMBITIONS

Explain why you set up this project, what competences you want to prove and learn. For example: acquired competences from your MSc programme, the elective semester, extra-curricular activities (etc.) and point out the competences you have yet developed. Optionally, describe which personal learning ambitions you explicitly want to address in this project, on top of the learning objectives of the Graduation Project, such as: in depth knowledge a on specific subject, broadening your competences or experimenting with a specific tool and/or methodology, ... Stick to no more than five ambitions.

Initially, I was very interested in how companies create meaningful connections with social groups. I wanted to research this on a more abstract level, while implementing it in a concrete case. Luckily I found that concrete case in a problem of Rabobank. This will enable me to work closely to the context at hand and reiterate together with the client.

In the course SPD Research I have researched the very abstract topic of design expertise. I look forward to apply this knowledge and experience onto this topic. I will first look at literature, whereafter I conclude the findings in a theoretical framework.

The course Service Design has prepared me for looking at relationships in a holistic way, and gave me tools to explore dynamics and values in relationships. I'm excited to apply these tools in the context of this project.

FINAL COMMENTS

In case your project brief needs final comments, please add any information you think is relevant.

Initials & Name _____ Student number _____

Title of Project _____

Interview Guide - Nederlandse Boeren

INTRODUCTIE

- *Ik ben Oscar en ik doe mijn masteropleiding aan de TU Delft, en ik doe momenteel mijn afstudeerproject bij Rabobank.*
- *Dit interview zal gaan over je bedrijf, hoe je te werk gaat, en hoe je samenwerkt met andere boeren.*
- *Het interview zal minder dan een half uurtje in beslag nemen.*
- *Als je vragen hebt kan je me altijd onderbreken.*
- *Als je het niet weet, of niet wil antwoorden kan je dat altijd aangeven.*
- *Je persoonsgegevens en antwoorden worden geanonimiseerd.*
- *Vind je het ok als ik het gesprek opneem zodat ik het later kan verwerken?*

BOERDERIJ

Ik wil beginnen om je bedrijf iets beter te leren kennen.

- Wat voor een soort boeren bedrijf heb je?
- Wat produceer je?

SAMENWERKEN

- Werk je samen met andere boeren?
  - Zo ja, op welke manier?
  - Waarom doe je dit?
- Zie je hen als concurrentie?
- Welke kansen worden nu nog niet benut?
- Zie jij mogelijkheden om samen te werken met andere boeren?
  - Welke zijn dat?
  - Waarom bestaan deze nu nog niet?
- Wat mist er momenteel om samen te werken met andere boeren?
  - Wat zou de samenwerking kunnen ondersteunen?
- Hoe zou Rabobank hierbij kunnen ondersteunen?
  - Wat verwacht je van Rabobank?
  - Waarom is Rabobank een geschikte partij?
  - Wat is een passende rol voor Rabobank?

REPUTATIE RABOBANK

- Wat is je beeld van de Rabobank?
- In hoeverre voel je je verbonden met de Rabobank?
  - Op welke manier voel je je verbonden?
  - Voel je je als bedrijf verbonden met Rabobank?
- Beschouw je de Rabobank als een bank die is betrokken bij de boeren sector?
  - Waarom?
  - Is dat een probleem?
- Zie je Rabobank als innovatief?
  - Waarom?
  - Zie je de boeren sector als innovatief?

DATA GEBRUIK

- Gebruik je data op je boerderij?
  - Zo ja, welke data sla je op?
  - Tot welk doel sla je data op?
  - Deel je deze data met anderen?
    - Deel je deze data ook met andere boeren?
    - Waarom wel/niet?

CONTEXTUAL & INTRINSIC TRUST

Stel, Rabobank maakt een platform waarin je de boerderij data kan delen met andere boeren. Met als doel samen van elkaar te leren en je prestaties te verbeteren. Bij een platform kan je denken aan een applicatie of website op telefoon, tablet of computer.

Ik leg je zometeen steeds twee stellingen voor, ik vraag je dan om aan te geven welke stelling je het belangrijkste vind.

Vind je het belangrijk dat ...
1. het platform alle data automatisch verzamelt en verwerkt deze tot inzichten die te gebruiken zijn op de boerderij. (Contextual trust)

OF

2. dat je zelf moet kiezen met welke boeren je je data deelt, waarbij verder heeft niemand toegang tot de data. (Intrinsic trust)

WAAROM?

Vind je het belangrijk dat ...
1. dat er bij een interactie met een andere boer een tussenliggende partij ervoor zorgt dat beide boeren eerlijk worden behandeld. (Contextual trust)

OF

2. je met andere boeren data kan delen zonder tussenkomst van een andere partij. (Intrinsic trust)

WAAROM?

Vind je het belangrijk dat ...
1. dat er bestaande regels zijn waar elke boer zich aan moet houden. (Contextual trust)

OF

2. regels en normen automatisch ontstaan door interacties tussen boeren. (Intrinsic trust)

WAAROM?

Vind je het belangrijk dat ...
1. dat de boeren suggesties en tips krijgen bij het gebruiken van het platform. (Contextual Trust)

OF

2. alle boeren zelf hun weg vinden in het platform en niet worden geholpen. (Intrinsic Trust)

WAAROM?

Vind je het belangrijk dat ...
1. de instantie die het platform opzet geen belang heeft bij inzichten en data die in het platform zitten. (Contextual trust)

OF

2. dat de instantie die het platform opzet gelijke doelen heeft als de boeren in het platform. (Intrinsic trust)

WAAROM?

REFLECTIE

Geef een samenvatting van de antwoorden
- Helpen [de antwoorden] voor het ontstaan van vertrouwen in het platform en de samenwerking?
  - Waarom?

AFSLUITING

- Denk je dat Rabobank een geschikte partij is om dit platform te beheren?
  - Waarom?
- Zou je Rabobank vertrouwen met jouw data?
  - Waarom wel/niet?

Dankjewel voor je deelname.
Einde.

Mijn gegevens

Henk Janssen

melkveehouderij

150-200 koeien

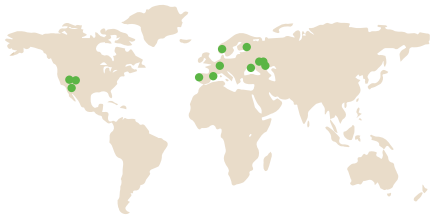
biologisch

melkrobot

+ voeg meer informatie toe

Alleen ik kan deze informatie zien

MELK PRODUCTIE EN MELKEN



- Meer dan 7000 boeren
- Uit meer dan 30 landen
- Anoniem data delen
- Data wordt geverifieerd

Bekijk inzichten →

Jouw data wordt gedeeld

Groepen voor jou

VERKOOPPRIJS EN FINANCIËN

Er wordt geen data van jou gedeeld

Start met delen →

VRUCHTBAARHEID EN GEZONDHEID

- Meer dan 5000 boeren
- Uit meer dan 50 landen
- Anoniem data delen
- Data wordt geverifieerd

Bekijk inzichten →

Jouw data wordt gedeeld

MELK PRODUCTIE EN MELKEN

- Meer dan 7000 boeren
- Uit meer dan 30 landen
- Anoniem data delen
- Data wordt geverifieerd

Bekijk inzichten →

Jouw data wordt gedeeld

GROND EN BEHANDELING

Er wordt geen data van jou gedeeld

Start met delen →

Groepen voor jou:

VERKOOPPRIJS EN FINANCIËN

- Meer dan 6000 boeren
- Uit meer dan 70 landen
- Anoniem data delen
- Data wordt geverifieerd

Meer informatie →

Start nu met data delen

VRUCHTBAARHEID EN GEZONDHEID

- Meer dan 5000 boeren
- Uit meer dan 50 landen
- Anoniem data delen
- Data wordt geverifieerd

Bekijk inzichten →

Jouw data wordt gedeeld

MELK PRODUCTIE EN MELKEN

- Meer dan 7000 boeren
- Uit meer dan 30 landen
- Anoniem data delen
- Data wordt geverifieerd

Bekijk inzichten →

Jouw data wordt gedeeld

GROND EN BEHANDELING

Er wordt geen data van jou gedeeld

Start met delen →

ONDERWERP

BOER

LOKAAL

NETWERK

Waar ben je naar op zoek?

Typ hier trefwoorden waar je naar op zoek bent

Machines delen
Suikerbieten
Gezondheid koeien
Data cooperatie
Mest afzetten
Biologisch boeren
Grond huren
Politieke boeren
Unilever
Campina

ONDERWERP | **BOER** | LOKAAL | NETWERK

Voeg filters toe:

melkveehouderij

150-200 koeien

biologisch

melkrobot

+ filter

We hebben 359 boeren gevonden

Henk Janssen

“Samen voor een eerlijk verdienmodel”

Actief in 3 groepen

Femke van Diggelen

“Biologisch is de enige manier”

Actief in 1 groep

Frans Zalen

“Altijd op zoek naar samenwerkingen”

ONDERWERP

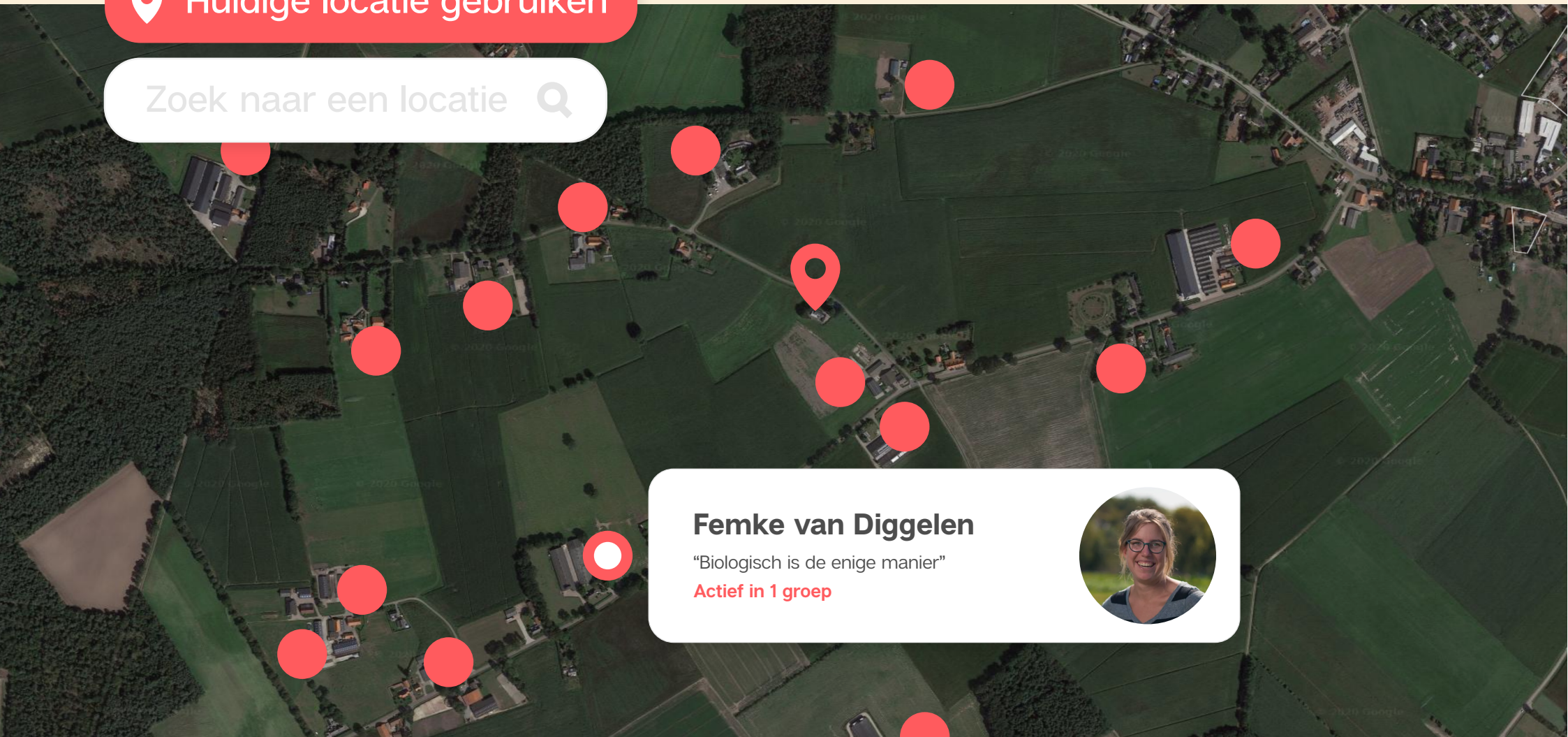
BOER

LOKAAL

NETWERK

Huidige locatie gebruiken

Zoek naar een locatie



Femke van Diggelen

“Biologisch is de enige manier”

Actief in 1 groep

ONDERWERP | BOER | LOKAAL | **NETWERK**

Mijn groepen

Noord-Holland Bio

Noord-Hollandse biologische boeren

13 anderen in deze groep

Data studie club

Henk, Jan en Linda

Henk en Linda zitten in deze groep

Melkrobot Data

Melkrobot data uitwisselen en uitvogelen

8 anderen in deze groep

Mijn connecties

Henk Janssen

“Samen voor een eerlijk verdienmodel”

Actief in 3 groepen

Femke van Diggelen

“Biologisch is de enige manier”

Actief in 1 groep

Frans Zalen

“Altijd op zoek naar samenwerkingen”

Actief in 5 groepen

Mijn groepen

NOORD-HOLLAND BIO

Bekijk inzichten

Jouw data wordt gedeeld

DATA STUDIECLUB

Bekijk inzichten

Jouw data wordt gedeeld

MELKROBOT DATA

Bekijk inzichten

Jouw data wordt gedeeld

Farmers' Initiatives

GOALS LOCAL FARMERS NETWORK

SETTINGS HELP

Find farmers with similar goals:

What are you looking for?

Machines delen Suikerbieten Gezondheid koeien
Data cooperatie Mest afzetten Biologisch boeren
Grond huren Politieke boeren Unilever Campina

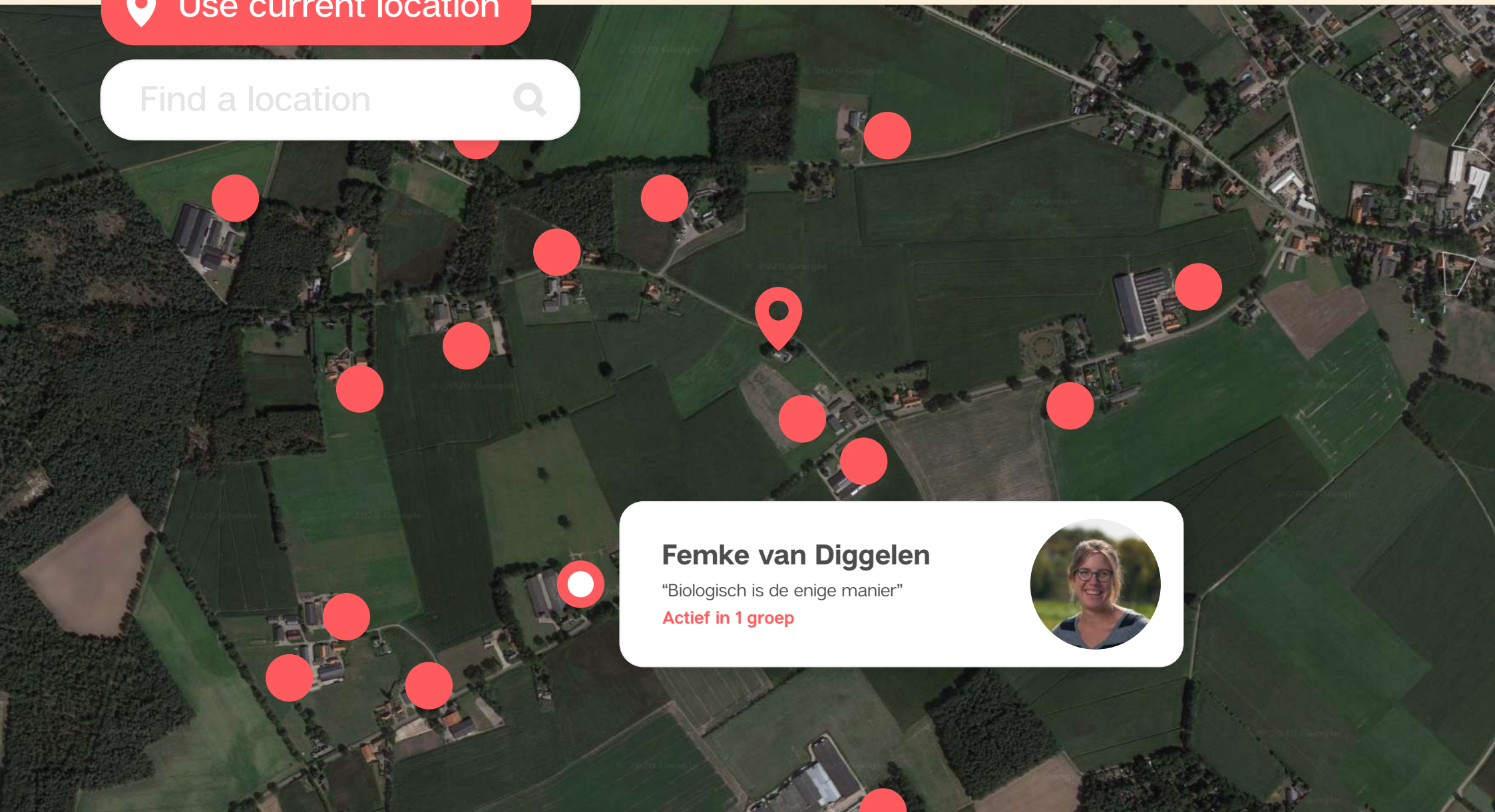
Farmers' Initiatives

GOALS LOCAL FARMERS NETWORK

SETTINGS HELP

Use current location

Find a location



Femke van Diggelen

"Biologisch is de enige manier"

Actief in 1 groep

Farmers' Initiatives

Add filters:

diary farm

150-200 cows

organic

milking robot

+ filter

We've found 359 farmers for you:

Henk Janssen

"Samen voor een eerlijk verdienmodel"

Actief in 3 groepen

Femke van Diggelen

"Biologisch is de enige manier"

Actief in 1 groep

Frans Zalen

"Altijd op zoek naar samenwerkingen"

Actief in 1 groep

Piet en Mia Kelder

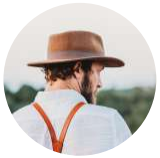
Farmers' Initiatives

My network

Henk Janssen
"Samen voor een eerlijk verdienmodel"
Actief in 3 groepen

Femke van Diggelen
"Biologisch is de enige manier"
Actief in 1 groep

Frans Zalen
"Altijd op zoek naar samenwerkingen"
Actief in 1 groep



Piet en Mia Kelder
"Samenwerkingen in de Beemster"
Actief in 1 groep

Richard Vogels
"Data en inzichten delen"
Actief in 1 groep

MILKING ROBOT DATA COLLECTIVE

KRINGLOOPWIJZER NOORDOOSTPOLDER

ORGANIC MILK NOORD-HOLLAND

Farmers' Initiatives

MILKING ROBOT DATA COLLECTIVE

SETTINGS HELP

Goal

Rules

Other

Data sharing

Add experts





Chat

Lorem ipsum dolor sit amet se

consectetur adipis mag

Quis autem vel

consectetur adipis mag

sunt in culpa qui mollit?

dolorem eum fugiat quo volupta

dolorem eum fugiat quo volupta

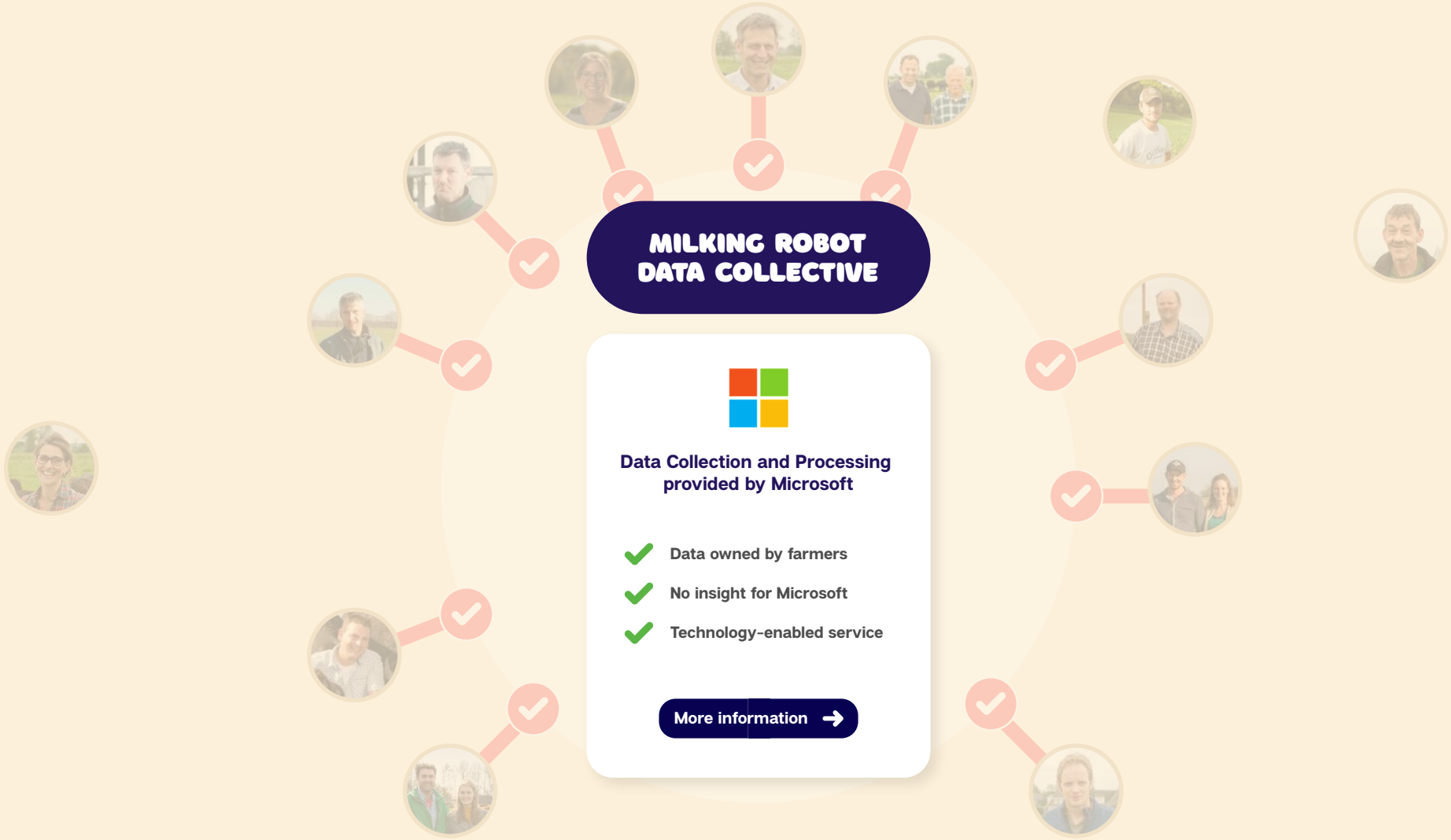
Quis autem vel

Send a message

Farmers' Initiatives

GOALS LOCAL FARMERS NETWORK

SETTINGS HELP



MILKING ROBOT DATA COLLECTIVE

Data Collection and Processing provided by Microsoft

- Data owned by farmers
- No insight for Microsoft
- Technology-enabled service

More information →

Enable data sharing with this group

Farmers' Initiatives

GOALS LOCAL FARMERS NETWORK

SETTINGS HELP