Improving the effectiveness of the high-touch credit approval process

Qredits

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Abstract

Qredits is a non-profit microfinance institution that evaluates credit applicants not only on hard financial data but also on soft objective information. Unlike hard information, soft information is not transferred in the credit approval process. Hence risks that become clear from this information to loan officers are not fully conveyed to decision-makers. No validated treatment can be found in the literature to convey this information in a high-touch credit approval process. This research aims to increase the effectiveness of this high-touch credit approval process. Through a design study, a treatment is designed that codifies soft information based on different aspects and transfers this to the second decision-maker, reducing the asymmetric information gap between the loan officer and the decision-maker. The decision-maker can form a clearer picture of the risks, contributing to more efficient decision-making.

The research has several phases. Firstly, through nine interviews and two observation studies with loan officers, important soft information in the credit process becomes apparent. Secondly, a design is made where this soft information is combined into 19 aspects which can then be assessed. The loan officer must assess these after an interview with the borrower. From this assessment, a soft score is calculated. This score should summarise the assessment. Thirdly, a case study (190 assessments) is carried out to determine if the design can be used. In the fourth and final step, the assessments from the case study were analysed, four risk managers filled out 26 surveys, 12 surveys from loan officers, and an expert interview was conducted to validate that the design contributes to a more effective high-touch credit approval process.

Through this research and mainly the case studies, the conclusion is drawn that the use of the treatment contributes to a more effective approval process.

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1   Introduction

This research is performed at the non-profit organisation Qredits. Qredits has around 110 employees. The organisation's goal is to help entrepreneurs start and grow their businesses. This goal is reached by offering services like training sessions in different areas, coaching, and (micro)credit lending. This last service is their core business. Because most of these loans are relatively small (avg. €21K), Qredits is a Microfinance Institution (MFI). Qredits is located in the Netherlands and has establishments in the Caribbean (St. Maarten, Aruba, Bonaire and Curaçao). Besides that, Qredits participates in other MFIs in Europa. The role of Qredits is to help those organisations professionalise.

Qredits is founded on ideological reasons: The founders noticed that at corporate banks, credit applications got rejected because the applications were too small or too risky. Small entrepreneurs like starters or self-employed workers often do not have enough guarantees or financial data (JianHua & Tao, 2010). Qredits is founded to serve precisely these customers. If credits can be obtained at the bank, then Qredits encourages this. However, most of the time this is not the case. Qredits tries to increase financial inclusiveness in the Dutch credit lending market. Sarma and Pais (2011) mentioned financial inclusiveness as a process that "ensures the ease of access, availability and usage of the formal financial system for all members of an economy". The lack of financial inclusion in the financial landscape is the reason for the establishment of Qredits.

Qredits can provide these small risky credits because Qredits' funding partners are guarantors. This means for Qredits that if a creditor can not repay his credit (going default), the foundations will pay a percentage of the outstanding debt. Hence, little attention is paid to collateral during the customer's application assessment (screening). Other factors that exclude a priori, as with banks (for example, age or low solvency), are also less crucial. As a result, the application and the entrepreneur behind the application are examined during the screening. For example: If a starting entrepreneur has an adverse credit score[1], the application is not immediately declined. The applicant's business plan and entrepreneurial skills are also considered. The applicant can explain and give context to the adverse credit score. Based on this so-called *soft information*, the risks of lending credit to the applicant should become clearer, and an application could still be approved. Lipshitz and Shulimovitz (2007) describes two general risks to the borrowing party:

1. **Moral hazard:** Not discovering an untrustworthy borrower. For example, a borrower who does not borrow for the stated purpose or applies for a loan but has no plans in advance to repay it.

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[1]In Dutch: *BKR-score*.

2. **Adverse selection:** Approving a credit from an unworthy borrower (a borrower who cannot repay it in full). Being unable to repay can have many different causes, for example, due to wrong choices by the borrower resulting in less revenue being realised in than described in the forecast.

Banks try to avoid both risks as much as possible by imposing requirements on the borrower. For example, having high equity (reduce risk 2) or not being allowed to have a negative credit history (reduce risk 1). Qredits, by contrast, try to expose these risks as much as possible by collecting much qualitative information (later called soft information) and, in case of irregularities (e.g. negative credit history), engaging with the customer and listening to their explanations. With this approach, Qredits seeks to increase financial inclusiveness. This approach is known at Qredits as the *high-touch* approach. High-touch is defined by Cambridge University (2021) as "**Involving personal attention and service**". Apte and Vepsäläinen (1993) describes high-touch as human-centred channels that build on systems which provide data recording and document processing. High-touch becomes visible in the principle of *relationship lending*. Berger and Udell (2006) describes multiple lending 'technologies', including relationship lending. According to them, relationship lending is the reliability of soft information gathered through direct contact (face-to-face or video calls) with the applicant. The aim is to address information opacity problems. In other words, loan officers assess the risks by collecting soft information face-to-face with the borrower.

The context of this research differs from that of research conducted at mainstream financial institutions like banks. As mentioned earlier, Qredits differs from banks by their high-touch approach. However, this does not mean that this study is only relevant for Qredits. This research will also apply to other relationship lenders who strive for financial inclusiveness, like MFIs. It is good to realise that Qredits does not have the intention that the customer has to persuade them to grant financing. Qredits wants to investigate, in cooperation with the customer, whether financing is possible.

1.1 Problem identification

Due to the high-touch approach and the discretion of loan officers[2] at Qredits, it differs per loan officer which information they unravel at the applicant and which information they take into account. Interviews with Qredits' loan officers have shown, for example, that the chances of rejection are higher if the house does not look tidy during the home visit

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[2]The representative of Qredits who assist borrowers during the credit application process (Kagan, 2020)

with loan officer A. However, loan officer B does not focus on this at all. As a result, the outcome of each application assessment (screening interview) can differ because each loan officer collects different information. This difference in outcome is also reflected in the conversion ratio (screened applications/approved applications) among loan officers. The interquartile range (IQR) of the different conversion ratios is 21%. This difference increases the risks of rejecting a worthy applicant (false-negative) or approving an unworthy applicant (false-positive). The first will be more common among loan officers with low conversion rates as those loan officers are more likely to deny. The second will be more common among loan officers with high conversion rates. Those loan officers are more likely to approve the credit application. Soft information is currently not stored. Therefore there are no insights into:

- The soft information that has been collected.
- The impact of this soft information on the credit decision.

For this reason, it is also difficult to reflect on the loan officers' credit decisions and whether they estimated the risks properly. The missing insights make the high-touch screening process part mainly a black box.

There are two 'flavours' regarding the power of judgement in the credit application process. The loan officer can approve or deny a credit application for less risky applications. In the other case, the decision has to be made by a so-called risk manager. The risk manager makes the decision based primarily on financial data provided by the loan officer. There are regular conversations between the risk manager and the loan officer. However, it turns out that it is not easy to convey the sentiment experienced by a loan officer. For example, a risk manager mentions that he sometimes hears, 'I can see the entrepreneur do it'. However, the loan officer then finds it difficult to indicate why he sees the entrepreneur 'do it'. In contrast, this high-touch part is essential for relationship lenders like Qredits. Especially in a case of doubts. So the risk managers also experience the black box.

Because there is no knowledge of the usage of soft information at Qredits, it is also unclear whether the soft information and the accompanying screening interviews and visits are valuable for providing credit. Due to technology and available data (e.g. digital footprints), FinTechs[3] are starting to become more and more of a competition and even challenge the traditional financial institutions (Berg et al., 2020; McKillop, French, Quinn, Sobiech, & Wilson, 2020). Credit can be provided cheaper, more secure, easier and faster (M. A. Chen, Wu, & Yang, 2019;

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[3]"Lenders that offer an application process that can be completed entirely online" (Fuster, Plosser, Schnabl, & Vickery, 2019)

Fuster et al., 2019). However, this does not affect the screening quality (Fuster et al., 2019). As FinTechs are lenders that offer their services online, there is less focus on soft/relation-specific information. Collecting soft information costs more time and, therefore, money. Peer to Peer platforms[4] are both substitutions as complements in small-loan providing for banks (Tang, 2019). Currently, Qredits is also a complement for banks. Therefore Qredits and other MFIs have to reconsider their business model. As McKillop et al. (2020) also mentions: "Now is the time to connect practitioner led and academic research to aid understanding of the challenges posed and opportunities offered by FinTech". However, this connection could only be made if Qredits had a clear picture of its current credit approval process. Essentially, this starts with examining whether soft information is as valuable in the credit approval process as it has been in the past.

In short, because soft information is a black box in the credit approval process, actual credit decisions may differ and have been made with too little information.

1.2 Goal of research

This research aims to increase the effectiveness of the high-touch credit approval process using soft information. The effectiveness of this process for Qredits is increased if the risks are clear. Risk can become clearer if the collected soft information is known to both the loan officer and the risk manager. The treatment for increasing the effectiveness, in this study, is the usage of a soft screening module that allows the loan officer to assess the applicant based on soft information. Clarifying risks is not the only thing that will make the credit approval process more effective. By collecting soft information, it should be possible to carry out analyses with it. Concrete conclusions from analyses can be used as input to draw more attention to certain aspects. Over time, this would help increase effectiveness. An example of an analysis is the consistency of the soft information and all approved applicants with payment problems.

Summarising, the goal of the research is to **improve the effectiveness of a high-touch credit approval process by designing a soft screening module for assessing an applicant.**

1.3 Research questions

The question arising from the goal above is:

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[4]Peer to Peer is a FinTech category (M. A. Chen et al., 2019)

How can a soft screening module improve the effectiveness of a high-touch credit approval process?

To answer this question, it is first necessary to clarify what is currently written in the literature about the use of soft information in a high-touch credit approval process so that there is a better understanding of how a soft screening module can be used. It can also provide insight into how soft information can be effectively incorporated into the credit approval process. Therefore, sub-research question 1 (SRQ1) will be:

SRQ1: *What research is currently available regarding using soft information in a high-touch credit approval process?*

Without knowledge of soft information collected by loan officers, it is impossible to discover:

- what the importance of this information is,
- what the differences between loan officers are,
- what the requirements for the soft screening module are, and
- how this information helps to make the credit approval process more effective.

Therefore, it must be clear which soft information the loan officer collects. Sub-research question 2 (SRQ2) will be:

SRQ2: *Which soft information do loan officers collect?*

There is a problem in transferring soft information between the loan officer and the risk manager. It needs to become clear how relevant soft information can be transferred. Therefore sub-research question 3 (SRQ3) will be:

SRQ3: *How can soft information be made known to interested parties?*

1.4   Scientific relevance

Other relationship lenders like Qredits must also look at how they can keep up with the changes that FinTechs bring. Therefore, it is also important that their credit approval process is effective. Therefore the black box will first have to be broken open at these organisations as well. Uchida, Udell, and Yamori (2012) argues that loan officers are a critical part of creating soft information. Unfortunately, it is not possible with this research to say how much influence the soft information has on the approval because they only measure how much knowledge the loan officer has about: the firm and business; the managers and owners; the firm's industry; local community; market. Hence, it is not

at all possible to assess the value of each piece of gathered information separately. Besides that, the study of Uchida et al. (2012) is done from the perspective of the debt holders instead of the financial institution.

Berg et al. (2020) note that future research might investigate "whether the type of information contained in the digital footprint supersedes or substitutes for relationship-specific soft information". However, in order to do this, it will first have to become clear how soft information is used during the credit approval process. There is certainly a lot written about soft information in the current literature. However, there is little concrete information on which soft information is used and what the effect of this information is on the credit approval process. This knowledge will be a valuable basis for social and financial studies. For example, for a study that wants to determine the value of soft information on specific target groups like women, foreigners or young entrepreneurs. Providing a treatment for the disclosure and use of soft information will not only increase the effectiveness of Qredits' credit approval process but will also lay a foundation for these future studies.

1.5   Structure of research paper

This paper is structured as follows. In section 2 the methodology of this research is described. In section 3 SRQ1 will be answered. Besides that, the current credit approval process of Qredits will be described and visualised. Then SRQ2 will be answered in section 4. The answer of SRQ3 will be answered in section 5 in form of a design of an artefact. This artefact will be validated in section 6. The conclusion and answer on the research question is described in section 7. This is visualised in Figure 1
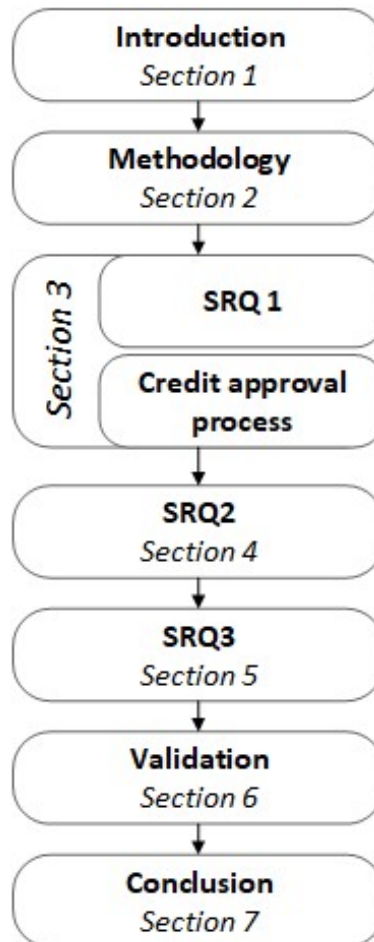
Figure 1: Structure of research paper

2   Methodology

A research methodology will need to be chosen to achieve the research goal. A design science methodology is preferred in this research since a treatment will be created. Within information systems research, Design Science Research Methodology (Peffers et al., 2007) is a logical choice. The methodology describes six phases and four research entry points. This research will enter directly at the start and is, therefore, a problem-centred initiation. In Figure 2 (five of the six) phases, goals and methodology are visualized.

	Problem description		Prototype	
Phase 1: Problem identification	**Phase 2: Defining objectives**	**Phase 3: Design & development**	**Phase 4: Demonstration**	**Phase 5: Evaluation**
	Objectives		Results case study	
Section 1	Section 3 & 4	Section 5.1	Section 5.2	Section 6
Goal: Discover problem and the value of a treatment.	*Goal:* Define objectives by answering SRQ1 & SRQ2.	*Goal:* Design and develop a treatment for the problem (SRQ3).	*Goal:* Demonstrate working of treatment by solving instances of the problem	*Goal:* Determining how well the treatment works
	Methodology: - Literature review - 9 Semi structured interviews - 2 Field observation studies		*Methodology:* - 2 Expert opinions - 190 Case studies	*Methodology:* - Survey among decision makers - Survey among loan officers - T-test analyses

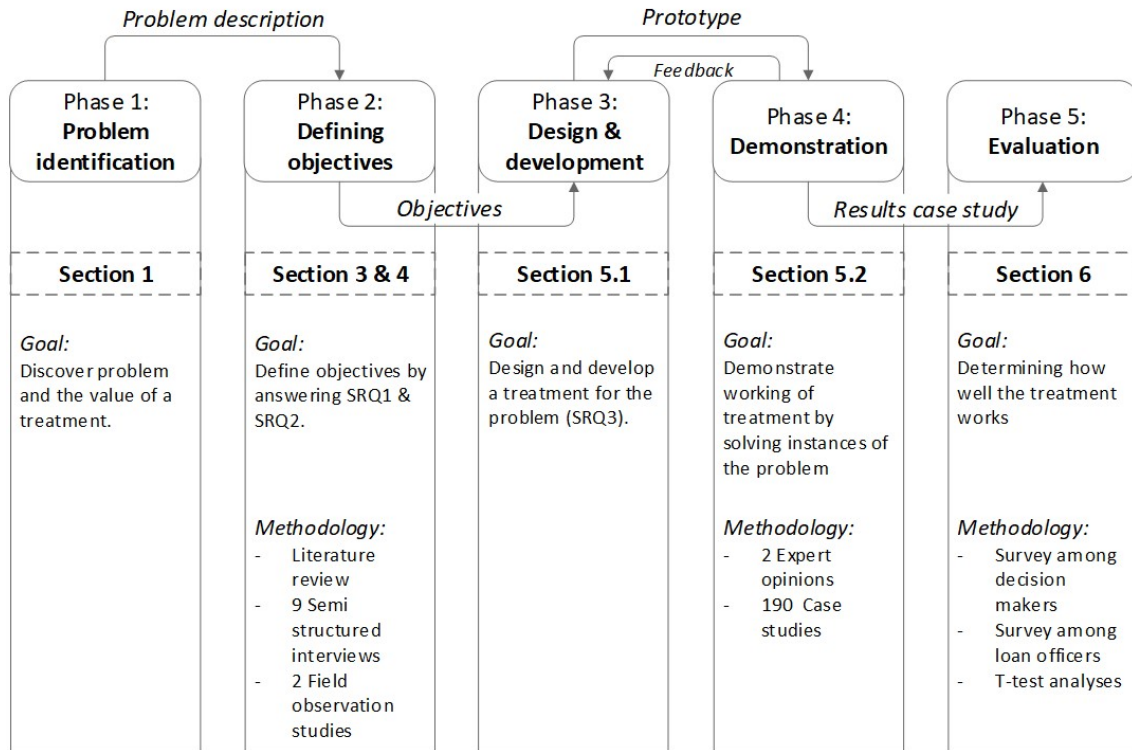*Figure 2:* Methodology visualised. Based on DSRM of Peffers et al. (2007)

The first phase is the *problem identification phase*. The questions answered in this phase are:

- What is the problem to be solved (at Qredits)?
- What is the value of a solution?

Peffers et al. (2007) recommends breaking the problem down into small parts to reduce complexity. The problem is described in section 1.1.

To arrive at a design that serves as a treatment for the problem, first must look at what is written in the scientific literature about the usage of soft information in a high-touch credit approval process. For this purpose, SRQ1 will be leading. An answer to this question will be given in section 3. This section also describes Qredits' current credit approval process and the differences between hard and soft information. This information will then be used to compile objectives for the design. The basis of the theory is the research conducted during the research topics program at the University of Twente. During this course, a literature review is carried out. When answering SRQ2 it becomes clear what soft information loan officers gather. This answer is answered utilizing nine semi-structured interviews. Seven interviews were conducted with loan officers, one with a risk manager, and one with an employee of the recovery department. Besides that, four screening interviews were attended during field observations. All interviews are summarised with a focus on the (soft) information loan officers collect during the screening. The outline for these interviews can be found in Appendix A. The answer to SRQ2 can be found in section 4. The answer can be seen as part of the *Defining objective phase*. This answer will namely be used as input to the design.

The third phase is the *design and development phase*. In this phase, the artefact's design will be created based on the questions answered in the second phase. The goal is to create a treatment for the problem and achieve the objectives. A prototype is developed for demonstration purposes in the next phase.

In the fourth phase, the treatment will be *demonstrated*. The central question is if the artefact works as designed and contributes as a treatment for the problem. This question will be answered by showing and implementing the treatment. Based on expert opinions and feedback from real-world case studies, the design is updated. This process is described in section 5.2.

The key question in the last *evaluation phase* that needs to be answered is: how well does the artefact solve the problem? Unfortunately, it is not yet possible to measure whether the artefact impacts the false positives at Qredits. As this is related to the borrower's payment behaviour, it can only be evaluated in future years. What can be investigated is to what extent it affects the approval process of Qredits. After the case study, a survey is conducted among actual decision-makers. This survey must reveal to what extent the artefact affects their risk assessment. Loan officers also receive a survey after the case study to evaluate the impact of the artefact on the screening process. Besides, data from the artefact is analysed to determine if approvals and denials

significantly differ with good or insufficient soft information. Lastly, an expert with more than 12 years of experience in the relationship lending industry has given his opinion about the treatment. A conclusion can then be drawn whether the artefact has created a more effective high-touch credit approval process.

Wieringa (2014) describes two lines of reasoning to scale the design up from idealised laboratory conditions to conditions of practice. The first one is **case-based inference**. Qredits is not the entire population for which this research is taking place, but an excellent unambiguous sample since they are the leading microfinance institution in Europe (Korynski & Stulen, 2019). Because the treatment is validated in the 'real world', it can be stated that the validation has practice conditions. The second line is **sample-based inference**. Of course, the treatment is only validated at one organisation, but during the validation, many applications, different loan officers and risk managers have worked with the treatment. Therefore, the treatment validation has different samples instead of a single case. Of course, validating the treatment with other organisations would be even more valid, but time and space are lacking to implement and validate the artefact at other parties.

3 Background

In this section, first, the characteristics of hard and soft information are described. The difference between the two kinds of information and the difficulties of 'harden' soft information is made known to the reader. In the next section, the approval process at Qredits is described. This section will be closed with a description of the current use of soft information in a credit approval process.

3.1 Hard- and soft information

The concept of soft information has been mentioned earlier in section 1. The counterpart of soft information is *hard information*. In financial literature, these are common terms used to classify information. Liberti and Petersen (2019) wrote a paper intending to survey the literature on hard and soft information. They mentioned the following: Hard information is quantitative, meaning that hard information is mostly stored in numbers. Soft information is mostly stored in text and could be, among others, many things: opinions, market commentary or economic projections. However, Liberti and Petersen (2019) did not mention other kinds of media like audio or pictures. The underlining meaning of 'textual stored' and 'stored in numbers' is that the information's semantics are not standardized. The semantics are mostly based on context.

According to (Liberti & Petersen, 2019; Goddard, Mannion, & Smith, 1999), classifying information as hard or soft is more of a continuum. However, no literature describes this continuum. Papers that classify information use a nominal scale. For example, in the paper of Y. Chen, Huang, Tsai, and Tzeng (2015), a soft/hard classification is made if the piece of (financial) information is based on *objective* facts or a *subjective* interpretation by the loan officer. Even (Goddard et al., 1999), who describes and substantiate this continuum more than Liberti and Petersen (2019), uses a nominal scale for classifying information.

In Table 1, the characteristics of hard and soft information are summarised.

Source	Hard information	Soft Information
Liberti and Petersen (2019)	Quantitative (Stored in numbers); Context not relevant; Collected in any form; Standardised;	Stored in text; Context is relevant; Collected in person;
Y. Chen et al. (2015)	Objective facts;	Subjective interpretation;

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Estrin, Khavul, and Wright (*2021*)	Facts; Verifiable;	Open for debate; Difficult to verifiable;
Flögel (*2018*)	Easy to transmit;	Can be verified by only the information collector; Challenging to transmit; Contextualize hard information;

Table 1: Characteristics of hard and soft information

One of the characteristics of soft information is the importance of context. In contrast to soft information, hard information can be stored and used without information about context, which means that hard information can be interpreted the same without any context. For soft information, context is needed to interpret the information similarly to the collector of information. The need for context to understand the information is also called contextual semantics. Estrin et al. (2021) defines hard and soft information as follows:

"*Hard information comprises of facts about which there is general agreement, which are verifiable, and cannot be easily changed in the investment period*" ... "*soft information is open to debate or alternative interpretations of its implications and more difficult to verify*".

That soft information is up for debate clearly shows why soft information does need contextual information, and hard information does not.

The need for contextual information with soft information is also why hardening soft information can be difficult. Because just creating a numerical score from soft information does not make the information hard. One's ratings can be very different from those of anyone else. However, Liberti and Petersen (2019) also gives an example where soft information is hardened: One of the first credit ratings is made by transforming soft information into a standardised form, which results in a hardened credit score. Filomeni et al. (2021) describe two ways to codify (harden) soft information:

- *Codified Discretion*: loan officers fill in a pre-defined questionnaire.
- *Uncodified discretion*: a credit score is changed up- or downward by the loan officer based on soft information.

Flögel (2018) describes the codified discretion method likewise to harden information: "Bank employees input soft information in the rating by answering closed questions in the rating programs". This codification,

however, plays only a limited role in the approval process because soft information is very specific; not all information can be captured with closed questions. According to Flögel (2018) the second reason is that loan officers manipulate the rating inputs to generate higher credit scores.

Another difference is the way how hard and soft information is gathered. Soft information needs to be collected in person, which contrasts with the collection of hard information that can be collected in any form. This person who collects soft information also needs to understand the possible decisions that can be made with that data. Only that way the importance of different pieces of soft information can be determined (Liberti & Petersen, 2019). As Flögel (2018) writes: soft information 'cannot be directly verified by anyone other than the agent who produces it'. Therefore, the transmission of soft data is challenging in a hierarchical organisation.

Liberti and Petersen (2019) also discussed the advantages of hard information. The transaction costs will be lower with hard information, and less work must be done while processing the information, as hard information is standardised. Each piece of information can be treated the same. With this, processes are standardised as well. Besides processing, hard information maintaining or passing through is easier as no context is needed (Flögel, 2018; Liberti & Petersen, 2019). The result of this is that the durability of hard information is greater. However, the reverse side of hard information is that there is less information. Much information that not can be hardened is lost.

3.2   Credit approval process

3.2.1   Currently at Qredits

In Figure 3 the credit approval process at Qredits is simplified and visualised. This process will be explained in more detail below.

Application intake   If an applicant applies for credit, the application enters the system of Qredits (MicroNET). In this system, the application is processed in multiple steps. Firstly, the application is assessed by the back office. It is checked at this stage whether all the necessary information is available. A brief check of the viability of the business plan is already done. This can lead to applications being rejected in advance. In addition to this assessment, the application is evaluated by a credit risk score (acceptance score). The acceptance score is calculated based on many external sources consulted automatically by MicroNET. The more positive conditions the applicant meets (e.g. a good industry), the higher the score. Usually, an application with an acceptance
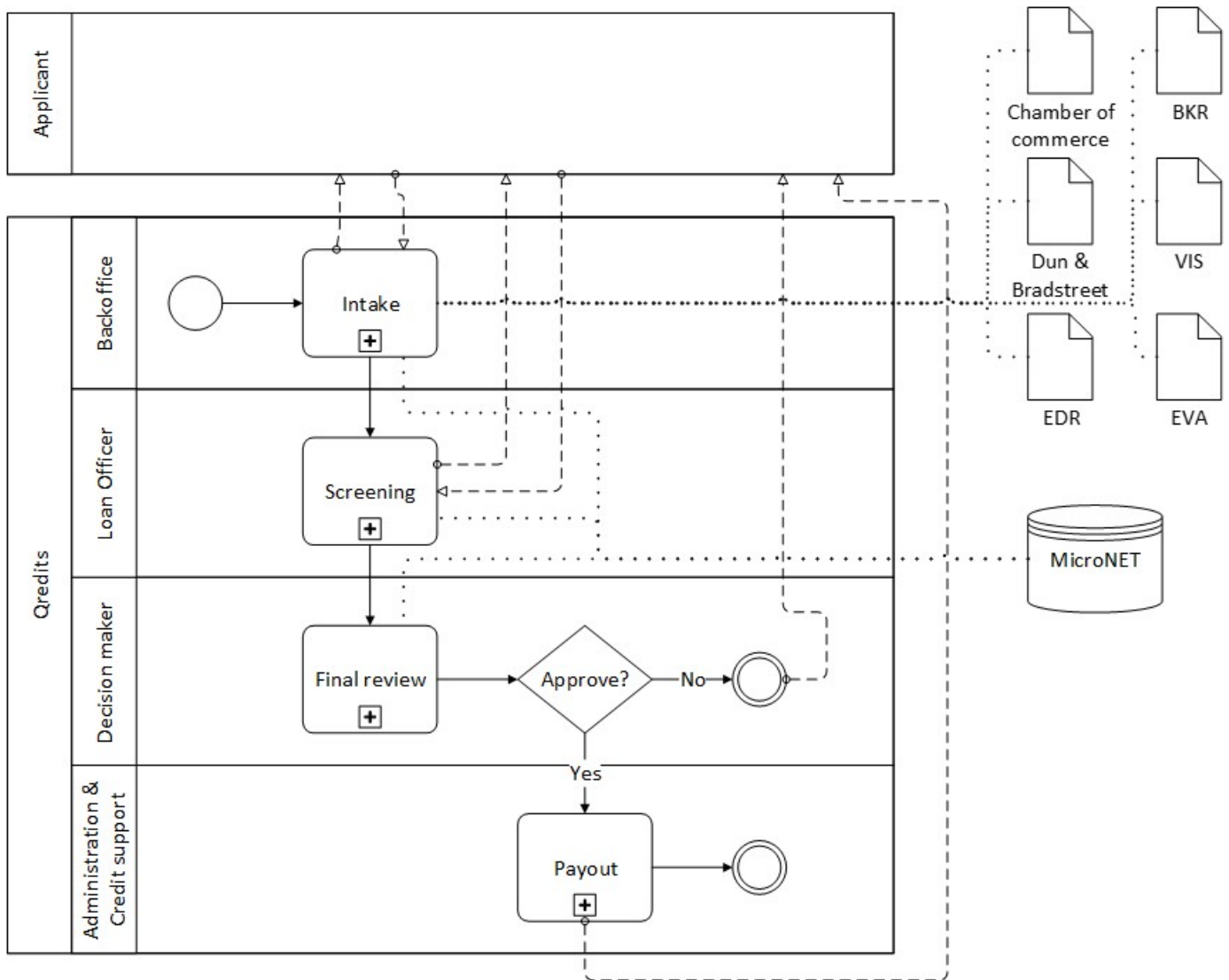
Figure 3: Simplified credit loan approval process Qredits

score of 1 or 2 will be rejected. An exception is when there is real evidence from the documents provided by the entrepreneur that there is a chance of success. If the score is higher than 7, the application can enter a fast procedure [5]. This score is generated with *hard information*. In this first stage, therefore, only the quality of the application is con-

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[5]There are other business rules associated with this, but describing them makes this process unnecessarily complex for the reader.

sidered and whether there are sufficient leads for a screening interview in the next stage.

Figure 4: Detailed visualisation of the screening and decision phase of the credit loan approval process. Addition to Figure 3

Applicant screening A loan officer will make an appointment to interview the applicant if the quality is good enough and the applicant is worth visiting. Depending on whether the applicant has entered the fast procedure, the loan officer will meet at the business location or online using a digital conference tool. This interview is conducted to get a general impression of the appli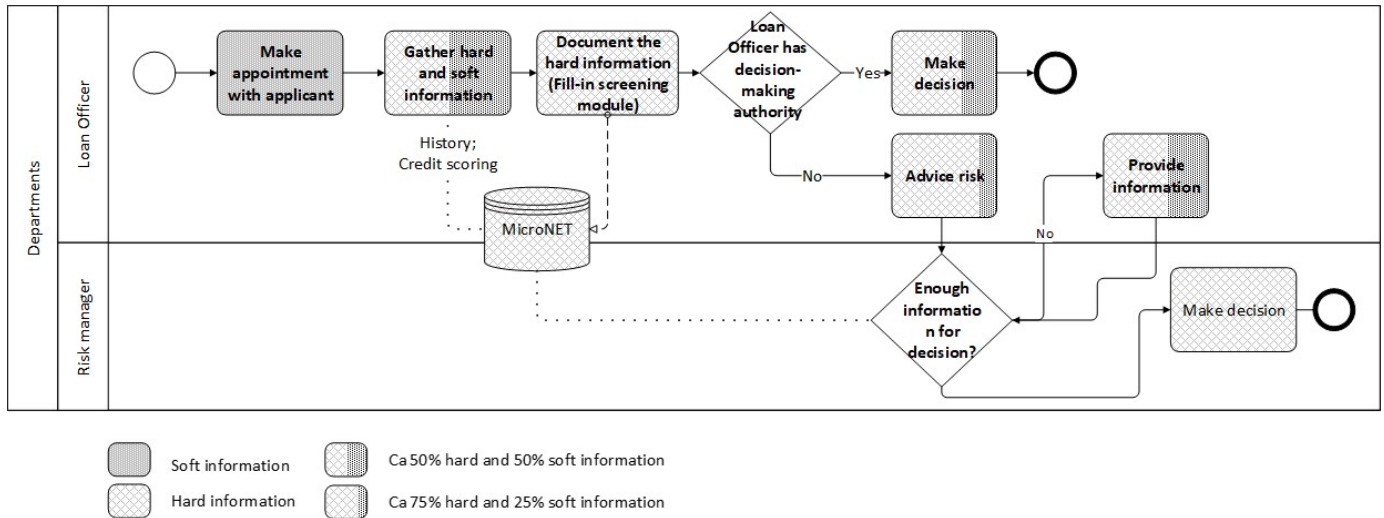cant and his entrepreneurial capabilities. There is a more in-depth look at the documents provided, and it should become clear how the entrepreneur will repay the loan. Conducting this interview is the second phase and is called the screening phase. Collected information in this phase is both hard (financial data) and soft (textual and descriptive). Collecting this information reduces information friction (Porzio, Sampagnaro, & Verdoliva, 2020), and therefore helps Qredits to create an overall impression of the applicant. Loan officers get their opinions and gut feelings (emotionally laden intuitions (Lipshitz & Shulimovitz, 2007)) during the screening interview. The results of the screening are summarised in MicroNET. However, almost only hard information is noted. **The goal of the screening phase is to close the asymmetric information gap between Qredits and the applicant in a cost-efficient manner (Flögel, 2018) to reduce the change of moral hazard or adverse selection.**

In Figure 4, the screening phase (and subsequent decision phase) is visualized in more detail. It uses greyscales to indicate whether an activity involves soft information, hard information, or a combination of both.

(Dis)approve decision   The final phase of the credit approval process is the decision phase. Based on multiple business rules, the loan officer has the authority to make a decision (approve/deny), or a final assessment by a risk manager is done. In the first case, the decision can be made on all gathered information, both hard and soft, as the information does not have to be transmitted towards the risk manager. Whereby there is no information lost. A small note should be added about the loan officer's authority of decision: With some regularity, the risk manager will review a decision made by the loan officer. This review is called 'sampling' within Qredits. If a decision is based primarily on soft information, the loan officer will still have to justify it to the risk manager.

In the second case, the risk manager has the power of decision. Herewith the loan officer advises the risk manager. This advice is (just like the loan officer's decision) made with their impressions and soft information in mind, as the loan gathered the information and therefore knew the information's context. However, almost only hard information is transmitted (by MicroNET) during this advise. Therefore the advice is mostly based on hard information. Porzio et al. (2020) also mentioned that it is not easy to transfer soft information between different organisational levels, and much of the gathered soft information will be lost. This claim is based on the nature of soft information (see Table 1).

The risk manager will review if there is enough information to decide. If not, the loan officer will be asked to provide more or clarify information. This is done by phone, and soft information can be transmitted more easily as interpretations and context can be provided. However, according to loan officers at Qredits, decisions are still mainly made based on hard information.

Formalisation of loan   After approval, the credit must be formalised and distributed by the administration and credit support departments.

Importance of loan officers   Both the gathering of hard- and soft information is important for Qredits. As JianHua and Tao (2010) mentions, it is impossible to completely replace the role of loan officers (who discover soft information) in the decision-making process of micro-credit. Credit scoring (with hard information) cannot replace the knowledge of

loan officers. Just as in the current credit approval process of Qredits, credit scoring is complementary to loan officers. It gives an impression of the application and provides direction on how it moves through the organisation.

3.2.2 Relation with soft information

Little is found in the literature about the coherence of soft information and the credit approval process. Lipshitz and Shulimovitz (2007) have researched how the gut feelings of loan officers affect credit decisions. They describe a four-phase decision-making process that reduces uncertainty when making a credit decision. The first phase is *collecting and analysing financial information*. In this phase, the financial data of the applicant is reviewed. If the financial situation is insufficient, the credit will not be provided. The second phase is called *Collecting and analysing impressionistic information*. As the name already says, impressions are gathered in this phase. This gathering is mostly done in conversation with the applicant and by visiting the applicant (site visiting). Impressions could also be gathered through sources with relevant expertise who are familiar with the client or business. Based on the impressions, a gut feeling (emotionally laden intuitions) is generated. This is the third phase, *Arousel of gut feelings*. Favourable/positive impressions will generate a positive gut feeling. Negative impressions will generate a negative gut feeling. The last phase, *Post approval monitoring*, is not directly a part of the credit approval process, as in this phase, the loan is monitored after it has been granted.

Wang (2020) described in his research the screening performance of loan officers from a lender in China. The credit approval process of this lender looks like this: Applicants can apply in one of the 40 sales branches. Both hard and soft information is gathered. Information that can be codified (e.g. income or the number of TV sets) is put into an algorithm designed to rate the applicant by credit quality. Most of the information for this credit scoring process is hard because soft information is costly and hard to summarise in a numeric score. Wang (2020), describes soft information as only available for the loan officer, not for the lending company, because it is hard to summarise soft information into a numeric score. After generating a credit score, applications that pass a misrepresentation filter are randomly assigned to loan officers in a central office. They can decide the loan size. Loan officers do not have face-to-face contact with the applicant.

Filomeni et al. (2021) describes a four-phase credit scoring process in which an application is randomly assigned to a loan officer:

1. "*Statistical rating*": First, an initial statistical rating is generated

based on hard information like financial statements.

2. "*Modified statistical rating*": the credit rating will be modified based on data from a credit registry and the bank's portfolio database.

3. "*Integrated rating*": in the third phase, soft information is gathered and processed. The loan officer takes a questionnaire. Based on the answers, the credit score is adapted.

4. "*Final rating*": If the loan officer disagrees with the credit scoring, he can change this (both upwards or downwards) in the last phase of the process.

This process is closely monitored at the headquarters. The described steps are visible in Figure 5. After the generation of the score, the application will be forwarded to a higher-level department: If the loan officer has adjusted the score upwards, the application is forwarded to a special rating unit. If the score is adjusted downwards, the system will approve the application and passes it to the bank officer who approves the credit.

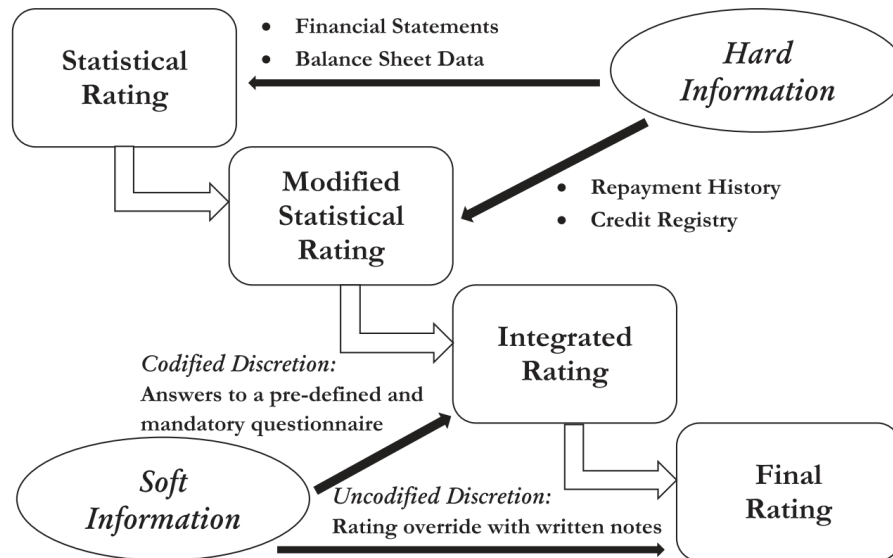*Figure* 5: Four phases credit scoring process. Reprinted from Filomeni et al. (2021)

Wilson (2016) globally describes a lending process. In their conducted interviews, it became clear that a computer scores small loan (< £100.000) applications and a 'business consultant' makes approval decisions. A more in-depth analysis is done if the requested amount is not a small

loan or if more information is needed. This analysis does not have to satisfy mandatory criteria. However, from the conducted interviews, Wilson (2016) determined the following grouped criteria related to soft information:

1. The personal characteristics of the applicant.

2. The terms of the loan.

3. The characteristics of the business.

4. Assumptions about the written plan made by the loan officers.

5. Requests for further information.

However, no further explanation about these criteria is given.

Bouwens and Kroos (2019) describe the approval process of a large Dutch bank. The first step in this process is the gathering of hard information. This information is entered into a computer system that determines two ratings: A credit risk rating that specifies the probability of default. And a rating that specifies the expected financial performance. Soft information is then added to the digital dossier by the loan consultant. Soft information is collected primarily to provide the applicant with better loan terms, such as a discount on the standard loan interest rate. The relevant loan officer/manager then makes the actual decision. The final step is the preparation of a control plan.

3.3   Summary

Loan officers are currently collecting soft information. However, collecting soft information is nowhere incorporated in the credit approval process of Qredits. Only hard information is incorporated. This does not help to reduce the asymmetric soft information gap, in this case, between the applicant and the risk manager. Therefore, it is harder to determine the risks of moral hazard and adverse selection. In order to increase the effectiveness of decisions in the credit approval process, this asymmetric information gap needs to be narrowed.

The literature study shows little has been written about how soft information is handled in a high-touch credit approval process. A few papers have described that information is hardened through codification. However, these descriptions are not validated and are purely mentioned to demonstrate the context of the research environment. Nevertheless, two things can be learned from these processes: The first is that soft information can be hardened through codified discretion.

Secondly, uncodified discretion is important to bring context and value to hard information by the loan officer. Loan officers play a big

role in the credit approval process, especially concerning soft information. Heider and Inderst (2012) mentions, "prospecting and communicating soft information truthfully are two tasks of the loan officer who depends on soft information". These two points will be used as a starting point for the design.

4 Credit approval information at Qredits

To investigate which soft information is utilised and gathered at Qredits during the credit approval process, seven interviews with loan officers, one with a risk manager and one with an employee of special assets management, were conducted. The goal of the interviews was to determine what soft information is collected, what soft information is essential, and how this is mainly done. Appendix A gives the main questions asked during the interviews. Reports of these interviews are processed in section 4.2. Because many different things became clear from the interviews (such as entrepreneurs' stories or how a proper budget is calculated), only information that conforms to soft information's characteristics is processed. This resulted mainly in opinions and impressions about the entrepreneur and their personal situation. Therefore, claims about hard information, such as financial data, are not included.

In addition to the interviews with loan officers, two observational studies took place. In these studies, one day was spent with a loan officer to observe screening interviews with applicants. The aim was to obtain a clear picture of the screening phase, understand how a loan officer reasons, what impressions a loan officer gets of the applicant, and which questions a loan officer asks.

This chapter is structured as follows; firstly, the observations will be elaborated. The interview elaborations follow this.[6]

4.1 Observations

Two observation studies have been performed. During these studies, a loan officer was accompanied. This resulted in a total of 5 on-site visits of applicants. As stated above, the purpose of the observations was to understand how the loan officers work and to find out what they mainly look for when interviewing applicants. Below each observation is summarised in a brief report.

Observation 1 Loan officer 1 (LO1) has worked for four years at Qredits. Before that, at a bank. A difference with the bank is the freedom he gets at Qredits. Qredits provide more possibilities, such as "visiting applicants on location instead of by telephone as at the bank." There is also a difference in the distance between the loan officers and the risk managers. "At the bank, they were literally on the highest floor. At Qredits, the lines of communication with risk managers are much

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[6]Due to the privacy of the loan officers and the entrepreneurs, personal or business details are not mentioned.

shorter." Moreover, according to LO1, many more loans were rejected at the bank if they "did not pass the system".

LO1 has provided little information about the screening process. He relies a lot on gut feeling. According to LO1, developing and trusting the gut feeling requires years of experience. This made it difficult to determine what aroused his feeling. After a screening interview, LO1 briefly elaborates on the interview in MicroNET.

During the observation study with LO1, three entrepreneurs were visited. Including one new applicant. One existing applicant and one visit to an existing already-funded borrower.

Visit 1: The first visited entrepreneur asked for finance. LO1's first impression was sceptical due to the city the entrepreneur lives. The city has a bad reputation in the Netherlands. Besides that, according to LO1 "nine of the ten applications from this city got rejected". LO1 was was also sceptical about the business model. "The business idea does not sound very viable." It was not entirely clear to LO1 whether the entrepreneur had given enough thought to the target group. These seemed to be only individual customers. According to LO1, this is not enough to earn money.

Upon arrival, the business idea was already standing by as if LO1 was an actual customer[7]. This helped LO1 get a clear picture of the business idea. This also gives a good first impression. After a small explanation of the business idea by the entrepreneur, LO1 started to ask (mostly) financial questions. When it became clear that the target customer group would mainly be businesses, LO1's initial assumption was clarified. This helped in the turnaround to an optimistic view. The applicant was enthusiastic, which was an advantage in the assessment according to LO1: "The attitude exactly matched the attitude required by the business idea." The applicant seemed strong-willed and willing to take risks.

Visit 2: The second applicant is already a borrower from Qredits but has applied for a second credit to start a new business idea. The appointment between the applicant and LO1 occurred at the applicant's current business location.

During the visit, lending options were discussed. The applicant gave little information to LO1 and seemed unwilling to be open. The applicant had to call his partner and then would come back to the questions asked. In addition, there were problems with the permit for the second business location. The secretive and vagueness behaviour and the uncertainties about the permission gave LO1 "little confidence in the applicant".

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[7]This business idea had a physical form.

Visit 3: The third visit was to an entrepreneur whom Qredits had already financed. However, due to circumstances, the entrepreneur was never visited by LO1. The provided credit was for a building. Meanwhile, the building is nearing completion. LO1 was given a tour of the building by the entrepreneur. LO1 was very enthusiastic about this creditor because: "During the application, the creditor had a clear plan, the willpower and relevant experience to gain the trust of Qredits."

Observation 2 LO2 worked at a bank for seven years. Currently, for several years at Qredits. For LO2, the biggest differences between Qredits and banks are the speed of processing an application. According to LO2, the processing time is "4 months at banks and two weeks at Qredits". LO2 also notes a difference in risk-taking. Qredits is willing to take risks where the bank wants to avoid risk. In addition, the bank had preferences for loans above 0.5 million. These amounts are not even provided at Qredits. When assessing an application, LO2 looks, among others, at the following:

- *"The personality of the entrepreneur."* The issue is not whether the personality appeals to LO2 but whether the personality fits the personality needed for the intended business model.
- *"A possible safety net."* A safety net can be various things, such as savings or a second income from a partner. The underlying question is whether the entrepreneur can manage financially if his business is not viable.
- *"The private situation."* Much information can be extracted from a personal situation. If it becomes clear how the entrepreneur currently lives and his choices become clear, this can say something about how the entrepreneur will run his business. For example, if an entrepreneur is not good with money privately, this could also affect the business.
- *"The credibility of the entrepreneur."* To provide credit, the lending party must be trustworthy. It must become clear whether what the entrepreneur says is true.
- *"The willpower of the entrepreneur."* Being an entrepreneur also involves being able to deal with setbacks. For this, perseverance is important.
- *"If the entrepreneur has things in order."* This is a broad term and can apply to both personal and business. It is about the perceived image of the entrepreneur and estimating associated risks. For example, if the entrepreneur does not have his accounts 'in order', this may affect his journals and can provide future problems. The question that is answered here is whether what LO2 sees matches the expectation LO2 has of the entrepreneur.

During the observation, two applicants were visited.

Visit 4: The meeting was at the business place of the applicant. The applicant needed credit to expand his business. The applicant was already a client of Qredits. In the past, the entrepreneur has started and financed some wrong projects. Because of that, LO2 got the impression that the applicant was spending too easy, too much money. The entrepreneur was young and driven. This emerged at LO2 because he still lives with his parents and works hard (from morning to evening). As stated, the entrepreneur made some bad investments and went down with them. However, he constantly has entrepreneurial ideas. Therefore LO2 thinks it would be good to get a coach to determine the strategy of his business together. This seemed interesting to the entrepreneur. The applicant came across as very neat: "he addressed with the polite form to LO2, but he also seems to like a party". Among other things, LO2 asked about competition and knowledge of the market. The entrepreneur was able to answer this well. During the meeting, there was (of course) much talk about finances. These different aspects gave an overall positive impression of the applicant; therefore, LO2 is inclined to write a positive opinion to the risk managers.

Visit 5: The fifth visit was by an applicant with a business since 2018. Beforehand, LO2 had been in touch by phone. He expects an energetic person, which is in line with the personality needed for the enterprise. This image was confirmed during the visit. LO2 mainly asked questions about the business at the beginning of the interview. He was genuinely interested in what the entrepreneur does.

The applicant spoke a lot by herself. Every question was answered and explained well. LO2 indicated that this confirmed that she comes from an entrepreneurial family and has thought about many things. The applicant had outsourced the financial administration. LO2 did not notice any negative things about the applicant.

The applicant's business has grown in recent years. According to the applicant, this was due to social media actions. LO2 deliberately asked about the high growth figures and futuristic forecasts to investigate whether these were accurate. The applicant indicated that these were drawn up by a family member (also an entrepreneur). This answer gave LO2 faith in the stated forecast. The applicant was honest about her strengths and weaknesses.

LO2 deliberately asked about the applicant's personal situation. The applicant indicated that she needed a small budget per month. This answer confirmed LO2's view: "This minimal lifestyle can also be seen in the accommodation." The small accommodation was namely simple but decently furnished.

4.2 Interviews

In this section, nine interviews will be summarised. First, the summary of seven loan officers is given, followed by the summarization of the interview with the risk manager. Lastly, the interview with the special assets manager is summarized.

Loan officer 3   LO3 has been working at Qredits for four years. Before this, he had nine years of banking experience. The difference between Qredits and the bank for LO3 is that at the bank, he had to work with an algorithm ('blender'). After filling in the business data, it came out whether or not he could extend the credit. At Qredits, he has greater discretion to determine this himself. The interview showed that LO3 pays attention to the following soft information.
About the entrepreneur, LO3, mainly pays attention to the following:

- *"The sense of reality."* The entrepreneur needs to be somewhat realistic. This may be clear from a stated futuristic forecast. Realism means that the entrepreneur can estimate things well. Consider, for example, the number of customers, items sold or costs incurred.

- *"The understanding of risks."* Since the probability of failure is also present, the entrepreneur must be able to assess risks properly. Besides knowing the risks, the entrepreneur should handle risks well. Risks may differ by industry. The past can provide clues for how the entrepreneur deals with risks.

- *"The period of being an entrepreneur."* This says something about the entrepreneur's experience as entrepreneur.

- *"Whether the entrepreneur is doing something he wants to do."* According to LO3, the entrepreneur must do something he likes to do. This gives the entrepreneur intrinsic motivation.

- *"The experience in the market."*

- *"The entrepreneurial capabilities."* Does this entrepreneur have the qualities an entrepreneur needs? Think of daring to take risks or having perseverance. Of course, it can vary by industry which capabilities are important.

About the visit and the home situation, he mainly pays attention:

- *"The living situation."* LO3 wants to understand how the entrepreneur lives and whether that affects the business. For example, one can look at the spending pattern: if the entrepreneur does not have a large budget but drives an expensive leased car, this does not seem logical. Maybe the entrepreneur cannot handle money. This is related to "the lifestyle" below.

- *"The lifestyle."*
- *"Whether people feel at ease."* This could be a signal. Perhaps the entrepreneur has something to hide from the loan officer.
- *"Whether people are nervous."* This is in line with the description above.

In addition, LO3 pays particular attention in the plan to whether the exploration is feasible. From the financial analysis, LO3 considers how much debt the entrepreneur has. Especially the type of debt (for example, mortgage, student debt or external loan) is essential. LO3 finds it necessary in the discussion to carry out its duty of care as a loan officer. For example, if there is a lousy fallback scenario, LO3 will be more inclined not to grant the loan. Not so much because the entrepreneur cannot repay it but because the risk to the entrepreneur is too significant in LO3's eyes. LO3 must therefore have faith in the entrepreneur. For that, the "total picture" must be correct/complete. Everything that LO3 observed aligns with the entrepreneur's business model. There must be some slack in the futuristic forecast, and it must be financially suitable.

Loan officer 4   LO4 has worked for two years at Qredits as a loan officer and has worked at a bank for 16 years. LO4 mainly finds it very important that the entrepreneur is honest. She tries to validate everything the borrower tells her by asking for supporting documents. She tries to build the relationship from a trust bond. Therefore, she will always be direct in her way of asking questions. She then expects them to be answered openly and clearly: "The entrepreneur should not beat around the bush". She would not quickly go off on appearance and surroundings: "This says nothing, and the entrepreneur can still be a good entrepreneur". She pays particular attention to the following areas of the entrepreneur:

- *"Does the entrepreneur seem nervous?"*
- *"Can the entrepreneur sell the plan?"* This is an important capability, according to LO4. This becomes clear by one gets concrete answers from the entrepreneur.
- *"Is the entrepreneur also coming her way?")* This means that the entrepreneur should also listen to LO4 and that the entrepreneur is cooperative during the interview. If this does not happen, she gets a bad gut feeling.
- *"Does the entrepreneur do something with feedback?"* This is related to the above two points. According to LO4, it is important that the entrepreneur also allows himself to adjust and thus listens to feedback.
- *"The entrepreneur's self-reflection."* Self-reflection is an important competence according to LO4.

- *"The anticipatory capacity of the entrepreneur."* Anticipation is important according to LO4. Entrepreneurs can look further into the future, make better choices, and reflect on those choices.
- *"Does the entrepreneur take the business seriously?"* This also shapes her gut feeling. If an entrepreneur does not take his business seriously, he may not take the credit seriously either.
- For LO4, a safety net is also important. Therefore, she pays attention to whether there is a fallback scenario by, for example, a partner's income.

Most of the above areas are related to the entrepreneur's ability to adjust to the situation. Either by himself (by his anticipated capacity and his self-reflection) or others (by being cooperative and listening to feedback). If the entrepreneur can adapt, this also provides sufficient evidence for LO4 to assume that the entrepreneur is serious about his business.

In addition, LO4 pays attention to the following when considering the entrepreneur's plan:

- *"There is belief in the plan and the product."* LO4 must believe that the plan or product is viable. This becomes clear to LO4 while reading the business plan and hearing the entrepreneur's explanation of the plan. The points below help in gaining belief in the product or plan.
- *"The plan is feasible."*
- *"The questions who, what, where and when are answered."*
- *"Is it clear how unique the entrepreneur is?"* This is also called the unique selling point or USP.

Loan officer 5   LO5 has been working at Qredits for eight years. Before that, LO5 worked at the bank for 13 years. For LO5, the difference between Qredits and the bank is that regardless of the entrepreneur's background, LO5 can engage in conversation. Where many entrepreneurs are not attractive to banks, everyone is equal for LO5. LO5 tries to be precise and asks every question that comes into his mind. Depending on the business activities, he emphasises different points. LO5 looks at the following points in particular:

- *"Does the entrepreneur know what he is talking about?"* LO5 should sense that the entrepreneur has knowledge of the business and market in which he wants to do business. Has the entrepreneur looked into certain relevant issues? This says something about the entrepreneur's willpower and motivation to some extent.

- *"Is the entrepreneur orderly?"* According to LO5, this also says something about administration. "If things are not in order at home, the administration is not in order either." Therefore, LO5 always wants to meet at home on location and not at, for example, an accountant's office.
- *"Is the entrepreneur hygienic?"* This does say something about the entrepreneur. LO5 reasons: "If it cannot be clean at the entrepreneur's home, it cannot be clean at the business location." To get an impression of this, LO5 often goes often to the toilet. "The whole house gets cleaned except that"
- *"Can the entrepreneur be trusted?"* Is the entrepreneur honest? LO5 continuously validates answers to verify if statements are true.
- *"Are there any illogical things?"* When certain things are not right, it affects the gut feelings. LO5 gave an example that he came to a location with high heating but wide open windows.
- *"What is the entrepreneur's personality?"* To answer this, LO5 looks at several things such as: "How are decisions made?", "How are risks handled?", "How are relationships handled?". All these questions indicate the entrepreneur's personality concerning the intended business model.
- *"How does someone answer the questions?"* Based on the entrepreneurs' answers, LO5 can hear whether the entrepreneur wants to say something or not. If an entrepreneur conceals something, it could be out of shame or because he deliberately wants to withhold something.
- *"As a loan officer, is there an understanding of what is happening? Who is the entrepreneur, and what does the company do?"*

He also looks at the location. Is it set up nicely? There are small indicators, according to LO5. Like, are there weird things in the trash? Also, the surroundings can do something to the first impression.

Loan officer 6   LO6 has worked for more than 12 years at Qredits. Before this, he had two years of banking experience. LO6 always tries to assess an application neutrally. Beforehand, he reads up on the client. In addition to the standard scoring reports, LO6 also looks at the residential location via Google Maps and does a Facebook analysis ("what does the entrepreneur say digitally?"). When LO6 visits the entrepreneur, he pays attention to lifestyle patterns. Therefore, he asks himself the following questions, among others: "Do people care about luxuries?" "What are the recent purchases?" "Does the picture he has seen with his finance experience in recent years match?" Answers to those questions, help form a gut feeling.

LO6 looks at the following points about the entrepreneur:

- *"Does the entrepreneur tidy up?"* Is it neat or just a mess? This weighs heavily for LO6. He also relates this to the entrepreneurs' financials: "If it is a mess at home, the finances are often a mess too."
- Whether the entrepreneur and application "fit the standard pattern". If not, it affects his gut feelings. The standard pattern is something that deviates from expectations. Patterns should fit the situation he encounters. An example he mentioned was a family with many debts but still went on expensive holidays. These spending patterns do not fit the situation.
- *"Does he have confidence in the entrepreneur?"* Confidence comes mainly from his gut feelings.
- Similarities between the resume and the business plan. If this is not the case, this should be questioned further. Perhaps the entrepreneur is lying on his CV.
- *"Does the entrepreneur have a plausible story for mistakes made?"* With this, the entrepreneur gets a chance to explain himself. It can also see if the entrepreneur is self-reflective in this way.
- The question of 'who is the person?' is partly answered by looking at experience and education. It examines the entrepreneur behind the application. In addition, the entrepreneur needs to be persistent and decisive.
- *"Keeping the agreements"*. If this does not happen, the entrepreneur is not trustworthy.
- *"Whether there is listened to advise."* As mentioned earlier, it is important if an entrepreneur wants to do something with the given feedback. LO6 mainly notices that older people ignore feedback more often. During the screening interview, he notices instantly when people do nothing with given feedback.
- *"How easily does the entrepreneur borrow?"* This says something about a lifestyle. For this, LO6 always looks at what loans are open to the entrepreneur. It looks then easier for the entrepreneur to take out credit. Another aspect which can be an indicator of whether an entrepreneur handles money easily is whether they have a savings buffer.
- *"How does the entrepreneur respond to questions?"* LO6 expects good and clear answers from the entrepreneur. However, if the answers are 'to smooth", he gets a negative gut feeling. This gut feeling also arises when the entrepreneur always shifts the blame to someone else. The entrepreneur then takes no responsibility.
- "Entrepreneurs who think about things for a long time achieve less turnover. They spend too long thinking about something." Therefore, according to LO6, it is good for an entrepreneur to be com-

mercially savvy. The entrepreneur must be able to tell his story decisively.

- Has the entrepreneur thought things through carefully? Part of entrepreneurship is assessing risks and continuing to anticipate them. This requires the entrepreneur to think ahead.

- Has the entrepreneur also had a permanent contract? Alternatively, does he switch jobs a lot? If so, there might be something wrong with the entrepreneur.

LO6 is specially focused on the relationship with the partner: is it stable, and is the partner also committed? Are the partners distant? Or does the partner participate in the conversation? These questions indicate whether the relationship between the entrepreneur and the partner is good. "Today, there are above-average divorce rates. This is often a reason for defaults."

Loan officer 7 LO7 has worked at Qredits for nine years and has worked at a bank for 15 years. LO7 feels she knows the customers better at Qredits than at the bank. Mainly because of her personal contact with them. LO7 certainly often listens to her gut feeling. This feeling is created by the way how the entrepreneur reacts or answers. If she has a good feeling, she is quick to give the benefit of the doubt. If something seems wrong, she will ask for proof. LO7 always looks for funding opportunities in this case.

LO7 mainly looks at the following:

- *'Acting in the past.'* Did the entrepreneur act wisely in the past? According to LO7, by determining how the entrepreneur acted in the past, reactions in the future can be known.

- Having realism in the story of the entrepreneur gives a positive gut feeling. The future forecast done by the entrepreneur should also be realistic. Therefore she always asks for the worst-case scenario of the entrepreneur. The entrepreneur should always have a fallback scenario if something happens.

- Whether the entrepreneur is concerned with the future affects the gut feeling positively. Entrepreneurship is about looking ahead and acting accordingly.

- *'The manner of responding or reacting.'* Sometimes the entrepreneur holds something back or only shows good points about themselves. Therefore, it is essential to have evidence of made claims.

- *'The curriculum vitae of the entrepreneur.'* In a CV, attention can be paid to iniquities such as changing jobs often, or having been unemployed for a while.

- *'Whether the entrepreneur stands open for help.'* For example, from an accountant.
- *'The culture of the entrepreneur.'* A different culture can bring complexity. There may be payment obligations to friends and/or family. Alternatively, difficulties can arise due to not understanding the language. Extra critical attention should always be paid to this.

In addition, LO7 always looks at the private life of the entrepreneur. For this, she looks at various private loans, whether there is a private buffer and, how the entrepreneur has dealt with the past. This often says something about the future as well. It should not ruin the entrepreneur if a loan is granted. Specifically, LO7 mentions that a poorly written plan gives a negative first impression. This happens when it is written from one's perspective instead of the reader's perspective, if specific information is omitted, or if the plan is not concrete.

Loan officer 8   LO8 has worked at Qredits for five years and, before that, for eight years in the banking world. LO8 assesses using a checklist that he also used at the bank. This is almost entirely based on hard information. However, he looked at some soft information. LO8 mentioned the following points about the entrepreneur:

- *"Does the entrepreneur answer questions well?"* This creates a bond of trust.
- *"Has the entrepreneur thought about everything?"* If not, it is a risk, according to LO8. "Not the fittest will survive, but the most agile one". Agile entrepreneurs have the ability to deal with change, but therefore they have to think about 'everything'.
- *"Does the entrepreneur have the risks clear, and how does the entrepreneur handle them?"*
- *"What are the entrepreneur's education and experience?"*
- *"What are the competencies?"*
- *"Does the entrepreneur have financial guidance or a coach?"* This also means that the entrepreneur is self-reflective and can handle feedback well. As a result, the entrepreneur is also agile.

Loan officer 9   LO9 worked first in the banking industry and now at Qredits. Before the interview with the applicant, LO9 takes the time to review all the delivered information pieces. Then she conducts the interview based on the business plan. She also pays attention to the network of the entrepreneur. Good motivation of the entrepreneur is essential to her. For the plan, she indicates that it must be affordable and feasible. According to her, then "the payment morality is also higher".
  She mainly looks at the following aspects related to the entrepreneur:

- *"Realistic and reasonable."*
- *"How clean the house is."* These can be small examples: Dirty glasses or a dirty toilet. "If chaos is in the house, its chaos is in the head".
- *"If something has happened in the past, it can happen again."* Therefore LO9 always will look into the past of the entrepreneur.
- *"How the entrepreneur reacts says a lot."* The entrepreneur can react arrogantly or very haughtily. This says something about his personality and, in this case, probably his ability to handle feedback.
- *"How nervous the entrepreneur is."* That can indicate how important the entrepreneur thinks the interview is.
- *"Whether the entrepreneur has things in order at home."* Especially concerning his intended business model. A bad example is a handyman who has not finished his house neatly. Alternatively, a painter who has rotted window frames.
- *"The entrepreneur must know what he is doing."* He shows that by the answers he gives to questions.

Risk manager   The risk manager (RM) has worked at Qredits for four years. Before that, he worked at a bank for 20 years. As a risk manager, he has to help determine whether an application can be financed by checking whether the risk is acceptable to both Qredits and the customer. Whereas loan officers are more sensitive to feelings because of their direct relationship with the customer, risk managers can better make decisions independent of feelings. RM's decisions are mainly through the provided financial projections and the business plan. So this is mainly hard information. Then RM himself always looks on the web for information about the applicant. So RM mainly looks at hard information. The entrepreneur's honesty is crucial for RM. This says something about the entrepreneur's morality. Do not trust the entrepreneur's words by default: claims should always be substantiated.

Special asset manager   A brief interview was conducted with the special assets manager, who has been working at Qredits for 11 years. In general, he described his work during the interview. He handles the files of customers who do not pay on time (more than 30 days in arrears). If a customer does not repay his loan, he contacts the customer asking them to pay. He also makes arrangements with the customer, such as setting up a grace period (a period during which the customer is temporarily exempted from payments). Not much information about payment failure and its relationship to soft information has become apparent during this interview. When asked why people end up in arrears, he answered that divorce is common: "It is a phenomenon with us that

when divorces occur, entrepreneurs let the business devour." Also, often the business is not running, or people have quit the business.

4.3   Summary

From the interviews, it can be concluded that each loan officer has their way of working. Each loan officer also emphasises different pieces of information. Whereas one loan officer may pay attention to how orderly an entrepreneur is, this makes less difference for another loan officer. In addition, the importance of soft information also differs in different contexts. This is precisely why it is characterised as soft information. It is crucial to incorporate these differences in relevance and the importance of context into the design as well.

The different types of soft information seem to be very different for some loan officers, but there are many similarities to be discovered. Therefore, it is also possible to summarise all these different aspects that are paid attention to during a screening interview:

- **Honesty:** Being honest is very important to most loan officers. This also makes sense. Borrowing credit involves trust. If an entrepreneur is not honest, there can be no trust from the loan officer. Trust flows when the entrepreneur is open in his communication. However, trust must also be earned by providing evidence documents for claims made.

- **Order:** Order is a broad concept. There is also regular broad talk of "Things on order". However, the underlying question is whether the entrepreneur has got the important (with regards to entrepreneurship) issues right. For every entrepreneur, this includes, for instance, the (financial) administration. However, it could also be that a handyman has the right tools. The entrepreneur must take responsibility for what he does: If an entrepreneur is bad at administration, then it does not immediately mean he does not have financial records in order. If the entrepreneur has outsourced his financial administration, he still takes responsibility for getting the financial administration correct.

- **Hygiene:** According to some loan officers, an entrepreneur's hygiene says something about the entrepreneur. If it is not neat in the house, it is not neat in the mind either. Chaos can be a risk to the business as the entrepreneur must be able to take good and right decisions. Besides this, hygiene is important in some industries, such as the catering industry.

- **Feel comfortable:** According to some loan officers, observing whether the entrepreneur feels convertible during the interview is important. For example, if the entrepreneur is nervous, it could mean

that he or she considers the interview very important. However, this will have to reduce over time. If the entrepreneur persists in this nervousness, more might be going on. As a loan officer, it is important to keep asking questions at this point. And to explore this further.

- **Communication:** The entrepreneur's communication shows how well the entrepreneur has thought about things. This is important in entrepreneurship. By observing how confident answers were given, this can be discovered. In addition, it can also emerge from how the entrepreneur communicates whether the entrepreneur wants to hide things from the loan officer. It is important to then ask about this.

- **Commerciality:** Being commercial is an entrepreneurial skill. According to loan officers, this is important because the plan and the product must also be sold to customers. For example, this can already be ascertained by having or not having a voicemail. If the entrepreneur has disabled the voicemail function, he may miss out on customers.

- **Anticipatory:** In entrepreneurship, it is important to be able to anticipate well. This allows the entrepreneur to remain agile and respond quickly to new developments. Loan officers, therefore, often look at whether an entrepreneur has the ability to anticipate. Anticipation is looking to the future. This often involves examining how the entrepreneur acted in the past and whether or not he learned from this. The past can also give an idea about the future.

- **Realistic:** It is desired of the entrepreneur to be realistic. Often, the entrepreneur overestimates himself, which can lead to the entrepreneur taking unnecessary risks or failing to meet his or her predicted forecast. Therefore, the loan officer always checks whether the forecasts are logical and reasonable. This can be done by downsizing a forecast with predictions: 'In one year, you want to have turned over 30,000 euros. So that means that with a unit price of 2 euros, you need to sell about 40 products every day.' The follow-up question is then: 'Is this realistic?'

- **Taking enterprise seriously:** The entrepreneur must take his business seriously, which requires commitment. Therefore, loan officers want to discover, for example, whether the entrepreneur has thought about most things. Risks are then also clearer, and the entrepreneur knows what he is starting. Also, commitment comes from whether the entrepreneur is doing something he wants to do. This creates intrinsic motivation. The entrepreneur feels personally connected, which probably leads to more commitment and a company he takes seriously.

- **Open to help:** An entrepreneur can also have blind spots. There-

fore, getting feedback from outside sources such as a coach or financial advisor is good. This can also contribute to the growth of the business. Therefore, the loan officer pays close attention to whether the entrepreneur is open to feedback and help. Is the entrepreneur listening to the given advice? Or does the entrepreneur have an arrogant attitude and does not seem to seek rapprochement?

- **Dealing with risks:** There are always risks in entrepreneurship. Therefore, it is important that the risks are clear and that the entrepreneur sees them. This does not mean that the entrepreneur should avoid risks. Entrepreneurship is characterised by taking risks. Therefore, it is good to understand how the entrepreneur deals with risks. In addition to observing if the entrepreneur thought about risks, the loan officer should observe how the entrepreneur had previously handled risks.

- **Online presence:** The screening of the entrepreneur is all about determining risks. The loan officer wants to get a complete image of the entrepreneur. Digitally, much information can also be found about the entrepreneur, including social media accounts, company details or possibly newspaper articles. By searching online for the entrepreneur, it is possible to validate whether the claims made are true. This helps to get the view of the entrepreneur more completely.

- **Curriculum vitae:** The entrepreneur's CV may contain important information for the loan officer. For example, it can reveal whether relevant training has been done, relevant work experience is present, and whether the entrepreneur had many different jobs or just one permanent job. This information helps in getting a picture of the entrepreneur's competencies. It also clarifies whether the entrepreneur is suitable as an entrepreneur.

- **Entrepreneurial skills:** Entrepreneurial skills are important in an assessment. Without the right skill set, starting a business is risky. Named capacities are self-reflection, self-assurance, perseverance and decisiveness. Each industry requires different competencies. It is up to the loan officer to assess whether the competencies match those needed for the business model.

- **Relationship with partner:** It has been mentioned that divorce and domestic problems often have a major impact on the entrepreneur's business. Therefore, assessing the risk of problems with the partner is important. This can be done by checking whether the partner is involved and how they interact.

- **Safety net:** Qredits remains a foundation that wants to help the entrepreneur move forward. Therefore, the loan officer will always check whether the entrepreneur has a fallback scenario. Should

the business go under, the entrepreneur will be able to repay Qredits, and the entrepreneur himself will quickly pick up his life again. The fallback scenario could be, among others: some savings, another job or the partner's income.

- **Lifestyle:** A lot can become clear from observing lifestyle. For example, looking at how quickly a business owner borrows money is harmful because it can indicate a lack of financial acumen. This can lead to the risk of default. It is important to examine whether the lifestyle matches the personal financial situation. This should be in harmony. If not, the entrepreneur may not know how to handle money.

- **Caring about luxury:** The question is actually whether entrepreneurs also spend less money in hard times. If an entrepreneur cares about nice expensive stuff, this can be challenging. It should look at whether illogical (expensive) purchases have been made that do not fit the personal financial situation.

- **Environment:** The environment does something to the gut feeling. Maybe the entrepreneur lives in a bad neighbourhood with many problems. Then it is good to be extra alert as a loan officer. The area can be viewed in advance on Google maps, for example.

- **Location:** Like 'Enviroment', this does something to the gut feeling. A location should always be realisable with what the person does. What do the window frames look like if the business owner is a painter? Or is the garden neat if the entrepreneur is a landscaper? Furnishings can also reveal what a person's lifestyle is like.

- **Feeling:** Almost every category impacts the gut feeling. Sometimes the loan officer himself is not able to explain this. The feeling is positively shaped if the loan officer understands what is happening in the business. If the 'total picture' is not right. The feeling is shaped negatively. The soft information described in this chapter forms the total picture and affects gut feeling.

- **Business plan:** From the business plan, loan officers can determine whether the entrepreneur has thought about his business. Loan officers often expect everyday things to be in here (who, what, where, when, why, unique selling points) and that it is written concretely and clear.

- **Knowledge of the market:** Knowledge of the (local) market is important as an entrepreneur. Loan officers also test this. They asked about the competition and who the customers are. If the entrepreneur can explain this well and possibly demonstrate experience in the market, the loan officer will know that the entrepreneur is a 'professional' and therefore can assess other issues like risks.

- **Feasibility of the businessplan:** This, of course, is at the heart of entrepreneurship. Without a feasible business plan, credit is not

useful. Therefore, it is very important for the entrepreneur to be realistic: An entrepreneur should make a realistic business plan and not overestimate himself and his business. Faith is important here. The entrepreneur and the loan officer must believe in the business plan and product.

How this structured set of soft information aspects has been established can be seen in appendix Appendix B. Here is a table with the various statements of the loan officers placed with the soft aspects in which they can be categorised. The statements are listed in the table without any explanation. The explanations are described from paragraphs above. **These soft information categories are the requirements for the actual design described in the next section.**

5   Design and demonstration

Based on the screening and decision phase in the credit approval process (Figure 4), the asymmetric soft information gap can be closed in different places:

1. As the applicant is already known at Qredits, historical soft information can inform the loan officer upfront.

2. The loan officer may not have seen all the soft information or unconsciously not included some soft aspect in the decision.

3. The risk manager currently has no knowledge of soft information.

The design that closes the soft information gap and therefore reduces the risk and thus makes the approval process more effective consists of three things: (1) Soft aspects (see requirements in section 4.3); (2) A way to codify those; (3) A process description of the interaction with the codification. The first two will be implemented as the soft screening module. The last is a process description of how the decision-makers should interact with the module.

This section will first describe the treatment design. See section 5. The description of the demonstration phase of this study follows this. In this phase, the design is tested. See section 5.2.

5.1   Design

In this section, the first design parts are described. Firstly the soft aspects. Secondly, the design of the soft-screening module where the soft aspects will be codified, followed by a description of the interaction with the soft-screening module.

5.1.1   Soft aspects

In section 4, 24 soft information categories are described as requirements for the design. These can also be divided into four main categories: Entrepreneur, Business/Plan, Private and Visit. These categories recurred with some frequency in the interviews. This does differ in some sense from the generally used 5-c's. Character, Capacity, Capital, Collateral and Conditions (Lipshitz & Shulimovitz, 2007; Wilson, 2016; Baiden, 2011). This difference is because this research is focused on soft information. The 5-c's are fairly financial and hard. The categories are flexible. The aspects are categorised by logic and could be subject to change. For example, one of the soft indicators is 'hygiene'. This can say something about the entrepreneur as well as the location. It is also

not surprising that aspects may overlap with other categories. Because the entrepreneur always signs the credit agreement privately, the business and the private intermingle.

The different requirements will be called soft aspects from now on. This is because these aspects need to be codified. Not the requirements or categories. A question was determined for each aspect to make codification easier. The aspects are already explained in section 4.3. Therefore, no explanation of the meaning of the aspects is given here.

As the aspects can be broadly comprehended, they have been given context. This context comes from the different elements that loan officers mentioned during the interviews. These are mostly questions or comments. The specific context for each aspect can be found in Appendix C. To give an example of the context of the aspect 'honesty': 'Is the entrepreneur open in the conversation?'.

Entrepreneur

- **Honesty** How honest is the entrepreneur?
- **Order** How orderly is the entrepreneur?
- **Hygiene** How hygienic is the entrepreneur?
- **Feel comfortable** Does the entrepreneur feel comfortable?
- **Communication** How does the entrepreneur communicate?
- **Commerciality** How commercial is the entrepreneur?
- **Anticipatory** How anticipatory is the entrepreneur?
- **Realistic** How realistic is the entrepreneur?
- **Taking enterprise seriously** How seriously does the entrepreneur take his business?
- **Open to help** How open is the entrepreneur to help?
- **Dealing with risks** How does the entrepreneur handle risk?
- **Online presence** How is the entrepreneur known on the Internet?
- **Curriculum vitae** What does the entrepreneur's resume look like?
- **Entrepreneurial skills** How do you estimate the entrepreneurial skills needed in the entrepreneur?

Private

- **Relationship with partner** What does the relationship with the partner look like?
- **Safety net** To what extent is the entrepreneur's safety net sufficient?

- **Lifestyle** To what extent does the entrepreneur's lifestyle match the application?
- **Caring about luxury** To what extent does the entrepreneur care about luxury?

Visit

- **Environment** What does the environment look like?
- **Location** What does the location look like?
- **Feeling** How well did the interview feel?

Business/Plan

- **Business plan** How is the business plan written?
- **Knowledge of the market** How much knowledge does the entrepreneur have of the market?
- **Feasibility of the businessplan** Is the business plan feasible?

5.1.2 Soft-screening module

The second part of the design is the soft screening module. The goal of the module is to assess an applicant by codifying soft information. Before the loan officer starts with the assessment, an introduction is shown with an explanation of the module.

All soft aspects are listed in the module. For each aspect, the loan officer has to rate the aspect on a 5-point Likert scale. This can be called codified discretion (Filomeni et al., 2021). As seen in the interviews, the importance of all the different pieces of soft information differs. To properly capture the opinion of the loan officer, the influence of each aspect on the decision/advice is also measured using a 5-point Likert scale. Measuring the influence of each aspect gives weight to how important this aspect is in this particular case. Because those two ratings are not all-encompassing, there will also be a comments field per aspect. Additional (context) additions can be placed here so that not all the value of the soft information is lost. Measuring influence and textual explanation can be called uncodified discretion (Filomeni et al., 2021). Filling in the explanatory field is not mandatory.

Besides the question related to the aspect, the help-context is also shown in the assessment. This helps the loan officer to process all the (unconscious) soft information. In Figure 6 an impression of the soft screening module is given. At the top, the question for the loan officer to answer and the associated context can be seen. The measurement

Figure 6: Impression of assessing page of the soft screening module (in dutch)

code is the first Likert scale ('Meting'). The measurement of influences ('Invloed') is the second Likert scale. They are followed by the explanatory field ('Toelichting').

Besides the default aspects, the loan officer can add information that can be codified; this is added to continue receiving feedback from the loan officer during the process when new relevant soft information comes to light that cannot be incorporated into any of the aspects.

After completing the assessment, the result can be viewed. See Figure 7. The review of the assessment consists of two elements. A so-called soft score and the (un)codified discretion aspects.

Bekijk beoordeling 143291-1

Softe Score: 5.6

Fysiek gescreend | *Antwoorden zijn ingediend* | *Bewerk beoordeling*

Vraag	Beoordeling	Invloed	Toelichting
		- Ondernemer -	
Hoe eerlijk is de ondernemer?	Zeer eerlijk	Zeer veel invloed	
Hoe geordend is de ondernemer?	Een beetje geordend	Veel invloed	
Hoe hygiënisch is de ondernemer?	Hygiënisch	Veel invloed	
Voelt de ondernemer zich op zijn gemak?	Een beetje op zijn gemak	Zeer veel invloed	
Hoe communiceert de ondernemer?	Goed	Veel invloed	
Hoe anticiperend is de ondernemer?	Niet anticiperend	Zeer veel invloed	
Hoe realistisch is de ondernemer?	Niet realistisch	Zeer veel invloed	
Hoe open staat de ondernemer voor hulp?	Een beetje open	Zeer veel invloed	
Hoe staat de ondernemer bekend op internet?	Goed	Veel invloed	
Hoe ziet de CV van de ondernemer eruit?	Goed	Veel invloed	
Hoe schat je de benodigde ondernemerscapaciteiten bij de ondernemer in?	Goed	Veel invloed	
		- Prive -	
			Ze wil perse prive niet met zakelijk mengen en maakt dat op een bijna

Figure 7: Impression of the soft score and textual results in the soft screening module (in dutch)

Soft score The purpose of the soft score is to give an idea at a glance of whether the application has 'good' or 'bad' soft aspects. Besides that, in the future, the soft score can be useful for steering information and future analyses. For example, analyse for a correlation between the score and applications that repay faster. Alternatively, approach borrowers with lower scores more often to see how the borrower and his business are doing.

The score is a weighted average of codification and aspect influence. As these are two five-point Likert scales, the weighted average will never be able to exceed 5. However, Qredits' acceptance score is currently a score up to 10. This expression is also chosen for the soft score to give loan officers and risk managers equal representation. The weighted average is, therefore, multiplied by two. To read the soft score properly, it is rounded off to 1 decimal place. The calculation is as follows:

$$softscore = \frac{\sum_{i=1}^{n} w_i * x_i}{\sum_{i=1}^{n} w_i} * 2 \tag{1}$$

Where:
$n = $ number of aspects
$w = $ the influence of aspect i
$x = $ the codification of aspect i

(Un)codified discretion The soft screening module also shows the uncodified and codified discretion of aspects. The results give meaning to the soft score. The results are displayed as text, as seen in Figure 7. This can be consulted to read the explanation. The assessment results are also visualized graphically so the stakeholder can easily see the ratios between codification and the importance of each aspect. For this, see Figure 8. This figure shows all different aspects: The rating of an aspect is shown in the top bar (blue, 'Beoordeling'). The influence of an aspect in the lower bar (orange, 'Invloed').

5.1.3 Process

The last part of the design is the implementation of the soft screening module. In section 3 the current credit approval process of Qredits is described. In Figure 9 the design for the new process is visualised. There are compared to the current process (Figure 4) two changes.

(1) Change in the process The most visible and logical change in the process is the change that the soft screening module needs to be used to document the soft information after the appointment with the applicant.

(2) Increased use of soft information It can also be seen that soft information is used in more places. First, in the loan officer's decision itself. By processing soft information, the adviser has to think about some soft aspects again. With the desired effect that the loan officer includes this
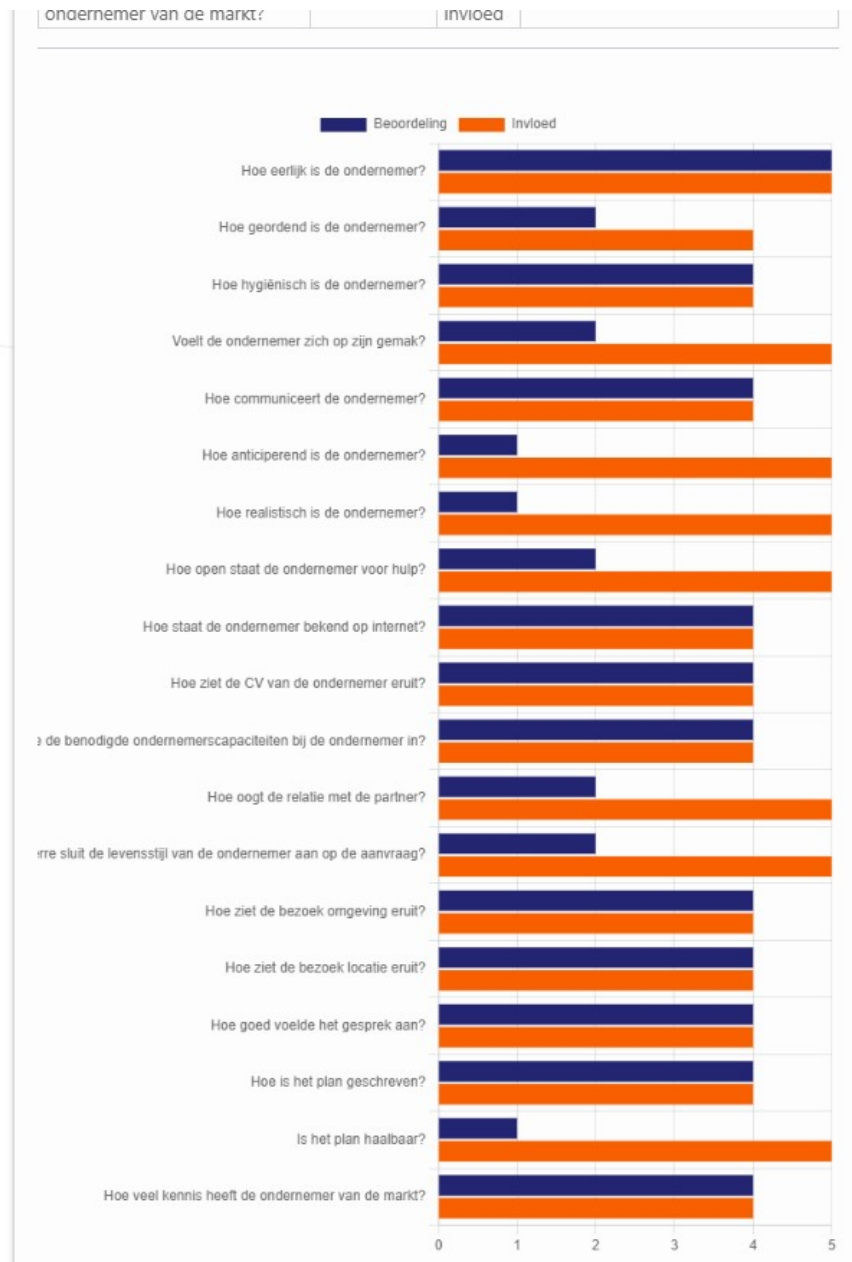
Figure 8: Impression of visualised results of the assessment in the soft screening module (in dutch)

in the assessment. In addition, the loan officer may start paying attention to aspects that the loan officer has not paid attention to in the
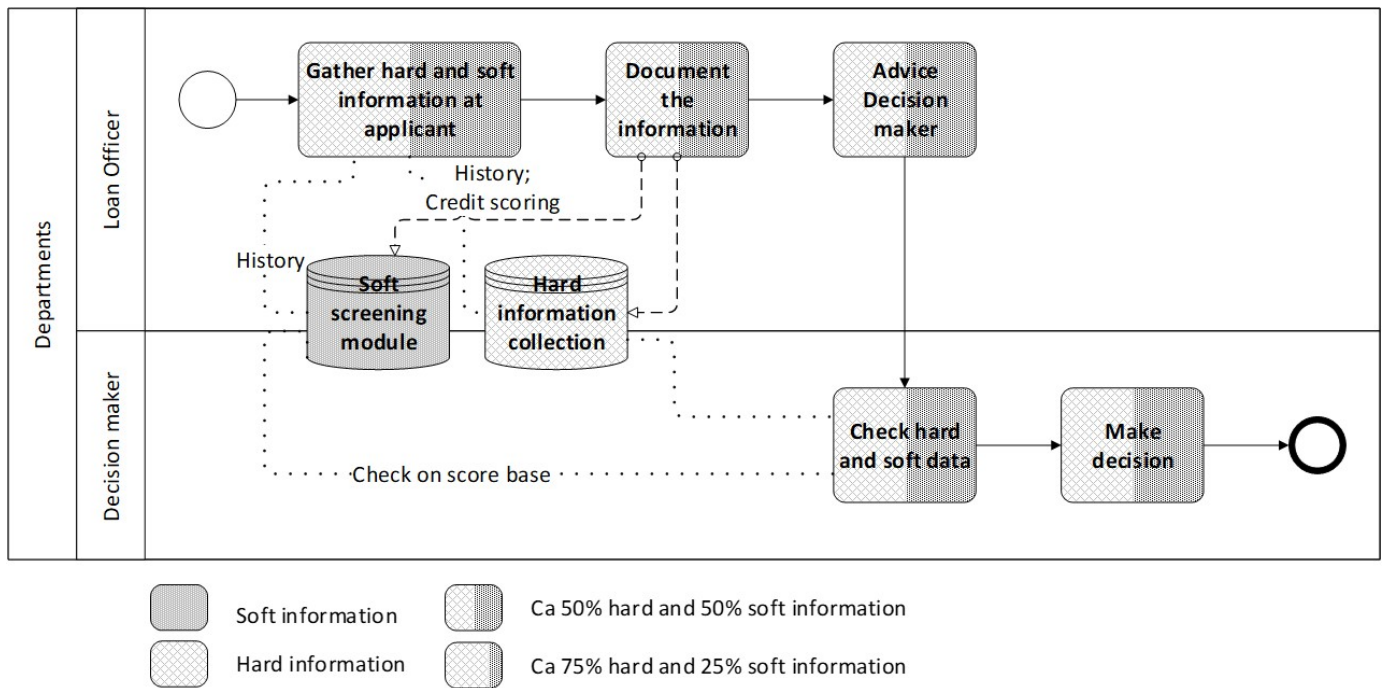
Figure 9: Design of the new screening phase in the credit approval process specified for Qredits.

past. As indicated earlier, it has been found that the loan officer pays attention to different things. It is desirable that by completing the soft screening module, a standard is set for what can be paid attention to.

Secondly, because of the use of the soft screening module, the advice that goes to the risk manager is supported by both hard information from MicroNET and soft information from the soft screening module.

Thirdly, the risk manager's decision is often based on hard financial data. But using the soft score, the risk manager can quickly compare the soft and hard aspects. He can then review the answers to see if they match the hard financial picture. This is particularly important in doubtful cases or discussions with the loan officer. This is where the soft factors can be decisive. Therefore the decision of the loan officer is also influenced by soft information.

Lastly, when the entrepreneur applies again for credit. Then the soft score can easily be used to see if there is an anomaly based on the soft information and if the loan officer needs to watch out for something.

5.2 Demonstration

A prototype of the design is created to test the design. Testing the artefact, in this case, is done in two steps. First, the content of the artefact was discussed with two experts (a director and a risk manager). Some feedback points came out of this. Next, the prototype was deployed in the organisation. Through a real-world case study, the functioning can be checked. This also resulted in some points of improvement.

5.2.1 Expert opinion

The prototype was shown twice to two experts. A director and a decision maker. Feedback about the aspects and the soft screening module is asked during the session.

Director   The director was the first expert who had seen the prototype. The general impression was positive. However, two critical points came out. A screening interview can also be conducted digitally, which makes some aspects irrelevant. In addition, in his view, some aspects could be clustered or omitted to reduce the number of aspects. This led to the following changes:

- Added a choice between physical screening and digital screening. Based on this aspect, *'Hygiene'*, *'Environment'*, and *'Location'* are not visible and required if the applicant is screened digitally.
- Aspect *'Commercially'* is left away. This has no additional value and has many tangentially with the aspect *'Entrepreneurial skills'*.
- Aspect *'Anticipatory'* is combined with aspect *'Dealing with risk'*.
- Aspect *'Taking enterprise seriously'* is combined with aspect *'Realistic'*.
- The safety net of the entrepreneur is really important. But this has more characteristics of hard information. Therefore the aspect *'Safety net'* is left away. Aspect *'Caring about luxury'* is combined with *'Lifestyle'*.
- Some semantics have been changed: *'Environment'* will become *'Visiting environment'*; *'Location'* will be *'Visiting location'*. *'Business plan'* will become *'Plan'*.
- Addition the context of the *'Plan'* aspect: *'Does it contain many language/writing errors?'* and *'Was it written by a third party?'*.

Risk manager   The risk manager has indicated that the soft module would certainly be valuable for his work. The visualisation of the outcome of the assessment (Figure 7 and Figure 8) was clear enough for

him. Besides that, he approved (the already improved) aspects. Additionally, the following changes have been recommended and thus made:

- Adding '*Does the client provide the info unrequested during the conversation?*' to the context of aspect '*Honesty*'.
- Adding the '*relationship to the intended revenue model*' to the context of the aspect '*Feeling comfortable*' and the aspect '*Plan*'.
- Adding '*Is there a partner income, or is the entrepreneur directly from scratch dependent on the results from the business*' to the context of aspect '*Anticipatory*'.
- Remove '*Influencee of culture*' of the context of the aspect '*Lifestyle*'.
- Adding '*Does the rationale make sense?*' to the context of the aspect '*Feeling*'.

5.2.2 Case study

As the experts approved the design, the next step of the demonstration phase is to test the prototype in a real-world case study. The module is implemented in the process as indicated before. After each screening interview with an applicant, the loan officer receives an email with the invitation to assess the applicant. Explicit feedback has been solicited on this module from all loan officers. There was one area of concern. Some aspects could not be codified. In order to solve this problem, an 'irrelevant button' is added to the soft screening module. If necessary, the question could be skipped this way. A small note is given that assessing with the soft screening module takes much time (around 5 minutes). Due to improper timing, too many assessments were sent out, and the workload was too high. This has been resolved. Other than that, the overall impression was positive.

Besides generally soliciting feedback, three loan officers were personally asked for feedback. The three loan officers saw the value of the soft module in all three areas, as described at the beginning of section 5. Specific feedback on the aspects was also requested. It was indicated that there are no additions and the aspects are all-encompassing.

In a period of three weeks, around 190 assessments have been made. 75% of those are assessments of visited applicants. In Figure 10, a histogram visualizes the distribution of the answers of the 'codification' (c) and 'influence' (i) Likert scales.

The measure of dispersion, or sample variance (S^2), for both groups, is $S_c^2 \approx 0.91$ and $S_i^2 \approx 0.68$. The difference between these two shows that
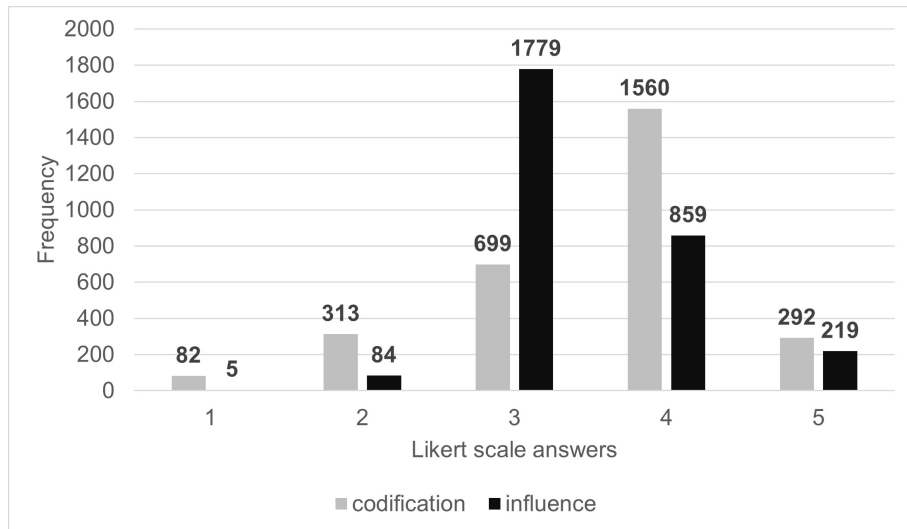
Figure 10: Histogram of completed codifications and influence

loan officers vary more in their answers on codification than on importance.

Based on expert opinions and case studies, it can be claimed that the design works as it should:

- According to loan officers and experts, the designed soft aspects are all-compassioning.
- Loan officers have completed 190 soft screening modules after a screening interview.
- Three loan officers confirmed that the module helps them process soft information.
- It is confirmed by feedback from loan officers and experts' opinions that the design has value and could work as a treatment for the problem.

However, how well the design solves the problem is examined in the next phase, evaluation.

6 Evaluation

In the previous section, the function of the treatment is validated. This section examines whether the treatment contributes to a more effective credit approval process. Different components of the treatment will be validated. Firstly there will be an assessment of the correlation between the soft score and the decision.

Secondly, the treatment's working is tested based on the real-world case study carried out in the previous phase. All loan officers who have assessed more than four applications ($n = 14$), have received a survey. For all applications on which a risk manager had to make a decision and for which the soft module was assessed, the risk manager viewed the soft module results and completed a survey to validate the importance of the soft module results ($n = 24$).

Thirdly, the soft aspects are validated based on an expert opinion. The expert has worked in the high-touch lending industry for over 12 years.

6.1 The evaluation of soft information

Based on the case study described earlier, 165 assessments have been completed with a decision. To validate whether gathering soft information has added value to the credit approval process, it is determined whether there is a significant difference between the means of the soft score of approved or denied applications. This does not describe the causality, but with a high significance, it gives a more solid basis for the claim that soft information matters and can be used in a high-touch credit approval process. Therefore the *welch two sample t-test* has been conducted with the mean ($\bar{X}$) of the soft score between two groups, x approved applications and y denied applications. The null hypothesis (h_0) is that there is no significance difference in the mean of the soft score between x and y. The alternative hypothesis is that there is a difference in the mean of the soft score between the two groups. With the outcome of $p \approx 1.6e - 17$ and a significance level of 0.05, h_0 can be rejected, and it can be concluded that $\bar{X}_x$ is significantly higher than $\bar{X}_y$. See Table 2 for the sample data between the groups.

Group	Sample size	Sample mean	Sample variance
Approved applications (x)	$n_x = 77$	$\bar{X}_x \approx 7.79$	$S_x^2 \approx 0.60$
Denied applications (y)	$n_y = 77$	$\bar{X}_y \approx 6.04$	$S_y^2 \approx 1.83$

Table 2: Welch two sample t-test data

In addition, an analysis can also be made by contrasting the hard information with the soft information. This can be used to determine the relationship between the two. To summarise the soft information,

the soft score is used again. At Qredits, the acceptance score is used. This is a score calculated based on hard factors. Therefore the acceptance score is used as the second variable. A *linear regression test* with the dimension approved ($n_a = 88$) or declined ($n_d = 77$) is used to determine the correlation between the two scores. This brings the following insights:

1. There is a weak positive correlation between the soft score y and the acceptance score x based on approved applications ($p_a \approx .002$, $r_a^2 \approx .11$, $n_a = 88$)

2. There is no correlation between the soft score y and the acceptance score based on declined applications ($p_d \approx .24$, $r_d^2 \approx .02$, $n_d = 77$)

Thus, soft information has a correlate to the assessment of the decision.

6.2 Effectiveness evaluation

Risk managers   section 5 describes that the design ensures that at three points in the credit approval process, effectiveness is increased by reducing the information gap. Probably the biggest improvement is in the area of providing information to the risk department. Therefore, this point was validated through a survey. A risk manager rated each completed module on an application to be decided through risk with three 5-point Likert questions:

Q1: How much value does the soft score add? (No additional value; A few added value; Normal added value; Many added value; Very much added value)

Q2: Has your view about the soft aspect of the entrepreneur, among others, become clearer? (Not clear at all; A bit more clear; Reasonable more clear; Much clear; Very much clear)

Q3: How much does this soft information affect your assessment? (No influence; A few influence; Normal influence; Many influence; Very much influence)

In the period of four weeks, only 26 assessments have been seen by the risk department (four employees). The first question is answered with an average of 3.2, a median of 3, and two outliers of 'Very much added value'. The second question is answered with an average of 3.4, with one outliers of 'Very much clear'. The last question has an average of 2.91 with one outlier of 'Very much influence'. In Table 3 the results of the survey are displayed in a table. For each question, the answers are stated followed by the frequency of responses. The first percentage

shows the distribution compared to the total. The last percentage is cumulative with respect to the first answer.

It can be seen from the responses that the soft score adds more value in some cases than others. On the other hand, the soft module helps to sharpen the picture of the entrepreneur in about 50 per cent of cases. This does, however, not directly mean that the information from the module has the same influence on the assessment in all cases.

Question	Answer	Frequency	% Of total	% Cumulative
	No added value	0	0,0%	0%
	A few added value	9	34,6%	35%
Question 1	Normal added value	6	23,1%	58%
	Many added value	9	34,6%	92%
	Very much added value	2	7,7%	100%
	Not clear at all	0	0%	0%
	A bit more clear	6	23,1%	23%
Question 2	Reasonable more clear	6	23,1%	46%
	Much clear	11	42,3%	88%
	Very much clear	3	11,5%	100%
	No influence	4	15,4%	15%
	A few influence	5	19,2%	35%
Question 3	Normal influence	9	34,6%	69%
	Many influence	6	23,1%	92%
	Very much influence	2	7,7%	100%

Table 3: Frequency distribution survey case study risk managers

Comments were also requested after the judgements. Depending on the application, the answers differed. These can be placed into three sentiments. Sentiment 1 Confirming: the assessment is in line with the application. Some comments are noted below:

- "Loan officer's answers fit the explanation he wrote as well as the documents provided by the applicant. Neat/clean, orderly and easy to understand/follow."
- "Concerns a fine application."
- "Also evident from the explanation of the application and the documentation provided fine preparation by applicants."

Sentiment 2 Useful: The assessment is of use to the risk manager, it helps the risk manager to get a more clear picture. See the following examples:

- "In this one, Risk got into a discussion with the loan officer because of the interpretation of the soft factors."
- "The review helps to get a picture of the applicant."
- "[The assessment] gives reason to ask additional questions to the loan officer."

- "I found out things that were not processed in MicroNET."
- "This application relied very heavily on the entrepreneur himself, especially the soft skills. Based on the belief and confirmation in this analysis, providing is acceptable. Not entirely risk-free, but based on the faith of and especially in the entrepreneur."

The third sentiment is that the soft module is not useful. There is no added value in the soft module:

- "Much was already evident from the plan."
- "Only positive, [...] No new viewpoint, so little/no added value."
- "Concerns an excellent application."

In addition to the above, the four loan officers were also asked if the soft module helps them to look at the application and any specific aspects of the assessment differently. They all responded that they could now look at the application in a different way. Also, one loan officer said he was reminded to look at the applicant's website.

Loan officers   After the case study, 14 (12 respondents) loan officers are surveyed. There are 5 Likert scale questions to determine how the treatment affects the credit approval process of the loan officer.

Q1: How often did you start thinking differently about the applicant/application after filling in the soft screenings module?

Q2: How often did the soft screenings module assessment help by creating a viewpoint about the applicant/application?

Q3: How often were there relevant aspects where you did not think of otherwise?

Q4: How often would you consult a historical assessment again on a new application?

Q5: How often does the shown soft score in line with your expectations?[8]

It can be seen from the survey results (Table 4) that loan officers almost do not change their minds after completing the application/applicant.

In addition, it can be seen that in a few cases, the tool helps form a view of the application. But mostly, it does not. It should not be forgotten that soft information is a component in addition to hard (financial) information.

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[8]In order to answer this question, the loan officer did receive an overview of his assessed applications and the corresponding soft score

Question	Answer	Frequency	% Of total	% Cumulative
	Never	6	50,0%	50,0%
	Rarely	5	41,7%	91,7%
Question 1	Sometimes	1	8,3%	100,0%
	Frequently	0	0,0%	100,0%
	Always	0	0,0%	100,0%
	Never	4	33,3%	33%
	Rarely	4	33,3%	67%
Question 2	Sometimes	3	25,0%	92%
	Frequently	1	8,4%	100%
	Always	0	0,0%	100%
	Never	7	58,3%	58%
	Rarely	2	16,7%	75%
Question 3	Sometimes	2	16,7%	92%
	Frequently	0	0,0%	92%
	Always	1	8,3%	100%
	Never	2	16,7%	17%
	Rarely	2	16,7%	33%
Question 4	Sometimes	5	41,6%	75%
	Frequently	3	25,0%	100%
	Always	0	0,0%	100%
	Never	0	0,0%	0%
	Rarely	0	0,0%	0%
Question 5	Sometimes	1	8,3%	8%
	Frequently	8	66,7%	75%
	Always	3	25,0%	100%

Table 4: Frequency distribution survey case study loan officers

The results also suggest that the module is not used to discover new aspects that the loan officer did not think about in advance. However, this is a surprising conclusion. For example, there is an aspect that has also been assessed several times with "not looked into". There are two logical explanations for this. Either the loan officer still wants to examine this component, or the lender has not and will not do so in the future. If the latter explanation is the case, this shows that the module does not encourage loan officers to act.

The assessment will be reviewed regularly in case of a new application. This means that for the new application, the loan officer receives new information. This contributes to making the credit process more effective.

The results of the last question showed that, in many cases, the soft score matched the loan officers' view. This provides a basis for the analyses done in section 6.1

6.3 Aspect evaluation

To validate if all relevant soft information is covered in the soft module aspects, an expert opinion was obtained from an expert who has been in the field of relationship lending for over 12 years at various functions. Currently, the expert is working in asset recovery and special management. The list of aspects was presented to the expert. His opinion was asked for each aspect to validate the relevance and discuss the aspects. For the expert, one of the most important things to know is the entrepreneur's weaknesses. Along with that, whether the entrepreneur sees this of himself. This is included in the aspect 'realistic'. For the expert, it is also important that everything can be proven. This is to demonstrate honesty. This is measured in the aspect 'honesty'. According to the expert, the aspects are relevant, and nothing is missing. However, for each aspect, there can be a comment and discussion about the relevance of the aspect.

- **Honesty:** This is very important, as stated before. A loan officer needs to wonder if there are still things he needs to know. Proof is critical here.

- **Order:** Relevant aspect. However, a client may not know all of his debts. For example, a phone subscription will cause a BKR registration. Is it bad if the applicant does not know this registration?

- **Hygiene:** This should be related to the business model. A carpenter who has a mess at home does not have to need not be depreciated on this immediately.

- **Feel comfortable:** Whether an entrepreneur feels comfortable varies greatly from one entrepreneur to another. Some people always remain nervous. The important thing is that the entrepreneur is self-assured.

- **Communication:** This does not have to be biased. Communication should relate to what the entrepreneur wants to do. The carpenter may communicate in dialect, but is that a real problem?

- **Anticipatory:** The entrepreneur must indeed have a plan where he looks at the future. However, to anticipate is also to be flexible.

- **Realistic:** How realistic are we ourselves? [Doesn't everyone have some form of unrealism inside them?] The entrepreneur must have common sense. The knowledge has to be tested to know if someone is overestimating themselves. Motivation is also relevant.

- **Open to help:** Relevant but challenging to test at the entrepreneur.

- **Online presence:** The question here is also what does this say about the entrepreneur? The entrepreneur can still be professional even if he has pictures online as, for example, 'a metal head'.

- **Curriculum vitae:** The resume does not always say everything. The motivation behind things needs to be known. Are there any holes in it? And more importantly what is the explanation for the holes?
- **Entrepreneurial skills:** Again, this should be relatable to the business model.
- **Relationship to partner:** Relevant. The entrepreneur has to be able to sell it to the partner.
- **Lifestyle:** Relevant. Seeing this in perspective with the application.
- **Visiting environment:** Of course, the surroundings do not say much about the entrepreneur, but they give away a first impression.
- **Visiting location:** This is similar to the above. The interior, for example, does not say much, but it gives away an impression of the entrepreneur.
- **Feeling:** Crooks can also be sympathetic people and give a good feeling.
- **Plan:** It also depends on the industry.
- **Feasibility of the business plan:** The loan officer should keep it small and reason back to 'now'. In doing so, it is essential to use common sense.
- **Knowledge of the market:** This is relevant.

Based on the above expert opinion, it can (as written before) be said that it is important to always see soft information in context of the entrepreneur and the loan officer. All aspects may or may not be relevant. Therefore, the loan officer has the opportunity to indicate with the use of the 'influence' measurement in the soft screening module, how much influence an aspect is for the review.

6.4   Final design

Based on the validation, no more design changes need to take place. The design as described in section 5 and the corresponding changes made as described in section 5.2 are sufficient.

Summarised, the design consist of 19 soft aspects: *'Honesty'*, *'Order'*, *'Hygiene'*, *'Feel comfortable'*, *'Communication'*, *'Anticipatory'*, *'Realistic'*, *'Open to help'*, *'Online presence'*, *'Curriculum vitae'*, *'Entrepreneurial skills'*, *'Relationship to partner'*, *'Lifestyle'*, *'Visiting environment'*, *'Visiting location'*, *'Feeling'*, *'Plan'*, *'Feasibility of the business plan'* and *'Knowledge of the market'*.

After a applicant screening interview, the loan officer must rate all different aspects. For each aspect, the loan officer should also rate the

influence on the decision. If necessary, the loan officer can add extra explanations such as context.

A soft score is generated and shown to the second decision maker. Based on this score, he can get a first impression of the entrepreneur. The decision maker can then review the assessment made in the soft screening module and factor the information into his decision

6.5 Summary

Because there is a positive correlation between the acceptance score and the soft score, and the mean of the soft score is significantly different for each rejected or granted application, soft information correlates with the application's decision. This confirms the previously described picture of the importance of soft information. With this, it can also be argued that disclosing this soft information is also essential.

Because the soft score aligns with the loan officers' view, the soft score could be used as steering information to get a quick impression. Also, the validation of the soft score serves as a foundation for the conclusion drawn above. Whereas the design tried to close the information gap at three points, it succeeded at two points. Namely, the loan officer can utilise a historical soft module when receiving a new application from an existing customer (1). Also, when passing information to the second decision maker, this design helps, as shown by the case study and surveys conducted by risk managers (3). However, the module does not contribute significantly to generalising the use of soft information (2).

7   Conclusion & Discussion

In this section, the conclusion of the research is given by answering the main research question as stated in section 1.3. In order to answer this research question, the sub-questions should be answered first. Future work recommendations follow the conclusion. This section closes by describing the limitations of this study.

SRQ1: What research is currently available regarding using soft information in a high-touch credit approval process?

As can be read in section 3 there is little written about the usage of soft information in a high-touch credit approval process. A few processes have been found in research that mentioned the hardening of information through codification (Wang, 2020; Filomeni et al., 2021). However, these descriptions are not validated. Concerning codification, a distinction can be made between codified discretion, where a rating is calculated based on a questionary and uncodified discretion, where the rating can be overridden manually with written notes (Filomeni et al., 2021). The latter continues to give loan officers the freedom to influence themselves. This freedom remains important for a high-touch credit approval process as soft information is gathered by the loan officer, who knows the context and how to interpret the information (Y. Chen et al., 2015; Liberti & Petersen, 2019).

SRQ2: Which soft information do loan officers collect?

In section 4 it is described from different loan officer perspectives what soft information is collected. The different pieces of information can be classified. This can be found in section 4.3. Soft information gathering is mainly centred on the entrepreneur. All information is also placed in the context of the business model. Therefore, how important different information is can be varied. The soft information found often says something about (entrepreneurial) characteristics and often forms a gut feeling. Each loan officer also emphasises different pieces of information. Whereas one loan officer may pay attention to how orderly an entrepreneur is, this makes less difference for another loan officer.

SRQ3: How can soft information be made known to interested parties?

Soft information is difficult to transfer because very different types of information are collected for each entrepreneur and loan officer. However, the meaning of this information can be conveyed through the implementation of the design described in section 5. With this design, a loan officer can assess an application based on different aspects. The soft information they have found helps with this. The underlying soft information may want to be filled in by textual description and passed on to, for example, the decision maker.

How can a soft screening module improve the effectiveness of a high-touch credit approval process?

The soft screening module can improve the effectiveness of the high-touch credit process by transferring the (meaning of) soft information to another decision authority. By having loan officers review various soft aspects after a screening interview and pass them on to the next decision-maker, as described in this study, the decision-maker can use this information to get a more general view of the risks. Decisions about the applicant are, therefore, more trustworthy. Without transferring the soft information, this information would be lost. This study provided a treatment to codify and capture soft information by letting loan officers review different aspects.

Risk managers indicated in a survey that using the soft screening module influences their assessments and is useful in assessing an applicant. This shows the value of the soft information and the value of the soft screening module. Besides codification in the module, a soft score was also designed based on the completed soft screening assessment. It was found from the validation of this study that there is a significant difference between the average soft score of approved and rejected applications. Because the soft score is calculated based on the soft screening assessment, it means that the soft screening assessment gives an impression of reality. In addition, with the soft score, the risk manager can get an impression of the applicant at a glance. The soft score was also validated through a survey with loan officers. The survey showed that, in most cases, the soft score matched the loan officers' impression of the applicant. A survey also showed that this score also has value for the risk manager in some cases. Both the surveys and the statistical analysis indicate a sufficient reason to believe that a soft screening assessment and the soft score can be used as a mechanism for risk assessment.

Besides making the assessment from the second decision-maker (risk manager) more effective, the results of a survey during the design validation show that the soft screening module can be valuable for assessing future applications from an existing applicant. The loan officer can use the previously completed soft module and compare the applicant's current situation. This gives the lender more information and thus reduces the risk.

What can be concluded from the validation is that this design does not address making the loan officer reconsider what soft information he (unconsciously) came across while assessing the application. Also, the soft screening module, with an exception, helps the loan officer get a view of the application. Let alone that, he assesses an applicant differently.

Thus, the soft screening module reduces the asymmetric information gap in two ways, which makes the process work more effectively

at two points:

- When transfering soft information to the second decision-maker.
- When the loan officer uses a historically completed soft screening module when receiving a new application from an existing applicant.

The process, as described by Filomeni et al. (2021), has been a basis for the design of this module. Two aspects of that process have been adopted: "Codified discretion"and "uncodified discretion". However, there are some differences compared to the model of Filomeni et al. (2021). Instead of adjusting the complete rating, each aspect can be adjusted separately in the soft screening module utilizing the 'influence'. A more specific indication of which aspects do or do not count in the assessment can then be given. This leaves the loan officer with considerable discretion. Also, the soft score is separate from the hard information. The soft score is calculated only on the basis of the soft screening module. Wang (2020) also writes about the hardening of soft information. However, this process cannot be compared. The described loan officers have no face-to-face contact. Also, only one score is calculated here based on both hard and soft information. Flögel (2018) codification as well. However, no soft aspects are described. The limitation according to Flögel (2018) is that the questions of the survey are closed. Through the additional explanation, that problem is less relevant to the treatment of this study.

When reading this study, a question quickly arises: Does the treatment provide an objective view of the soft information? The answer will be "no": If loan officer rates the application with a final 6, loan officer b can rate the same application with a 7.5. The meaning of a rating will be different for each loan officer. The soft screening module will become objective if this is not the case. But if this were one of the objectives of the treatment, would the information still actually be soft in origin? Because of the broad aspects that arise in the module, each loan officer will asses the aspects differently. However, that is the loan officer's viewpoint of the applicant. And precisely, that viewpoint comes from the relation with the applicant, which is the basis of relationship lenders like Qredits.

7.1 Contribution to literature

As stated earlier, no validated model or process has been found in the literature describing soft information transfer. This study fills that gap. First, extensive research was conducted on different types of soft information, these were then classified into an aspect to be assessed. These aspects were also validated through both their use and multiple expert

opinions. The study results show how important soft information is to the credit approval process and how the soft screening module can contribute to more effective decision-making. This study contributes to the literature in the field of relationship lenders. In addition, if the module is embedded into credit approval processes, this study also allows future studies to be done with the data resulting from the soft screening module.

7.2   Contribution to practice

The soft screening module is valuable for organisations like Qredits with a high-touch credit approval processes and a second decision makers. Using the module, they can codify and collect soft information efficiently and in a standard way. This contributes to a complete picture of a situation, leading to a more effective process as risks become more apparent. The process description and the aspects mentioned can be a starting point for organisations to begin with. Conceivably it turns out that in their context, additional aspects should be added, or an aspect does not add value. As described, the soft score is a good mechanism to get a first impression of an applicant. In the future, this can help conduct business analysis, such as monitoring loan officers.

As the case study was applied to Qredits, the soft screening module was already embedded in the process. Therefore, this study made a practical contribution to Qredits' processes and landscape. Qredits' credit approval process has become more effective with using the soft screening module.

7.3   Future work

In addition to the actual problem of transmitting information, it was also briefly described why this research is further essential for Qredits and other similar relationship lenders: With the increasing degree of technology, the question arises whether soft information is that important anymore. This study showed that soft information relates to the credit approval decision. However, this is insufficient to conclude that this answers the question that fin-tech solutions are not a substitute for collecting soft information. Nevertheless, the next research step could answer this question since it is now clear which soft information is collected.

In addition, the soft score could be further expanded. The soft score is now a weighted average. Perhaps the results of future research show that various aspects should weight differently. Further optimising the score could make it even more reliable. A practical example is to vary

the weightings by different industries.

It will also be possible to see (at least) within Qredits to what extent the information collection affects the loan officers' conversion rate. Understanding this area will help determine whether certain loan officers should make different choices. Another follow-up research which partly ties in with the above is to examine why different loan officers look at other things. Should this remain as part of the Loan officer's discretion? Or, on the contrary, should this be standardised?

Lastly, an addition to the research on financial inclusiveness could be to determine the difference in the usage of soft information by different target groups. Is soft information, for example, used differently if the applicant is a woman relative to a man? Does this also influence the credit decision?

7.4   Limitations

Filomeni et al. (2021) has studied that loan officers with a greater distance from the headquarter give more positive answers during the codification of soft information. Even though this research was conducted at a bank, there may be a cultural difference between non-profit institutions and commercial banks. This is because the pressure of targets is small and, unlike the survey by Filomeni et al. (2021), no bonuses are handed out at Qredits, which may be a motivation to want to extend more credit deliberately. However, even then, there can be a risk that this also happens at Qredits. A risk manager also indicated that this could be a risk to the treatment. Therefore, it is good not to automate based on the soft score. A possible step could be to require a mandatory explanation about an aspect. By doing so, the loan officer is forced to express himself. However, it is also questionable whether this is the solution, as Filomeni et al. (2021) indicates that the descriptive context decreases the further away the branches are located.

In this study, the treatment is validated. However, the validation could have been done better if there had been more time for a case study (> one year). This study only looked at a credit decision. If the study lasted longer, a relationship between the soft score and false positives (going bad or, even worse, default) could also be examined. Depending on the circumstances, these are the loans with the most risk. But this was not possible in the given scope.

The results from the filled assessments during the case study are generally neutral. Wetzel, Böhnke, and Brown (2016) describes this phenomenon as "Midpoint response style". This influences the soft score.

This phenomenon is seen both in the codification results and especially in the influence results. One reason could be that the selection slider is in the middle by default. However, this is purposely not adjusted because it might have influenced the case study results to validate the treatment.

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A Outline interview

Below an initial setup for the loan officers interview is documented.

Introduction:

> *Note: Explaining the purpose of investigation and interview*

1. How long have you worked at Qredits?

2. What kind of work did you do before?

3. *If relevant:* What is the difference (in screening) between Qredits and your previous job?

Interview:

1. What does the screening process look like in general?

   (a) How long do you spend filling in the screening module?

2. What do you mainly look for during the screening process?

   > *Note: 5-c's: Character, Capacity, Capital, Collateral and Conditions*

   (a) How do you find those things?
   (b) Do you have specific things you pay extra attention to compared to your colleagues?
   (c) Have you learned from your colleagues?

3. What have been the main reasons that you have recommended to reject an application?

4. What have been the main reasons that you have recommended to approve an application?

5. Do you sometimes rely on your gut feeling?

   (a) Can you describe your feelings?
   (b) Are your gut feelings mainly positive or negative?
   (c) What kind of influence do your gut feelings have?
   (d) Can you name how you get these feelings?

6. Do you have certain methods or 'things' that you do by default when screening an applicant?

B   Categorisation of soft information gathered by loan officers

Category	LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8	LO9
Honesty	Visit 2: Was not honest	'The credibility of the entrepreneur'; Visit 5: Honest about strength and weaknesses		Important. Direct asking questions. Being open	'Can the entrepreneur be trusted?'	'Plausible story for mistakes made'; 'Keeping the agreements'	'Ask for proof'; 'Show only good points of himself'; 'Evidence for climes'	'Answer questions well?'; 'How is the payment morality'	
Order		'Things on order'			'Is the entrepreneur orderly?'				'Things on order?'
Hygiene					'Is the entrepreneur hygienic?'	'Does the entrepreneur tidy up?'			'Clean house'; 'Dirty glasses'; 'Dirty toilet'
Feel comfortable			'Feel at ease'; 'Feel nervous'	'Seem nervous?					'Nervous'; 'How important is the interview?'
Communication	Visit 2: Not answering questions	Visit 4,5: Good answers		'Not beat around the bush'; Answer clearly	'Know what he is talking about'; 'How does someone answer questions?'	'Response to questions'; Good and clear answers; 'Talk decisively'	'Manner of responding or reacting.'		'Reaction: arrogance or haughtily'; Give good answers to questions: knows wat he is doing
Commerciality				'Sell the plan?'		'Commercially wise¿;			

Anticipatory				'Anticipatory capacity'			'Act wisely in the past?'; 'Concerned in the future'	'Thought about everything'; 'Agile'	'Learned from past'
Realistic			'Sens of reality'				'Realistic story'		'Realistic and reasonable'
Taking the business seriously	Visit 3: Had willpower	'Will power'; Visit 4: Driven	'Doing what he wants to do'	'Take the business seriously'					
Open to help		Visit 4: Open for coach		'Coming her way'; 'Do something with feedback'		'Listed to advice'	'Stands open to help'	'Financial guidance or coach?'	Ability to handle feedback.
Dealing with risks	Visit 1: Willing to take risks	Visit 4: Wrong projects	'Understanding of risks'		'How are risks handled?'	Part of entrepreneurship is assessing risks		'Risks clear? '; 'How to handle with them? '	
Online presence						'Facebook/Instagram' Findable online? Other articles?			

Curriculum vitae			'Period of being an entrepreneur' (experience)			Similarities between the business plan and the CV?; 'Education and experience'; 'Permanent contract?'; Answers who is this person?	'CV of entrepreneur.'	'Education and experience'	
Entrepreneurial skills	Visit 1: Positive expression and attitude	Visit 5: Entrepreneurial family	'Entrepreneurial capabilities'	'Self reflection'	'How are decisions made?'	Perseverance and decisiveness'; 'Think things trough'	'Self assurance'	'Competencies'	
Relationship whit partner					'How are relationships handled?'; 'How is the relation with the partner'	'Stable? Partner committed?'			
Safety net		'A possible safety net'	'Fallback scenario'	Safety net is important		'Save buffer'	'Always have a fallback scenario'		

Lifestyle		'The private situation'; Visit 4: Spending money; Visit 5: Sober lifestyle	'Living situation'; 'The lifestyle'			'Does the entrepreneur fit the default pattern'; 'How easy does an entrepreneur borrow'	'Culture of entrepreneur'		
Caring about luxury						'Do people care about luxury?'; 'What are recent purchases?'			
Environment						Lookup environment of location via Google maps			
Location		Visit 5: Simple accommodation			Always wants to meet at home; Is it orderly at the location?				Handy man with a poorly finished house'
Feeling of the conversation	Visit 1 (Because of positive expression); Visit 2: Not honest		'Total picture'; 'Faith in entrepreneur'		'Illogical things'; Understand what happens	'Fit the standard pattern'; 'Confidence in entrepreneur'; 'Answers to smooth'	'Listens to gut feeling'; 'With a good feeling, benefit of a doubt.'		

Business plan				'Who, what, where'; USP			'Poor written plan'		
Knowledge of the market	Visit 1: Good customer targeting	Visit 4: Good market knowledge	'Experience in market'						
Feasibility of the business plan			'Explo- ration is feasible'; 'Slack in forecast'	'Believe in the plan'; 'Plan is feasible'			Realistic forecast		

C   Aspects and context

Note: this is the first version. See for the changes in the aspects and context.

Entrepreneur

- **Honesty**

    - Is the entrepreneur open about things?
    - How is/is the entrepreneur's payment morality?
    - Is everything the entrepreneur states correct? Can the entrepreneur prove it?
    - Is the entrepreneur holding anything back?
    - Do you see only positive and good aspects?

- **Order**

    - Does the entrepreneur have his books and records in order?
    - Does the entrepreneur keep his appointments (on time)?
    - Does the entrepreneur know his debts or BKR position?

- **Hygiene**

    - Does the entrepreneur look groomed?
    - Was the venue clean?
    - Was the toilet clean?

- **Feel comfortable**

    - Was the entrepreneur nervous? Did this recover during the interview?
    - Is the entrepreneur confident?
    - What is the entrepreneur's attitude?

- **Communication**

    - Does the entrepreneur give open answers to your questions? Or does the entrepreneur seem to want to hide things?
    - Does the entrepreneur know what he/she is talking about?
    - Has the entrepreneur thought about his/her business?

- **Commerciality**

    - Can the entrepreneur sell his plan?
    - Is the entrepreneur commercially savvy?
    - Consider small things too: E.g. Does the entrepreneur have voicemail?

- **Anticipatory**
  - Is the entrepreneur looking to the future?
  - Has the entrepreneur learnt from the past?
  - Can the entrepreneur anticipate and adapt?
  - Does the entrepreneur have a savings buffer?

- **Realistic**
  - Does the entrepreneur overestimate himself or the market?
  - Is the entrepreneur making good predictions?

- **Taking enterprise seriously**
  - Has the entrepreneur thought about most things?
  - Is the entrepreneur doing something he/she wants to do?
  - Is the entrepreneur fully committed?

- **Open to help**
  - For example, financial guidance?
  - Does the entrepreneur listen to feedback and advice?
  - Does the entrepreneur also come your way?
  - How has the entrepreneur dealt with risks in the past?

- **Dealing with risks**
  - Does the entrepreneur see the risks?
  - Are the risks clear?
  - Has the entrepreneur thought about everything?

- **Online presence**
  - Is the entrepreneur findable?
  - How does he/she appear on social media like Facebook or Instagram?
  - Do other articles exist?
  - Have you found other relevant businesses the entrepreneur is involved with?

- **Curriculum vitae**
  - Has the entrepreneur done relevant training?
  - Does the entrepreneur have any experience?
  - Has the entrepreneur worked under permanent contracts?
  - Does it seem consistent with the business plan?
  - How long has this entrepreneur been an entrepreneur?

- **Entrepreneurial skills**

  - Consider his/her: perseverance, decisive action, self-reflection or other matching competencies.
  - Does the entrepreneur think carefully?

Private

- **Relationship with partner**

  - Is the entrepreneur's partner present at the interview?
  - Does the partner seem to care? Is the partner engaged?
  - Are they treated respectfully?
  - Do the relationships seem stable?

- **Safety net**

  - Does the partner also provide income?
  - What if the plan does not work out, can life be easily picked up again?
  - Does the entrepreneur have a (savings) buffer?

- **Lifestyle**

  - Does what you see privately match the situation?
  - Does the entrepreneur borrow easily?
  - Does the lifestyle match the story told?
  - Does the lifestyle match the private situation?
  - Does the entrepreneur live beyond his means?
  - What influence does culture have?
  - Are there any strange patterns?

- **Caring about luxury**

  - Can the entrepreneur do less under challenging times?
  - Does this get in the way of financing?
  - Has the entrepreneur made illogical choices by caring about luxuries?

Visit

- **Environment**

  - How does this affect your (first) impression?
  - What does the environment look like on Google Street View?

- **Location**

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- What does the layout look like?
- To what extent does the location match what the entrepreneur will do? (Eg: A neat garden with a landscaper; A painted house with a painter)

- **Feeling**

  - What is your gut feeling about this entrepreneur and the conversation?
  - Is the overall picture right?
  - Do you understand what is happening in the business?

Business/Plan

- **Business plan**

  - Is the plan concrete?
  - Does it contain all the information?
  - Does it read what you want to read
  - Written from the reader's perspective?
  - Is the plan correct?

- **Knowledge of the market**

  - The local market
  - The competition
  - Other suppliers and providers
  - Who his customers are

- **Feasibility of the businessplan**

  - Is the forecast realistic?
  - Do you have faith in the product?
  - Is the plan distinctive?
  - Does the entrepreneur make good forecasts?