# Crowdlending for German SMEs

## Determinants of Adoption

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# ABSTRACT

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Fintech is revolutionizing the financial world. And concurrently with this phenomenon, there emerges a business model that owes its novel growth above all to the rigidity of banks and new regulatory requirements since the financial crisis of 2008: Crowdlending for SMEs. In Germany, however, the new solution, which connects lenders and borrowers directly via a platform, still has start-up difficulties. Based on this, the goal of this research is to examine factors that determine the decision to adopt Crowdlending among German SMEs. Using the innovation adoption framework by Wisdom, et al. (2013), a qualitative research design is conducted to compare two groups of enterprises according to their perception towards the emerging financing solution. Every group consists of six participants and is created according to category, industry and the decision of having already adopted Crowdlending or not, resulting in a sample size of twelve interviewees. The study shows that although facing trust issues, factors, such as speed, low complexity and the possibility of rising awareness among SME's customers are crucial for an adoption decision. On a company level, innovative management, the readiness to change and curiosity significantly yield a positive effect on the decision to adopt. The tendency appears to be even stronger, when the firm has recently faced a change in leadership from an older to a younger entrepreneur. While theoretically contributing to the scarce literature about Crowdlending in combination with German SMEs, it gives thought impacts to involved stakeholders.

# ABSTRACT (PORTUGUESE VERSION)

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Palavras-chave: Fintech, Crowdlending, Alternative Finance, PMEs Alemãs, Adopção

Fintech está a revolucionar o mundo financeiro. Ao mesmo tempo que ocorre este fenómeno, surge um modelo de negócio que deve o seu crescimento sobretudo à rigidez dos bancos e aos requisitos regulamentares desde a crise financeira de 2008: Crowdlending para PMEs. Na Alemanha, contudo, a nova solução, que conecta credores e devedores diretamente via uma plataforma, ainda possui dificuldades iniciais. Com base nisto, o objetivo desta pesquisa passa por examinar fatores que determinam a decisão de adoptar Crowdlending entre PMEs Alemâs. Utilizando a estrutura de adoção de inovação de Wisdom, et al. (2013), uma concepção de pesquisa qualitativa é conduzida de modo a comparer dois grupos de empresas de acordo com a sua percepção em relação à solução financeira emergente. Todos os grupos consistem em seis participantes e é criado de acordo com categoria, indústria e a decisão de já ter ou não adotato Crowdlending, resultando numa amostra de 12 entrevistados. O estudo mostra que apesar de enfrentar questões de confiança, fatores como, rapidez, complexidade baixa e a possibilidade de conscientizar clientes de PMEs são cruciais para a decisão de adoção. A nível da empresa, inovação de gestão, a disponibilidade para mudar e a curiosidade produzem um efeito positivo na decisão de adoção. A tendência aparenta ser ainda mais forte, quando a empresa recentemente mudou de liderança de um empreendedor mais velho para um mais novo. Ao teoricamente contribuir para a escassa literatura sobre Crowdlending em combinação com PMEs Alemâs, impacta o pensamento dos intervenientes.

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# 1 INTRODUCTION

## 1.1 Credit Crunch and Low-Yields: Paving the Way for Fintech and Crowdlending?

> *"Start-ups and small entrepreneurs have typically relied on bank finance to grow. But they present risks that banks are not always prepared to take — at least not cheaply. Banking rules introduced after the financial crisis, which imposed higher capital requirements against riskier assets, made things worse. A generally subdued economic environment has not helped small businesses' case either"* (Financial Times, 2018).

The underlying quote article published by the Financial Times on September 11th 2018 highlights the relevance of Fintech and new financing alternatives for small and medium-sized enterprises (SMEs). On the one hand, it is a combination of dissatisfaction resulting from increasing mistrust and the rigidity of banks. On the other hand, it is the increasing relevance of technological features such as Blockhain, Artificial Intelligence (AI) or Big Data that give a term that has actually existed for a long time a new and ever since, growing significance: Fintech has unbundled and disintermediated traditional institutions and revolutionized the financial world. As a result, it has increasingly determined how people and institutions spend, invest and borrow money (Statista, 2019). One sector, that has been emerging from this development is the Alternative Finance landscape and with it, the phenomenon of P2P Business Lending/Crowdlending for businesses.[1] With the solution to match borrower and lender on a single platform while cutting out banks as the intermediary, Crowdlending has managed to fulfil two essential functions in the last years and in consequence has been winning two important target groups: On the one hand, it has become an emerging asset class for investors who increasingly struggle with the low-yield environment for cash and savings and look for absolute and risk-adjusted returns, while simultaneosly implying less risk of duration and more stable interest rates. Due to less correlation with other assets, Crowdlending appears to show higher diversification potential than traditional fixed-income securities. On the other hand, Crowdlending is increasingly evolving into an alternative for SME financing. With the help of Big Data, automative and innovative risk assessment solutions and less administrative barriers, it reflects a solution for SMEs that appears to fill the gaps that regulative measurements and the rigidity of banks, inter alia, have created after the financial crisis (Morgan Stanley, 2018). However, there also appear to exist factors that dampen the growth of Crowdlending. Wardrop,

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[1] Chapter 2 will introduce relevant definitions. Nevertheless, it is already anticipated here that, due to simplicity reasons, the terms P2P Business Lending, Alternative Lending, Crowdlending and Crowdlending for Businesses will be used synonymously.

et al. (2015) examine that regulation influences companies in holding on to traditional sources like bank loans due to a sign of reliability and trust. In addition, there appears to be a high difference in the readiness to adopt among the different countries:

**TRANSACTION VOLUME: COMPARISON AND FORECAST**
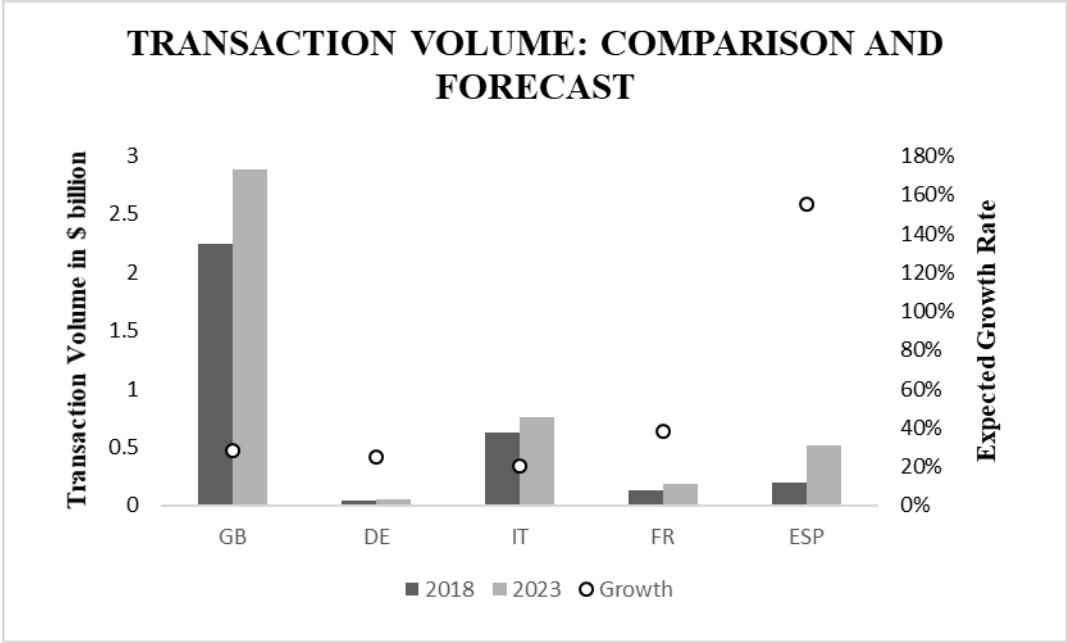


**Figure 1**: Transaction volume: Comparison and Forecast (EU5).
Source: Own illustration based on data from Statista (2018).

Figure 1 shows the transaction volume of Crowdlending in $ billion on the primary vertical axis and the expected growth rate on the secondary vertical axis between 2018 and 2023, while differentiating between the five biggest countries in the European Union (EU5). Great Britain (GB) shows a Crowdlending transaction volume of $2.24 billion as of 2018 with an expected growth rate of approximately 29% to $2.88 billion in 2023. On the contrary, other countries such as Germany (DE), Italy (IT), France (FR) and Spain (ESP) implicate a rather infant market development. Especially Germany implies with an actual transaction volume of $0.04 billion in 2018 and an expected amount of $0.05 billion in 2023 a relatively low receptiveness and growth potential for the emerging Crowdlending landscape. This observation seems surprising, since the main target group of Crowdlending platforms is very strongly represented: According to the Federal Statistic Office, there are about 2.4 million SMEs in Germany that account for 99% of total firms, 61% of all employees and 34% of total revenue generated (Federal Statistical Office, 2019). In addition, these firms – often operating in highly specialized niche markets – are considered to serve as a key driver of innovation and technological change and hence, stimulate economic wealth and competitiveness (Federal Ministry for Economic Affairs and Energy, 2019). This raises one main research question:

> *What factors determine the Crowdlending adoption decision of German SMEs?*

## 1.2   Structure

With the goal to answer the research question and to shed light to the perception of the Crowdlending landscape among German SMEs, the work is structured as follows: Chapter 2.1-2.3 lay the foundation for the further procedure by defining and classifying the most important terms: SMEs, Crowdlending and Regulation. They give information about the most common business model of Crowdlending and introduce already researched information about the perception of regulative barriers among entrepreneurs. Based on this, Chapter 2.4 functions as the core of literature research and has the objective of presenting and reasoning the current situation of German SMEs in the context of obtaining financial funding, as well as analyzing the potential of Fintech within this specific context. Chapter 2.5 is devoted to finding and justifying a suitable basis for the questionnaire that will be used later to obtain the results by using a modified version of the innovation adoption framework introduced by Wisdom, et. al (2013). Chapter 3 describes the methodology. This includes the way in which interview participants are selected for a qualitative research design, the instrument to measure the data obtained, drawing attention to potential biases and actions to mitigate these. Also, the section provides information about the analysis approach. In the further course, Chapter 4.1 summarizes the results of a descriptive, quantitative examination of the database provided by a Crowdlending firm, before the work focuses on the summary of the main results in Chapter 4.2. The findings are categorized according to their construction level and other, not initially anticipated findings are added afterwards. Lastly, Chapter 5 summarizes the results, interprets them, suggests implications for Crowdlending platform providers and introduces factors that potentially limit the significance of the study. In a final step, proposals for further research activities are given in chapter 5.3.

## 1.3   Theoretical and Practical Contribution

*Contribution to Research*

Transaction volumes are globally growing at an increasing rate. Although much scientific research is carried out in both areas separately, literature is still relatively meagre as far as both parties are concerned. Searching for Crowdlending in connection with SMEs in Germany on Google Scholar and Econbiz gives rise to the assumption that literature appears to have room for more enrichment.[2] Related studies exist: Jackson Njau (2017) examines determinants on the

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[2] Searching for P2P Business Lending or Crowdlending for German SMEs on the two databases mentioned above results in 84 hits, cumulated. This appears to correspond to the low level of transaction volume in Germany. However, it also shows that this implies a lot of research potential.

choice of alternative financing, but lacks in providing a specific frame for interpreting the results, as well as insights from the companies' perspective. Van Benthem (2016) examines determinants of the adoption of Alternative Finance in general among Dutch SMEs. While the author's structure functions as an important guideline for this study, he concentrates on a specific region in the Eastern part of the Netherlands, interviews six participants and focusses on the Alternative Finance landscape in general. On a theoretical level, the underlying study contributes to existing research scarcity in the context of German SMEs and the emerging phenomenon of Crowdlending.

*Contribution to practice*

This study aims to contribute to different parties involved in the Crowdlending landscape in Germany by identifying determinants in favor or against the adoption decision among German SMEs. Governmental institutions, traditional banks, Crowdlending platforms, investors and firms seeking debt-financing solutions can use the information obtained and derive their own actions according to their goals. Especially for platform providers, the results of the underlying study have the potential to contribute to a better understanding of the main target group and to initiate actions for a further development of customer relationships within the Crowdlending landscape.

# 2  LITERATURE REVIEW

## 2.1  German SMEs

With the goal to set up a consistent definition without any distorted metrics, the European Commission has introduced a quantitative definition of SMEs:

**Table 1**

SME Definition by European Commission (2003)

| Company category | Staff headcount | Turnover | or | Balance sheet total |
|---|---|---|---|---|
| Medium-sized | < 250 | ≤ € 50 m | or | ≤ € 43 m |
| Small | < 50 | ≤ € 10 m | or | ≤ € 10 m |
| Micro | < 10 | ≤ € 2 m | or | ≤ € 2 m |

According to Table 1, the category of SMEs consists of firms that employ less than 250 people. In addition, a firm whose turnover does not exceed the €50 million threshold or whose Balance sheet total is equal or less than €43 million can call itself an SME (European Commission, 2003). Although literature sometimes refers to qualitative characterizations, one advantage of the quantitative definition approach lies in consistency and comparability between different firms. Furthermore, it leaves no room for interpretations and can be easily applied to the sample in order to answer the research question. Because of the above reasons and for the sake of simplicity, the study will progress to use the definition indicated by the European Commission. However, qualitative factors will play an important role in the further analysis and are considered in the following chapters as important differentiating characteristics to determine the use of Crowdlending. In the following course of the study, German companies are considered those who are based in Germany and pay corporate taxes to the German state.

## 2.2  Crowdlending: Overview

### 2.2.1  Classification

Although the following study will focus on Crowdlending for SMEs, it is important to classify it as a source of a currently rapidly growing area of Fintech. Lacasse, et al. (2016) define Fintech as "A field or sector arising from the symbiosis of digital platforms and artificial intelligence in financial services, generally at odds with traditional financial services". In other words, a emerging phenomenon consisting of a bundle of solutions arising from the various vertical levels of banking services with the use of new technologies, such as Big Data, Internet of Things (IoT) and Artificial Intelligence (AI). Alternative finance in general and crowdlending in particular are part of this phenomenon. There are several approaches for the definition of the sources of Alternative Finance (Burton, et al., 2016) (Wardrop, Zhang, Rau, & Gray, 2015).

However, due to its rapid progress, a more recent approach by Garvey, et al (2018) is applied, that combines the key elements of 14 different Alternative Finance models:

**Table 2**

A taxonomy of Alternative Finance (UK excluded). Adapted from Garvey et al., 2018

| Model | Definition | 2016 |
|---|---|---|
| P2P Consumer Lending | Individuals or institutional funders provide a loan to a consumer borrower. | € 696.81m |
| **P2P Business Lending** | **Individuals or institutional funders provide a loan to a business borrower.** | **€ 349.96m** |
| Invoice Trading | Individuals or institutional funders purchase invoices or receivable notes from a business at a discount. | € 251.87m |
| Equity-based Crowdfunding | Individuals or institutional funders purchase equity issued by a company. | € 218.64m |
| Reward-based Crowdfunding | Backers provide finance to individuals, projects or companies in exchange for non-monetary rewards or products. | € 190.76m |
| Real Estate Crowdfunding | Individuals or institutional funders provide equity or subordinated-debtfinancing for real estate. | € 109.45m |
| P2P Property Lending | Individuals or institutional funders provide a loan secured against a property to a consumer or business borrower. | € 95.15m |
| Balance Sheet Business Lending | The platform entity provides a loan directly to a business borrower. | € 59.13m |
| Donation-based Crowdfunding | Donors provide funding to individuals, projects or companies based on philanthropic or civic motivations with no expectation of monetary or material return. | € 32.40m |
| Debt-based Securities | Individuals or institutional funders purchase debt-based securities, typically a bond or debenture at a fixed interest rate. | € 22.85m |
| Balance Sheet Consumer Lending | The platform entity provides a loan directly to a consumer borrower. | € 16.74m |
| Mini-Bonds | Individuals or institutions purchase securities from companies in the form of an unsecured retail bonds. | € 10.16m |
| Profit Sharing | Individuals or institutions purchase securities from a company, such as shares or bonds, and share in the profits or royalties of the business. | € 8.36m |
| Balance Sheet Property Lending | The platform entity provides a loan secured against a property directly to a consumer or business borrower. | € 1.00m |

Table 2 divides the sources of Alternative Finance into 11 different branches and presents them in descending order according to their European transaction volume in 2016.[3] It can be concluded that P2P Consumer Lending as measured by volume of nearly €700 million is the biggest

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[3] A more recent database from Statista about the transaction volume in 2018 has already been introduced in Chapter 1. However, it only provides information about the Alternative Lending landscape and does not consider all Alternative Financing sources. Hence, for a classification purposes, the data given by Garvey, et. al (2018) is used.

by far, followed at some distance by P2P Business Lending[4] with about €400 million and Invoice Trading with approximately €250 million.

### 2.2.2 Crowdlending as a Source of Alternative Finance

When it comes to the definition of Crowdlending as a subcategory of Alternative Finance, literature suggests a rather uniform description. In addition to the concise definition by Garvey et al. (2018), there are more comprehensive approaches in literature. According to the Federal Financial Supervisory Authority (BaFin), 'Crowdlending refers to the brokering of a loan over an Internet services platform between a customer (the borrower) and a credit institution (the lender) which holds authorization pursuant to section 32 (1) of the German Banking Act (*Kreditwesengesetz* – KWG)' (BaFin, 2019). Amrein, et al. (2018) follow a less formal definition by describing crowdlending as the act 'of brokering debt capital between lenders and borrowers of capital online'.

A standard crowdlending process[5] starts with a borrower's application to the crowd-lending platform in which the firm provides useful data for the estimation of its creditworthiness and borrowing limit. In addition to use of their own expertise, crowd-lending platforms usually outsource parts of the credit screening to specialized third party providers. Then, individual or institutional lenders can look for investment opportunities. If the investors accumulate the financing amount requested by the borrower within a predetermined timeframe, a loan agreement between the two parties is concluded. The platform generates revenue by charging a service fee on all transactions and takes care of payment delays or situations of illiquidity. However, usually the investor bears the full risk of losing his money in case of the borrower's default (Mazzotti & Caminiti, 2017).

## 2.3 Regulation: Environment and Perception

Due to the important role of regulation within the financing landscape, it appears essential to search for a common definition. Priest, Stanbury and Thompson, (1980) define it as "imposition of rules by government, backed by the use of penalties that are intended specifically to modify

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[4] P2P Business Lending and Crowdlending can be treated as synonyms who function as an alternative to traditional bank loans in the following. Since they both describe the same phenomenon when it comes to businesses, but Crowdlending is more common in recent literature, this work will use the term of Crowdlending from here on (P2P Market Data, 2019).

[5] Depending on the business model, the process of Crowdlending and the revenue model can vary between different platform providers. There are examples of four-party business models with another player who generates the loan and has the right to facilitate it on the platform. However, due to simplicity reasons and the fact, that an important share of the data sample is derived from the database of the Crowdlending platform *Kapilendo* which follows the business model above, this study will focus on the standard three-party process introduced by Amrein et al. (2018).

the economic behaviour of individuals and firms in the private sector." Since literature lacks in a variety of deviating approaches and the underlying definition is backed by several sources, it will be used in this study (Centre for Co-operation with European Economies in Transition, 1993) (Jones & Graf, 2001). Not only the process, but also the way how a platform and the companies are regulated within the frame of the Crowlending process depends on the platform's business model, as well as on the country of operations. Along with chapter 2.2.2, the standard business model is used to examine the current regulatory situation for the Crowdlending landscape in Germany. The main challenge for regulators is to minimize the risk for investors and borrowers while maximizing the positive impact of the sector. Hence, this chapter approaches the trade-off situation from both, the platform's and the SMEs' perspective. German P2P Lending platforms are subject to KYC[6] regulations. The German Anti Money Laundering aims at the customer's due diligence process for every domestic transaction above €15,000 and foreign cash transaction above the €2,500 treshhold. Since the biggest share of a Crowdlending platform's clients consists of privately held companies, the platform is obligated to align the provided information with the firm's legal form, register number, as well as the incorporation and management address. Most platforms are bound by the German Small Investors Protection Act on the investor side and partner together with banks when not owning a banking license (PriceWaterhouseCoopers, 2016). With the goal to examine the perception of regulation, Dorfleitner, et al. (2017) surveyed Crowdlending platform entrepreneurs in Germany about the main barriers their business has to deal with.[7] All interviewees mentioned the regulatory guidelines generally and more particularly the cost of obtaining licenses, as well as the prospectus requirement[8] as the most noticeable impediments. This already implies a presumption for the perception of regulation from the SMEs perspective. Pinotti (2012) finds that government regulation of firms is considered as an entry barrier and the general attitude torwards it to be negative. However, Van Benthmen (2016) argues, that for the Alternative Finance landscape, governmental intervention functions as a setback against the uncontrolled and more complex growth and hence, can help to establish trust among the firms. Campbell, et

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[6] "The adoption of effective know-your-customer (KYC) standards is an essential part of banks' risk management practices[...]Sound KYC policies and procedures not only contribute to a bank's overall safety and soundness, they also protect the integrity of the banking system by reducing the likelihood of banks becoming vehicles for money laundering, terrorist financing and other unlawful activities" (Basel Committee on Banking Supervision, 2004).

[7] The authors received anwers from six Crowlending portals through a survey. The transaction volume of these accounted for nearly 43% of the total market volume in 2015. Although the Fintech landscape and the Crowdlending environment change rapidly, the given information is still uesful to obtain a picture of the perceived barriers regulative frameworks establish for those providers (Dorfleitner, et al., 2017).

[8] 'The new regulation forces SMEs' entrepreneurs to one information asset sheet per project. The SMEs' entrepreneurs need to distinguish the projects under and above €100,000 threshold to know whether they need to draft the extended version of the prospectus' (Naidji, 2017).

al., (2011) add that for this it is crucial for consumers to understand the information gained from regulative directives.

## 2.4  SMEs Access To Financing and the Potential of Fintech

Large parts of literature refer to the fact that companies rely to a large extent on bank loans to finance their business. Small and medium-sized enterprises in particular account for an even larger proportion of these loans (Ferretti, 2016) (Iyer, et al., 2014) (Rossi, 2017). When defining access to finance, the World Bank refers to the "absence of price and non-price barriers in the use of financial services" (The World Bank, 2008). In addition, Claessens (2006) proposes three main cornerstones for access to finance: Availability, costs and quality of financial services. Within this understanding, according to Naidji (2017), SMEs are considered to be riskier borrowers than their larger competitors whose financial statements are obligated to meet certain transparancy requirements that are not applicable to SMEs. Ahmed, et al. (2015), Claessens (2006) and Wehninger (2014) list further internal factors which lead to SMEs being disadvantaged in applying for credit:

- Weak recording and reporting capabilities
- Business operations in high risk industries
- Lack in collateral to secure a loan
- Lack of track record
- Weak network in the financial sector
- Lack of financial literacy
- Lack of perception of funding sources
- High costs for tailored financial solutions

Based on these factors, one can argue that the problems that arise with a loan application are entirely due to the lack of transparency on the part of the borrowers. However, apart from the shortcomings of the SMEs and regulative barriers (Basel II&III), there is a common perception that banks are also not entirely irresponsible for the more difficult financing situation for SMEs. For the sake of cost reduction and optimization of information flow while assessing a company's credit worthiness, banks have established mechanisms, including internal policies, support tools and computer automation programs (Öhman, 2017). However, only hard facts, such as financial statements and ratios, find consideration for automation, because they are passed on by the loan officer to the committee without great effort. As a result, soft factors are rarely used as a basis for assessing credit default risks (Liberti & Mian, 2010). The second factor,

which is to the disadvantage of SMEs, relates to the role of the loan officer. Nilsson & Öhman (2012) examine in a study in Sweden, that Loan Officers are being confronted with two different types of errors. On the one hand, there is the type-1 error, that represents a missed opportunity, meaning the refusal to grant a loan to a company that turned out to be creditworthy. On the other hand, loan officers can face the type-2 error, which represents the loss of a bank in case of the borrower's default. Öhman (2017) further concludes that the loan officers act risk-averse and therefore prevent type-2 errors in favor of more frequent type-1 errors. In other words, they would rather mistakenly refuse an application for a loan than take the risk that the bank would bear the cost of defaults.

*An Emerging Opportunity? Fintech and Crowdlending*

It was precisely out of these gaps inter alia, that the business model of crowdlending developed in the course of Fintech's revolution of the financial world. A study[9] of the Leipzig Graduate School of Management (HHL) shows that these aspects are linked negatively to traditional bank loans. As a result, 68% of the 54 SMEs surveyed stated that bureaucracy was one of the main obstacles to external financing at a bank and 53% of SMEs would consider crowdlending for this reason. 55% indicated collateral requirements, 44% of them would use crowdlending as an alternative. In addition, financing criteria were rated according to their importance. It turned out that, in addition to trust and reliability, speed, simplicity and flexibility were the most important factors for the companies surveyed. While the companies are of the opinion that trust and reliability are still strengths of traditional banks, they see the platforms especially in the other points ahead. In general, these Fintech firms achieve their competitive advantages through the possibility to adapt their processes and risk assessment models to the needs of SMEs from the beginning. Thanks to innovative concepts such as Big Data, they can reduce information asymmetries even where margins are low by using both, financial and non-financial indicators (Nicoletti, 2017). Specifically, there are additional advantages that result for SMEs. Due to Crowdlending platforms not offering secured lending, a borrower is not obliged to provide collateral. Furthermore, platforms do not provide the credit themselves. This leads to companies having the opportunity to reach a larger group of creditors, including risk-taking investors seeking for diversification (Chae & Yum, 2012). SMEs can also benefit from P2P loans as a complementary approach to bank lending, as their peculiar differences motivate banks to cooperate with P2P platforms rather than standing in their way (Milne & Parboteeah, 2016). Referring to

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[9] The present study is based on an online survey among borrowers of the online credit marketplace 'Funding Circle Germany' and was carried out in September 2015 within two weeks. A total of 104 companies took part in the survey, 54 of which had previously received a loan (HHL, 2016).

the definition mentioned in the beginning of the chapter by Claessens (2006), literature offers a lot of arguments on how crowdlending can improve financial inclusion for SMEs. This leads to the suggestion that SMEs resort to crowdlending, even though they fulfil the requirements for a classic bank loan. However, some risks on the investor's and the firm's side are to be mentioned. In addition to the inexperience of investors, which entails the risk of incorrect risk assessment, as well as the inability to monitor the company taking out a loan, there is also the probability of default and the and the danger of losing all your invested assets due to a lack of collateral (Chae & Yum, 2012) (Macht & Weatherston, 2014). On the firm's side, the risk refers to a situation where the company applying for a loan is on the verge of bankruptcy, allowing the financial resources to continue inefficient operations and thus leaving an unhealthy company in the market even though the bankruptcy is only delayed (Pranjivan, 2017).

*Crowdlending as a last instance or detection of potential? A closer look*

Despite existing risks, the opportunities are dominant for applying companies. This gives rise to the assumption, that Crowdlending is not used as a last resort after all other alternatives have been tried out, but actually because of the advantages mentioned in terms of speed, flexibility and simplicity. To shed light to this suggestion, it seems appropriate to look at a study by the European Commission in 2018 that examines the situation of German SMEs and access to finance.[10]

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[10] "The survey on the access to finance of enterprises (SAFE) provides information on the latest developments in the financial situation of enterprises, and documents trends in the need for and availability of external financing. The survey results are broken down by firm size, branch of economic activity, country, firm age, financial autonomy and ownership. The survey is conducted twice a year." The underlying dissertation will only focus on topic specific questions and SMEs defined according to the approach in chapter 2.1. The results are conducted between April and September 2018. Nevertheless, the original study covers far more questions about the financing situation of SMEs than are listed above (European Commission, 2018) .

**Figure 2**: Main challenges in order of reference.
Source: Own illustration based on data of European Commission (2018).

Figure 2 is based on data of 1232 SMEs in Germany rated between 0 and 10, where 0 represents the lowest level of relevance and 10 the highest. It illustrates the greatest hurdles the sampled German SMEs are currently facing. The figure shows that, on average, access to finance was rated least relevant in the list of aspects provided with 4.0, while problems such as the recruiting of capable stuff and customer acquisition with 7.6 and 6.9, respectively, pose much greater challenges. Even regulation (6.1) and competition (5.9) reflect greater hurdles to overcome. In addition, as regards access to finance, Germany is far below the European average (6.5)[11] when it comes to the assessment as a major challenge. The assumption that the majority of German SMEs is not confronted with problems in gaining access to finance is reinforced by the following chart:

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[11] SMEs of 28 countries of the European Union were surveyed in total (European Commission, 2018). Due to clarity and simplicity reasons, the average of all the countries was not included in the figures.

**RATE OF DENIAL/SUCCESS**

| | Credit line or overdraft | Bank Loan |
|---|---|---|
| Applied and received everything | 79% | 77% |
| Applied and received 75% and above | 9% | 7% |
| Application is still pending | 3% | 4% |
| Applied and received below 75% | 6% | 4% |
| Applied but was rejected | 2% | 4% |
| Dk/na | 0% | 2% |
| Applied but refused because cost too high | 0% | 2% |

■ Credit line or overdraft   ■ Bank Loan
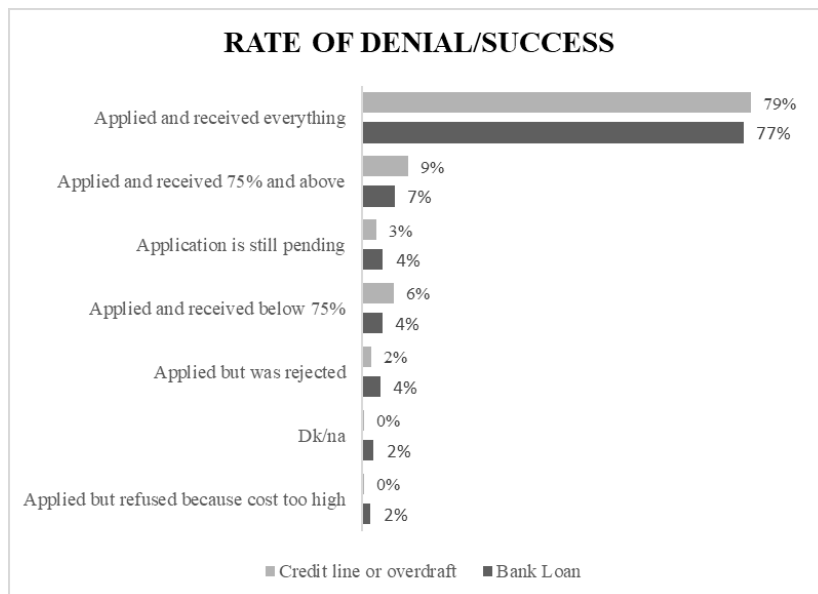
**Figure 3**: Success rates of German SMEs' applications to banks.
Source: Own illustration based on data from fEuropean Commission (2018).

Figure 3 is based on data of 146 SMEs in Germany and shows the average denial-/success rate for applications to banks (loan and credit line or overdraft) per outcome. With 79% successful applications, 77% respectively, it thus becomes clear that German SMEs see themselves in a stable position when it comes to access to finance. With 9%, 7% respectively left, who applied and received at least three quarters of the requested amount, the share of less successful applications turns out to be significantly low. A similar tendency holds for the remaining countries (EU28) surveyed (73% applied and received everything).

*Potential Reasons*

While the SAFE survey shows mainly descriptive character, a study by Deloitte in 2018[12] reflecting a similar tendency, provides three potential reasons for the current positive assessment. First, 61% of the surveyed companies mention the good liquidity situation, which enables them to make investments from their own funds. Secondly, around half of the companies surveyed do have sufficient access to public funding, while thirdly 22% state that enough financing possibilities are available. The relatively high success rate in loan applications on the other side, can be explained, among other things, by the existence of a stable regional banking system in Germany. Loeher & Schroeder (2017) show that the high density of branches in Germany has the consequence that, on average, the regional banks are located in close proximity to their small and medium-sized customers. This proximity facilitates personal contact and the

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[12] Subject of the study were 244 SMEs from Germany who were asked within the year 2018 for their assessment regarding their financial situation (Deloitte, 2018).

establishment of a long-term business relationship between the regional bank and the local SMEs. Loan officers also are provided soft information, such as personal impressions of the entrepreneur's management skills. In other words, they shows that the loan officer of a regional bank has many possibilities to include his subjective assessment of the potential borrower in the decision, thus reducing the information asymmetries identified above to be crucial for an appropriate risk estimation. Critical specific cases can be discussed between advisors and sales support staff. On this basis, special exceptional situations such as capital-intensive expansion plans or restructurings are taken into account in the credit decision, making lending less sensitive to crises, like the financial crisis in 2008. This was not the case, for example in Great Britain where loan applications are analyzed and granted centrally from London. The result was a much more tense post-crisis situation for SMEs (Loeher & Schroeder, 2017).

Summing up, literature shows that SMEs lack in internal factors impeding borrowing and that Crowdlending has the potential to grow. However, it also reveals a rather stable situation for German SMEs, where the majority currently indicates to have no or only minor issues in accessing financing sources. But what are factors that encourage a company to use Crowdlending? Is it speed, quality or costs? What prevents the firms from adapting it? Is it the lack of awareness or the high degree of statisfaction with the bank's service? To answer the main research question and allow a scientific base for the collection of conclusive data, a framework is used to guide literature and methodology through the theory of adoption and the different stages of the underlying study. Therefore, it assigns the still seemingly foreign concept of crowdlending to a more well-known phenomenon of adoption theory.

## 2.5 Adoption Theory: Crowdlending As Innovation

To fill the literature gap of an Alternative Finance relation within adoption theory, it is examined, how Crowdlending as a source of Alternative Finance can be compared to existing contributions to the landscape of adoption theory. The financing decision as a part of the overall financial management is considered as one of the main key processes in a company. It centers on the question on how the assets of a firm are split into equity and debt (Jain & Khan, 2007). Changing this process by introducing a method that was not present before is comparable to an innovation. This assumption evolves from the definition approach of Damiano Jr. (2011) who describes it as "the introduction of something new" and refers to an idea, process or product. Straub (2009) explains adoption as the process of integrating a new innovation. Relating the above mentioned terminologies to Crowdlending, it can be concluded that the integration of a Crowdlending as an alternative to traditional borrowings can be considered as the adoption of

innovation. Along with extensive and continous developments in the area of knowledge and technology, business internal structures and environments change the way and rate in which they adopt innovations (Hilmer, 2009). Due to this, many adoption theories have evolved over the years and can be derived from literature (Wisdom, et al., 2013). However, a framework for the following study should meet some specific requirements. First, it should be suited as questionnaire guideline, meaning it should provide aspects that can be transformed into questions with quantitative and qualitative character. Second, it should cover internal and external factors within a company and simultaneously integrate the decision-making process on different component- and organizational levels to account for interdependencies. Third, the factors should be clear and comprehensible but nevertheless allow the interviewee the necessary leeway to reframe and provide information that the framework does not cover initially. This increases the likelihood that the results of the semi-structured interview reveal determinants with a minimum level of biases. Following Van Benthem (2016), the Innovation Adoption theory of Wisdom et al. (2013) will be used in the following. In addition to the compliance with the requirements mentioned above, their adoption theory is particularly suitable, because it is a result of the examination of existing adoption theories through a narrative synthesis approach[13]. The authors analyze the main adoption constructs from four different angles: External system, Organization, Innovation and Individual. The following table illustrates the structure and sheds light to the corresponding determinants:

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[13] 'Narrative synthesis refers to an approach to the systematic review and synthesis of findings from multiple studies that relies primarily on the use of words and text to summarise and explain the findings of the synthesis. Whilst narrative synthesis can involve the manipulation of statistical data, the defining characteristic is that it adopts a textual approach to the process of synthesis to 'tell the story' of the findings from the included studies. As used here 'narrative synthesis' refers to a process of synthesis that can be used in systematic reviews focusing on a wide range of questions, not only those relating to the effectiveness of a particular intervention. It is sometimes viewed as a 'second best' approach for the synthesis of findings from multiple studies, only to be used when statistical meta-analysis or another specialist form of synthesis (such as meta-ethnography for qualitative studies) is not feasible' (Popay, et al., 2006).

**Table 3**
Adoption Construct Level Framework. Adjusted from Wisdom et. al (2013).

| Level | Adoption Factors | Description |
|---|---|---|
| **External System** | External Environment | Competitive environment as a source of pressure |
| | Government policy and Regulation | Political programs and regulation related decisions |
| | Social Network (inter-systems) | Social external interactions |
| **Organization** | Absorptive Capacity | Capacity to utilize innovative and existing knowledge |
| | Leadership and Champion of Innovation | CEO's influence, opinion leader, top management support |
| | Training Readiness and Efforts | Attitude towards education in the area of crowdlending. |
| | Network with Innovation Developers and Consultants | Organizational networks and collaboration with innovation developers |
| | Social Climate and Network (Inter-organization) | Social climate (pressure) and linkages to other Organizations |
| | Operational Size and Structure | Organizational structure and size of the organization |
| | Norms, Values and Cultures | Shared values within the organization (hierarchy) |
| | Readiness for Change | Ability of the organization to adapt quickly and attitude towards change |
| **Innovation** | Facilitators and Barriers | Perceived facilitators and barriers on every construct level |
| | Trialability, Relevance and Ease | Whether an innovation can be experimented, related and is easy to use |
| | Complexity, Relative Advantage and Observability | Observability, workability of an innovation and visibility of benefits associated |
| | Risk | Risks associated with Adoption |
| | Evidence and Compatibility; fit with user's norms and values | Perceived practice efficacy, coupled with compatibility; Company's goal and skills associated with Adoption |
| **Individual** | Individual Characteristics/Managerial Characteristics | Awareness, knowledge/skill, competence, current practice, demographic factors. Influence on workers' motivation, morale, and rewarding innovation. |
| | Readiness for Change | Individual readiness and motivation for change, assessment of attitudes toward change, endorsing a holistic approach towards quality improvement |
| | Social Network (individual's personal network) | Social networks on the individual level |

Table 3 is adjusted for the purpose of clarity, simplicity and the examination of the research question. The level of *External Environment* is used to cover factors from outside the company that may affect the adoption of Crowdlending, such as political decisions or regulative barriers. *Organization* integrates internal characteristics that potentially differ between a firm who adopts Crowdlending comparing to one that does not. Some examples for this category are

corporate culture and operational structure. The third contextual level *Innovation* claims to depict an initial assessment of the features of the Innovation, Crowdlending respectively. In this category Wisdom, et al. (2013) look at cost-efficacy or compatibility inter alia. The last angle the authors look at innovation adoption influence from is the perspective of the *Individual*. For this, they use characteristics like the level of readiness towards quality improvement or the extensiveness of social networks.

Because the model of Wisdom, et al (2013) claims to be applicable for more complex adoption processes with far-reaching consequences for business operations, factors like *Regulative Incentives* are excluded in the adjusted model, although Mendel, et al. (2008) establish a positive correlation between governmental incentives and the pre-adoptoin of innovations. However, literature does not provide any evidence that the same applies for Alternative Finance or Crowdlending. Within the *Organization* construct, the factors *Social Climate* and *Social Network (inter-organizations)* are merged since they both aim at the adoption process at a (internal-)group level and due to simplicity, can be summarized in one interview question. The same approach was applied for the factors *Training readiness and Efforts* and *Traits and Readiness for Change* (merged into *Readiness for Change*). For *Innovation* the factor *Cost-efficacy and Feasibility* is integrated in the factors *Facilitators and barriers*, as well as in *Risk* to avoid overlapping in the interviewee's answers. On the *Individual* level, *Individual Characteristics* and *Managerial Characteristics* are merged in case the interviewee and the company's manager are the same person. *Attitudes, Motivation, Readiness towards Quality Improvement and Reward* and *Readiness towards Quality Improvement and Reward* are consolidated, because the information about the latter already implies details about the first. Since the work's focus is on the decision to adopt Crowdlending, *Feedback on Execution and Fidelity* is excluded from the study, because several sources examine that this factor is less relevant in the pre-adoption phase of an innovation (Glasgow, et al., 2003) (Mitchell, et al., 2010) (Graham & Logan, 2010). Finally, *Client Characteristics* are not considered. The reasoning behind this is, that company's financing decision is made internally (Jain & Khan, 2007). Therefore, clients will not be interviewed within the scope of the following study.

# 3   METHODOLOGY

## 3.1   Selection and Instruments

Relevant information about German SMEs, regulation, access to finance with a special focus on Germany and adoption theory has been obtained with the help of secondary research. Reliability and validation of the sources have been thoroughly checked by using special databases, such as, Google Scholar and Econbiz. Sources are selected, if possible, according to the number of citations and the year of publication preferring more recent articles. If possible, comprehensive literature research has been conducted for additional input. To answer the main research questions about determinants of adoption of Crowdlending, the following selection-, instrument- and analysis pattern was applied:

*Subject Selection*

Because the qualitative character of the methodology does not in principle aim at making generalizable statements beyond the persons examined, but rather at adequately investigating and describing complex life worlds and questions of interaction, it is not necessarily required to try to achieve representativeness for a population when selecting the sample. The aim of the selection should rather be to obtain as heterogeneous a group of companies as possible for the examination, with maximum contrast in the relevant characteristics and thus informative (Patton, 2002). Following Bryman & Bell (2015) a purposive sampling method was used within the scope of this study, meaning that participants were sampled in a strategic way in line with the compliance with the definition of SMEs introduced in chapter 2.1. Initially, the plan was to interview nine random SMEs in Germany (Management or Finance Department) from different industries[14], regions, age and size to get a heterogeneous sample that could represent the three sub-groups (Medium, Small and Micro) introduced in chapter 2.1 equally. However, in the course of the survey it turned out that the results do not provide satisfactory information about the determinants of Crowdlending adoption. The main reason is that only one company adopted Crowdlending and knowledge about the landscape was scarce among the participants. In order to generate a more comprehensive picture, the initial sample was extended with the help of a

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[14] For the industry indicator the companies are assigned to a SIC code (see Appendix 2). The SIC-Code is a number that classifies industries by a four-digit code and assigns each company to an industry according to its activity (Department of Social and Economic Affairs, 2008)

database of the Crowdlending platform *Kapilendo*[15]. Companies were filtered by size and turnover and assigned to one of the three SME groups. The scope of the two following sample groups is seen as a basis for further research. The goal is to sample to the point of theoretical saturation. This means to the point where a new company makes little or no significant contribution to the results. However, the goal of theoretical saturation must be adjusted to the specifications and restrictions of the author of this work. Time and scope requirements must be considered. The outcome is represented by two groups: Six SMEs (in person of the management or someone responsible for the financing) that have not adopted Crowdlending yet and one group with six SMEs (following the same approach as for the other sample group) that has already used it as an alternative to a traditional banking credit. While the individual groups are composed heterogeneously, it is tried to create both groups as comparable as possible. Whenever feasible, it was controlled for important attributes, such as, industry and founding year, because differences in innovation adoption are expected among these. A summary of all participants is listed in Appendix 2.[16]

*Instruments*

The results are obtained by means of a qualitative interview with a semi-structural character. According to Bryman & Bell, 2015, the main difference to unstructured interviews lies in the phrasing of the questions. While a unstructured interview contains one or more pre-defined questions that function as a base of cooperation between interviewer and interviewee, a semi-structured interview relies more on the questions about certain areas or topics, but leaves still enough room for communication. For this, the contextual framework of Wisdom, et al. (2013) was used as a guideline that stimulates both, questioning and interaction.

## 3.2  Data Collection and Analysis

Even if both groups are confronted with the same framework of questions, there are small differences in the approach. While the sample group of the firms, that have not adpated Crowdlending yet were given a brief introduction into the Crowdlending landscape and the

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[15] Kapilendo is an online credit marketplace that enables small and medium-sized businesses to obtain financing from private investors. The company is based in Berlin and was founded in January 2015. The financing volume is around €45 million (as of March 2019). The database of Kapielendo consists of all projects in the Crowdinvesting and Crowdlending area that run on their platform (Kapilendo, 2019). However, this study only focuses on Crowdlending projects.

[16] All participants' names are kept anonymous as funding issues are treated very trustworthily and are usually only discussed internally. Information other than size-category or SIC code is not provided, since in the case of the adopters, the information can easily be linked to data the platform is providing. Hence, due to consistency, the same was applied for the group of non-adopters.

business model of Crowdlending platforms, the interview with the firms from the Kapilendo database starts without the introduction as it is assumed that information advantages or disadvantages, as well as other aspects were not mentioned upfront in order to guarantee the result to be as unbiased as possible.

*Collection*

After the introduction, questions representing the various adoption construct levels by Wisdom, et al. (2013) have been asked. The questionnaire can be derived from Appendix 1. If appropriate or due to lack of provision of information from the interviewee, additional information was provided or further questoins were asked. Some things have to be considered when collecting the data needed: The interviewer equals in this study the author of this dissertation and needs to have the appropriate interviewing skills (Bryman & Bell, 2015). Furthermore, device failures, environmental risks and transmission errors can distort the picture (Easton, et al., 2000). Especially, because – due to physical distance and the goal to interview companies from different regions – all of the interviews are conducted as telephone conversations, this risk is estimated to be higher. However, a few measures have been taken to mitigate the risk, including reading relevant literature about the correct conduct of interviews, the usage of a second recorder and the conduct of interviews in quite and closed rooms on both, the interviewer's and the participant's side.

*Analysis*

With an average duration of 35 minutes interviews were analyzed following the framework of Wisdom, et al. (2013). In the case of the example of *Innovation*, it is assumed that the participants who were sampled through *Kapilendo* have a significantly higher level of prior knowledge. This will be considered in the analysis of the determinants. The analysis of the data proceeds in five steps:

1. Given information has been written down directly after the interview. The theoretical framework of Wisdom et al (2013) was used to structure these first results. The aim of this phase was to obtain a first overview of the results of the study.
2. Afterwards, a more comprehensive listing of all responses has been prepared. It was used for an in-depth examination. (see Appendix 5-23).
3. Two comprehensive tables were created to match the information of the report with the guidelines defined by Wisdom, et al. (2013). These tables contain information provided per participant. The result was one table for each sample group (Adopters and Non-

Adopters) and contains the influence of the factors on a 5-point scale. Both tables can be derived from Appendix 3 and Appendix 4.

4. All recordings are analyzed for a second time to minimize the risk of missing information. Steps 2-3 are repeated in case of new information.

5. The obtained results are average between the two sample groups, taking into consideration the differences between them and used for the presentation of the adoption determinants rated on a 5-point scale. The resulting table (Table 5) is included in Chapter 5.

# 4 RESULTS

## 4.1 Crowdlending Database: A Quantitative Overview

Before a qualitative analysis is carried out, a quantitative overview of the companies that have adopted Crowdlending is presented. For this purpose, the database of *Kapilendo* (Appendix 24) is analyzed. It is important to note that the following quantitative analysis does not claim to be comprehensive or representative for the following reasons. First, the platform only provides data about 98 projects, that have already been accepted, successfully financed or successfully been paid back between July 2015 and May 2019. Other firms, in which the adoption of Crowdlending was part of the decision-making process but the application was not successful, could be excluded, despite their indicators being crucial for a quantitative in-depth analysis of the Crowdlending landscape in Germany. Secondly, representativeness is weak, because information about default risk or purpose of financing inter alia is not given for a potential control group. This leads to the fact that after the quantitative analysis it cannot be concluded whether the purpose of financing or the interest rate can predict the adoption of crowdlending.[17] However, illustrations, like the following, will shed light to the quantitative characteristics of the adopters:

**Table 4**

Kapilendo Database Overview (N=98) (Own illustration).

| Company category | Staff | Share | Turnover in € million | EBIT in € million | Financing in € thousand | Default Risk | Interest Rate |
|---|---|---|---|---|---|---|---|
| Medium-sized | < 250 | 21% | 8.09 | 0.28 | 201 € | 3.1% | 6.0% |
| Small | < 50 | 55% | 3.29 | 0.14 | 163 € | 3.8% | 6.6% |
| Micro | < 10 | 21% | 1.46 | 0.09 | 103 € | 4.3% | 7.2% |

Table 4 divides the firms into three groups according to the definition scheme in Chapter 2.1. Companies that can be taken from the database but do not meet the criteria specified in that chapter are excluded. All metrics are averaged and reflect the point of loan application on the platform. It is noticeable that a little more than half of the enterprises belong to the "Small" category, while the other half are divided almost equally between the two remaining categories. On average, all the three company categories show a positive turnover, but more importantly a positive EBIT, which could lead to the assumption, that adopters show a positive tendency

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[17] The mentioned limitations are not included in Chapter 5.3 (Limitations and further research) because they do not refer to the main methodology and the main results from the study but more to the significance of the database provided.

towards the ability to pay back debt from their operations, if all the applicants would be accessible via a database. Table 4 also provides insight into the average size of a loan financed in the last four years. With an average duration of 2.16 years, the average financing volume for micro enterprises is €103,000. Small businesses amount to €163,000, while medium-sized firms have applied for an average of just over €200,000. With an average default rate of 4.3% for micro-enterprises and 3.8% for small enterprises, the average interest rate is 7.2% and 6.6% respectively. According to Table 4, medium-sized firms show a lower risk of default (3.1%). However, with an average interest rate of just over 3%, this category also promises the lowest return. The database also provides information on the purpose of the loan application:
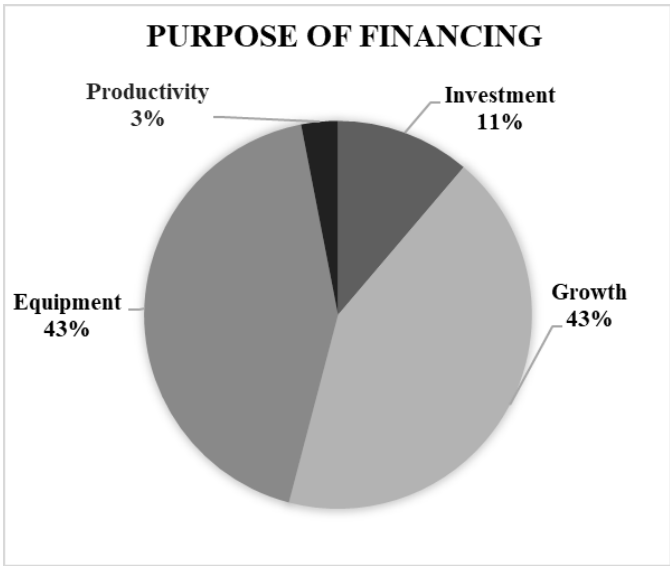


**Figure 4**: Financing Purpose.
Source: Own illustration based on Kapilendo Database.

Figure 2, the two main reasons for the loan application are the procurement of equipment or growth (both 43%). Investment (Capital expenditures) have been cited by 11% of companies as the reason for financing, while only 3% named Productivity. Even, if no comparable information about a control group is provided, it nevertheless can be concluded that a big share of the adopters used Crowdlending to finance Working Capital or short-term obligations. Given the important role for the liquidity situation, a loan must be provided quickly. In view of the fact that a large part of the population also indicated growth as a purpose for financing, it is advisable to look at the following chart:
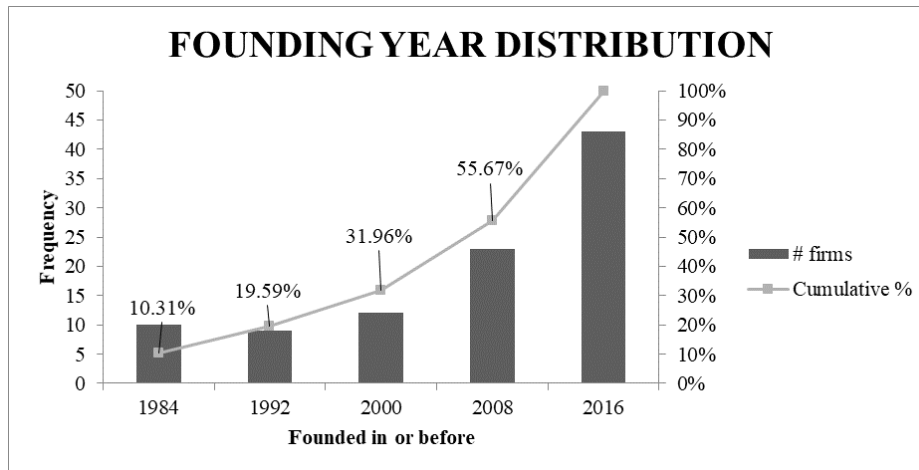
**Figure 5**: Founding Year Distribution.
Source: Own illustration based on Kapilendo Database.

Figure 3 shows the founding year distribution of the sample combined with a cumulative share to each of the corresponding time frames. It is noticeable that nearly half of the adopters were founded after the financial crisis in 2008. This gives rise to the assumption that a large share – if even the case of being affected – did not notice any changes in the credit approval process because they had not existed before or because some of these companies have recently been renamed in their legal form.

After this brief overview of some quantitative characteristics, the following chapter evaluates the interviews conducted and examines if there are qualitative factors in the observed companies that can explain the adoption of crowdlending. The results are analyzed following the adoption model of Wisdom, et al. (2013) and accordingly divided into four construction levels, beginning with the external factors.

## 4.2 Adoption Determinants

The findings are structured according to the adoption framework of Wisdom, et al. (2013) and analyzed with focus on their influence on the decision of Crowdlending adoption. The influence for every participant can be seen in Appendix 3 and Appendix 4. The following table represents the overall, averaged effect resulting from each of the 12participants[18] questioned for every factor:

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[18] Although it is common to write numbers from 0 to 12 in letters, for the sake of simplicity and a clear structure of the results, the amount of participants referring to each of the determinants are written in numbers.

**Table 5**

Influence of Adoption Determinants on a 5-point scale (Overall)

| Adoption Determinant | Influence |
|---|---|
| **External System** | + |
| Government policy and Regulation | + |
| External Environment | + |
| Social Network (inter-systems) | ± |
| **Organization** | + |
| Absorptive Capacity | + |
| Leadership and Champion of Innovation | + |
| Training Readiness and Efforts | + |
| Network with Innovation Developers and Consultants | ± |
| Social Climate and Network (Inter-organization) | unclear |
| Operational Size and Structure | not applicable |
| Norms, Values and Cultures | unclear |
| Readiness for Change | + |
| **Innovation** | + |
| Facilitators and Barriers | - |
| Trialability, Relevance and Ease | ++ |
| Complexity, Relative Advantage and Observability | + |
| Risk | ± |
| Innovation fit with users' norms and values; Evidence and Compatibility | + |
| **Individual** | + |
| Social Network (individual's personal network) | unclear |
| Readiness for Change | ++ |
| Individual Characteristics/Managerial Characteristics | ± |

Table 5 represents the cumulated effect of each considered determinant and will be explained in detail in the following.

### 4.2.1   External

*Government Policy and Regulation*

Government Policy and Regulation appears to play an important role in the decision to adopt. Also, it is important to mention that the attitude towards regulative measures and requirements extremely fluctuates among the participants. On the one hand, eight participants mentioned the simple and less regulatory financing with Crowdlending as one of the main reasons to adopt. Three of them even stated it was the most important determinant. The main reason for this is stated by 1 participant: "since the regulatory requirements after the financial crisis in 2008, a loan application and the whole process takes too much time. Loan officers are not what they used to be and make their decisions based on hard facts and algorithms, but do not really understand our product or service." These statements are in line with the findings of Pinotti (2012)

and HHL (2016). On the other side, 3 out of 12 participants from the non-adopter group hold the contrary opinion: they see regulation as a driver of trust and reliability. 1 participant stated that to use a less regulative financing source has a bad effect on the investors willingness to provide capital. Despite being ambiguous, the overall impact on the adoption decision appears to be positive.

*External Environment*

5 out of 12 participants (four from the adopter group) stated that the external environment influences the financing decision. Out of these 5 participants, 3 stated that an unanticipated customer order forced them to react accordingly and search for quick and easy financing solutions. 2 participants mentioned the low and decreasing satisfaction level with the banks' services and the duration it takes to get the requested capital. This is in line with the findings of HHL (2016).2 stated that there is a high pressure on the competitors' side which enhances to keep things as easy as possible. 1 participant stated that a loan application was rejected by the bank, which forced the firm to look for solutions. However, 7 participants told that external environment has little or no influence on the decision to adopt. However, it can be resumed that External Environment has an enhancing effect on the adoption decision.

*Social Network: Inter-systems*

While the financing decision of all 12 participants was described as internal and unattached of competitors' solutions, 4 participants answered to look for best-practices to adopt among their competitors. However, the results are not significant enough in order to make a sufficient statement about the factor's influence on the adoption decision.

### 4.2.2 Organizational

*Absorptive Capacity*

Generally, the absorptive capacity of 8 out of 12 participants can be described as high or very high. 6 of these are from the adopter group, giving rise to the assumption that absorptive capacity positively influences the adoption decision. However, one participant estimates that his high absorptive capacity enabled the organization to look for other opportunities than Crowdlending like investor loans. Nevertheless, it is also important to note that 3 out of the 8 participants with high capacity have recently completed a generational change, where the son entered the business. This led to a perceived increase in the absorptive capacity and influenced the adoption decision significantly. Therefore, this factor tends to yield a positive effect on the adoption decision.

*Leadership and Champion of Innovation*

Due to flat hierarchies and short decision-making processes, as well as due to all participants taking an upper management position, influence on the choice of financing is perceived to be high for 11 out of 12 participants. Therefore, concerning leadership, there cannot be made a conclusive statement. 1 participant stated that he was influenced towards a decision to adopt Crowdlending by a financial advisor, because of a lack in knowledge about alternative financing sources. However, in terms of innovative character, 6 out of 12 participants stated their innovative character to be influential in the financing decision, 4 of them already decided to use Crowdlending. For 2 participants the innovative attitude got stronger after a generational change. Summing up, the results indicate a positive influence of a management's innovative character on the adoption of Crowdlending.

*Training Readiness and Efforts*

7 out of 12 participants stated that they are keen to get to know more about the Alternative Finance and the Crowdlending landscape, respectively. 3 mentioned online advertising, newsletters and personal advisory as an important factor to fill the knowledge gap and reduce information asymmetries in favor of an adoption decision. Hence, this factor appears to have a positive influence.

*Network with Innovation Developers and Consultants*

2 participants out of 12 stated that they were influenced towards a decision to adopt Crowdlending by a financial advisor, because of a lack in knowledge about alternative financing sources. On the other side, investors as external parties appear to have an influence and are perceived to be a barrier for adoption of 2 other participants. They stated that taking additional debt involves more unnecessary risks and that there is a perception of signaling stakeholders that Crowdlending is used as a last resort and the company faces difficulties in acquiring capital in a conventional way. On the other side, 1 participant stated that the use of Crowdlending as an alternative to equity-based financing is favored by external parties, like investors, because it has no effect on the ownership structure and a therefore, does not affect the situation after a planned exit or similar future plans with the company. There appears to be an effect. However, the results do not give any indication direction of it regarding the adoption of crowdlending.

*Social Climate and Network between Organizations*

2 participants stated that they know another firm that has already worked with Crowdlending. However, the information obtained is not enough in order to provide a significant statement about the influence of this determinant.

*Operational Size and Structure*

This factor's main purpose is to categorize the interviewees and to create comparability among them. Because all groups are represented equally by the operational size, the information does not allow a conclusion.

*Norms, Values and Cultures*

Because of the typical character of SMEs being smaller, hierarchies are perceived to be flat and cultural environment is perceived to be personal and familiar by 12 out of 12 participants. Therefore, statements are unclear and do not give significant information about the adoption of Crowdlending.

*Traits and Readiness for Change*

5 participants gave answers that were unclear or did not allow a statement concerning the effect on adoption. Out of these 5, 4 participants stated that changes are made according to priorities and the financing choice has never been a top issue in the decision-making process. 7 participants, especially those three among the adopter-group who recently entered the business as young entrepreneurs, stated that their readiness to change is a core value and influences the financing choice. However, five out of the seven participants mentioned a lack of resources, money and new skilled staff, which restricts the ability to adapt. Summing up, this factor has a positive influence on the adoption decision.

### 4.2.3 Innovation

*Facilitators and Barriers*

The familiarity among the non-adopters is perceived to be rather low, while among the adopters it varies between average and high. 3 out of 12 participants consulted an external party like a financial advisor to get to know about potential disadvantages. As to be expected, facilitators and barriers show a negative influence on crowdlending adoption. 5 of 12 participants mentioned that they perceive the interest costs to be higher than those for a bank loan. Also, provision costs are mentioned by 3 participants as a disadvantage because of their sunk costs character, even if the project fails. 5 participants stated a high level of satisfaction with the banks because of an appreciated long-term relationship that was built up over the years. Based on this,

besides the lack of awareness and familiarity, it turns out that trust is a major factor that prevents firms from adopting Crowdlending. 6 of 12 participants argued that the disclosure of financial information to a platform (especially open key figures existing beyond the time period of the financing project) without any long-term relationship or person as a loan officer, could be or is a crucial barrier that withholds firms from using Crowdlending. 5 of these 6 participants refer to banks, while one participant names an established and very personal investor network that functions as a source of financing and a crucial barrier when the adoption is not in accordance with the plans of investors. This participant's perception towards the reputation of Crowdlending is low, because it could signal investors and customers that the firms adopts Crowdlending as an 'ultima ratio'. 2 out of 12 participants also mentioned to only resort to Crowdlending if the amount is manageable and the entire operating business is not dependent on the outcome of the crowdlending project.

*Trialability, Relevance and Ease: Advantages*

The level of awareness fluctuates and with it the assessment of possible benefits. The awareness of crowdlending among 3 participants was said to be very low, resulting in the fact that no information about possible advantages could have been given. As far as the other participants are concerned, the results are unambiguous. All remaining 9 participants mentioned speed and simplicity as the main advantage for the adoption of Crowdlending, especially when a project or something unanticipated must be financed quick in order to satisfy stakeholders. Seven participants mentioned rising awareness along with easier customer acquisition as a crucial advantage. The common opinion of the interviewees is, that by applying to the platform, the business immediately becomes subject to curious investors who can be turned into customers. 5 out of these 7 companies described their business relationships as business to customer (B2C), while 2 show a business to business relationship (B2B). Participants where investor characteristics match customer characteristics state the awareness/marketing effect to be extremely strong and crucial for the adoption. However, in terms of relevance, for 5 out of 6 participants from the non-adopter group, the bank or other financial sources are still preferred and Crowdlending is seen as an additional alternative for example to make the company less dependent on the bank's service or if the bank credit line is overdrawn. 1 participant stated that an initial loan application at the bank was rejected, meaning that an advantage could lie in less strict barriers. Summing up, this factor appears to be one of the strongest determinants that influences the adoption of Crowdlending under the condition that there is enough knowledge about an assessment.

*Complexity, Relative Advantage and Observability*

Crowdlending is perceived to be a rather uncomplex source of financing. 4 out of 12 participants do not show a high level of familiarity and therefore statements about complexity are inconclusive. 6 out of 12 participants mentioned the low complexity as an important factor that enhances the adoption. However, one participant argued that after some time dealing with the business model, complexity was perceived as higher than initially expected. The main reason was the lack in transparency and the bureaucratical system behind it. In general, 3 out of 12 participants perceived the Crowdlending landscape as clear, but the search for a suitable provider to be more complex at first glance due to the lack of differentiation features. 2 participants mentioned the uncomplex and digital process with no physical appearance being requested as one of the most crucial factors in favor of an adoption. Taking the above information into consideration, the low perceived complexity level of Crowdlending appears to have a positive influence on the adoption decision.

*Risk*

The results show that the perception of risk within the adoption decision of Crowdlending turns out to be bilateral. 1 participant made no specification. On one hand, 5 participants perceived the risks that come along with the adoption of Crowdlending as rather low and estimate this as a factor in favor of the adoption. On the other hand, 3 participants (2 adopters and 1 non-adopter) mentioned the risk of bad publicity and potential damage to the company's reputation as a crucial risk in case of an unsuccessful financing. 5 participants' answers were either too thin or regarding the direction of the effect unclear in order to draw a conclusion. However, 2 participants perceived the interest rate as high, increasing the risk of default and illiquidity in times with recessions characteristics, especially for long-term loans. Because of the bilateral character, a unique conclusion cannot be drawn.

*Evidence and Compatibility; Innovation fit with user's norms and values*

The results are unambiguous especially on the side of the adopters. While 1 participant did not give a statement about the compatibility and norms and values fit, 5 participants explained that the financing choice must be in accordance with the firm's values. 1 participant gave a specific reason: "It is crucial to reflect the platform's value proposition in order to signal that you are using another financing alternative not as a last resort, but due to the innovative solution and to communicate this to the stakeholders." 1 participant stated that a generational change came along with some value adjustments and with it the characteristics of curiosity and pursued tech-

nological progress. 3 participants mentioned the speed and simplicity as a core value in accordance with Crowdlending. 1 participant sees Crowdlending as compatible for only specific business areas. He sees the goal to automate as a corresponding mission to its own business operations. 4 participants did not provide enough information for a significant effect on the adoption decision or did not see this adoption construct as important in order to examine. Summing up, it can be stated that Evidence and Compatibility and Innovation fit with users' norms and values positively influence the decision to adopt Crowdlending.

### 4.2.4 Individual

*Social Network, Individuals Personal Network*

3 out of 12 participants know other individuals that that work or have worked with Crowdlending. One out of these 2 even used to work for a Crowdlending platform in the past, which gives rise to the assumption that the decision to adopt is strongly influenced by this. However, the other participant stated that his social network did not influence his decision whether to adopt or not. Summing up, from a word of mouth perspective, the social network appears to have no significant influence on the adoption decision.

*Readiness for Change*

Although 10 of 12 participants stated a high willingness to change, 5 of these mentioned to have a highly innovative mindset and are actively and continuously seeking new solutions to improve business operations and financial results. It is important to note that three of the 4 participants are young entrepreneurs who have recently taken over the company as part of a generational change and already adopted Crowdlending as a financing alternative. 2 participants claimed to be rather conservative and traditional minded. Summing up, it is an important determinant in favor of the adoption decision.

*Individual Characteristics; Managerial Characteristics*

The effect of a manager's hard characteristics (professional background) is unambiguous according to the results observed. 9 participants argued that there is little or no influence of the background on the adoption decision. Out of these, 1 participant stated: "On a management level, the financing decision as one of the core decisions should not be influenced by your professional background. If you have a strong leading position you should be able to make decisions regardless." However, 1 participant stated that he has previously worked for a Crowdlending platform and was highly influenced by this fact in his decision. On the other hand, 1 participant mentioned that his professional background as a former investment banker

opened doors for him to a comprehensive investor network that makes the need for crowdlending meaningless. This participant would rather resort to an investor loan than to a Crowdlending platform. Summing up, there cannot be made a statement regarding the effect of Managerial Characteristics/Individual Characteristics.

### 4.2.5 Other Findings

The goal of the previous chapter was to identify important influential factors on the adoption decision of Crowdlending that are based on the framework by Wisdom, et al. (2013). In addition, the study reveals other aspects that appear to influence the pre-adoption of Crowdlending.

*Succession in (family-owned) companies*

As stated in the previous chapter, three out of six participants from the adopter group recently took over a leading position as a result of a generation change in a family-owned business. All of them mentioned the mission to change and to be open for new and unknown solutions accompanied by a high degree of innovativeness and curiosity. This gives rise to the assumption that a change in leadership, in this case the replacement by a younger entrepreneur from the family to be a strong indicator in favor of the adoption of Crowdlending as an alternative to traditional sources of financing.

*Start-Ups*

Two participants with start-up character among the non-adopter group stated to rather finance themselves through equity, than through debt. Reasons for this are the high cost of debt and the positive effect of an investor network. However, they also see a marketing effect and the neutrality towards owner-ship structure as positive factors of Crowdlending, especially because equity becomes the more expensive alternative in periods of success. Nevertheless, dependency on investor's opinion appears to stand in the way of an adoption process.

*Trust*

A large share of the non-adopters mentions trust as one of the crucial reasons for preferring a bank's service over a platform's solution. Especially long-term relationships with the bank's employees or loan officers appear to make communication and the credit application easier. Furthermore, providing internal financials to an unknown organization still reflects an important barrier for firms to not adopt Crowdlending. These findings are in line with Van Benthem (2016).

# 5  CONCLUSION AND DISCUSSION

The chapter resumes the questions answered by literature, descriptive and quantitative findings from the database and the main results from the 12 qualitative interviews. It sheds light to potential underlying implications, points out restrictions regarding the method used and ultimately suggests topics for further research.

## 5.1  Conclusion

The goal of this dissertation was to answer two questions:

1. What is the current situation regarding access to financing for German SMEs?
2. What are determinants of adoption of Crowdlending for German SMEs?

The first question has been answered by literature. In summary, German SMEs, though they lack in internal factors that make borrowing more difficult, like insufficient collateral or missing track record of important financials, currently face a rather stable liquidity situation when it comes to gain access to financing sources. Another reason turns out to be based on the regional banking system in Germany, where a large share of banks is located in proximity of companies and loan officers are able to establish a personal relationship with the firm. These findings led to the main research question, which was answered by a qualitative, primary research method via interviews of 12 participants that followed a quantitative overview of Crowdlending adopters based on data of SMEs from a Crowdlending platform. Since the information resulting from the database shows descriptive character and functions as an overview, the following will analyze the main findings of the qualitative research, excluding determinants that turned out to show no significant effect:

*External*

External factors appear to have a positive influence on the adoption decision. Regulative barriers are perceived by adopters as measures that restrict simplicity and speed. On the other side, they are facilitators of trust and reliability, as well as reputation. Other external factors, like dissatisfaction with the bank's service or unanticipated client orders appear to influence the adoption decision. Although being bilateral, the effect concluded to be positive.

*Organizational*

From an internal perspective, the perceived innovative character of the management combined with the influence on other employees has a positive impact on the adoption decision. In addition, readiness and ability to acquire knowledge about Crowdlending, as well as a curious and

experimental attitude towards new technologies positively influence the adoption decision. This effect appears to be even stronger, when there has been a recent change in leadership from an older to a younger entrepreneur.

*Innovation*

High perceived cost of debt, as well as the obligation to provide confidential information to the platform and with it, to the public, even months and years after the project, appears to represent a big barrier and to yield a negative effect on the adoption decision. Minor other factors include the perception of signaling third parties the necessity to search for financing alternatives or the risk of bad publicity in case of an unsuccessful financing. On the other side, speed and flexibility accompanied by a low perceived level of complexity turn out to be the most crucial advantages. In addition, a desired marketing effect with rising awareness, especially for B2C companies appears to strongly influence the decision in a positive way. This effect is shown to be even stronger, when the customer relationship is characterized as B2C. Lastly, compatibility and the conformity of the Crowdlending business model with the corporate philosophy appear to yield a positive effect.

*Individual*

From an individual perspective, the personal attitude towards experimenting and trying out new solutions appears to be one of the most important determinants for the adoption decision. Similar to the organizational level, the effect is even stronger here if a leadership change has recently taken place.

*Other*

Start-ups, whose ownership structure is dominated by external investors, appear to not be the right target group of Crowdlending platforms due to the high perceived cost of debt and investor's influence as a barrier. Platform providers will also have a hard time with very conservative companies, which attach great importance to trust and personal interaction in the context of financing. In contrast, the target group of family businesses with an imminent or recent generation change seems to be very receptive to adoption.

## 5.2 Implications

Taking the factors mentioned into consideration, the following will analyze some implications as suggestions for platform providers.[19] Concerning the *External* construct level, platform providers may see themselves in a difficult trade-off situation between increasing reputation by introducing more regulatory standards and providing a faster and easier solution. In both cases, the expectation is to lose customers on one side and gain customers that had a skeptical attitude before. Here, the determinant *Trust* can be given special attention, where the platform provider can make his service more personal in some selective cases (for example from a certain threshold amount) to approach firms. Furthermore, since cost of debt are perceived to be high for a large share of the interviewees, the provider should take measures to approach this problem. Since an effect of rising awareness (marketing effect without touching the marketing budget) was mentioned by a lot of participants, the providers could expand their activities by focusing on B2C businesses, especially those where investor characteristics match client characteristics. In the case of start-ups, Crowdlending does not seem to be the right alternative due to high cost of debt or investor's pressure. In this case, platform providers are already offering equity-based models. Lastly, Crowdlending providers could focus on companies that recently faced or will face a change in leadership soon, especially when a younger entrepreneur takes over a family-business. This target group appears to be highly receptive towards new financing solutions like Crowdlending and will get more important in the future. According to a study by the KfW bank, by 2022 around 511,000 owners of SMEs are planning a business succession (13.7 % of all SMEs). More than half of them want to pass on the company within their own family (KfW, 2018).

## 5.3 Limitations and Future Research

Despite the results and implications mentioned above, some limitations must be taken into consideration. In general, time and the required scope of the study as a restriction must be mentioned. The study had to be completed within 4 months and therefore only focuses on the determinants introduced by one single framework. It does not capture other potential factors besides those introduced as other findings. In addition, although 12 participants have been interviewed, representing two groups (non-adopters and adopters) as well as three categories (micro, small and medium) equally, information has always been given by one person, which leads to

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[19] The suggestions are subjective, based on the results examined and only focus on Crowdlending platforms. Due to restrictions in time and scope of the dissertation, the chapter will not cover implications for SMEs or banks. In addition, they only summarize the main issues.

some lacks in representativeness and could have mitigated by talking to a second person of the same firm. Furthermore, the adopter-group was sampled entirely from the database of one Crowdlending provider. Using information from customers of different Crowdlending platforms could have made the picture more comprehensive. In particular, the fact that a large share of the participants are CEOs, leads to some biases. First, participants might hide some information about negative developments that could refer to mismanagement or other wrong decisions. Therefore, CEOs perception towards the performance of their own business can deviate from the actual performance. Same holds for the estimation of soft factors like attitude towards innovation or readiness for change, inter alia. Furthermore, this study incorporates the risk of post-purchase rationalization or choice-supportive bias[20] on the side of the adopters, meaning that the decision to adopt is perceived more positively ex-post, than ex-ante. This limitation is based on the fact, that for the adopter group, companies have been interviewed that have already been successfully financed.[21] Lastly, the agreement for an interview could be linked to the company's situation. Firms, where initially a bank loan was not granted, could have ignored the request. Instead, companies that used Crowdlending because of its advantages and not as a last resort, could be more receptive to an interview in the first place.

*Future Research*

The underlying study leaves enough room for further research activities, which refer to the methodology and to the given theoretical and practical implications. Concerning the methodology, it can be further examined how firms of different sizes and same industries act within the pre-adoption phase of Crowdlending. Do determinants differ between these? Secondly, in an additional study only independent businesses can be asked in order to eliminate the influence of third parties like investors from the decision-making process. Thirdly, participants could be filtered according to their customer relationship (B2B vs. B2C) in order to analyze whether anticipated marketing effect refers to the acquisition of private persons or other firms as clients. With reference to implications, it could be researched how platform providers can build up trust and the image of reliability without simultaneously making sacrifices in what distinguishes them essentially from banks or other traditional financing sources: speed and simplicity. Secondly, an event study can be conducted that examines the effect of governmental and regulative

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[20] The choice-supportive bias is a phenomenon in the area of psychology, where one option that was selected over other options is perceived to have more positive features and less negative features than the alternatives (Ross, 1980).

[21] To get information about companies that have decided to adopt, but have not yet used Crowdlending was not possible within the scope of this study. The reason for this is, that contact information will only be published shortly before a project starts and stays public in the case of a succesfull financing.

changes on the adoption of Crowdlending among German SME's. How does a group of specific SMEs react to a change in regulative barriers? Also interesting to research would be the adoption behavior during a crisis or a recession, also because a lot non-adopters mentioned the economic stability as a reason for not needing any debt financing and a study by the consulting firm AlixPartners shows that restructuring professionals are expecting an increase in business restructuring and recovering orders, especially for the automotive sector in Germany (AlixPartners, 2019). Another point with increasing significance will be the successor process of family-owned businesses. Further research could focus on the effect of increasing generation changes on the adoption of alternative financing solutions like Crowdlending. Finally, the dissertation focused mainly on the implications for platform providers and presented the effort for SMEs as customers as a conflict between the banks and the platform providers. Nevertheless, further research could investigate additional possible cooperation opportunities that would allow a win-win situation for all three parties involved.

# 6 REFERENCES

Ahmed, U., T., B., McDaniel, C., & Schropp, S. (2015). Filling the Gap: how Technology Enables Access to Finance for Small- and Medium-Sized Enterprises. *Innovations*, 10(3-4), 35-48.

AlixPartners. (2019). *Disruption ist die neue Normalität: Restrukturierungsexperten sehen ernste Warnsignale für Konkunjktur- und Unternehmensaussichten.* AlixPartners.

Amrein, S., Dietrich, P. D., Heuermann, A., Rüdisühli, M., & von der Heyde, F. (2018). *2018 Crowdlending Survey.* PwC; Swiss Marketplace Lending Association; Luzern University of Applied Science and Arts.

BaFin. (20 de May de 2019). Obtido de Crowdlending: https://www.bafin.de/EN/Aufsicht/FinTech/Crowdfunding/Crowdlending/crowdlending_node_en.html

Bank, T. W. (2008). *Finance For All? Policies and Pitfalls in Expanding Access.* Washington: World Bank.

Basel Committee on Banking Supervision. (2004). *Consolidated KYC Risk Management.*

Bryman, A., & Bell, E. (2015). *Business research methods.* Oxford university press.

Burton, J., Garvey, K., James, A., Lui, A., Wardrop, R., Zhang, B., & Ziegler, T. (2016). *Sustaining Momentum - The 2nd European Alternative Finance Inudstry Report.* Cambridge Center For Alternative Finance.

Campbell, J., Jackson, H., Mandrian, B., & Tufano, P. (2011). Consumer Financial Protection. *Journal of Economic Perspectives*, 25(1), 91-114.

Chae, M. L., & Yum, H. (2012). From the wisdom of crowds to my own judgment in microfinance through online peer-to-peer lending platforms. *Electronic Commerce Research and Application*, 11(1), 469-483.

Claessens, S. (2006). Access to Financial Services: A Review of the Issues and Public Policy Objectives. *World Bank Research Observer*, 21(2), 207-240.

Damiano Jr., R. J. (2011). What is innovation? *Innovations: Technology and Techniques in Cardiothoracic and Vascular Surgery*, 6(2), 65.

Deloitte. (2018). *Crowdlending in KMU - Detailinformationen zur Studie auf einen Blick.*

Department of Social and Economic Affairs. (2008). *International Standard Industrial Classification of All Economic Activities (ISIC), Rev. 4.* United Nations.

Dorfleitner, G., Hornuf, L., Schmitt, M., & Weber, M. (2017). *FinTech in Germany.* Springer.

Easton, K. L., McComish, J. F., & Greenberg, R. (2000). Avoiding common pitfalls in qualitative data collection and transcription. *Qualitative health research*, 10(5), 703-707.

Energy, F. M. (s.d.). Obtido em 2019, de https://www.bmwi.de/Redaktion/EN/Dossier/sme-policy.html

European Commission. (20 de May de 2003). Obtido de What Is an SME?: https://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en

European Commission. (3 de May de 2018). *European Central Bank - Eurosystem.* Obtido de Survey on the access to finance of enterprises: https://www.ecb.europa.eu/stats/ecb_surveys/safe/html/index.en.html

Federal Ministry for Economic Affairs and Energy. (20 de May de 2019). Obtido em 2019, de The German Mittelstand as a model for success: https://www.bmwi.de/Redaktion/EN/Dossier/sme-policy.html

Federal Statistical Office. (2019, May 20). Retrieved May 2019, from https://www.destatis.de/DE/Themen/Branchen-Unternehmen/Unternehmen/Kleine-Unternehmen-Mittlere-Unternehmen/_inhalt.html

Ferretti, P. (2016). *New Perspectives on the Bank-Firm Relationship. Lending, Management and the impact of Basel III.* Springer.

Financial Times. (11 de September de 2018). Obtido de Peer-to-peer lending needs tighter regulation: https://www.ft.com/content/31b17d02-b512-11e8-bbc3-ccd7de085ffe

Glasgow, R. E., Lichtenstein, E., & Marcus, A. C. (2003). Why don't we see more translation of health promotion research to practice? Rethinking the efficacy-to-effectiveness transition. *American Journal of Public Health*, 93(8), 1261–1267.

Graham, I. D., & Logan, J. (2010). Innovations in knowledge transfer and continuity of care. *The Canadian Journal of Nursing Research,*, 36(2), 89–103.

HHL. (2016). *Studie: Unternehmer sehen Kreditvergabe über Online-Marktplätze als neue Alternative.* HHL (Leipzig Graduate Schoolf of Management).

Hilmer, U. (2009). *Technology Acceptance in Mechatronics: The Influence of Identity on Technology Acceptance.*

IfM. (2005). *SBS Expert Meeting "Towards better Structural Business and SME Statistics": Business registers and SMEs.* OECD - Organisation For Economic Co-Operation And Development.

Iyer, R., Peydró, J.-L., Da-Rocha-Lopes, S., & Schoar, A. (2014). Interbank Liquidity Crunch and the Firm Credit Crunch: Evidence from the 2007-2009 Crisis. *The Review of Financial Studies*, 27(1), 347-732.

Jackson Njau, W. (2017). Determinants of Choice of Alternative Financing Modes for SME's, a Review of Literature. *International Journal of Academic Research in Business and Social Sciences*, 4(7).

Jain, P. K., & Khan, M. Y. (2007). *Financial Management.* New Delhi.

Jones, L., & Graf, S. (2001). *Canada's Regulatory Burden.* Fraser Forum Special (Special Issue).

Kapilendo. (4 de May de 2019). *Kapilendo*. Obtido de Die Zukunft der Unternehmensfinanzierung: https://www.kapilendo.de/unternehmen#/portal/project/tab:2/

KfW. (2018). *Generationenwechsel im Mittelstand: Bis 2019 werden 240.000 Nachfolger gesucht.* KfW Research: Fokus Volkswirtschaft.

Lacasse, R., Lambert, B., Roy, N., Sylvain, J., & Nadeau, F. (2016). *Digital Tsunami: FinTech and Crowdfunding.* International Scientific Conference on Digital Intelligence.

Liberti, J. M., & Mian, A. R. (2010). Collateral Spread and Financial Development. *The Journal Of Finance*, 65(1), 147-177.

Loeher, J., & Schroeder, C. (2017). *The Influence of the Regional Bank System on Financing the German Mittelstand.* Institute for Mittelstandsforschung Bonn (IfM).

Macht, S. A., & Weatherston, J. (2014). The Benefits of Online Crowdfunding for Fund-Seeking Business Ventures. *Briefings in Entrepreneurial Finance*, 23(1-2), 1-14.

Mazzotti, E., & Caminiti, F. (2017). *Where Fintech Lending Will Land - And What It Means For Banks: Focus on Europe.* Accenture.

Mendel, P., Meredith, L., Schoenbaum, M., Sherbourne, C., & Wells, K. B. (2008). Interventions in organizational and community: Interventions in organizational and community. *Administration and Policy in Mental Health and Mental Health Services Research*, 35(1), 21–37.

Milne, A., & Parboteeah, P. (2016). *The Business Models and Economics of Peer-to-Peer Lending.* European Credit Institute Report.

Mitchell, S. A., Fisher, C. A., Hastings, C. E., Silverman, L. B., & Wallen, G. R. (2010). A thematic analysis of theoretical models for translational science in nursing: Mapping the field. *Nursing Outlook* , 58(6), 287–300.

Morgan Stanley. (October de 2018). Obtido de Investing in the Fintech Enabled Lending Boom: https://www.morganstanley.com/ideas/fintech-alternative-lending

Naidji, C. (2017). *Regulation of European peer-to-peer lending Fintechs Regulatory framework to improve SME's access to capital.*

Nicoletti, B. (2017). *The Future of FinTech: Integrating Finance and Technology in Financial Services.* Palgrave Studies in Financial Services Technology.

Nilsson, A., & Öhman, P. (2012). Better safe than sorry: Defensive loan assessment behavior in a changing bank environment. *Qualitative Research in Accounting & Management*, 9(2), 146-167.

OECD. (2002). *The New Economy: Beyond The Hype. The OECD Growth Project. Economics.*

Öhman, P. (2017). The behavioral Impact of External and Internal Factors on SME loan Assessments. Em A.-K. In Stockenstrand, & F. Nilsson, *Bank Regulation: Effect on Strategy, Financial Accounting and Management Control.* New York: Routledge.

P2P Market Data. (25 de April de 2019). Obtido de What is Crowlending aka P2P Lending: https://p2pmarketdata.com/what-is-crowdlending-p2p-lending/

Patton, M. Q. (2002). *Qualitative research and evaluation methods.* Thousand Oaks.

Pinotti, P. (2012). Trust, Regulation and Market Failures. *Review of Economics and Statistics*, 94(3), 650-658.

Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., & Britten, N. (2006). *Guidance on the Conduct of Narrative Synthesis in Systematic Reviews .* Lancaster.

Pranjivan, V. (2017). Financial innovation and alternative finance: A comparative analysis of the objectives of regulation and its impact on lending based crowdfunding.

PriceWaterhouseCoopers. (2016). *Know Your Customer: Quick Reference Guide.*

Priest, M., Stanbury, W. T., & Thompson, F. (1980). On the definition of economic regulation. Em T. Stanbury, *Government Regulation: Scope, Growth, Process* (pp. 1-16). Institute for Research on Public Policy.

Ross, M. (1980). Relation of implicit theories to the construct to the construction of personal histories. *Psychological Review*, 96, 341-357.

Rossi, S. P. (2017). *Access to Bank Credit and SME Financing.*

Statista. (2018). *Fintech Report 2019: Alternative Lending - Statista Digital Market Outlook - Segment Report.* Statista .

Statista. (2019). *Fintech Report 2019 - Market Report.*

Straub, E. T. (2009). Understanding technology adoption: Theory and future directions for informal learning. *Review of Educational Research*, 79(2), 625-649.

Transition, C. f.-o. (1993). Glossary of industrial organisation economics and competition law. *Organization for Economic*.

Van Benthem, F. (2016). *The determinants of alternative finance adoption for Dutch SMEs and the implications for capital structure theory.*

Wardrop, R., Zhang, B., Rau, R., & Gray, M. (2015). *Moving Mainstream: The European Alternative Finance Benchmarking Report.* Cambridge Center For Alternative Finance.

Wehninger, G. (2014). SMEs and the credit crunch : Current financing difficulties, policy measures and review of literature. *OECD Journal: Financial Market Trends*, 2013(2).

Wisdom, J. P., Chor, K. B., Hoagwood, K. E., & Horwitz, S. M. (2013). Innovation adoption: A review of theories and constructs. . *Administration Policy in Mental Health*, 41(4), 480–502.

# APPENDIX

**Master thesis topic**: Crowdlending for German SMEs – Determinants of Adoption
**Research Question**: What factors influence the adoption of Crowdlending?
**Interview form**: Semi-structured
**Expected Duration**: 35 minutes

*Thank you for your time. Within the frame of my master thesis, I am conducting information on the field of Alternative Finance in general, and Crowdlending in particular. I am analyzing the perception towards Crowdlending among German SMEs, as well as potential influential factors that prevent or favor the adoption of Crowdlending. For this purpose, I conduct semi-structured interviews with two sample groups: SMEs that have already adopted Crowdlending and SMEs that have not. For the questions there are no right or wrong answers, the goal is to get as much information as possible. For the purpose of a flawless analysis, I would like to record the conversation – is that ok? The answers will be anonymized. The following questions are formulated according to a framework originally designed for the adoption of innovation and which is applied and adjusted to the use of Crowdlending in particular. The framework was slightly modified, and irrelevant aspects were omitted in favor of the time frame. Thank you.*

*(1) Introduction Questions*
   *a) Did you ever apply for a loan?*
   *b) To what extent do you know of alternative financing options? For instance, Crowdfunding or Crowdlending?*

*(2) External System*
   *c) To what extent do you consider regulation and legislation (government protection) important for attracting funding? [Government Policy and Regulation]*
   *d) To what extent can the external environment influence the financing decision? For example, competitive pressure that affects price spreads. [External Environment]*
   *e) To what extent are trends and best practices adopted from industry? Whether financial or not. [Social Network: Inter-systems]*

### (3) Organizational

f) Does the organization have the ability (e.g. people) and knowledge to evaluate and use alternative financing options, like Crowdlending, internally? [Absorptive Capacity]

g) What influence does management have on the choice of financing? Do you think management is innovative? How is the management structured? [Leadership and Champion of Innovation]

h) To what extent would information/knowledge events for crowdlending/alternative financing models help to decide whether they use them more frequently or at all? [Training Readiness and Efforts]

i) To what extent do external parties (e.g. consultants, accountants, tax consultants, investors) influence the choice of financing? [Network with Innovation Developers and Consultants]

j) Do you know/did you know other companies working with alternative financing/crowdlending? [Social Climate and Network between Organizations]

k) How many people are working in your firm? [Operational Size and Structure]

l) How would you describe the organizational culture? (For example, problem solving, dealing with each other, etc.) [Norms, Values and Cultures]

m) Markets are in motion, does the organization have to deal with many changes? If so, do you deal with these changes quickly and easily? [Traits and Readiness for Change]

### (4) Innovation

n) What obstacles do you see/did you see in connection with the use of crowdlending? [Facilitators and Barriers]

o) What advantages did you see/do you see when using Crowdlending? For example, many alternative forms of financing are very quick and easy to use. To what extent do you find this so important for the financing decision? [Trialability, Relevance and Ease]

p) To what extent do you regard the use of crowdlending as complex? And to what extent does that influence your decisions? [Complexity, Relative Advantage and Observability]

q) Do you see exceptional risks in using crowdlending or alternative financing? [Risk]

r) Do you think that the use of crowdlending platforms fits your company? [Evidence and Compatibility] [Innovation fit with users' norms and values]

*(5) Individual*

 s) *To what extent do you know people from your own social network who work with alternative financing / crowdlending? [Social Network, Individuals Personal Network]*

 t) *How much are you willing to respond to change? [Readiness for Change]*

 u) *How would you describe your influence on employees? To what extent does your professional background play a role in the adoption of crowdlending? [Individual Characteristics]*

**APPENDIX 2**: *LIST OF PARTICIPANTS*

| Adopted? | Date | Company | Interviewee Position | SIC | Size |
|---|---|---|---|---|---|
| No | 15.03.2019 | 1 | CFO | Manufacturing | Medium |
| | 29.03.2019 | 2 | CEO | Manufacturing | Medium |
| | 22.03.2019 | 3 | CEO | Services | Small |
| | 26.04.2019 | 4 | CEO | Services | Small |
| | 29.04.2019 | 5 | CEO | Services | Micro |
| | 29.03.2019 | 6 | CEO | Retail Trade | Micro |
| Yes | 10.05.2019 | 7 | CEO | Manufacturing | Medium |
| | 13.05.2019 | 8 | CCO | Manufacturing | Medium |
| | 03.05.2019 | 9 | CEO | Manufacturing | Small |
| | 03.05.2019 | 10 | CEO | Services | Small |
| | 24.05.2019 | 11 | CEO | Services | Micro |
| | 26.05.2019 | 12 | CEO | Retail Trade | Micro |

### *APPENDIX 3: DETERMINANTS (NON-ADOPTERS)*

Influence of Adoption Determinants on a 5-point scale (Group: Non-Adopters)

| Adoption determinant | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 |
|---|---|---|---|---|---|---|
| **External System** | | | | | | |
| Government policy and Regulation | -- | ± | -- | - | + | + |
| External Environment | ± | ± | ± | ± | ± | + |
| Social Network (inter-systems) | ± | ± | ± | ± | + | ± |
| **Organization** | | | | | | |
| Absorptive Capacity | + | - | ± | N.A. | ± | ± |
| Leadership and Champion of Innovation | ± | ± | ± | + | ± | + |
| Training Readiness and Efforts | + | ± | + | ± | + | + |
| Network with Innovation Developers and Consultants | N.A. | - | - | ± | ± | + |
| Social Climate and Network (Inter-organization) | unlcear | unlcear | unlcear | ± | ± | - |
| Operational Size and Structure | medium | medium | small | small | micro | micro |
| Norms, Values and Cultures | unclear | unclear | unclear | unclear | unclear | unclear |
| Readiness for Change | unclear | ± | unclear | unclear | ± | + |
| **Innovation** | | | | | | |
| Facilitators and Barriers | - | ± | - | ± | ± | unclear |
| Trialability, Relevance and Ease | ± | + | + | ± | ± | + |
| Complexity, Relative Advantage and Observability | + | ± | ± | + | ± | ± |
| Risk | ± | + | - | ± | N.A. | - |
| Innovation fit with users' norms and values; Evidence and Compatibility | ± | ± | ± | N.A. | ± | + |
| **Individual** | | | | | | |
| Social Network (individual's personal network) | ± | ± | ± | ± | ± | ± |
| Readiness for Change | ± | ± | ± | unclear | unclear | + |
| Individual Characteristics/Managerial Characteristics | + | - | - | ± | ± | ± |

Influence of Adoption Determinants on a 5-point scale (Group: Adopters)

| Adoption determinant | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|
| **External System** | | | | | | |
| Government policy and Regulation | ++ | + | ++ | + | + | ++ |
| External Environment | + | ± | ++ | + | ± | ++ |
| Social Network (inter-systems) | unlcear | ± | + | ± | ± | ± |
| **Organization** | | | | | | |
| Absorptive Capacity | + | + | + | + | + | ++ |
| Leadership and Champion of Innovation | + | ++ | + | ± | + | + |
| Training Readiness and Efforts | ± | + | ± | + | ± | + |
| Network with Innovation Developers and Consultants | ± | ± | ± | ++ | ± | ++ |
| Social Climate and Network (Inter-organization) | ± | ± | unlcear | unlcear | + | + |
| Operational Size and Structure | medium | medium | small | small | micro | micro |
| Norms, Values and Cultures | unclear | unclear | unclear | unclear | unclear | unclear |
| Readiness for Change | + | ± | + | + | ++ | ± |
| **Innovation** | | | | | | |
| Facilitators and Barriers | - | ± | - | - | ± | - |
| Trialability, Relevance and Ease | + | + | ++ | + | + | ++ |
| Complexity, Relative Advantage and Observability | + | + | - | ++ | + | ± |
| Risk | + | ± | + | - | + | + |
| Innovation fit with users' norms and values; Evidence and Compatibility | + | + | ++ | ± | + | + |
| **Individual** | | | | | | |
| Social Network (individual's personal network) | ± | + | ± | ± | ++ | ± |
| Readiness for Change | ++ | ++ | ++ | ± | ++ | ± |
| Individual Characteristics/Managerial Characteristics | ± | ± | ± | ± | ++ | ± |

## APPENDIX 5: REGULATION

| Government Policy and Regulation | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| To what extent do you consider regulation and legislation (government protection) important for attracting funding? [Government Policy and Regulation] | Financing only with bank and leasing companies, Crowdlending regulation not really developed, regulation enhances trust and therefore, inter alia, a bank loan is preferred. | Own risk assessment, regulation important, but not crucial for financing choice. More trust and familiarity with service of bank. | New capital must be procured constantly, but this is done through equity and not debt. Perception of regulation for Crowdlending is low and less regulated financing does not have a good effect on investors, if there is the need to apply for a loan in the future. Due diligence is important. Therefore, if not needed, would not adopt crowdlending due to the reason mentioned above. | Regulation is important, bank financing is perceived to be trusted (even after the crisis in 2008). No knowledge about regulation in Crowdlending. Besides, debt is not needed and being proud of financing 100% internally. | In service sector, lack of collateral, therefore regulation plays an important role. Fear of losing a real estate as collateral. Tendency towards less regulated financing, so Crowdlending for specific investments imaginable, but decision dependent on relevance and kind of investment purpose. Only urgent investments. | Strong regulation, investors think a lot of time. Regulation as a barrier! Regulation is crucial, private suretyship. Tendency: Using Crowdlending as an alternative. Or approaching investors for a credit. | Less regulation made it easier and simple. This aspect is crucial for decision to adopt. Regulation was reason why loan application was rejected, perception of increase security aspects after financial crisis 2008 and why Crowdlending was adopted. | Yes, less regulation as a factor. Unbureaucratic process as crucial for adoption process. But not the main factor | Bank financing perceived to be more regulated, especially after Basel II&III. Especially firm's bank, a regional bank is subject to more regulations. Benefited from less regulative barriers with crowdlending. Simple structure on platform. | Bank financing to be perceived as highly regulative, especially since Basel 2&3, barriers are stronger than for alternatives, like Crowdlending. | Regulation perceived to only be a small factor for financing decision. | Regulation as a barrier, especially in terms of speed. |

## APPENDIX 6: ENVIRONMENT

| External Environment | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| To what extent can the external environment influence the financing decision? For example, competitive pressure that affects price spreads. [External Environment] | Future expectations influence financing decision: Are we able to pay it back in the future? | Pressure from competition is commercial, but KPIs are stable and therefore competition not decisive for financing decision. | Growth and Expansion purpose, Capital raising. Competition is low in Germany. In other countries there is competition, but this does not affect financing decision. However, financing is needed to build barriers for potential competitors and investors put pressure on the company. | There is no pressure and external financing is not changing according to external environment or shocks, not currently and not in the past. On the contrary, a financing solution is provided for customers and is generated through equity of a second subsidiary company. | Operating in a niche. However, there is competition, but effect on financing decision is low. | External environment pressure is there. Moving the business, capital must be provided quickly. For example when building a new warehouse. | Was internal purpose to grow, no real pressure from competition, because operating in a niche. However, automotive clients are not easy to handle, because they have a lot of market power in Germany. Therefore, it is tried to keep other issues like financing as simple as possible. | Decisions was internal and more characterized by the joy of experimentiation and curisotiy, especially because amount was not too big and was only to finance a specific area. Other areas are still financed by bank loans inter alia. | Internal decision in the sense of creating pressure for the bank and reduce dependency on bank financing. Intention: Internal Growth to finance projects. External: A large order came unexpectedly quickly and had to be pre-financed. | Bank enrivonment has become less personal and perceived to be more fluctuating. Loan officers change and act according to guidelines -> therefore not satisfied with bank anymore and adoption decision. Also: problem that banks have problems to understand some niche businesses. | Company is really R&D intensive. No external pressure that influenced financing decision. | Unsatisfied with bureaucratic environment of bank's service. Newly gained big gustomer was impulse for financing. |

## APPENDIX 7: INTER-SYSTEMS

| Social Network: Inter-system | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| To what extent are trends and best practices adopted from industry? Whether financial or not. [Social Network: Inter-systems] | In the category of processes and prices it is looked for best-practice. Financing is an internal decision. But price and technology is compared, pressure is there, but competition in terms of number of competitors is low. | Financing internal. But products and processes, especially technologies are compared. | No, financing is internal. | Financing is internal. Best-practice is only recommended to customers, but not applied for the own service company. | Customers are enhancing innovations and it is worked together with customers on a solution. Employees are also crucial for innovations. Financing, however, is internal decision and the source of financing has not been changes over the years. | Financing is internal so now knowledge about others. Mezzanine as an option. | Hidden-champion, therefore in one area the leader and others adopt best-practices from the firm. However, in other areas processes are copied to stay efficient. | Financing as internal decision. However, when it comes to look at the manufacturing of robotics or machines best practices of competitors are applied. When it comes to implementing, niche market and market leader. | Financing is an internal decision. Concerning processes, operating in a niche, no direct competitors, but look best-practices from market companions, transfer is made because best-practice can not be applied directly. | Financing as internal decision | Financing internal decision and not compared to other companies. In the branch that is being operated other banks are contact institutions (pharmacy banks). | Financing internal decision no knowledge about competitor's financing activities. Best practice refers to operations, then yes. |

## APPENDIX 8: ABSORPTIVE CAPACITY

| Absorptive Capacity | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Does the organization have the ability (e.g. people) and knowledge to evaluate and use alternative financing options, like Crowdlending, internally? [Absorptive Capacity] | Ability yes. Recently added another bank with another refinancing offer, refinancing of operations of machine projects. Even developed a new financing solution for customers. However, new solutions only emerge from conventional financing options. | All partners do have a finance background, financing has been a core task for many years. | Using social networks, investor network, own research is conducted for financing decisions. | Since financing has never been a key issue in the company's history, there has never been made an effort to search for opportunities. Therefore, the questions cannot be answered. But the fact that financing is provided for clients does support the tendency of a high absorptive capacity. | There are employees who look for new solutions. | Management has not made a lot of effort to tackle the issue of financing. Consults investors who have more knowledge about it. Online the ability but not the action. | Especially since generation change more capacity to search for new solutions. Advertising is done by the platform that enhance internet research. | In general organization very experimental. Not only financing, but especially automation processes. High absorptive capacity. | There is a generational change in the leadership, only management can evaluate financing options. Perception: Other employees or those not responsible for finance/accounting issues do not have the abilities. | Ability is restricted, however a financial consultant (high absorptive capacity) came to the suggestion of adopting Crowdlending. | Since generation change, ability has grown. | Working with newest technologies every day. Providing IT services for private and company clients. A lot of younger employees. Therefore high absorptive capacity. |

# APPENDIX 9: LEADERSHIP AND INNOVATION

| Leadership and Champion of Innovation | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| What influence does management have on the choice of financing? Do you think management is innovative? How is the management structured? [Leadership and Champion of Innovation] | One CEO. CFO evaluates financing options, in the case of new opportunities they will be introduced and presented to the CEO. | Small firm, financing decision is completely made by the management board. Young management, no one older than 40. Innovative when it comes to new products or processes, a new financing solution has not been necessary, yet. | Management has a high influence and others do not interfere. However, investors are being informed. | Decision is completely made by the management. Innovative in the sense of tailoring solutions for clients that must be innovative. Family owned business, where the family holds 100% of the company's shares and the management is equal to the owner. | CEO has full decision-impact on financing decision, but in consultancy with an external finance consultant. | Management takes the financing decision in consultancy with it's investors. However, management is young and perceived to be innovative. | Level of influence is high. CEO is driver of financing decision. Since generation change, keen to change things and keen to adopt new solutions more. | Management is very innovative. Consists of 2 persons, one electric engineer, one business background. Actively seeking new innovations and testing things out. Also, market that is operated in forces them to continously do so. | Management consists of two people who own 100% of the company, takes financing decisions completely. Management is rather patriarchal, got more innovative since the generational change/since the son entered the business. Since then, seeking new ways of doing business. | Not too much influence because of lack in knowledge. However representative for financing round towards investors. | Management makes financing decisions, consists of two people (one family). Innovation factor increased with entry of son into leadership who suggested to try a new solution. | Management has to be innovative, especially in this industry. Management has 100% influence on financing choice in consultancy with financial advisor. |

# APPENDIX 10: READINESS AND EFFORTS

| Training Readiness and Efforts | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| To what extent would information/knowledge events for crowdlending models help to decide whether they use them more frequently or at all? [Training Readiness and Efforts] | Interested in new opportunities and keen to get to know more. However, satisfied with current financing solutions. Price/Interest you may pay is crucial for decision to adopt Crowdlending as an additional source to bank loan or leasing. | Not really. Due to the background, knowledge about alternative financing, but as long as situation is not demanding a change, knowledge events are perceived as a waste of time. | Debt is not preferred, if yes, networking a key aspect and open for offers, when reputation of platform is in line with investor's expectations. | There is no necessity, so this would not influence a decision, also not in the future. All financing sources are internal and earnings from operations are used to finance staff and projects. | Keen to know, but better if there is no need for Debt. However, if there is an urgent investment or marketing activity for a new product, knowledge events would help. | Yes, but not at fairs. However, personal contact or online advertising could be feasible. | No events, but advertising helps! | Knowledge events not really, but online advertising and the newsletter helped to inform about the process and benefits of Crowdlending. Actively researched Crowdlending alternatives on the internet. | Only to increase awareness, but not to get information. Information can be provided easily via internet. | Would help, really curious about other solutions. But lack in knowledge and training, events inter alia, would help to close knowledge gap and safe costs of consultancy. | Yes, idea came from an asset management firm that functions as a subsidiary of a Crowdlending platform (Kapilendo). Would help, but was informed before, because has worked at Kapilendo. | Got the idea from a financial advisor. Information/knowledge events would help to increase awareness and reduce the knowledge gap. Crowdlending's awareness perceived to is growing, though. |

## APPENDIX 11: EXTERNAL PARTIES

| Network with Innovation Developers and Consultants | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| To what extent do external parties (consultants, accountants, tax consultants) influence the choice of financing? [Network with Innovation Developers and Consultants] | No external parties influence the financing decision. | Management and Partner are involved with the banks financing. Investors may not want the company to adopt Crowdlending | Tax issues are outsourced. Financing is accompanied by a special lawyer. Investors negatively incluence the finanicng with debt. | There is a tax consultant, but he does not interfere with the financing decision. | One external consultant has a high level of influence on the financing decision. However, he does not take the decision. | Investors have a big influence. However, Debt is seen positively because it doesn't shift the ownership structure. One investor is rejecting bank loan, but could be open for Crowdlending. Crowdfunding is not an option, however due to personal advice, especially when exit is planned. | There are no external parties that influence the adoption of Crowdlending. | There are no external parties involved in the financing decision. | No, decision is made completely intern. | External financial consultant was highly involved in the adoption process | No, every financing decision was internal. | A financial advisor was highly involved in financing choice, however, the decision was made by management. |

## APPENDIX 12: SOCIAL CLIMATE AND NETWORK

| Social Climate and Network | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Do you know/did you know other companies working with alternative financing/crowdlending? [Social Climate and Network between Organizations] | Cooperative society in the field of renewable energies who are financed with subordinated loans and the crowd. | Only companies who use Crowdfunding, a company that has adopted Crowdlending is not known. | Do not know Companies who used Crowdlending. A lot who used Crowdfunding. | Crowdfunding is adopted by clients when they want to finance research projects. In the area of Crowdlending is no one known. | No. | No, but investor network is perceived to be strong. If this would not be the case, then crowdlending as alternative! | No. | No. | No companies that have used Crowdlending before adoption decision. | No. | Yes. An asset management firm | A client already worked with Crowdlending. |

## APPENDIX 13: SIZE AND STRUCTURE

| Operational Size and Structure | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| How many people are working in your firm? [Operational Size and Structure] | Medium-Sized | Medium-Sized | Small-sized | Small-sized | Micro-sized | Micro-sized | Medium-Sized | Medium-Sized | Small-sized | Small-sized | Micro-sized | Micro-sized |

# APPENDIX 14: NORMS, VALUES, CULTURES

| Norms, Values and Cultures | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| How would you describe the organizational culture? (For example, problem solving, dealing with each other, etc.) [Norms, Values and Cultures] | Fast Communications. Departments work close together. Regionally shaped working environment. | Three-level organization: Management, Team-leads and employees. Structures and responsibilities are kept strict, key decisions are taken by the CEO. | Flat hierarchies, fast communication, young entrepreneurs, young company. | Flat hierarchies, family-owned business, within the organization every KPIs are kept open for everyone and changes, as well as financing decision is communicated to every employee. Fluctuation is very low (average duration of employees in the company is 8.5 years) | Due to a very small firm, communication is both, physically and other communication channels. | Communication is through all levels, however decision is made by management. | Flat hierarchies, two hierarchy levels: team leader and employees. | Flat or no real hierarchies, product oriented and with project leaders with a lot of technical know-how | Flat hierarchies in general, but on the top of the decision-making level it is rather patriarchal. Family-owned business, however decision of using crowdlending was part of a solution-oriented brainstorming. | 3-level hierarchy. CEO, department leader and subordinates. Small firm. | Flat hierarchies, but moving towards changing leadership structure, where leaders function as a role model for every decision. | Small company, flat hierarchies, short decision-making processes. |

# APPENDIX 15: TRAITS, READINESS TO CHANGE

| Traits and Readiness for Change | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Markets are in motion, does the organization have to deal with many changes? If so, do you deal with these changes quickly and easily? [Traits and Readiness for Change] | Market already implies strong fluctuations, customers mainly from other countries and other continents. Solve liquidity in crises very important. Credit lines are used only in good times and credit application is planned to occur during economic stable phases, because conditions change in bad times. If financing decision is affected negatively by market environment, it may already be too late. | There is a crisis management. If change is to be made, then a briefing will evaluate what are the main areas and aspects, Top 10 is created but financing is barely in the Top 50 of the key issues the business in this specific industry is facing. PR problems or other issues have a higher relevance. | If resources are there, changes are made quickly. Network with investors is important. Warehouses and Distribution channels are enhanced and therefore scalability is increased. | Not every order is fulfilled intentionally. Therefore, only anticipated changes are being treated and resources are being kept tight on purpose, as long as economic situation is stable as it is currently. | Financing not core problem and not Top 10 issue. More important what the trends are in the industry to react as quick as possible as a core business in IT. Changes are essential in IT. | Capital for movement must be provided quickly. If ressources are there, reaction can occur fast. | Yes, as a B2B business figured out a method to be less dependent on a special Client, meaning to be less sensitive to crises and have more diversification. Decisions are made fast because company levels are lean. | Companies has to deal with a lot of changes. However, often there is a bottleneck problem when it comes to be flexible in hiring qualified staff, especially engineers or SPS developer. | Really quick in realizing new market trends and changes. However, realization is restricted due to time, money and qualified staff recruiting (lack of resources). In this case, growth capital must be provided quickly and there is a lack of skilled staff especially in the suburbs of Germany. | Despite conservative character, really flexible, provide short-term work on an hourly basis to tackle unanticipated orders. However, processes are traditional and something completely new perceived to generate problems, especially when new people have to be hired. | Main products are based on modern technology, health insurances cover the costs as long as they are convinced about new features/additional use. Especially since generation change, adapting more quickly to changes. | If resources are restricted, adaption to changes not that easy. However, industry postulates flexibility. |

| Facilitators and Barriers | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| What obstacles do you see/did you see in connection with the use of Crowdlending? [Facilitators and Barriers] | Interest Payments as barriers if higher than bank loans, provision costs for platform. Perception: Speed not the crucial factor, bank is fast because of long-term relationship. | Does not need this type of financing. If more Debt would be needed, bank is preferred because interest is perceived to be higher on platforms, provision costs included. Interest at bank is currently 2%. If application is rejected due to not meeting requirements, complexity (speed and simplicity) is crucial for choosing Crowdlending or not. | Reputation of Crowdlending towards Investors is low. Reputation is perceived to reflect Crowdlending as a last resort. "When you cannot attract a bank or investors, try it with the Crowd." Concerning effort: Video and Provision costs are perceived to be high on-time costs, that could be crucial for not adopting. | Perceived tendency towards bank loan, because behind a bank there is a person that can be consulted directly. Trust was built over the last 14 years and personal contact is important. | Perception: Bank loan in consultancy with bank. Crowdlending: To be on one's own. | Only a little knowledge. No real obstacles. Dependent on conditions. Pressure on performance because KPIs are public also after the campaign. | High interest, provision costs. However, regulation is slowly increasing for Crowdlending and platforms need more and more documents. | No specific barriers perceived. Platform educated the firm in every important aspect of the service. However, perceived suitability only for low amounts of credit. | Platform needs a lot of documents from you (but not crucial). Crucial would be that there is no established trust and relationship between the company and the platform, but the platform needs account statements and every transaction data from the past months. To send this to a party that is only intermediary where the information is passed on to another party (bank) the company does not know, can be a crucial barrier. However, seeing others on the platform, also enhances trust. | One big barrier could have been the disclosure of financial information to the public (which is normally not the case for private companies), also months and years after the financing round. Bank loan would have been more anonymous. | Effort for campaign was small, did not want a video (small projects don't have to come with a video). | Interest payments perceived to be high. Provision costs. |

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| Trialability, Relevance and Ease | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| What advantages did you see/do you see when using Crowdlending? For example, many alternative forms of financing are very quick and easy to use. To what extent do you find this so important for the financing decision? [Trialability, Relevance and Ease] | To use it as an additional source if credit lines are used and credit threshold is reached, but money is needed for an urgent project like the financing of the construction of a new warehouse. Would never rely on it as the only source. | Because of being B2C - > PR and Marketing aspect as advantage in comparison to bank loan. Investors can be turned into customers. Investors on Crowdlending platform perceived to not be as experienced, therefore chance of getting money is perceived to be higher, when the business is doing bad. | One advantage could be rising awareness - > Marketing purpose. | No perceived advantages, because of lack of knowledge. | Not enough knowledge to answer this question sufficiently. If a project is unanticipated and urgent, need fast and easy financing. Although bank is still preferred, the firm is not exclusively bound to the bank. | Bank is not important party in the first place. Big Marketing advantage, B2C business, raise awareness for small enterprises. Enhances network between the company and investors, because investors tend to invest in products they are interested. Speed and flexibility. Especially when funding amount is rather low, marketing effect is the same and amount can be generated very quickly. | Loan application was rejected by a bank because business model is perceived as complex and products are not known to loan officers. Therefore, Crowdlending enhances investments, because less collateral is needed. Bank decision is not made personally, but automatically by computer. Fast money, especially when financing is generated fast by investors. | Two main advantages in pre-adoption phase: Speed and Awareness effect. Marketing effect without spending money on marketing crucial for adoption decision. Also, financing a separate project without influencing other areas with a rather low amount. | An order had to be pre-financed and it was crucial that alternatives, like crowdlending were fast and easy to inform about. Speed very crucial during these times of digitalization and globalization. Low complexity. Transparency, but perceived level of transparency not clear. | Even though B2B business, raising awareness was intention: Factor to adopt that gives confidence. And speed of process provides capital quickly. | Quick solution without long-term liabilities. B2C: Marketing effect: Visitors on website perceived to grow rapidly and ex-post did indeed. Awareness and attention increase intended, however sales increasing not, especially because investor characteristics do not match client characteristics. | Speed that helped the firm to adapt to a change in customer structure. Besides: Awareness, because both B2B and B2C. Marketing effect without paying marketing budget. Besides: Investor characteristics match client characteristics. |

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## APPENDIX 18: COMPLEXITY

| Complexity, Relative Advantage and Observability | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| To what extent do you regard the use of crowdlending as complex? And to what extent does that influence your decisions? [Complexity, Relative Advantage and Observability] | Knowledge is very thin, complexity at first sight, too. But getting to know about the different platform providers can be time consuming. | The complexity level must be really low in order to adopt. Especially because it is not really needed. | On the surface it is perceived as not complex, but complexity can only be estimated correctly when more knowledge about crowdlending exists. | Lack of knowledge. Therefore, not the solution itself, but the way of looking for alternatives when there is no real need perceived as complex. -> Unnecessary complexity | At first sight seems to be very easy and must be easy to decide for adoption. But processes behind may be complex. However, knowledge level is low. | On the surface not complex. Payback can be complex. | Complexity perceived to be low, especially in comparison with bank financing. | Process perceived to be transparent, especially after platform provider advised the firm and handed in a proces script. Compared with a bank loan, crowdlending is assessed to be much less complicated here. | The business model is perceived to not be completely transparent and easy. Simple on the surface, however, mechanisms and regulative concepts perceived to be rather demanding and bureaucratic | Registration was easy, no physical apperance requested. At a bank appointment is needed. Not complicated. Digital process. | On the surface it is simple, but the whole business model and the mechanisms are complex. However, contracting and settlement was simple, but transparency could be improved. (But more transparency could make it more complex) | Financial advisor explained everything. Afterwards not complex. Otherwise, understanding the process behind the simple surface could be complex. Besides, complex in the sense of chosing a platform. |

## APPENDIX 19: RISK

| Risk | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Do you see exceptional risks in using crowdlending or alternative financing? [Risk] | As long as order situation is stable, Crowdlending as additional source conceivable, but risk of not paying back – although without any collateral – can be a boomerang in bad times when high perceived interest decreases liquidity that is planned to be used for other purposes. | Risk only in false estimation of own risk burden. Risk is on the investor's side. | Risk of signaling investors that you are dependent on debt, instead of showing them that you are trying out something new. Besides that, seeing the crowdlending as an alternative is perceived to bear no other additional risks. | No risk perceived to occur. | N.A. | If campaign fails, effect can be bad publicity and rating low -> negative effect. | Interest risk, but in relation to simplicity risk level is low. | Marketing effect as a boomerang if financing project fails. However, mitigating risks by preparing upfront and informing about risks involved. | Risk perceived to be very low, if platform fails, loan is paid back to partner bank. If platform fails, no consultant partner on the platforms side left, but there are other platforms that can be used in the future. | If not successfull bad publicity. Free Rider problem: Firms want to be financed because of trend and simplicity that could damage the reputation of the Crowdlending landscape. Risk also dependent on purpose and amount of financing. Risk more on the investor's side. | Only risk of taking debt, like bank loan. But Crowdlending itself no special risk perceived. | Pre-Campaign: Uncertainty of receiving the requested amount. Awareness effect can be a boomerang. Other risks not for the company, but more on the investors side. |

| Evidence and Compatibility, Innovation fit with users' norms and values | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Do you think that the use of crowdlending platforms fits your company? [Evidence and Compatibility] [Innovation fit with users' norms and values] | Using Crowdlending maybe reflects a trend and this trend is perceived as useful additional source, as long as economic situation is stable. Firm not agile as start ups, but long existing company with long-established reputation. | Nothing will be rejected categorically. | On the one side, reflecting curiosity. But to be cautious, because not heard about a lot of successful company that used Crowdfunding / Crowdlending personally. Maybe just a trend of unsuccesfull companies and in terms of financing, to follow a trend is not always the best idea. | N.A. | No not really, maybe just a trend. | In the sense, that provided service can be requested mobile, too. However operations are physical. | Really, clients are automotive and not easy to handle. Look for simplicity where possible, therefore Crowdlending reflects this pursuit of simplicity and speed. | The use of Crowdlending is seen as comatible with one specific business area. For other areas there is seen no high level of fit. However, the use of technology and automation of processes, that is represented by the platform also plays an important role in the company's mission and vision to differentiate itself from competitors. | Adoption of Crowdlending is result of generational change, new movements influenced by a younger manager who entered the business. Want to communicate this to the outside, therefore use of Crowdlending perceived to represent this change. | Rather conservative. However curious if need to obtain new solutions. | Important to reflect the platforms value proposition in order to communicate that Crowdlending is not used as a last resort/stopgap. | Industry postulates continous innovation. Showing others that the firm is open for new solutions. |

## *APPENDIX 21: INDIVIDUAL'S NETWORK*

| Social Network, Individuals Personal Network | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| To what extent do you know people from your own social network who work with Crowdlending? [Social Network, Individuals Personal Network] | One person used Crowdfunding, but not heard about Crowdlending being used. | No, no person who has worked with Crowdlending. | No one has ever used Crowdlending within the social network. Or at least there is no knowledge about people having adopted or having talked about it before. | Only Crowdfunding adopters are known. | A colleague who used Crowdfunding for an add-in. | No. crowdfunding yes | Only Investors who invested in Crowdlending. | Yes, previously worked in a start-up and some colleagues work with Crowdlending. | No one. | No one. | Yes, worked together with people from Crowdlending platforms. | Only company's network, no person in private who used it. |

## *APPENDIX 22: INDIVIDUAL READINESS TO CHANGE*

| Readiness for Change | Participant 1 | Participant 2 | Participant 3 | Participant 4 | Participant 5 | Participant 6 | Participant 7 | Participant 8 | Participant 9 | Participant 10 | Participant 11 | Participant 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| How much are you willing to respond to change? [Readiness for Change] | When actions fall within the intended area of responsibility, changes can be responded to quickly. If this is not the case, issues are being discussed with the management or other parties affected by the decision and feedback is awaited. | Completely willing to respond if necessity is seen, set priorities in changing issues. | There is a need to respond because there is a big dependency on the investors' expectations in order constantly secure capital. | As the CEO, to respond to change is essential | Obligated to respond to change to react according to changing client demands. | Young entrepreneur. Not traditional, experimental! | Because of generation change, son is taking over the business and therefore keen to adopt changes in every area (financing, leadership inter alia). | Actively seeking new solutions and continously experimenting. | Entered the business with the mission to change! | If processes or practices proved to be sufficient, rather stick with it. | Generation change, new ideas crucial. New changes on many areas, recruiting, processes inter alia. | Curious, however processes that turn out to be efficient, do not change. |

| **Individual Characteristics** How would you describe your influence on employees? To what extent does your professional background play a role in the adoption of crowdlending? [Individual Characteristics] [Managerial Characteristics] | Participant 1 Background: Controlling. Influence: Financial issues are discussed and in this area is a high influence. In other areas influence is rather low. | Participant 2 Big influence in special themes according to the employees' responsibilities. Professional background: Now CEO, former Investment banker, therefore built up a sustainable network with financing institutions and investors. Therefore, perceived to have a wide range of financing alternatives preferred over the Crowdlending alternative. | Participant 3 Financing is discussed between the management, but within the start-up atmosphere it is important that everybody is involved in the main key aspects. | Participant 4 Business background, the whole management has a business background. Direct influence on others. | Participant 5 No professional background in finance. Worked as IT consultant. Influence on employees in other topics big, but in terms of financing decisions are always taken in cooperation with a consultant. | Participant 6 Professional background: Economics. However, does not play an important role in the adoption. | Participant 7 Formerly worked as a consultant. Influence is warm, everyone is involved, however financing decision does not involve others than accountants or the management level. | Participant 8 Previously worked in a start-up before, but this was not influencing financing decision. Management desribed as pragmatic and solution oriented. | Participant 9 No financial background. New ideas are mainly discussed between management responsibilities. | Participant 10 Democratic influence, listening to other opininions. Making a decision and taking on responsibility. Background: Engineering and no finance background. | Participant 11 New leadership style influences employees. However, some employees still must get used to it. Background: Worked in a Crowdlending Platform before. | Participant 12 Background: IT system administrator, decision was led by a financial advisor. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

| Company | Purpose | Amount | Duration (years) | # Staff | Turnover in million | EBIT in million | Probability of Default | Rating | Interest Rate | Founding Year |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Investment | 450,000 € | 4 | 48 | 3.4 | 0.10 | 3.5% | B | 6.45% | 2009 |
| 2 | Growth | 1,000,000 € | 2 | 19 | 2.5 | 0.24 | 1.2% | A | 4.65% | 2011 |
| 3 | Investment | 500,000 € | 4 | 20 | 1.6 | 0.17 | 4.4% | C | 7.50% | 2007 |
| 4 | Equipment | 100,000 € | 3 | 50 | 2.4 | 0.10 | 4.1% | C | 7.15% | 2009 |
| 5 | Equipment | 100,000 € | 5 | 10 | 0.7 | 0.19 | 4.5% | C | 7.75% | 1998 |
| 6 | Growth | 250,000 € | 3 | 8 | 0.5 | 0.02 | 5.8% | D | 9.00% | 2013 |
| 7 | Investment | 150,000 € | 2 | 20 | 5.7 | 0.22 | 4.0% | C | 6.90% | 2014 |
| 8 | Equipment | 500,000 € | 3 | 103 | 7.6 | 0.28 | 3.7% | C | 6.55% | 2009 |
| 9 | Growth | 300,000 € | 2 | 24 | 5.2 | 0.08 | 4.8% | C | 7.95% | 2016 |
| 10 | Growth | 120,000 € | 3 | 17 | 1.9 | 0.16 | 4.7% | C | 7.90% | 1987 |
| 11 | Growth | 500,000 € | 3 | N.A. | N.A. | N.A. | 0.0% | B | 6.25% | 2011 |
| 12 | Equipment | 100,000 € | 2 | 35 | 1.4 | 0.46 | 3.2% | B | 6.07% | 1999 |
| 13 | Investment | 200,000 € | 3 | 130 | 15.4 | 0.11 | 4.7% | C | 7.90% | 2006 |
| 14 | Growth | 500,000 € | 3 | 9 | 7.9 | 0.33 | 4.1% | C | 7.10% | 2013 |
| 15 | Investment | 750,000 € | 4 | 148 | 11.4 | 0.28 | 3.9% | C | 6.80% | 2009 |
| 16 | Growth | 30,000 € | 2 | 20 | 0.1 | 0.02 | 2.3% | B | 5.00% | 2012 |
| 17 | Growth | 180,000 € | 3 | 5 | 0.2 | 0.02 | 4.7% | C | 7.91% | 2011 |
| 18 | Growth | 500,000 € | 3 | 110 | 14.8 | 0.68 | 3.7% | C | 6.50% | 2012 |
| 19 | Growth | 200,000 € | 3 | 25 | 4.0 | 0.12 | 2.5% | B | 5.20% | 2001 |
| 20 | Growth | 600,000 € | 3 | 30 | 9.2 | 0.30 | 4.7% | C | 7.90% | 2014 |
| 21 | Growth | 750,000 € | 3 | 15 | 12.1 | 0.74 | 3.7% | C | 6.50% | 2008 |
| 22 | Equipment | 250,000 € | 2 | 25 | 28.0 | 0.50 | 4.6% | C | 7.71% | 2014 |
| 23 | Equipment | 100,000 € | 2 | 10 | 0.9 | 0.16 | 7.4% | D | 11.20% | 2012 |
| 24 | Equipment | 240,000 € | 3 | 18 | 2.6 | 0.03 | 5.8% | D | 9.00% | 2012 |
| 25 | Equipment | 100,000 € | 2 | 11 | 2.8 | 0.10 | 6.8% | D | 10.00% | 2014 |
| 26 | Equipment | 50,000 € | 1 | 5 | 0.6 | 0.06 | 4.3% | C | 7.30% | 2014 |
| 27 | Investment | 150,000 € | 2 | 50 | 4.2 | 0.14 | 3.0% | B | 5.50% | 1992 |
| 28 | Growth | 200,000 € | 2 | 10 | 1.6 | 0.32 | 3.3% | B | 6.30% | 1992 |
| 29 | Equipment | 25,000 € | 1 | 29 | 4.1 | 0.10 | 5.4% | D | 8.50% | 2009 |
| 30 | Equipment | 50,000 € | 1 | 45 | 2.4 | 0.09 | 4.0% | C | 7.00% | 1999 |
| 31 | Equipment | 30,000 € | 1 | 2 | 0.6 | 0.11 | 5.4% | D | 8.50% | 2011 |
| 32 | Equipment | 80,000 € | 1 | 30 | 3.2 | 0.12 | 6.7% | D | 9.00% | 2002 |
| 33 | Investment | 150,000 € | 2 | 32 | 6.0 | 0.25 | 3.8% | C | 6.70% | 2007 |
| 34 | Equipment | 25,000 € | 1 | 6 | 2.1 | 0.12 | 3.8% | C | 6.70% | 2014 |
| 35 | Growth | 200,000 € | 2 | 56 | 2.5 | 0.20 | 3.1% | B | 5.80% | 2008 |
| 36 | Growth | 25,000 € | 1 | 10 | 0.8 | 0.06 | 6.0% | D | 9.50% | 2013 |
| 37 | Investment | 300,000 € | 4 | 200 | 9.3 | 0.15 | 3.8% | C | 6.80% | 2006 |
| 38 | Equipment | 25,000 € | 1 | 2 | 0.5 | 0.05 | 4.3% | C | 7.50% | 2006 |
| 39 | Growth | 150,000 € | 3 | 39 | 4.8 | 0.09 | 3.1% | B | 5.90% | 1930 |
| 40 | Equipment | 40000 | 1 | 13 | 2.4 | 0.59 | 4.9% | C | 8.10% | 2001 |
| 41 | Equipment | 60,000 € | 1 | 70 | 1.1 | 0.15 | 3.7% | C | 6.50% | 2014 |
| 42 | Growth | 70,000 € | 2 | 15 | 1.4 | 0.12 | 3.4% | B | 5.90% | 1991 |
| 43 | Growth | 200,000 € | 4 | 25 | 1.6 | 0.12 | 3.9% | C | 7.50% | 1998 |
| 44 | Growth | 75,000 € | 2 | 10 | 1.1 | 0.02 | 3.7% | C | 6.50% | 1980 |
| 45 | Growth | 100,000 € | 2 | 13 | 3.2 | 0.04 | 3.4% | B | 6.00% | 2011 |
| 46 | Investment | 75,000 € | 2 | 50 | 4.0 | 0.04 | 3.9% | C | 8.20% | 1990 |
| 47 | Growth | 75,000 € | 3 | 5 | 3.4 | 0.04 | 7.1% | D | 10.60% | 2007 |
| 48 | Equipment | 40,000 € | 1 | 4 | 0.6 | 0.03 | 3.9% | C | 7.10% | 2010 |
| 49 | Growth | 100,000 € | 2 | 11 | 2.0 | 0.04 | 3.8% | C | 6.50% | 2004 |
| 50 | Productivity | 150,000 € | 3 | 36 | 2.9 | 0.11 | 4.3% | C | 6.00% | 1990 |
| 51 | Growth | 200,000 € | 4 | 4 | 0.2 | 0.07 | 3.4% | B | 5.20% | 2015 |
| 52 | Equipment | 40,000 € | 1 | 3 | 0.5 | 0.07 | 4.0% | C | 7.00% | 2014 |
| 53 | Equipment | 25,000 € | 1 | 32 | 3.7 | 0.02 | 3.8% | C | 6.80% | 1924 |
| 54 | Equipment | 30,000 € | 1 | 29 | 2.3 | 0.17 | 3.2% | B | 6.10% | 2007 |
| 55 | Investment | 26,500 € | 4 | 150 | 8.4 | 0.10 | 0.2% | AA | 2.60% | 1954 |
| 56 | Growth | 75,000 € | 3 | 14 | 0.4 | 0.10 | 3.4% | B | 6.00% | 2007 |
| 57 | Growth | 100,000 € | 3 | 12 | 1.1 | 0.07 | 2.4% | B | 5.10% | 2013 |
| 58 | Growth | 250,000 € | 4 | 30 | 6.1 | 0.05 | 2.9% | B | 2.50% | 1985 |
| 59 | Productivity | 200,000 € | 3 | 50 | 5.4 | 0.27 | 2.1% | B | 4.50% | 1948 |
| 60 | Growth | 200,000 € | 3 | 50 | 4.5 | 0.10 | 2.0% | A | 4.70% | 1999 |
| 61 | Growth | 150,000 € | 3 | 60 | 14.4 | 0.35 | 1.4% | A | 4.00% | 1961 |
| 62 | Growth | 250,000 € | 4 | 34 | 2.1 | 0.29 | 1.7% | A | 4.40% | 1999 |
| 63 | Growth | 300,000 € | 3 | 18 | 7.2 | 0.24 | 2.9% | B | 5.70% | 2004 |
| 64 | Growth | 100,000 € | 4 | 7 | 1.6 | 0.02 | 2.3% | B | 5.00% | 2004 |
| 65 | Growth | 150,000 € | 4 | 3 | 0.5 | 0.15 | 3.5% | B | 6.45% | 1992 |
| 66 | Growth | 75,000 € | 3.5 | 20 | 0.9 | -0.01 | 3.5% | B | 6.50% | 2009 |
| 67 | Growth | 250,000 € | 4 | 54 | 5.7 | 0.29 | 2.7% | B | 5.50% | 1953 |
| 68 | Growth | 150,000 € | 3 | 10 | 0.6 | 0.02 | 3.4% | B | 6.40% | 2016 |
| 69 | Investment | 150,000 € | 4 | 12 | 3.2 | 0.33 | 3.5% | B | 6.50% | 2010 |
| 70 | Growth | 50,000 € | 1 | 10 | 3.0 | 0.07 | 1.4% | A | 4.00% | 1993 |
| 71 | Equipment | 30,000 € | 1 | 8 | 0.6 | 0.04 | 3.1% | B | 6.00% | 1997 |
| 72 | Equipment | 100,000 € | 1 | 65 | 10.0 | 0.21 | 4.4% | C | 7.50% | 1971 |
| 73 | Equipment | 100,000 € | 1 | 2 | 0.7 | 0.22 | 3.2% | B | 6.10% | 2011 |
| 74 | Equipment | 50,000 € | 1 | 7 | 0.4 | -0.03 | 5.8% | D | 8.80% | 2014 |
| 75 | Equipment | 30,000 € | 1 | 29 | 2.2 | 0.18 | 2.8% | B | 5.80% | 2011 |
| 76 | Equipment | 50,000 € | 1 | 9 | 1.4 | 0.13 | 6.7% | D | 9.10% | 2003 |
| 77 | Equipment | 100,000 € | 1 | 24 | 1.3 | 0.02 | 3.3% | B | 6.00% | 2012 |
| 78 | Equipment | 50,000 € | 1 | 65 | 3.4 | 0.35 | 2.9% | B | 5.80% | 1999 |
| 79 | Equipment | 50,000 € | 1 | 25 | 2.9 | 0.15 | 3.8% | C | 6.60% | 2002 |
| 80 | Equipment | 100,000 € | 1 | 15 | 5.9 | 0.13 | 3.9% | C | 6.50% | 2006 |
| 81 | Equipment | 50,000 € | 1 | 35 | 1.8 | 0.12 | 4.3% | C | 7.00% | 2013 |
| 82 | Equipment | 55,000 € | 1 | 18 | 0.9 | 0.03 | 4.8% | C | 8.00% | 2013 |
| 83 | Equipment | 40,000 € | 1 | 14 | 0.5 | 0.06 | 4.1% | C | 7.20% | 1992 |
| 84 | Equipment | 25,000 € | 1 | 4 | 0.3 | 0.04 | 6.0% | D | 8.50% | 2011 |
| 85 | Equipment | 50,000 € | 1 | 4 | 1.9 | 0.05 | 4.0% | C | 7.00% | 2009 |
| 86 | Equipment | 100,000 € | 1 | 9 | 4.5 | 0.18 | 3.4% | B | 6.40% | 2013 |
| 87 | Equipment | 50,000 € | 1 | 90 | 6.5 | 0.16 | 4.7% | C | 8.00% | 2003 |
| 88 | Equipment | 50,000 € | 1 | 13 | 1.9 | 0.03 | 3.4% | B | 6.40% | 2007 |
| 89 | Equipment | 100,000 € | 1 | 50 | 5.8 | 0.29 | 3.4% | B | 5.70% | 1995 |
| 90 | Equipment | 100,000 € | 1 | 17 | 0.8 | -0.32 | 3.4% | B | 6.40% | 2013 |
| 91 | Growth | 200,000 € | 2 | 190 | 10.5 | 1.20 | 3.4% | B | 6.40% | 1983 |
| 92 | Growth | 200,000 € | 2 | 20 | 3.1 | 0.10 | 2.4% | B | 5.10% | 1996 |
| 93 | Growth | 80,000 € | 2.5 | 17 | 1.7 | -0.25 | 2.7% | B | 5.40% | 2010 |
| 94 | Growth | 90,000 € | 1 | 5 | 1.7 | 0.10 | 1.6% | A | 4.10% | 2004 |
| 95 | Productivity | 50,000 € | 1 | 156 | 22.6 | 0.39 | 0.6% | AA | 3.10% | 1997 |
| 96 | Growth | 30,000 € | 2 | 14 | 0.7 | 0.03 | 1.4% | A | 4.00% | 2002 |
| 97 | Growth | 75,000 € | 3 | 30 | 3.5 | 0.16 | 3.2% | B | 5.80% | 1977 |
| 98 | Growth | 60,000 € | 1 | N.A. | N.A. | N.A. | 3.5% | B | 6.30% | N.A. |