HOW DO FINTECH PROVIDERS CREATE NEW PRODUCTS FOR THE FINANCIAL INCLUSION OF SMALL AND MEDIUM ENTERPRISES?

Copenhagen Business School

Supervision: Rai Sudhanshu

Pia Hopfenwieser

Eszter Borbala Rudi

Total STUs: 193.905 **15.09.2017**

Table content

Table of figures

Acknowledgment

We would like to use this opportunity to thank our CBS master thesis supervisor, Associate Professor, PHD Rai Sudhanshu of the Department of Management, Society and Communication for his continued support, whose guidance helped us throughout the process of researching and writing this thesis. The door to his office was always open whenever we had any doubts or ran into difficult spots in our research. We could have not imagined having a better supervisor and mentor for our master thesis.

In addition we would like to thank our interview partners for the interest and participation in this research: Nyoli Scobie, Alistair Lamond, Anna Fitzgerald, Adam Welsh, Alesha Glennon, Andres Miranda, Fabio Boa Sorte, Marco Camhaji, Bruno Ribério, Maria Pereira, Rodrigo Schmidt, Davi Viana, Murilo Bassora, Fernando Sartori and Fabio Takara. Without their valuable input, this research could have not been successfully conducted. He say t he test of gram ar.

Finally, our thanks also goes out to Jessica Hamilton from the University of Sydney, Australia as well as Edgard Barki from Escola de Administracao de Empresas de Sao Paulo - FGV for their input and support in finding and contacting interview partners in both Sydney and Sao Paulo.

Abstract

With the rapid development of technology, the increasing efforts to boost the economy through supporting small and medium enterprises and the urgent need to include more and more people into the financial sphere, FinTech solutions rose as potential answers. The aim of this master thesis is to address the question of how FinTech providers create new products for the financial inclusion of small and medium enterprises. Through an extensive literature review as well as empirical data collection through 15 interviews in Australia and Brazil, several findings were derived. First, FinTech providers should address the target group of traditional SMEs correctly, consider the combination of self-service and personal interaction and provide a high-quality, tailored “one-stop shop” for SMEs. In addition, trust in institutions and formality needs to be investigated sufficiently and simple, easy-to-use products should be created in order to address the lack of previous financial knowledge. Finally, this research contributes to the existing academic discourse by highlighting underrepresented empirical highlights in the areas of tailored product portfolios, transparency, the speed of service provision and the timing of introducing financial education.

1. Introduction

Innovative products that combine promising technological progress with new ways of providing financial products and services have received significant research attention in the last few years. The term “FinTech” emerged to capture a new generation of financial products that brought with them a modern group of start-up companies eager to capture this new market. FinTech products have revolutionized what we, as consumers expect from financial products and rapidly changed our daily lives. Businesses have used FinTech products to reach their customers better and governments have started to see the potential these products offer for society’s overall well being. Entire business models - like online retailing and electronic commerce - that we are already used to today, would have not been possible without relying on innovation in technology-enabled financial services (Nejad, 2016). With the fast progress of products, providers and business models within FinTech came a new and interesting field of research. How are these products affecting the way our financial markets function, how are consumers handling the pace of change and what should governments do to support and or to limit this growth?

Another interesting topic that has emerged in the development discourse of the last decade is the term “Financial inclusion”. Financial inclusion refers to a person’s access to financial services, especially those essential to everyday life. To be financially excluded describes a situation where an individual or a business is unable to access some or all areas of the current financial market because of tight regulations, discrimination, insufficient knowledge or resources. With around two billion adults worldwide remaining without a bank account, the quest for financial inclusion has been a key development issue for a while (Demirgüç-Kunt et al., 2015). What is interesting is that while financial inclusion used to solely be a developmental issue, this has changed significantly with the emergence of FinTech products. These products represent new and unique opportunities, particularly for the financial inclusion of small and medium enterprises as they provide innovative and alternative solutions to the market, address previously ignored target groups and kick-start a rethinking process across the entire financial market space.

In the initial stages of investigating these problems and debating over potentially relevant research areas, we received the confirmation that we would both be able to join two very prestigious universities in our exchange semesters. This additional geographic focus on Australia and Brazil resulted in very interesting further inputs to our problem definition. Both countries rely heavily on their sector of small and medium enterprises (SME) to drive development and boost employment. Yet, we found a number of examples that show that there are limits to the financial inclusion of SMEs especially in terms of access to sufficient credit that can be observed in both countries. Traditional banks in particular have shown no or only limited interest in developing new and innovative products for this target group in the two countries. Therefore, the question remains, are SMEs fully financially included and if not what are the barriers and challenges that exists and how can innovative FinTech providers use these existing challenges to their advantage? These and similar questions were the ones that guided us to our final research question. The aim of this thesis therefore is to determine:

"How do FinTech providers create new products for the financial inclusion of small and medium enterprises?"

Our aim is to address this research question following the research philosophy of interpretivism as we aim to understand the roles of FinTechs and SMEs yet also acknowledge our own set of perspectives on the matter. We would argue it to be incorrect for example to ignore our own experiences with financial products and technology-enabled innovation as we interpret the results of our research (Rowlands, 2005). By interviewing, observing and analyzing the interactions of the two groups in questions, a meaningful picture of the reality can be constructed based on the social roles of each group.

This thesis is divided into six major sections. First of all, the introduction provided an overview of the problem to be examined, the research question that was chosen as well as the research philosophy used to address it. The second section, the literature review will elaborate on the deriving of the literature review, describe the ten literature highlights found and finally present the literature framework. The method that will be used in the data collection of our master thesis is explained in part three of this thesis. In the following part four, the attention of the reader will be focused on the empirical research by providing insights into the methodology used and the case studies that were derived for both the FinTech providers as well as the SMEs. In addition, the fourth section will also bring together the two case studies in the analysis part in order to finally conclude the empirical part of this thesis with the presentation of the 19 empirical highlights as part of the empirical framework. The fifth section will provide the opportunity for a fruitful discussion, as it will be bringing together the results of the literature framework and the empirical framework in order to find similarities and gaps between the two. Finally, the conclusion will highlight the limitations in our research, implications for both practitioners and academia before concluding the thesis by providing a concise answer to the research question of how FinTech providers create new products for the financial inclusion of small and medium enterprises.

2. Literature Review

The following section is aimed at the creation of the literature framework that will support answering the research question of how FinTech providers create new products for the financial inclusion of small and medium enterprises. It does so by first describing the process of deriving the literature review. Furthermore, each of the ten literature highlights is presented individually before proceeding with the development of framework. The section is concluded with the presentation of the literature framework.

2.1. Deriving the literature review

Once the research question was chosen and a decision on the research philosophy was made, the next steps was to conduct a thorough literature review in order to gain a deeper understanding of the current state of the literature. In order to do so, we followed a two-step analysis. First of all, we conducted the initial research by using the EBSCO database as well as relevant peer-reviewed journals on innovation, technology or management studies to collect all papers focusing on the topics of: the evolution of the FinTech industry, FinTech products, customer adaption, financial products for SMEs, financial inclusion, financial education, financial habits and financial innovation. The process of searching for, collecting and reading relevant papers took over the first months of our research at the end of which we selected the 40 most interesting or significant ones. Then a concise summary was prepared out of those 40 articles to highlight the initial level of analysis and capture potential questions or doubts on the specific papers. The collection of which can be found in appendix 1. The second step in our literature review can be described as the reflection and debate stage, where we applied the method of “Spot and string references”. In total, ten academic papers were selected as spot references because of their relevance for answering our research question of how FinTech providers create new products for the financial inclusion of small and medium enterprises.

2.2. The literature highlights

The following part will provide a detailed description of each of the ten literature highlights derived from our literature review. These ten papers represent our main literature highlights and each of them will be analyzed and debated in detail in the below sections. In addition, related articles, which represent the string references, were collected in order to further educate our theoretical framework. Finally, each spot reference will be concluded with one key statement, which is later used to derive our theoretical framework.

2.2.1. Innovation is not necessarily benevolent

In his research, Franklin Allen (2012) assess if financial innovations caused or contributed to the latest financial crisis in 2007 and whether it has a positive or a negative effect on economic welfare. A common definition for financial innovation is that of a process or product that tries to correct market imperfections. However, in his paper the author argues that financial innovations can have a dark side as it can for example create complexity that fosters information asymmetry and exploits investors (Allen, 2012). Yet, is important to keep in mind that at the heart of this last financial crisis was a real estate bubble. Even though financial innovations like securitization and subprime mortgages might have contributed in some ways, they were not the root cause of this particular crisis. Several researches found that financial liberalization on the other hand, can foster the fragility of financial markets. This kind of uncertainty is one of the dark sides of financial innovations. Nevertheless, numerous financial innovations like venture capital or leverage buyout funds have positive effects on a country's welfare. These positive innovations contribute to the financing of business as well as to the improvement of the reallocation of resources within areas like environment or global health (Allen, 2012).

Taking a wide range of aspects into consideration, financial innovations are having a rather positive than negative effect on a country's welfare. This is an interesting conclusion because when we hear about financial innovation in the literature, we often read about it as an inherently positive phenomenon, as if an innovation can only be a good thing. This paper highlights that for someone analyzing a financial innovation, it is crucial to keep in mind that not all innovations are contributing to the welfare of society. Questioning this often taken assumption of the inherently positive contributions of innovations, adds significant value to any analysis on the topic. However, whether an innovation in theory has a positive welfare impact or not might not even be the right question. Maybe the focus should be on analyzing the actual impact a specific innovation has on the society and businesses. There are a number of aspects that can change the actual impact of a specific innovation. For example, an innovation might only have the appropriate and good impact, if it is able to reach the right people and is implemented in the right framework. If on the other hand, a country's context or its regulations limit access to an innovation with an initially positive welfare impact, we would expect to see a clear discrepancy between the theoretical impact and the actual one experienced in the country.

We argue that innovation is not necessarily benevolent. Therefore, when assessing the impact of a financial innovation we have to keep in mind that it might have a dark side or even if the intention is good, the implementation could harm society. This is why regulation has to play an important role in financial innovation, because it can force or allow the innovation to develop within the right framework and to be implemented properly (Mullineux, 2010). As Mullineux (2010) explains, if every player had access to the market, then there might be a raise-to-the-bottom. This would lead to products that are underpriced for their own risk and can pose a systemic risk to the whole financial system. In order to make sure regulation is able to keep up with new and evolving FinTech products, a new type of regulation is needed. RegTech - a subset of FinTech aimed at increasing the efficiency of financial regulation - will be crucial to foster innovation in the right framework (Arner, Barberis & Buckley, 2016). On the other hand, regulation and policymaking can be dangerous as well. Too much regulation can kill financial innovation at any stage. As Schumpeter (1912) argues, the continuous force of innovation coming from entrepreneurs and entrepreneurial companies is starting the process of creative destruction. Only new innovations that at the same time destroy existing structures can help companies to establish themselves on the market. Regulations that protect existing business structures can therefore significantly limit the creative destruction process of innovation described by Schumpeter (1912). Moreover, the state's role in financial innovation is a difficult one because of the interconnectedness of the issue. This is what the case of China's financial development shows as well, where the government has strong control over the market. This type of control has clear advantages but even clearer dangers. The state's involvement in the development of the FinTech sector therefore is a double-edged sword, where both too little as well as too much control and involvement can have strong effects (Shim & Shin, 2016). Too little involvement might foster uncertainty, underpriced financial products and negative welfare impacts. Yet, too much involvement can also limit the innovatory power of FinTech providers and therefore limit its potential to positively impact a society's welfare through additional capital and services.

2.2.2. Financially excluded small businesses - the untapped potential

Over 2.5 billion adults globally do not have access to a bank account and a large part of those live in the developing world. Kamran & Uusitalo (2016) use the example of Pakistan where around 85% of the population can be classified as financially excluded. In this context, the authors investigate how financial exclusion affects the daily lives of the unbanked and therefore, creates vulnerabilities. In total, the authors interviewed 28 individuals using a non-directive questioning method in order to encourage interviewees to discuss the issues in detail and therefore, provide the reader with thick descriptions. By combining theoretical research into financial exclusion and consumer vulnerability with the primary data, the authors were able to show that the perceived and actual vulnerability of financial excluded consumers are threefold (Kamran & Uusitalo, 2016). First of all, financially excluded individuals suffer from personal consequences such as time wastage, a sense of deprivation and fear of robbery. Second, difficulties in saving money, the high cost of money transfers and missed business opportunities add to the economic vulnerability of the financially excluded. Finally, research shows that the inability to rely on a bank account results in damaged relationships, embarrassment and other social consequences. Considering the sum of personal, economic and social consequences is critical to capture the entire picture of vulnerability faced by financially excluded individuals (Kamran & Uusitalo, 2016).

Through thick descriptions of the everyday lives of unbanked consumers in Pakistan, the authors provide a number of interesting insights that should be taken into consideration beyond the context of the developing world. It is crucial to highlight that a lack of financial inclusion oftentimes comes hand-in-hand with a disadvantage at the marketplace where unbanked consumers pay more for basic necessities and high charges for money transfers. This can be seen as an opportunity for financial service providers to tap into an existing yet, unserved market. One important aspect is the role of financial service providers as advocates for the usefulness of a bank account. In order to address prospective customers who lack previous experience or financial knowledge, it becomes even more important to highlight the benefit, especially in terms of everyday cost savings, that go hand in hand with owning a bank account.

Even though the authors mention missed business opportunities as a key economic vulnerability endured by the financially excluded, the article's findings are limited to missed job opportunities. Therefore, the author's argumentation is lacking the view of the financially excluded individual as a potential entrepreneur. Especially in developing countries, the starting capital is a significant restriction to entrepreneurial activity. Financially excluded individuals are limited to informal and oftentimes very dangerous moneylenders that exploit their vulnerability. There are a number of customer vulnerabilities that both individuals and small business owners experience equally, yet one would expect a certain difference in the two groups approach to credit. One example could be the lack of any growth potential as a financially excluded business owner is rarely offered any credit options that could lead to the expansion of his or her business. Additional research into the experiences of financially excluded entrepreneurs would therefore add additional value to the analysis.

We argue that financially excluded small businesses present an untapped potential for society. While the paper by Kamran & Uusitalo (2016) provided a thorough overview of the topic of financial inclusion, in our opinion, not enough attention has been given to the market potential of the financially excluded. In particular, our research is interested in the group of financially excluded individuals that lead small businesses. As pointed by previous research, the lack of credit for financially excluded business owners can signify a major limit to growth of businesses (Niyogi & Niyogi, 2012; Gupta & Jain, 2015). Combining new lending technologies with a focus on transparency and financially literacy of the customers can provide a valid business opportunity for FinTech companies (De Sousa, 2010; Yawe & Prabhu, 2015). The reason for this can be found in the limited competition surrounding the untapped SME target group as well as the fact that new lending technologies might allow for a more accurate depiction of creditworthiness. Instead of following the misleading assumption that a lack in financial knowledge equals limited creditworthiness, new lending technologies allow FinTech providers to successful serve this market. The Grameen bank in Bangladesh is just one of many examples of companies that have been able to successfully reach out to financially excluded small businesses and therefore, turned vulnerability into business potential (Yunus, Moingeon & Lehmann-Ortega, 2010).

2.2.3. To determine the nature of financial constrain, the size and context of the firm matters

Beck, Demirguc-Kunt, Laeven, Maksimovic & Bank (2004) search for the answer to two questions: how successful are the prior classifications in distinguishing between financially constrained and unconstrained firms and what are the determinants of financing obstacles to firms. Contrary to other previous research, this paper investigates how financing obstacles differ not only across countries but also across firm size. *”A firm is defined to be financially constrained if a windfall increase in the supply of internal funds results in a higher level of investment spending”* (Beck et al., 2004). In total, more than 10 000 firms were surveyed with a minimum of 100 firms per country in order to provide a broad overview of the situation at hand. However, it is important to keep in mind, that the data is unaudited and self-reported by the firms therefore it might be influenced by the business owners individual misperceptions. The result shows that small firms are facing bigger financing obstacles than medium and large firms. Government-owned companies as well as manufacturing, agricultural and construction firms also face higher obstacles than foreign-owned, not listed, multinational companies. When the research compared developed and developing countries, the results show that in the first, firms’ age is more important than size while in the latter one, size is more important than age. Generally, in countries where the stock market, financial intermediaries and the legal system efficiency are more developed or the GDP per capita is higher, firms report lower financial obstacles (Beck et al. 2004).

The paper concludes that age, size and ownership can be seen as the best predictors to determine financial obstacles. Therefore younger, smaller and domestic firms report higher financial obstacles than other types of firms. An important aspect to keep in mind is that the data is self-reported, which means that the firms might perceive their obstacles higher and more severe than they actually are which could result in misleading conclusions. Furthermore, contrary to how it has been handled in the paper, we believe that these characteristics, namely age, size, ownership should not be treated independently. Instead one can assume that some factors are at least partially correlated. For example, multinational companies are by nature bigger than most of their domestic counterparts and therefore, probably often older as well as the build up of a multinational company takes more time. The other way around, a locally owned small company is probably still young or in the growing phase as they have not yet ventured into additional markets. Ignoring the potential correlation in the analysis might lead to some characteristics been reported more important than should be attributed to them in reality.

We should also ask ourselves, what lies behind the financial constraints of young, small and domestically owned companies, therefore what factors prevent them from dynamic growth? Potential reasons could be found within the general development of the country, the financial infrastructure, the industry in which the company operates in, the legislative framework or simply the way the company operates. Moreover, the reason for the overall difference between developing and developed countries could be partially explained by the fact that the economy in developing countries is generally focused on fields that are more financially constrained then other sectors of the economy, like agriculture for example. The difference between specific fields or industries might therefore be more interesting to look at than simply focusing on the country development level. Finally, it is interesting to consider, that firms often cannot get access to credit because of their opaque operations. Due to the size of these firms, an official body does not audit them; therefore they do not have financial statements or a long documentation history. This could make it harder for firms to prove their reliability and worthiness to borrowers, which in turn would make these firms more financially constrained

We argue that in order to determine the nature of financial constraint, the size and context of firms matter. Furthermore, even though it is important to be able to categorize the companies properly as financially constrained and unconstrained, it is even more important to understand the reasons for these constraints. This second step analysis can help significantly to address the problems that these financially constrained firms incure in their everyday operations. Beck, Demirguc-Kunt & Martinez Peria (2008) on the contrary argues that the lending environment is even more important than firm size or bank ownership type in shaping bank financing to SMEs. We will look further into this particular point in section 2.8 and 2.10. These authors argue that the most significant differences between firms when it comes to their context are between banks in developed and developing countries. This is in line with the current research, which found that the biggest difference of financial constraint exists between companies in developing and developed countries. In our opinion, any financial institution aimed at addressing the financial constraints of SMEs therefore needs to consider that the nature of financial constraint, the size and the context of firms matter.

2.2.4. Customer perception for FinTech adoption

The mobile payment market is one of the fastest growing among FinTech services and many of the products in this category aim at improving customer experience. Kim, Pakr, Choi & Yeon (2016) investigate what factors compel users of “K Pay” - the most used Korean mobile payment service - and similar products to accept FinTech services. In order to evaluate which factors are most critical to users, the authors use the Elaboration Likelihood Model (ELM), which describes how humans accept and process information along two main paths. In the central path, the recipient carefully assesses the new information while a person in the peripheral path chooses to adapt to the new information quickly and decides on the adoption directly. To achieve a positive effect on the adoption process, it is therefore critical to determine whether an individual follows the central or the peripheral path and adjust the approach accordingly. The authors’ research model tests seven hypotheses that describe the direct and indirect factors that affect intention to use mobile payment services. For the central route, perceived usefulness of the payment-type and perceived ease of use are the most critical factors. Service credibility and social influence are more relevant for the peripheral route. That could for example include recommendations from friends or family. Concern for information privacy and self-efficacy are found to have an overall moderating affect that is relevant for both paths (Kim et al., 2016).

The paper by Kim et al. (2016) builds a strong argument for the role of ease of use and usefulness in the adoption process of mobile payment services. The usefulness of FinTech products becomes especially critical in comparison to other products on the market. While FinTech products are often new and untested, existing and established products have already been able to prove their usefulness to the customers. Therefore, FinTech providers need to invest even more attention into this aspect as products that fail to achieve those criteria might be automatically rejected on the market. What is interesting about the Elaboration Likelihood Model is that “perceived” usefulness is chosen as the criteria instead of the objective or measurable usefulness of a product. Given the information asymmetry between the supplier and the customer on the financial market, this assumption seems very likely, because customers have limited opportunities to measure and analyze the actual usefulness before adopting the product. However, it would be interesting to investigate the difference between perceived usefulness and actual or objective usefulness further to understand for which types of products this difference is especially high. This comparison has the potential to play a significant role in how much knowledge and therefore, financial literacy is required to understand the usefulness of new FinTech products.

Another key aspect of the authors’ argumentation is the distinction between factors affecting the central path and those that affect the peripheral path. While individually each factor is supported by previous research, the authors fail to clearly support the assumption that some factors are only relevant for one specific path. Social influence for example, which describes the role other peers have on the user, is only associated with the peripheral path of adaption. This assumes that recipients that spend more time on the assessment of new information are less likely to be influenced by their social network in their adoption decision. While this assumption might hold for some adoption decision, it can be questioned whether it holds up for the adoption decisions in the mobile financial service market. Even a rational decision maker in the central path might be influenced by his or her social network's decision to adopt the particular FinTech product. The assumption that social influence is only relevant for individuals that adopt FinTech products according to the peripheral path of adoption therefore needs be justified further to increase the usefulness of the Elaboration Likelihood Model for FinTech providers.

We argue that for the adoption of FinTech products, customer perception is crucial. Numerous authors like Arner, Barberis & Ross (2015) or Frame & White (2014) have listed mobile payment services as one of the key areas of FinTech innovations, which make their adoption process particularly relevant for answering our research question of how FinTech providers create new products for the financial inclusion of small and medium enterprises. In order for customers to accept a new mobile payment service, perceived usefulness has emerged as a key theme within the literature (Lee & Teo, 2015; Ratten & Ratten, 2007; Kim et al., 2016; Arvidsson, 2014). This means that it might not be enough to bring a sophisticated product to the market unless customers also perceive the product's features as useful. How customers perceive the usefulness of a FinTech product can be influenced by the customer's financial literacy (Arvidsson, 2014) as well as a number of customer characteristics like age, gender, previous experience or country context for example (Gupta & Jain, 2015; Ratten & Ratten, 2007). In our opinion, it will therefore be interesting to further investigate which factors have the strongest influence on the adoption of FinTech products.

2.2.5. Behavior is first dependent on previous experience and willingness to change and then on education

The aim of the research by Xiao, O'Neill, Prochaska, Kerbel, Brennan & Bristow (2004) was to verify the usefulness of the Transtheoretical Model (TTM) of change - which was mostly recognized in health-related fields - through a real life financial education program, the MONEY 2000T in two US states in 1998. The underlying aim in Prochaska's TTM of change is to change undesirable behavior into desirable behavior. In this case, it is used to improve the financial well being of participants through a consequent change process. This model differs from previous behavioral models because it assumes a spiral pattern, where individuals can relapse and return to previous stages of behavioral change. It fosters processual change through five distinct phases, namely precontemplation, contemplation, preparation, action and maintenance, and ten processes of change instead of one dramatic change. To stimulate successful change, one has to identify the current phase of change that a specific person is in to be able to choose the right process to ease the transition to the next phase (Xiao et al., 2004). The MONEY 2000T program was developed according to the TT model and designed to be appealing to people at different stages of readiness for behavioral changes. Participants were categorized into four groups: Saver, Debt reducer, Saver & Debt reducer and Preactors. Findings were partially consistent with the theory and the discrepancies that were found could have originated from data limitations. However, the findings show that there is a distinct behavioral difference between Savers and Debt reducers. This is crucial to consider because it means that if an education program is devoted to only one group at a time, it could be more efficient as it would be able to address the particular needs of the Debt reducers for example (Xiao et al., 2004).

The authors argue that in order to change someone’s financial behavior, we need to know their position in the change process. This resonates with the commonly shared idea, that the more customized the message or product, the more targeted and effective result it will create. The study used a self-reporting method by asking four simple questions about the participants’ intention to take actions regarding their financial situation. Therefore, one has to carefully decide how to assess the state of readiness to change that an individual has, since to identifying it correctly is one of the key components of success. Moreover, in this study one might wonder how to detach the effect of attention on financial situations from the effect of financial education. Can we create positive behavioral change solely by directing the participants’ attention to their finances? Or is it the targeted and thorough education material on financial products that is missing in order to promote financial behavioral change? It could be important to determine the effect of education without the attention factor, because this way we could design even better education programs and therefore behavioral change.

Besides the position in the change process and the issue of education versus attention, the paper by Xiao et al. (2004), brings up another interesting aspect. The research does not explicitly say that education is a good approach to change financial behavior for the better. However, it assumes that education will have a positive rather than a negative impact on behavior. It would be interesting to see if education could also affect financial behavior negatively in particular cases, which so far the literature has not covered. By educating someone, who is not in the right stage of readiness, could that create even more confusion and discouragement? And how could this negative aspect of untargeted education material be mitigated in advance?

We argue that financial behavior is first dependent on previous experience and willingness to change financial situation and then on education. Here, the sequence itself is critical. In order to achieve behavioral change, we need to first identify how ready the observants are to change their financial situation as well as their previous financial experience to be able to provide targeted education efforts. Other researchers argue that prior financial experience might even be more important to induce a change in financial behavior than the amount of financial education received. Without prior financial experience, an individual might lack the basics to benefit from a lot of financial education (Lyons, Chang & Scherpf, 2006). Moreover, in order to change someone's financial behavior, FinTech providers have to carefully assess one's status within the change process. By understanding an individual's state of readiness, we can act accordingly and customize the education efforts to the needs of the particular group of individuals. This is in line with the argument of Salerno, Berriche, Crié & Martin (2015) who said that in order to successfully change behavior one has to have to group people who are in similar state towards changing their financial situation and then target them accordingly.

2.2.6. Frequency of use of bank account is critical for financial inclusion

Even though 60% of Indian population is banked, which means having access to a formal bank account, research into the topic shows that the majority of bank accounts in India are not used (Morawczynski, Hutchful, Cutrell, & Rangaswamy, 2010). Morawczynski et al,. (2010) investigate the reason behind the underutilization of bank accounts in India by focusing on the poorer areas of the country, which are the targets of the government's initiatives aimed at increasing financial inclusion. Moreover, the research also questions the validity of the current financial inclusion measures that are mostly focusing solely on accessibility instead of customer engagement with financial services. Findings are drawn from an empirical research covering 133 interviews in three Indian states during three months, with most respondents coming from rural areas in poor financial situations with no-frill saving accounts. The results show two important aspects on how financial institutions can help the poorer population. First of all, the respondents are open to save formally if they are provided with the right mechanisms and appropriate financial education. Second of all, income is not the only determinant of a diverse financial portfolio. This shows a general understanding of the usefulness of a bank account as a saving product. The paper therefore suggests that policies should change in a way that is focused on usage and not only on access and that financial education has to gain even higher importance. Moreover, provision of support from intermediaries like agents or financial education officers could heavily contribute to the financial inclusion in India (Morawczynski et al., 2010).

The paper questions the simple banked versus unbanked distinction and highlights the importance of considering the issue in a more nuanced way as this will open up the discussion on another wide segment of the population, the customers that have a bank account but are currently underutilize it. Another aspect brought up by the paper by Morawczynski et al. (2010), was the importance of education and specially who and how we should educate. The research proposed that peer-to-peer education seems to be the most suited solution, and that this learning should be targeted directly because these individuals have different financial need and a diverse level of understanding. The study focuses on India but one can assume that in other developing countries with similar patterns of behavior and need for better education, the same behavior is equally validated. Therefore, we can assume that the problem of unutilized bank accounts is an important aspect of financial inclusion in other developing countries as well and including it into the discourse will enrich the understanding of financial inclusion.

The second key aspect highlighted by the paper by Morawczynski et al. (2010) is the role of the state in this issue. The role of the state is especially controversial when it comes to issues like financial inclusion. In the case of the Indian government one can say that they had the right goal of engaging as many people as possible in the financial turnover, but the execution turned out to be somehow counterproductive in several aspects. Finding the right regulations and balancing the policy making and the free market, based on the rules of capitalism, is a critical and challenging task. While some researchers might argue that it is the rules of capitalism on the free market that should promote the utilization of a certain product - like a bank account, others might see the state as the responsible force. Another important aspect to consider is how good will could even harm financial inclusion when an initiative does not take into consideration the human behavior of the individuals involved. Several initiatives turned into being counterproductive and fostering exclusion because they did not count on the individual agent's interest and the desire to find the easiest solution to earn money. It is therefore important to not only consider the human behavior of the financially excluded individuals involved but also how other actors might take advantage of the situation.

We argue that the frequency of use of bank accounts is critical for financial inclusion. This position is in line with the definition of Ghosh (2016), who argues that the three major indicators of a financially inclusive system are penetration, availability and usage. Therefore, looking at only penetration and availability and measuring the success based on those factors are dangerous and misleading. Instead both financial actors and consumers need to work together to create a system that fosters each of those indicators in order to able to truly improve the level of financial inclusion. In our opinion, this insight can also be useful for any FinTech providers that are actively trying to target financial inclusion, as they need to be aware of this potential risk.

2.2.7. Providing self-service is necessary for financial institutions to survive

In order to improve customer experience and loyalty, companies are expanding their face-to-face service strategies with self-service technologies. However, while this is a clearly visible phenomenon in the financial markets today, there is little research on the impact that self-service usage has on customer satisfaction and loyalty of the financial customers (Buell, Campbell & Frei, 2010). This is why Buell et al. (2010) aim to answer the research question of how satisfaction and switching costs contribute to retention among self-service technology customers? The research was conducted for a one year period in 2003 and examined the behavior of 26 924 customers of a nationwide US retail bank in order to understand their satisfaction with the bank's self-service technologies.

The research found that the impact of self-service usage on retention or satisfaction is insignificant compared to face-to-face services. Findings show that the variation in customers' usage of channels does not explain the variation in satisfaction. Self-service usage only has a positive impact on retention when the switching cost is high. This means that providing self-service technologies in itself is not enough to significantly increase customer satisfaction. By disentangling the satisfaction effects and the switching costs, researchers found that switching costs serve as a tool to retain customers through self-service technologies, because they make switching to a different provider unattractive. This can be understood if one considers the time needed to understand a new online banking tool for example. But as a tool they are not as useful for creating satisfaction (Buell et al., 2010).

The research concluded that the effect of self-service usage on customer satisfaction and retention is not as positive as expected. However, it is imperative to keep in mind that the data collection period was in 2003. This means that the millennials were just reaching the young adulthood age, therefore not necessarily had a bank account yet. Including them in the research, might lead to a very different result and favor self-service technologies. Moreover, the sampling mechanism used in the data collection could under-represent customers who use self-service technologies and who rarely visit the branch. Including this group more in the analyzed sample could have potentially changed the results. The research by Buell et al. (2010) is particularly useful to highlight the importance of a trap. Namely, that the gain in customer retention could solely be the result of high switching cost. Customers who are not happy with the service in any form might stay with the provider to avoid those switching costs but their dissatisfaction could damage the relation in other forms. Therefore, financial institutions have to carefully asses if they want to apply this tactic to keep customers despite the potential negative impacts involved or if they should instead apply alternative tools aimed at improving customer satisfaction.

We argue that providing self-service is considered necessary for modern financial institutions to survive in today's financial market space. Since online self-services are now part of financial institutions' basic service portfolio, banks have to offer it, if they want to remain competitive. One of the reasons for this necessity to provide online self-services as a modern financial institution is the new consumer generation. Millennials are having distinctively different needs than the previous generation of consumers, which means that self-service technologies are now having a much more positive effect on consumer retention and satisfaction. This means that if we would conduct the same research now, we would probably reach a different conclusion. This is in line with Campbell & Frei's finding (2010), who concluded that self-service technologies increase the market share as well as customer retention of financial institutions slightly. This means that having self-service technologies is not a valid question from the perspective of the financial institution, instead the real challenge is how to do it right. Herington & Weaven (2007) found similar results when assessing the quality of online platforms and the corresponding customer satisfaction. The authors found that having an online platform and developing it might not lead to stronger relations with customers but it is a necessity to have a high-standard online service for financial institutions. On the other hand, Hitt & Frei (2002) found, that personal computer banking customers, on average, are more profitable, use more products, and maintain higher balances than the traditional customer segment. Therefore, we believe that even though FinTech providers can benefit from this general preference of self-service, they should also consider the potential profit effects of personal customer relationships.

2.2.8. The right portfolio to target SMEs

Small and medium size firms are oftentimes described as the engines of growth of an economy and a key factor in securing jobs. In his research paper, Bădulescu (2010) investigates the extent of the SMEs' financial need and how different credit structures can address that need. This paper therefore helps to expand the limited research into different credit structures and their ability to combat the lack of SME finance. The author analyzed the role of relationship lending versus transactional lending as well as the influence of different types of banks in order to create a full picture of potentially relevant factors. The results show that relationship lending is better equipped to include the character and reliability of the SME's owner (Bădulescu 2010). Yet, the author also shows that lending technology alone is not sufficient to determine the amount of SME financing available on a market. A well-balanced banking sector is also crucial, in addition to a fitting lending technology, for the availability of SME finance. This balance includes, on the one hand, a sufficient number of state-owned banks. These banks are more likely to lend to SMEs because they often have government subsidies or mandates available that are specifically focused on providing credit to SMEs. On the other hand, small banks have an advantage in relationship-based lending which the author argues increases the availability of SME financing. Other aspects, for example whether a bank is domestically or foreign owned, did not significantly change the availability of SME financing and are therefore less relevant (Bădulescu 2010).

There is an overall consensus, that it is important to solve the lack of SME financing that is currently observed in a number of developed as well as developing countries. However, as Bădulescu (2010) explains in his research paper, increasing the amount of SME credit available in an economy is only possible through considering all the different factors that determine credit availability. Each type of bank present on the market has a unique set of resources that defines which lending technologies they are able apply. Very personalized relationship banking, for example, is only possible if the financial institution in question can rely on their staff's relationship to the customers. In addition, the regulatory framework available in a country can support or limit the use of new FinTech solutions that might increase the availability of SME finance. Setting the standards too low might promote risky loan giving and endanger the overall balance on the financial markets, while too rigid regulation can limit the potential of new lending technologies. It is therefore critical to further investigate where the right balance might be and how the state can build a solid yet responding framework of regulations.

In his paper, Bădulescu (2010) concludes that larger banks are more likely to base their credit decision on hard facts instead of relationships. This means that the character or reliability of the business owner, which would have been included by using the softer relationship-lending technology, is not sufficiently included. This is why the paper concludes that the availability of small banks on the market, which are more likely to use relationship lending, increases the availability of SME financing. The reason is that smaller banks with these lending technologies are able to better access the creditworthiness. However, it would be interesting to further analyze how new credit scoring techniques might affect this assessment. By quantifying 'soft', qualitative data about the business owner and combining it with 'hard' financial statements, credit scoring might increase the SME credit made available through transactional lending technologies. By doing so it could not only significantly change the opportunities of larger banks to support their credit decision with additional information, but also serve as a crucial opportunity for the market entry of FinTech providers.

In our opinion, financial institutions need a portfolio of the right lending technologies to target SMEs. A number of different factors might influence the availability of SME financing - including a number of bank characteristics like ownership and size of mentioned by Bădulescu (2010). Overall the relevant research found that, there is a clear connection between the characteristics of the banking system of a country and the responding amount of SME finance (Beck et al., 2008; Ardic, Mylenko & Saltane, 2012). However, in our opinion, the portfolio of lending technologies that a financial institution has access to, has not received as much attention. To target SMEs and their credit needs better, the strategic fit between financial institution, lending technology and SME characteristics is crucial. In line with Berger & Udell (2006), we argue that even larger banks can increase their SME financing potential by replacing relationship-lending techniques with new transactional lending techniques like credit scoring. These techniques are better suited to capture a full picture of the creditworthiness of a small business owner.

2.2.9. The crucial role of trust

The sales and customer service channel structure of the banking distribution system has significantly changed through the integration of new technology. On the basis of this, Dimitriadis & Kyrezis (2008) analyze how trust in the 'parent' company leads to trust in its new technology-based channels. The authors' analysis is based on a widely accepted definition of trust in which the concept is described by four distinct components - competence, benevolence, integrity and predictability. After conducting a large-scale survey with 762 banks customers, Dimitriadis and Kyrezis (2008) conclude that trust in the 'parent' company is only partly transferred to the trust that customers have in the bank's technology-based channels. Cognitive trust, which includes competence and predictability, is developed specifically for the bank or the channel and therefore not automatically transferred. This means that while a customer might believe in the ability or power of the bank itself, this does not necessarily mean he or she will believe in a new mobile banking app provided by the same bank for example. It is therefore crucial for the bank to invest into building channel-specific trust, which includes providing sufficient information about speed, effectiveness and problem solving abilities. (Dimitriadis & Kyrezis, 2008) This way a bank or other financial institution would be able to ensure that their customers not only trust them but also their technology-enabled channels that contribute to their new channel structure.

As the authors highlight in their analysis, trust is not only a crucial concept to consider for the adoption of new FinTech products, it is also constructed out of a variety of different interacting factors. Being able to build a customer's trust in a technology that he or she has no previous experience using can be an almost impossible task. Yet, the paper helps to ease that process by pointing towards information on the speed, effectiveness and problem solving abilities. These product or channel-specific characteristics should be specifically highlighted to build channel-specific trust. Building this kind of cognitive trust, where customers believe in the competence and predictability of the new FinTech product, might even be more important than the affective trust. An established bank that is launching a new FinTech solution for example, can use these insights directly by supporting the bank's given 'capital of trust' with an additional focus on creating cognitive trust.

Dimitriadis &Kyrezis (2008) are able to build their arguments on a large number of qualitative interviews, yet the methodology used in the paper is still lacking in a critical part. The authors have limited their survey to customers who have had no experience using any of the bank's technology-based channels. Even though this a valid assumption, it would also be interesting to see what role trust plays for more tech-savvy customers. One could argue, for example, that previously gained trust in one technology-based channel - for example Internet banking - might transfer into initial trust in other FinTech solutions introduced by the same bank. Further research with different types of customers might help to provide more information about the transfer of trust between the 'parent company' and technology-based channels respectively for the different groups of customers.

Trust is crucial for the adoption of FinTech products. Much of the relevant literature agrees on this point with the paper by Dimitriadis & Kyrezis (2008) and supports their findings (Arvidsson, 2014; Kim & Prabhakar, 2004). In our opinion, trust and the process of building trust needs to be considered specifically for FinTech solutions, because these products are often new and complicated to explain at the same time. However, the research by Reaves Scaife, Bates & Traynor (2015) found another crucial point to consider regarding the trust in FinTech products. The authors argue that most of the currently existing financial application are not able to provide the protection needed by financial services. This indicates that security needs to be placed higher on the priorities of FinTech providers in order to build customer trust customer trust (Reaves et al., 2015). In addition, building belief in the competence and predictability of a new FinTech solution might be easier with customers that already have experience with similar technology-based solutions as Kim & Prabhakar (2004) highlights it. Furthermore, companies should consider using peer recommendations on social networks to increase channel-specific trust. Through this way FinTech providers can benefit from the trust we place in our peers to provide us with trustworthy recommendations and at the same time make use of the multiplier effect present on social media today (Lopez, Babcic, De La Ossa, 2015).

2.2.10. Lending technologies drive access to credit

Small business owners face significant problems in accessing capital due to the informational opacity problem, which entails that the bank cannot access enough data to show the business' creditworthiness. Berger, Cowan & Frame (2009) investigate how the use of credit scoring by 'community banks' affects the availability of small business credit. Based on research into the informational opacity problem by Berger & Udell (2006), the authors analyze the specific lending technology most suited to address the problem. Primary data from a survey of US banks' use of credit scoring methods for evaluating small business credits is used and sampled for specific bank criteria. By focusing on small 'community banks', the authors address a gap in the existing research. The findings show that the use of credit scoring as a lending technology is positively related to the quantity of lending. In addition, banks can learn from increasing the use of credit scoring and the findings show that a significant learning curve exists within new lending technologies. Previous research indicated that small 'community banks' would prefer small business credit scoring over consumer credit scoring to overcome the opacity problem. Yet, the authors found that to be true in a lower percentage than expected (Berger et al., 2009) which might show the low level of penetration of credit scoring methods, which are tailored to the need of SMEs.

The paper by Berger et al. (2009) shows how a specific type of bank addresses the information opacity problem that occurs with small business loans. Contrary to larger companies that can provide a variety of official financial record showcasing their creditworthiness, small business owners can often only provide proof of their personal creditworthiness. Given this background, the paper supports expectations that a new lending technology like credit scoring is needed to address the information opacity problem and increase the availability of small business lending. Yet, it is interesting to see that in the survey presented only a minority of community banks use credit scoring as an automatic technique to accept or reject loans. Instead, many use it as additional criteria that add to other information collected through relationship lending techniques. One way of interpreting these results would be to assume that a final personal assessment of each credit application still remains a preferred method.

In addition, the research finds that ‘community banks’ prefer to use customer consumer credit scoring instead of small business credit scoring despite contradictory expectations. Small business credit scoring makes use of the business owner’s personal record in order to add to the limited information provided about the business itself. Customer credit scoring on the other hand treats small businesses equal to individual customers, ignoring their business records. Using customer credit scoring limits the bank from correctly assessing the creditworthiness of small businesses, which puts both the bank and the small business at a disadvantage. In their paper, Berger et al. (2009) highlight the importance of using more recent data because previous studies have referred a more outdated survey from 1998. However, today the age of the author’s data, which was collected in 2005, still limits their significance. Following the evolution of FinTech within the past ten years, it seems very likely that a similar survey today would produce significantly different results. This will therefore be an interesting point to be addressed in the empirical part of this research.

Modern lending technologies like credit scoring drive access to SME finance. The literature on SME financing broadly agrees that there is a significant lack in SME financing. Constraints to financing are more likely to affect younger, smaller SME’s as they lack the needed financial records to prove their creditworthiness (Beck et al., 2006; Frame, Padhi & Woosley, 2001). Some authors have made the point that relationship-lending technologies are superior to transactional lending because they help financial institutions to build longer-lasting and stronger customer relationships (Nitescu, 2015). Yet, one needs to consider that the majority of small business owners currently do not have a personal bank advisor to build a strong relationship with; therefore FinTechs need to find new and better ways to combine the advantages of relationship-lending techniques with modern lending technologies that can significantly help in reducing the problem of information opacity. In particular, small business credit scoring should be investigated further to analyze which other sets of data could potentially improve its usability in approving SME credit (Beck et al., 2008). This research is closely linked to similar attempts to develop the so-called ‘social credit score’, where community embeddedness is used to determine creditworthiness, based on the assumption that strong community support reduces the risk of non-payment (Walker, 2014).

2.3. Development of the framework

The aim of the below paragraphs will be to present our way of thinking in developing the literature framework. First, we took all our literature highlights developed through the literature review and in order to have a more structured overview, we grouped them according to level of analysis such as market, firm, technology, individual. Following that, we placed together those literature highlights that formed interconnected groups in order to better understand the relationships that exist between the different literature highlights. This process leads to our literature framework, which we return to in a more detailed way in the discussion section. This will be crucial in answering our research question of how FinTech providers create new products for the financial inclusion of small and medium enterprises as our research question also places significant value on the understanding of the relationship between the different interconnected topics.

We collected the following ten statements or literature highlights that we concluded in our literature analysis, each of which was supported by a number of corresponding string references as explained in the point 3.1 deriving the literature review:

1. Innovation is not necessarily benevolent
2. Financially excluded Small Businesses – The untapped Potential
3. To determine the Nature of Financial Constraint, the Size and Context of the Firm matters
4. Customer Perception for FinTech Adoption
5. Behavior is first dependent on previous Experience and Willigness to change and then on Education
6. Frequency of use of Bank Accounts is Critical for Financial Inclusion
7. Providing Self-Service is necessary for Financial Institutions to survive
8. The Right Portfolio to target SMEs
9. The crucial Roe of Trust
10. Lending Technologies drive Access to Credit

In order to provide a better understanding of the nature of the positions presented, we grouped the positions according to their level of analysis. The positions that analyze the individual level represent our independent variables, while the combined positions of technology and firm level analysis constitute our dependent variables. Finally, the market level represents a base for our entire analysis. The aim of this exercise was to better understand the relationships and interactions between the different literature highlights, as it is important to note that each of these is part of the broader financial market space.

Level	Associated positions	
Market level	1. Innovation not benevolent	
Firm level	4. Small business - untapped potential 8. Right portfolio for SME targeting 9. Size & context matter	Dependent variables
Technology level	5. Use determines inclusion 6. Lending techniques drive access to credit 7. Self-service is critical to survive	Dependent variables
Individual level	2. Adoption needs customer perception 3. Experience determines behavior 10. Trust is critical	Independent variables

Table 1: The causality of literature highlights

2.3.1. Development of causality

After analyzing the links between the different positions emerging from the literature, we found that there are two separate, but interconnected groups, which we decided to name the hub and the baseline.

The hub or the head of the research area is made up of literature highlights number 5, 2, 3 and 10. Position 5 discusses the importance of the frequency of use of bank accounts. Position 2 and 3 are about the individual's experience with finances and financial services. Position 10 is about a crucial element of all the others, the trust, without which, none of the above would function flawless. The common pattern in all four is that they are all concerned about the individual and the behavior and perceptions of individuals within the world of finances.

The second interconnected group of the research area can be described as our baseline. The interconnection of positions 4, 6, 7, 8 and 9 are critical for the success of the hub, yet also dependent on it. What all positions in the baseline have in common is the focus on the SMEs and the need, potential and tools relevant for SME finance. Position 4 describes the untapped potential for FinTech providers that lie in financially excluded SMEs. In addition, we know from position 9 that the size and context of a specific SME is crucial to determine their financial constraint. This goes in line with the conclusion in position 8, which describes that the right portfolio of lending technologies are needed to serve those SMEs. Finally, both position 6 and 7 give us further information on the kind of tools needed in this context. These tools are related to the use of self-service and appropriate lending technology. We have found that self-service and the right lending technology needs to be chosen in order to survive in the financial sphere.

The last position, literature highlight 1 is the underlying assumption. We argue that without position 1, without assuming that innovation is creating something benevolent, none of the other assumptions would hold on the same basis. However, to see if this holds true in real life is yet to be discovered.

2.4. Framework

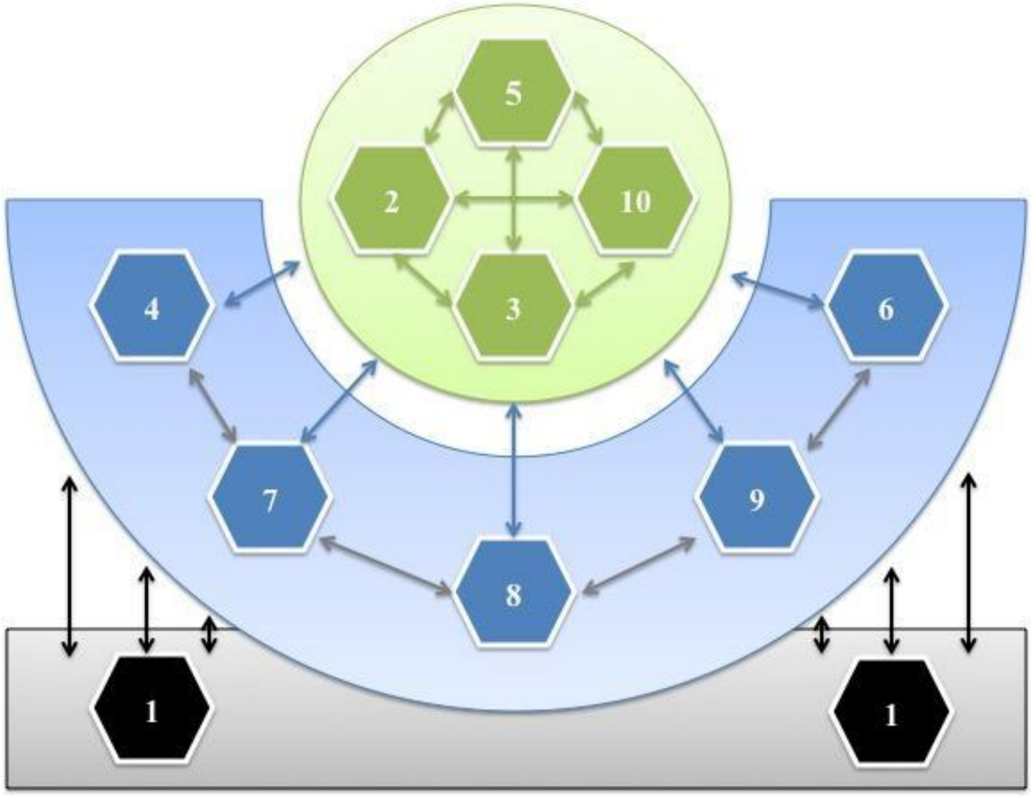

Table 2: The literature framework

The figure above shows the theoretical framework we derived from the analysis of the relevant literature and the corresponding ten literature highlights. It aims to provide a better overview and help us to answer our research question of how FinTech providers can create new products for the financial inclusion of small and medium enterprises. It does so without claiming completeness or full generalizability, but instead, shows an illustration of some of the interconnectedness between the relevant topics for this question.

Based on the causality we have developed above, we see the main positions on the topic grouped into three groups. First of all, the head of the research, which is indicated by the green-shaded circle, shows the interconnectedness of positions 2, 3, 5 and 10. Together, they represent the issues in regards to the individuals within the world of finance and their behavior. The considerations regarding the individual are set on the baseline, which is indicated by the blue-shaded area below. Here, we observed a clear focus on the SMEs and their needs, potentials and tools directed at financing them. The baseline is critical for the success of the hub but also very much dependent on it. Finally, we have identified the position 1 - the assumption on the goodness of financial innovations - as an underlying assumption. Overall the framework can, for example, help us to analyze how the adoption process of each individual within an SME is developing. This is crucial because in order to understand how FinTechs can best approach and build relationships with their SME customers, they need to understand the role of the individual business owner within each SME. Therefore the question remains how does the opinion of that individual affect the FinTech products and the way they are created. One could even go so far as to ask how does the individual change the landscape of SME financing.

3. Method

The following section will provide an overview of the method we have chosen to adopt in order to add empirical knowledge to the theoretical framework derived above. We will first explain which method we will adopt before highlighting the potential pitfalls this method entails. According to Yin (1994), when the researcher has no control over the event and the focus is on contemporary phenomena the methodology of using a case study is appropriate. Moreover, when we were debating our research question we automatically came up with only how and why question therefore we had a more explanatory point of view. Our final research question is how FinTech companies create new products for the financial inclusion of SMEs and therefore reflects this explanatory point of view. In addition this approach is in line with our interpretivistic research philosophy as already mentioned in the introduction of this thesis. We also think that the context of our research is very important in regards to the outcome. The case study's unique strength is that it allows the researcher to include a wide variety of evidences, gives us the opportunity to explore and present the context of the research. All these indications showed us the direction to choosing a case study method. However, we keep in mind the general prejudices that exists in regard to this method, as for example the lack of rigor or generalizability regarding case study methodology and will return to this matter later in the chapter.

Based on Yin's (1994) book, the researcher has to define the type of the case study design prior to data collection. It could either be single or multiple and embedded or holistic design. We chose to conduct a multiple-case embedded design case study. The reason for the multiple aspects is that there are several cases we would like to investigate. On the contrary, if there was an extreme or outstandingly unique case that would indicate a single case study (Yin, 1994). Furthermore, we conduct an embedded case study because there are potentially different sub-units of our research. However, we are aware of the dangers of using embedded case study method, for example failing to return and analyze the big picture and get lost in the details (Yin, 1994).

When it comes to our strategy of collecting evidences, we aim to use as my different sources as possible. These could be for instance documentation, archival records, interviews and direct observation. However, we are not going to be able to conduct participant-observation and there would be no point to collect physical artifacts. This goal of ours is in line with the three principles of data collections. Namely, to use multiple sources of evidence, create a case study database where you organize and document the collected data and to maintain a chain of evidence. The methodology part of this thesis will go into more specific details on the particular case study database that we have adapted to organize our empirical data.

Regarding our strategy of analyzing the evidences, we are developing a descriptive framework for organizing the case study. Moreover, we will use the technique of pattern matching where we compare an empirically based pattern with a predicted one to support our argument, which can strengthen the internal validity of our research (Yin, 1994). We will also use the technique of explanation building where we will analyze the case study data by building an explanation about the case. However, we will not use a time-series analysis because compared to the limited scope of our research it would not contribute enough to the quality of our research. During our analysis, we will make sure to be exhaustive, to rely on all the relevant evidences, to include all major rival interpretations, to address the most significant aspect of our case study and finally to bring our own knowledge to our case study (Yin, 1994).

It is important to determine who is the audience of our research because for case studies, it is oftentimes a wider audience than for other types of research types and each audience has different priorities (Yin, 1994). We determine our audience as the thesis committee and fellow students and practitioners in the finance fields therefore the methodological accuracy and the theoretical issues of the case study will have highlighted importance. In regards to the case study composition, we decided to use a linear-analytic structure, where the sequence of subtopics involves the introduction or problem definition, a literature review, the method, methodology, case study, analysis of the data, discussion, conclusion and implications from the findings (Yin, 1994).

Now that we have determined the method itself, the case study design, our strategy of analysis, the audience of our research as well as the case study composition, we will turn our attention to the potential pitfalls of the adopted method. As Gomm, Hammersley & Foster (2000) highlight, there are two key issues with choosing the case study method - generalizability and rigor of the research's findings. While numerous other authors have shared our opinion that the strengths of this type of research outweigh its negative aspects, it is still crucial for a thorough analysis to keep those aspects in mind (Gomm et al., 2000).

According to Gomm et al. (2000), the key problem for the generalizability of case studies in social inquiries relates to the definition of generalizability itself. In the discourse it is critical to keep in mind that generalizability within research dates back to physical scientists and lawful regularities that exist between cause and effect. Yet as Cronbach (1982) highlights, social interactions - like for example the adoption process of a specific FinTech product by its customers - are often too complicated for generalizability of this kind. In addition, the discussions for these types of problems always depend on the cognitive structures that influence our perception in the first place. According to this traditional view of generalizability, the case study method would be considered inappropriate for scientific research. Yet, the reconceptualization of generalizability through various ways allows us to still draw generalizations from the case study method, which we will apply to our research question. In this research, we will therefore use the reconceptualization of generalizability as transferability. In light of our target audience - the thesis committee, fellow students and practitioners in the finance field - we aim at developing a working hypothesis that is developed in a specific context. Even though we cannot determine overall generalizability, a working hypothesis allows readers to apply what we have developed in another context through transferring the knowledge (Gomm et al., 2000).

In addition to the problem of generalizability, researchers that adopt the case study method need to be aware of the potential pitfall of lacking rigor. The concept of rigor describes the logical validity or accuracy of the results of scientific research. Qualitative research in general and the case study method in particular has been criticized for lacking behind in this aspect. As mentioned before, this type of research relies heavily on our cognitive structures that influence our perception of certain results. In order to provide accurate results in case study research, the author needs to be able to capture an insider, or so-called emic, perspective and accurately explain this perspective. As the paper by Milne & Oberle (2005) elaborates, there are a number of factors that can help to increase the accuracy and help facilitate decision making to maintain rigor in case study research. These strategies include, but are not limited to, a clear and thorough sampling of case studies, allowing interviewees the freedom to speak, exhaustive transcription as well as an overall attention to context. Providing thick descriptions of the relevant context of our case studies is therefore crucial for both rigor and generalizability of our findings (Milne & Oberle, 2005).

4. Methodology

The below section encompasses each key step of the methodology used in this research in order to derive empirical highlights that will help to answer the research question of how FinTech providers create new products for the financial inclusion of small and medium enterprises. It does so by first, elaborating on the context of this empirical research, before provided rich descriptions of the realities of both FinTech providers and SMEs in the corresponding case studies. In point 5.3 the analysis of the empirical result is introduced which focuses on three thematic groups, namely **"Market challenges are calling for new products", "Customer service creates trust"** and **"Building financial education and knowledge"**. Finally this section is concluded with the presentation of the empirical framework that will later be used as one part to the basis of our discussion.

4.1 Context

The following pages are aimed at providing an overview over the methodology used in selecting interview partners, conducted interviews as well as the evaluation of the results in order to provide the bases for the empirical framework.

4.1.1. Selecting interview partners

The research question at hand requires the analysis of the relationship between FinTech providers on the one hand and SMEs as their customers on the other hand. Therefore the logical conclusion requires empirical data collection to be done in both relevant groups. First of all, FinTech providers were interviewed in order to understand their way of operating including the way products were developed and introduced and customer relationships were fostered. Yet this only provided on side of the coin and without the corresponding customers, this research would have run the risk of accidently accepting assumptions that were presented as facts by certain FinTech providers. Therefore interviews were also conducted, second of all, with current and potential customers on the other hand. Here the focus was on understanding their need, their product and service expectations and any possible prejudice against FinTech products.

The second key decision was regarding the geographic focus that could provide the best results in relation to the research question. From our literature review, it was clear that FinTech was a global trend with local adaptation as the local financial constraints and the existing finance market space play an important role in the specific target groups FinTech providers decide to tackle. In order to capture these local adaptations, we decide to include geographic variety in our interviews. Since Pia was on exchange in Brazil and Eszter in Australia we had the unique opportunity to conduct interviews in two very different financial markets, namely Sydney, Australia and Sao Paulo, Brazil. In **Australia** the FinTech sector is both well funded, with over $US 675 million in 2016, as well as highly diversified with a number of well-developed subsectors (Pollari & Mabbott, 2017). Especially lending, wealthtech and payments and digital currencies show a broad map of competitors, each with their own unique value proposition and target group. FinTech providers are valued by their customers for their ability to provide convenient and easy to access products that are well embedded into the existing financial system. In the **Brazilian market**, on the other hand, the FinTech sector is still very much developing with around 200 established companies that are competing with the country's highly concentrated banking sector (Sreeharsha, 2017). Yet the emerging markets shows immense potential as customers struggle to find innovative products in the existing oligopolistic market structure with fees and interest rates for loans that are among the highest worldwide. In addition the level of financial exclusion within Brazil’s poorest communities provides an interesting additional potential for innovation. Therefore, we believe that these two countries combined will provide rich bases for our empirical research, which will help us to answer the research question of how FinTech providers create new products for the financial inclusion of small and medium enterprises.

The final part of the selection was concerning which FinTechs and SMEs in each of the countries were best suited to support this research. **FinTechs**, first of all were selected based on the fact that they were already established in the market, showcased promising innovations and were focused on targeted either SMEs specifically or financial inclusion in a broader sense. When searching for these specific companies we made use of the existing FinTech or Start-ups hubs located in both Sao Paulo and Sydney as well as using our own networks through the university or online through LinkedIn. The field of **SMEs** on the other hand is of course significantly broader. While it might have been interesting to compare and analyze results from different types of SMEs or different sectors, this would have been impossible within the limits of this thesis. Therefore, we decided to use our research question to guide us to the most relevant group of companies - small, traditional brick & mortar companies. Based on our literature review we were able to determine that these companies and their financial needs are most crucial for FinTechs, as they are more likely to be underserved by the current financial market. When selecting specific SMEs to interview we therefore focused on the classic shop you might find down the road selling snacks, groceries or tea for example in order to capture every-day customer experiences and honest down-to-earth views on different financial products and the services provided on the market today.

4.1.2. The interview process

During our research we conducted a total of 15 interviews, out of which nine took place in Sao Paulo, Brazil and six were conducted in Sydney, Australia as seen below:

Interviews in Sydney

- Nyoli Scobie, Owner - Truly Tea, 19-06-2017
- Alistair Lamond, Director - Skipper, 19-06-2017
- Anna Fitzgerald, Senior Marketing Manager - Prospa, 16-06-2017
- Adam Welsh, Director - CreditSME, 16-06-2017
- Alesha Glennon, Gallery director - The Artery Contemporary Aboriginal Art Gallery, 23-06-2017
- Andres Miranda, Owner - Cobbler Caballero, 24-06-2017

Interviews in Sao Paulo

- Fabio Boa Sorte, Business Development Officer Latin America, Cignifi, 13-06-2017
- Marco Camhaji, CEO, Adianta, 14-06-2017
- Bruno Ribério, Owner, Mercado Preco Baixo, 20-06-2017
- Maria Pereira, Owner, Salgados, 22-06-2017
- Rodrigo Schmidt, CFO, Weach Group, 26-06-2017
- Davi Viana, Executive Director, Avante, 28-06-2017

- Murilo Bassora, Co-founder, Nexoos, 29-06-2017
- Fernando Sartori, Founder, Uello, 30-06-2017
- Fabio Takara, Founder, Firgun, 30-06-2017

The interviews were conducted in a semi-structured way and in order to improve the comparability we decided on a common time frame, 30-45 minutes, as well as a common list of talking points for the two groups of interviews respectively. For SMEs and FinTechs respectively a list of the key five themes as well as corresponding interview questions was prepared and used during the interviews, which can be fround in Appendix 2 and 3 for further review. Yet the focus during the interviews was still clearly placed on acquiring as much rich and contextualized input as possible from each of the interviewees as previously described in our research design. Therefore it was important to allow enough leeway to respond with follow-up questions to any other potentially relevant points that were introduced by the interviewees themselves. Each of the interviews was recorded with the permission of the interviewees in order to avoid any note-taking distractions during the interviews and allow us to revisit the original statements at the analysis stage. Recordings of each interview that was conducted can be found on the pen drive that was included in the hand-in of this master thesis. Finally, while the aim was to conduct interviews in English, we decided to include two interviews, which were conducted in Portuguese by Pia as this allowed us to also include SME owners that might not have sufficient English skills. In order to allow these interviews to be coded by both researchers, Pia translated the interviews into English with support from a Portuguese native speaker. These translations can also be in Annex 4.

4.1.3. The process of coding the interviews

After conducting the interviews and collecting the necessary data, we had to find a way to classify it to be able to see the different patterns, to make it comparable and to help us answering the research question. This is why we chose the method of coding the interviews as the tool to do it. This goes in line with the outline of our initial research method as described in section 3 which included the use of an appropriate case study database.

Our coding process contains several different stages. First, in order to increase the validity of our research, we both coded all the interviews individually. Coding in this contexts means that we listened to the interviews and we noted down those sentences that we thought could help us answer the research question, with their corresponding time stamps. This means in our case that all interview were coded twice, which gave us initially 354 codes. In the next stage, we created an excel file where we introduced all our codes which can be found in the pen drive which was included in the hand-in of this master thesis. This gave us an overview over the findings of our empirical research. The below picture provides examples of these derived codes:

All Interview Codes

# Code	Interview (#_Interviewer_Company Name)	Coded by	Time stamp	Initial code
9	1_Eszter_Credit SME	Pia	03:17:00	"That's where a lot of small business get into trouble. They go to ten different non-bank lenders … so you can see that on their credit file with that inquiry so it looks really prejudice."
10	1_Eszter_Credit SME	Eszter	03:41:00	We do a lot of work through accountants that have clients that need financing, so they come to us and so they are basically outsourcing that to us.

Table 3: The process of coding, part 1

Creating this overview of the collected codes also gave us the opportunity to discuss the importance of each code. This discussion created the memo, where we argued why we chose a certain code and why we think it helps our research. During writing the memo we also had the chance to discover that a few codes were selected by both of us. We gave the same memo argument to these duplicated codes and highlighted them with green color-coding. Those codes that were only selected by one of us remained white. Color-coding gave us the chance to create a type of a hierarchy between the codes since those that were selected by both of us were certainly important in our understanding. The memo also shed light on few codes that seemed after all less relevant to our research and further on in the process, we did not take them into consideration. The below picture provides examples of these discussion memos:

Initial code	Memo of arguments	Stronger codes	Weaker Codes
"We do a lot of work through accountants that have clients that need financing, so they come to us and so they are basically outsourcing that to us."	Brokers are reaching customers thourgh a third party intermediary like accountant	third party intermediary	
well and those are sort of FinTechs lenders at that small loan size, they do quite a lot of volume by making it very easy for businesses so there is obviously a big requirement there from the SMEs because those products are taken on pretty well and it's always been underserved by the banks."	There is an underserved market of small loan sizes provided to SMEs that is very attractive for FinTechs and brokers to target		small loan sizes underserved

Table 4: The process of coding, part 2

As the next step, we divided the codes into codes collected from FinTech interviews and codes collected from SME interviews and analyzed them separately since we believe that comparing those codes at this early stage would lead to unquestioned assumptions. Until the analysis, we therefore treated the SME and FinTech codes completely separately.

After that, we created two new columns, namely the stronger codes and the weaker codes. In the stronger codes, we synthesized each of the green codes while in the weaker codes, the white codes. The importance of this synthesis is to take out the real meaning of the code and write it down in very precise 4-5 words.

After that, we created the fifth column to write the higher level codes. One higher-level code combined potentially A4 and AB codes as well and usually contained two to nine codes. These higher level codes were sort of the titles and the essence of the codes they combined and helped us further group and understand our data. The below picture shows examples of these higher level codes:

# Higher Level Code	Higher level Coding	Comprised of Code #
1	Credit needed for SME growth	165W, 260W
2	SME's difficulty in getting access to products	166G, 177W, 167G, 209G, 258W, 275G
3	Family member easing interaction	234W, 246W, 247W, 187W, 191W, 192W, 211W
4	Opportunities for other financial products	195W, 208W, 256G, 274W, 244W, 261W, 172W, 233G
5	Importance of personal relationships	168G, 170G, 280W, 226W, 227G, 259W, 273W

Table 5: The coding process, part 3

As the last step, we created the most critical patterns by combining higher-level codes. Within the SME codes, we identified four patterns; “The lack of financial knowledge”, “the trust in financial providers”, “the need for services that better serves SMEs” and “the need for products that better serves SMEs” all of them containing six higher level codes. In the FinTech codes we found five patterns. The “relying on the advantages of FinTechs within the existing system” had six higher level codes, the “Benefiting from modern tools” also six, the “Building the customer relationship” had eight, “Addressing the challenges of the existing market space” nine and the “Investing into financial education” had five higher level codes.

These patterns helped to guide us in writing the case studies for both FinTechs and SME as they served as frames to bring order into the description.

4.1.4. The process of analysis and discussion

Once the process of coding was completed, the next aim was to bring together and present the results of our empirical research through thick and detailed descriptions in order to provide the reader a comprehensive overview of the realities for FinTechs and SMEs. The below section will therefore present two case studies highlighting the found patterns for Fintech providers and SMEs.

The next step was the analysis, which will be conducted in section 5.3. The goal of the analysis was to review and compare the results from the SME case study with those from the FinTech case study in order to reflect on both the similarities as well as the contrasts between the two groups that will help to better understand the true nature of their relationship. In order to provide more overview for the reader the analysis was conducted in three broad thematic groups, namely **"Market challenges are calling for new products**, **"Good customer service creates trust"** and **"Building financial education and knowledge".** Under each of these headings, the relevant patterns from both the FinTech as well as the SME case study were compared to derive the crucial points of similarity and contrast. In total 19 of these crucial points of similarity and contrast were found which can be seen as the main empirical highlights out of a total of 354 analyzed codes. The analysis is finally completed by presenting these 19 final empirical highlights in the form of a comprehensive empirical framework.

The final step is the discussion, which was started by bringing together the literature framework, comprised of the ten literature highlights, with the empirical framework, comprised of 19 empirical highlights. In order to allow for better overview this step was again conducted through using the three thematic groups, **"Market challenges are calling for new products**, **"Good customer service creates trust"** and **"Building financial education and knowledge".** For each of these, the relevant literature highlights were compared and contrasted to the found empirical highlights in order to showcase the similarities, contrasts and gaps that exist.

4.2. Case Study

After conducting a total number of 15 interviews with both FinTechs and SMEs in Sydney and Sao Paulo, the following two case studies present the results in the form or rich case description that is aimed at shedding light on the reality of each group individually in order to allow for a better understanding of the resulting relationship at a later stage. As previously explained in section 5.1.3. The case studies are structured according to the nine patterns derived through the process of coding our interviews. It is important to note that each case study combines results from both geographical locations, in order to provide a broad picture of the potential issues and opinions of each group of interviewees.

4.2.1. Case Study – FinTechs

A total number of eight interviews were conducted with FinTech providers in both Australia and Brazil. As previously discussed in point 4.1.2. The selection of relevant interview partners was based on the fact that these companies were already established in the market, showcased promising innovations and were focused on targeting either SMEs specifically or financial inclusion in a broader sense. These include companies focused on providing credit, factoring, product comparison or cash flow analysis or financial education. The below paragraphs will now highlight and describe each of the five key patterns that were derived through the coding process as explained in 4.1.3.

4.2.1.1. Building the customer relationship

FinTechs and their products are often new, innovative and complex by nature. In order for SME customers to consider trusting a new company with their financial needs, it is essential for FinTech providers to gain and build trust between their customers and them. *"We are not purely just a funding product, we are actually focusing on the relationship*" (Code #128). While there are various tools that can be used to improve the customer relationship, the main idea remains. The pattern shows that FinTech providers gain the trust of their SME customers by building long-term customer relationships during which tailored, personalized customer service plays a significant role.

The first higher level coding that actively contributed to this pattern is the phenomenon that **FinTechs create extra value**. These companies are actively aimed at creating value for their customers throughout the customer's' value chain (Code #85) or becoming a one-stop shop for business owners as their main financial advisors (Code #137, #149, #157). Instead of aiming at one singular transaction at a time, FinTech providers can therefore create synergy effects and provide a fuller, more valuable service package to their clients. Compared to their immediate competitors, big traditional banks, many FinTech companies are also investing significant time and effort into **understanding the client and the client's business model**. Providing the customer with a targeted service or personal support in the right moment can be a key element in building a long-lasting customer relationship. *"It's of course understanding your customer, but not just the financial need, it's how you can provide deeper support."* (Code #53). Depending on the type of product offered, building trust can become an almost impossible task for a new and unknown FinTech brand. **Generating interest for a saving product** for example might be particularly hard for a new company as this *"implies having a reputation and you going to compete with big banks there"* (Code #33), while other products might require a lower level of build-up trust.

Other FinTechs specifically focus on creating a customer relationship that can be characterized as **personal and informal.** While a customer in a traditional bank might be greeted with a formal handshake by a serious looking man in suit whom he or she shares no previous history or personal connection, some FinTechs try to do things differently. Personal phone calls, a clear and consistent contact person or the use of social media allows FinTechs to speed up the trust-building process and create long-lasting relationships. (Code #41, 44, 72) Some FinTechs would go even further as they see their attention towards customer relationships as **one of the main differentiators** that FinTech providers have when competing with traditional banks, as *"it's not about getting it the cheapest, it's simply about getting a better experience."* (Code #120) The lack of attention towards customer relationships that can be observed from traditional banks has therefore provided an opportunity for FinTech providers to position themselves as the high-service-level alternative.

Another higher level coding describes the process of **building trust through transparency**. While it might work to trick a customer for example into signing unfavorable loan conditions one time, this would clearly go against building strong long-term customer relationships. FinTech providers therefore place significant emphasis on creating products that are as clear and easy-to-use as possible in order to reduce the potential for conflict. They avoid hidden fees (Code #49) and aim at providing the customer more clarity about the reality of their financial situation (Code #144) even if that might reduce the chance to make quick money up front. What these and similar codes show is that for FinTechs, it is crucial to gain the trust of their SME customers by building long-term customer relationships.

4.2.1.2. Investing into financial education

FinTech providers have understood the reality that their SME customers live in every day. Part of that reality is often a general lack of adequate financial education especially in developing countries (Code #88). While this initially might seem like a barrier to the growth of FinTechs within this target group, many companies have realized the potential for FinTech providers to link financial education to the promotion of their products.

The first higher-level code that became apparent was the potential to **build trust through education**. *"Financial education is really important and honestly, I think for us, this will be the game changer. This is actually how you create the relationship"* (Code #50). Investing into the financial education of their customers allows a FinTech to show, that they are interesting in long-term sustainable growth instead of quick wins at the expense of unsuspecting customers. However, one also needs to note that all FinTechs might not share this philosophy, which is why the industry is also very aware of **potential negative effects of FinTechs** (Code #5, #118). Compared to traditional banks, FinTechs might operate in a less tightly regulated field, which will be discussed later on in this case study, that could expose their customers to additional risks they might not be aware of. Taking financial education seriously might also mean to educate the customers of the potential dangers of entering the FinTech environment. One example of this regards the risk of negative credit score implication as *“every time you make an application for a loan (attempted prompt) it get’s recorded and so by the fourth time, the credit bureau will be saying these guys are a risk because they have just tried to borrow a whole lot of money all at the same time and so your credit rating will go down”* (Code #121).

But while there seems to be an overall agreement of the role of financial education for FinTechs, there are a variety of different strategies and techniques used in practice to improve the level of financial knowledge. The key emerging higher-level code however, is **financial education in small steps**. SMEs as a target group are often desperately looking for ways to solve their financial issues. Many customers, however might *“take more time to understand and that’s what FinTechs have to be careful with.”* (Code #37). Initiatives focus for example on changing everyday spending habits (Code #97), sharing financial advice through a blog (Code #51) or supporting the coordination with intermediaries (Code #132). By investing into financial education, FinTechs shows that they understand the reality of the customer and can actively improve the relationship and allow for sustainable long-term growth within the industry.

4.2.1.3. Addressing the challenges of the existing market space

New providers often appear in a market when challenging situations arise that the current market leaders cannot properly address. The same can be said for the rise of FinTech providers and technically supported solutions in the financial market. Many of these players emerged because they observed significant challenges in the current financial market and believed that they would be better equipped to address these challenges. They consider the unwillingness of banks to step too far out of their comfort zones and truly innovate as an opportunity for growth.

The fact that **SMEs have long been unattractive targets** to traditional banks was one of the higher level codes that contributed to the emergence of this pattern. FinTech providers themselves assume that it is because *"their shareholders don't want them to lend money to small business owners because it is perceived to be riskier"* (Code #124). But while there might be multiple reasons for the reluctance of traditional banks to target SMEs, one can nevertheless observe that many FinTech providers see this as one of the key challenges in the existing financial market space (Code #7, 40, 67, 110). Even more emphasis is placed on the **high SME credit need** currently unmet by the market. Estimations from the Brazilian market for example say that "*80% of the companies (small and medium size) don't have access to credit"* (Code #78) and even in the more developed Australian markets, SMEs are struggling to find a provider that is willing and ready to address their credit needs (Code #143, 153). FinTech providers are therefore eager to fill this market niche. In addition, FinTechs often profit from **limited or non-existent regulations** present in some of the areas they innovate into which may allow them to grow their business relatively unobstructed (Code #8, 24). This could be seen as another opportunity FinTech providers are taking advantage off.

Environmental factors that inhibit innovation in banks is the fourth group of higher level coding that contributed to the pattern of challenges in the existing financial market space. When interacting or collaborating with traditional banks, FinTech leaders often observe first hand how hard it can be to develop innovative solutions within a traditional bank. *"The big directors … they are not really motivated, financially speaking and by their position, they are not really motivated to innovate"* (Code #17), which is why FinTech providers have a significant competitive advantage within their innovative start-up atmosphere. While **banks often act risk averse** (Code #77, 134), both management structure and organizational set-up allow FinTechs to take calculated risk in order to provide more innovative products

Another significant challenge present in the existing financial market space is the **power imbalance** that exists in the current financial space where big banks face of with small business and micro-entrepreneurs. While a small business owner is only one of many potential customers to a big bank, each credit application might be considered as the one and only chance to save an owner's company, a fact that can put significant pressure on any negotiations. FinTech providers on the other hand see an opportunity to shift that power imbalance and to turn a credit application into an open discussion between equal business partners (Code #20, 162). Some FinTech providers have shared the wish to go even further and directly address the **social need** for financial inclusion with their products and services. By finding solutions for SMEs that previously have only been allowed limited access to the financial markets, FinTech providers directly contribute to the social status and economic development of entire groups of the society. As one FinTech provider has put it, *"we want to help to increase their lives"* (Code #108).

4.2.1.4. Relying on the advantages of FinTechs within the existing system

FinTech providers are developing new and innovative products from the ground up while at the same time, using and benefitting from the existing structures of the modern financial market. By doing so, they can leapfrog time-consuming development steps and compete directly with well-established players. The lending platform Nexoos in Brazil for example relies heavily on existing banking infrastructure and transaction history in order to provide their product in the first place, yet their ability to combine existing data with modern technology allows them to still end up with a better product (Code #79).

One of the key high-level codes that contributed to this pattern of relying on existing systems is the use of **third-party intermediaries**. As one FinTech provider explained, "*for a large number of small business owners, it was actually a brooker. Possibly because they had an already existing relationship with them"* (Code #112). These companies are aware of their strengths and weaknesses and understand the market and their customers well enough to see that using a broker (Code #119), an accountant (Code #1, 4) or other trusted advisors (Code #140) allows them to gain access and trust instantly. But third-party intermediaries are not the only group interesting to FinTechs that are aimed at using existing systems to their advantage. A number of FinTech providers **create innovation out of unlikely places**. The idea for the development of the risk score startup Cignify for example, originated from an algorithm that was developed to spot terrorists based on their mobile phone activity (Code #21). As entrepreneurs, FinTech providers see the potential in an existing technology and predict its ability to provide better products and services that are able to meet the financial needs of thousands of SMEs in the market. However, it is important to note that this strategy might not always result in long-term success. A number of FinTech providers also reported significant **data dependencies** that develop when they are relying too heavily on data provided by the existing system. Building an algorithm based on the customer's mobile phone usage, for example, might be innovative, yet it has very limited business potential unless that specific phone data is also available. FinTechs that are dealing directly with big Telecommunication providers in order to receive that data, often struggle with the predictable power imbalance in this business interaction (Code #28, 147).

Segmenting SMEs by industry was the fourth group of higher level coding that contributed to this pattern. Big banks by nature are rarely able to truly specialize on a specific type of SME to focus on. FinTechs, on the other hand, can use the fact that they are just starting to position themselves clearly focused on an industry or a type of SME (Code #158) instead of trying to do it all at the same time and losing the focus on the concrete client needs. Specializing on specific types of clients might also allow FinTechs to acquire more detailed knowledge on the needs and wishes of this specific target group. Yet, segmenting is not the only high-level code that shows the advantage of FinTech providers in direct competition with traditional banks. FinTechs are also often able to **provide products faster and more flexible** that their direct competition. The reasons for that are broad but when companies like Prospa can actually report that "*we have done it in 29 minutes from the customer calls us to putting money in their account"* (Code #127), then it becomes clear that speed and flexibility can become a real differentiator in a market where customers are used to slow responses. However, it is also important to note that despite all their advantages, FinTechs also have to deal with the clear limitation of **trust despite bad experiences**. As one FinTech provider explained, even customers that might have had problems dealing with a certain bank in the past, will not automatically lose trust (Code #34). A bank with a well-established brand is still seen as reliable and could still be considered again the next time. FinTech providers need to take this fact into account when competing with these institutions.

4.2.1.5. Benefiting from modern tools

FinTech providers can benefit from modern tools in order to provide better products to their customers at a lower cost. In doing so, these companies are directly focusing for example on one of the key questions in banking; how can I minimize my own risk by accurately predicting the creditworthiness of a certain customer. Instead of relying on the oftentimes limited official information available, FinTech providers are generating highly accurate credit scores through a combination of different inputs. As one FinTech founder put it *"the biggest challenge in SME FinTech right now is the fact that it's a very opaque market. We for so long, have funded based on security"* (Code #142), yet nowadays the approach is much more holistic and includes a range of different aspects of the financial health of both the small business owner and his or her company.

The trend towards **more holistic credit assessments** is a crucial one to understand this pattern. In order to determine creditworthiness, FinTech providers are for example considering a company as part of a much bigger network of companies in which, each invoice can be evaluated independently (Code #56) or even analyze the current cash flow (Code #142) to provide the most accurate picture. Others invest into a long-term client relationship by providing innovative payment systems to small business owners first, in order to help generate a more detailed view of the actual financial health of the business. After a few months of usage, these transactions then allow for a more accurate credit assessment (Code #66). The trend towards more holistic credit assessments also allowed FinTechs to open their eyes and start to look beyond simply considering the financial well being of the company itself. By including the personal creditworthiness of the business owners themselves (Code #81, 101), FinTech providers show that they understand the importance of the individual especially in small companies. A specific focus can also be detected in the use of **mobile data for creditworthiness** where FinTech providers have understood that by "*looking at the mobile, only the mobile, they can say you deserve or do not deserve to have a loan of X.*" (Code #14). In an age, in which mobile phone penetration has reached unprecedented heights (Code #27), the opportunities to use these devices to improve the evaluation of creditworthiness seem endless.

Another interesting set of higher-level codes concerns the role of personal and **human interaction in credit evaluation**. Traditionally, the role of the individual agent assessing a customer has been very important, especially when it comes to any type of product aimed at increasing financial inclusion. Micro-credit, for example, is largely based on the credit agent building a relationship to determine the personal credit-worthiness of a micro entrepreneurs

(Code #13). Yet, it is important to note that FinTechs have found ways to **incorporate the personal assessment** as many providers have decided to combine the speed of an automated decision engine with a final, personal approval (Code #80, 115). This does not only help to avoid any potential mistakes made by the algorithm, it also helps to establish the customer relationship as the agent has an opportunity to personally get to know the client before the loan application is approved.

The final high-level code in this pattern helps to understand the **importance of risk scores as products**. Once an effective decision-making engine or algorithm is established, there are multiple potential business models to consider. While some FinTech providers use the score for their internal credit evaluation, some also decide to sell those to other interested players in the financial industry (Code #18).

4.2.2. Case Study - Small and medium entreprises

A total number of seven interviews were conducted with SMEs in both Australia and Brazil. As previously discussed in point 4.1.2. Traditional brick & mortar SMEs as we believe they represent the unheard majority of SMEs. We interviewed every-day business owners, for example the shoemaker from down the street or the mini market owner that has existed in the market for decades in order to better understand the daily struggles and financial needs of these types of companies. It is important to note at this point that the decision was made to refrain from conducting any analysis based on different industry types, as representative results for this could not have been gathered within the scope of this research. Each of the four key patterns, which were derived through the coding process, will be described and highlighted below.

4.2.2.1. Trust in financial providers

Trust in the different financial providers is a fundamental element and question of the space around SME financing. Trust is so crucial because financial security plays a significant part in how secure people themselves feel in their lives. Placing this sense of security in someone or an institution's hand requires high trust that could be earned in several ways. This could be the person's relation to another person or the institution's history, brand or the history of one's relationship with the institution. In any case, this trust needs to be maintained and nurtured in order to sustain it in the long haul. The importance of trust and the presence of distrust came through the interviews strongly in the form of two significant areas, which are going to be addressed separately below.

First, the area of trust emerged from two higher level coding; **the creation of the trust** and **the high value of perceived safety of traditional banks**. The creation of trust highlights the fact that SMEs would rather go to traditional banks for different services than to alternative providers. Traditional banks are perceived to have a better reputation therefore, receiving a credit score from them would be beneficial for a small business*.”Would you rather go for the bank - "Sure absolutely, a hundred percent ... It also gives your business a better credit rating"* (Code #173). Moreover, the data also showed that one key element in the creation of trust is to dedicate assigned bank employees to customers. *“I always talk to a person and if you need anything, you just call them and they put you in contact with that specific person”* (Code #198). This makes the SMEs feel like they have a personal relationship with the FinTech in question and they would trust that the institution cares for them. The data shows that human interaction is reassuring for clients and is indeed fundamental in creating trust.

Furthermore, **the high value of perceived safety of traditional banks** appeared in many interviews. SMEs emphasized the importance and value of institution, which refers to the fact that a traditional bank is an established institution with history and a proven track record. *“My wife said it would be a good idea to have our money at a safe place and I know a lot of people who use that bank so I know I can trust it”* (Code #237). This means that SMEs can place trust in the bank because it proved to be safe over time and by word-of-mouth. An interesting fact is that some customers trusted the banks even though they disliked them. Therefore the data shows that dislike and trust do not necessarily have a connection.” *I mean Itaú, I’m also not too happy with because they are the reason that we couldn’t expand our shop because they didn’t give us a loan in time. But still, at least there I know the shop and I can ask the people there when I have problems with doing a transaction and I know that my money is safe there”* (Code #243).

Second, the pattern of distrust emerged from four different groups of higher level coding. The first, **distrust towards financial providers** shows, that most interviewees do not have positive feelings about financial institutions. The suspicion and the distrust is very common, as seen through the following statement, *“I am a business owner and they won't lend to businesses even though they market and advertise as they do”* (Code #175). Some people feel general **resentment towards official loan**s as a product itself and they would rather reach out to friends or family members for extra credit, if needed or would try maintaining their business is such a way that it does not require extra money (Code #221 & 264). SMEs do not trust that a loan from a bank would make their life easier in the long term. *"I wouldn't go to a finance institution to get money.... I would go private to get money. ... Like a family member or whatever"* (Code #212).

Other people have very **negative perception of banks** because they either been treated badly previously or they feel that banks do not even care about them in the first place. *"I think most people have been a little bit burned off by the bank experience. So they go, you know what, too hard"* (Code #213). "*And almost out of principle, you know what you weren't there to help me when I asked so why would I give you more business"* (Code #204).

Another higher-level code is **paralyzing negative assumptions** where the SME owner due to fear of rejection or skepticism, does not even apply for loan at all and by this, pre-selects him- or her. *"My friend said I should ask because he knew someone at the bank but they said that I didn’t have enough papers and also it would cost money and I don’t really need it so I thought why do it if they just say no in the end"* (Code #251). Some SME owners think that because of the nature of their business, in this case art, a traditional bank will not value them. *"We don't have any loans, we have never even tried because of the nature of our business, and most people fail... we would fall out of the normal lending criteria"* (Code #201). This data shows that trust is in the very heart of the financial market and the negative outcome of distrust can be seen clearly when reflecting on the perception of SMEs towards banking in general and traditional banks in particular.

4.2.2.2. Lack of financial knowledge

Financial literacy is gaining more and more importance as the customers are becoming empowered in terms of their decision and more conscious about their options. Nowadays, the range of options are widening so the need for the capability of selecting among those choices is emerging. The level of knowledge, the importance of knowledge and the responsibility of the different financial providers were the main focus points in our empirical data collection. This pattern consists of two groups of higher-level codes covering knowledge as well as the readiness of SMEs.

The readiness of SMEs consists of **the importance of proactivity from SMEs** and the idea that not getting a loan might protect SMEs. The data shows that some SME owners felt that if they wanted to receive loan from a traditional bank, they need to proactively collect information and prepare a very detailed project plan. This requires some general financial and business planning knowledge that not every owner necessarily has. According to our interviewees, those owners should not get loans either. *"Even when we opened the shop, the bank asked us if we did any sort of study of the market where we gonna put the shop and Philippe, my son, already did that.... So it was very professional. That's why I reckon we did not have much trouble"* (Code #193). The other codes were also referring to the phenomena that **not getting a loan might protect SMEs**. Since many traditional SME owners do not have the sufficient financial knowledge, they are safer not getting extra money due to the risk of finishing with too high debts. *“In a way that maybe forces you to operate in a better way coz you cant be lazy, you cannot afford to you know just ohh i get an overdraft, I am not going to worry”* (Code #217).

The other group of higher level codes focuses on knowledge. First of all, the data shows that a **lack of knowledge creates discomfort** because the SMEs do not feel the need to understand something deeper or expand their knowledge. It creates discomfort because people do not like to be faced with texts, offers or requirements that they do not understand since it feels humiliating to them. *" I don’t like that there are always so many rules. That we go there and we wait really long and then they just say no we can’t give you money because there is a rule and we can’t. I don’t really I think. they try"* (Code #254).

Second, the data shows that **family members are easing the interaction between the bank and the end customer**. As the SME owners are often older and sometimes uneducated, they rely on mostly a younger relative or a third party intermediary. *"It is not difficult, but the other thing is because my son is always involved in this thing so I have to tell you that i delegate it so he is the one that really goes into this"* (Code #191). This also shows that the owners trust the ability and knowledge of their relatives more to understand the rules and conditions then they do their own abilities.

The third group of codes is what we named **the negative effect of FinTechs**, which describes that there is also a small number of FinTech that even though they provide loans for SMEs they do not care about their financial well being.*" They are more than happy to give you money, they don't care about you. ... I had it that afternoon. But I paid 5-6x the amount I actually borrowed"* (other nonbank lender) (Code #183). Therefore, they give loans with very high interest rates to small companies that probably will not be able to sustain themselves. This shows that the lack of financial understanding is very dangerous for SMEs since the market of FinTechs is less regulated than the market of the traditional banks, it is easier to run into a unregulated bad deal.

The fourth higher-level code is about **how open SMEs are towards financial innovation**. The data shows that if SMEs are not open to financial innovation that is because they do not really know a lot about it. They for example do not see the need or the value of online banking. *"No. My daughter has talked about it, but I don't think I need it"* (online bank) (Code #238). The do not see the value in using such innovative services because they think it would not make their life that much easier but would require big effort as they need to familiarize themselves with a new system.

4.2.2.3. Need for products that better serves SMEs

The data shows that there are many loan products available on the market by traditional banks. However, the SMEs think that even though there are products, they are either not tailored to their needs or the banks would not want to give it to them due to the risk that SMEs present. SMEs might represent a risky investment because their operation is too opaque, they are not well documented or because they cannot present any tangible security to the bank.

The first group of codes is the **credit needed for SMEs** where interviewees explain that if they would have access to credit of any sort, they would be able to grow their business. This is due to the situation on the financial market, which limits their access to credit. The data represents the fact that not getting a loan is a barrier to grow the business and therefore also a barrier to create more GDP for the country. *"You need funds to grow and it's very hard to do out of your cash register but that is sort of what I had to do"* (Code #165).

In the second group of higher-level codes, the **SMEs explain their difficulties in getting access to products**. The data shows that there are loan products on the market but as an SME, you cannot get access to it. *"They said yeah of course, but we can't put it down that it's a business so we want you to get quotes for a car and quotes for a holiday and then give us those quotes and we will give you money but we will not give you money for a business"* (Code #166). As an individual, the credit would be accessible but as a small business, it is not anymore. According to the interviewees, banks find SMEs too risky and too complicated to bother with. The SMEs cannot even get a credit card in their business's name since it is too unsecured for the bank.

The third higher level of coding refers to the **personal risk involved for SMEs** in gaining access to credit products, which means that if they want to grow their business with traditional bank loans, they have to provide security with their personal belongings such as their house. In some cases the bank asked SMEs to lie and pretend that they need a personal loan rather than a business loan. *"They asked him to lie to get him the money"* (Code #176). This is all due to the fact that personal loans are considered more secured for the banks demanding securities from an indivual, for example in the form of housing security, is more straightforward.

The fourth point describes how **the history of the business or the business owner matters**, although notably both in a positive and negative way, *"There is a score, a new one ... they put in that score how many time you asked for money, it doesn't matter if you get the money or not. If you ask for money too much then they don't give you money because you are too desperate"* (Code #263). *"I would go again to Commonwealth because we are customers with them and they got our record so it would be much easier, I reckon"* (Code #189). The first code shows the importance of credit history in a sense that the businesses' history and even the owner's financial history influences the loan decision. The second code sheds light on the importance of history with the bank because previous customer history it provides data for the bank on the specific SME, which reduces the risks the bank has to take; therefore they are more likely to give a loan.

The fifth higher level coding describes how **the opaque SMEs are difficult to Asses**. *“we also have payment lists for our really good customers so that they can just write down something if they didn’t bring the money one day and then they pay at the end of the week or something when they got their salary”* (Code #248). *“We have a book where we write it all down and the cash machine shows exactly how much money goes in and out everyday but the guy at the bank said that’s not enough for us to get a loan, that there needs to be more documentation so that they can really see that we will be able to pay it back”* (Code #242). These data points show the difficulties for traditional banks in assessing the SME’s financial situation mostly because of the inflexibility of the bank's processes in collecting data. On the other hand it also shows the nature of the SME’s businesses because the typical SME works very closely with their specific customers, a relationship that is often personal and therefore difficult to document officially.

The sixth point is the **opportunities for other financial products,** which shows that the need for different solutions is wider than only loans. SME would need for example better transferring services or pay-off services. One can therefore conclude that the market of SMEs is overall untapped.

4.2.2.4. Need for services that better serves SMEs

Not providing the appropriate product is just one side of the problem because the quality of the service those banks provide needs to be examined too. Service itself is fundamental in creating trust and mutual understanding with clients. It is also crucial in order to educate the customers and help them to grow and nurture their businesses.

The interviews showed first, **the importance of personal relationship** to financial institutions, which means that speaking to someone on the phone or meeting in person instead of emails, actually means a lot to customers. *"She doesn't know who the hell I am. She has no idea of my history with the bank because banks don't have business managers that come around to your shop and check you out and then she says no"* (Code #170). This code shows that the bank never personally contacts the customer or visits her shop. It makes SME owners like her feel like these banks do not try to create a close relationship therefore they do not care enough about them.

The second group of codes talks about the **positive FinTech experience**, which shows that these SMEs perceived the FinTech experience more positively than the one with traditional banks. *"They (Prospa) were so personal and they really disclosed everything and several conversations ... it was a completely different experience"* (Code #171). *"They are like my friends now (Prospa), it's ridiculous, you would never get it with a bank"* (Code #186). Several interviewees felt that in comparison with traditional banks, they get a better service when they go to a FinTech. This positive feeling is mostly due to FinTech's transparent communication and the personal way of creating contact with clients in the form of visits, phone calls or chatting.

Third, the codes support the **importance of flexibility and speed**. *"Prospa helped me from start to finish within 24 hours, I didn't have to go anywhere else, I was so excited someone wants to help small business I couldn't believe it"* (Code #178). Speed can be crucial for SMEs to maintain their cash flow, win a project or to for example buy bigger bulks of products to save money. In these situations they might only have few hours to bet on a project and show their capabilities to deliver or few days to order the product that is on sale. Small business owners think that traditional banks, due to their big administrative processes, could never be as quick as the FinTechs. The same applied to flexibility but even more, since FinTechs tailor their services to SMEs in terms of repayment conditions or timing of repayment.

Fourth, the **SME's dependency on bank employees**. *"A lot of it come to the individual at the bank you are dealing with. If that person likes you, you are probably going to get better service than if the person has a personal dislike to you"* (Code #216). SMEs think that the employee who decides over the loan has no real idea of the SME's business or the bigger context of the business. This makes the owner feel like they depend on the bank employee's personal evaluation and maybe even current mood. This puts them in a vulnerable position and makes them feel very exposed.

The fifth higher-level code describes the frustration SMEs feel because they do **not get feedback after the refusal** of their loan application. *“After we first asked they made us wait for such a long time, almost two months and then the bank guy he called and just said no, we can’t give you a loan. Just like that”* (Code #241). Not knowing why they were refused frustrates SMEs, disappoints them and erodes their trust. It is again the feeling of being one snidely exposed and not treated well. Moreover, getting a feedback could help them in the future application and to make the next a potentially successful on.

The sixth important feature is the **negative banking experience**. *"They were really not friendly with us. I don’t like when they act like they are better than us and they try to tell you that you can’t afford that but we would have been fine, we had a plan”* (Code #228). *“You don’t represent enough business to the bank, you are not a valuable customer to the bank”* (Code #219). SMEs feel that the banks are placing themselves above the small business owners and do not value them since they are not big enough. This feeling of unbalanced positions is reducing trust and hurts further collaboration.

4.3. Analysis

The following paragraphs constitute the analysis part of our empirical research. The aim is to analyze and compare the results from the two previously presented case studies in order to reflect on any similarities or contradicting ideas between the SME results and the FinTech results. Understanding the relationship between these two groups will go a long way in answering our research question of how FinTech providers create new products for the financial inclusion of small and medium enterprises. In line with the previous parts, we will again structure the analysis based on the three major thematic groups, namely **“Market challenges are calling for new products”, “Good customer service creates trust”** and **“Building financial education and knowledge”**. Once the analysis is completed and similarities and contrasting ideas are collected for each of the thematic groups, this section is finalized with the presentation of the empirical framework.

4.3.1. Good customer service creates trust

In this section the importance of customer service and the role of trust within that will be examined and compared from the point of view of FinTechs and SMEs in order to gain further understanding. In order to do so, the following part will first provide an overview over the key relevant patterns discussed in the case study before providing a detailed analysis of the similarities and difference and finally a number of concluding remarks.

In the previous section, one could see that when it comes to FinTechs and their understanding of the business, the role of customer service is crucial. The interviewed FinTech providers all described that in order to maintain their business, it is essential for them to have a strong, long-term relationship with their customers. The nature of the relationship is personal and informal with direct calls and meetings. Some even say that this is the value proposition that really differentiates them from the traditional banks. Another important feature of the good customer service is the speed and flexibility Fintech can provide. Furthermore, they propose that they want to understand the SME's business and become a one-stop shop financial advisor by integrating their products into several parts of their customers' value chain. They not only want to give loans, but they also want to manage cash flow and predict future loan needs for example. Moreover, FinTechs realized that they need to build trust and outstanding customer service and personal relationships are fundamental in building it. They realized that since SMEs are not trusting financial services they need to built a whole new relationship with them, one that is based on trust from the beginning. Another important element in creating trust, according to our FinTech case study is the use of transparency in their operations and rules. FinTechs think that if they would try to trick customers it would damage the potential future relationship and therefore transparent products are a better solution.

When it comes to the SMEs, they usually do not trust financial institutions be it banks or FinTechs. Some of the SMEs have resentments towards loan products, as they would rather borrow from family, and some have ambiguous feelings toward traditional banks. Most SMEs might not like them, but the majority of them still trust banks. If SMEs could chose between a traditional bank and a Fintech they would choose the bank, but their problem is that most of the time they cannot chose since banks do not give them credit. The customers mostly trust the institution and the history of the bank and that their money is going to be safe in the bank because it proved to be safe in the past. However, most of the SMEs have negative banking experiences because of the lack of personal relationship or lack of feedback after refused loan. Moreover, they feel exposed to the bank's employee because they feel like that person has too much direct power over them in evaluation their business therefore creating a high dependency. Some SMEs developed negative assumptions thinking that their loan application would never be successful with a traditional bank so they do not even try anymore. On the other hand, few SMEs already had experiences with FinTech and they were rather positive. They appreciated the flexibility and speed FinTechs were able to provide, but what was even more important to them was the personal relationship in forms of calls, meeting and general care from FinTechs. SMEs felt like they are treated as equal partners and they enjoyed the transparency of the processes as well as the informal way of communication.

After briefly summarizing the two different perspectives on trust and customer service, the following section will examine the similarities and differences between the views. There are important similarities between the two sides, the FinTechs and SMEs. Most importantly, their view on personal relationships. Both parties place high value on interaction and direct communication. *"You can tell by speaking to someone on the phone. Most people don't speak to people anymore they just email but you can get ... you know I get a fair idea of who I'm dealing with when I'm speaking with them"* (Code #168). As the code shows, SMEs strongly appreciate if financial providers make an effort to build personal relationships and this is what FinTechs have understood fully. FinTechs realized that traditional banks are not fulfilling this need of the SMEs so they are trying to fulfill that expectation.

Furthermore, SMEs think that financial providers should be very customer focused by for example, tailoring their products to SMEs' need. They would like to have an ongoing, informal conversation with the financial provider about what would be a good agreement on the repayment type and speed or how big the loan should be. This conversational mode would allow the customer to express their need and would allow the FinTechs to tailor their product thus, be more flexible. This need was also recognized by FinTechs and many of them trying to push for similar kind of interaction and flexibility.

Moreover, FinTechs are aiming for high transparency in their processes and operation which is also very important for SMEs since it gives back some of the feeling of control to them and creates trust. *"We try to make everything transparent in our platform so you see we don't have hidden fees, everything is very transparent in our platform"* (Code #49). Transparency is definitely a positive aim, however it is important to remember that not every SME necessarily has the financial knowledge to understand legal financial terms, the way of communicating this information is therefore also crucial.

FinTechs are trying to understand the SMEs' business through conversation or through providing more holistic products than just loans. This fulfills the SMEs' need of being understood and cared for by financial providers. *"It actually helps the business understand what they need where the cash flow is going, so it's a cash flow advisory tool…helps them understand what founding they need and of course we have is there already to providing these founding"* (Code #156). This business model of one of the FinTechs shows for example, that by providing product that is more overarching than a simple loan, FinTechs can create conversation with SMEs and as a result, both parties will understand more about the nature and the financial situation of the business.

The nature of the FinTechs operation and customer focused approach makes it possible for them to provide loans on very short notice which makes them very fast and flexible compared to traditional banks. This is a feature highly important for SMEs since very often they need resources to win a project or to save money by purchasing big stock when the supplier announces sale.

However, trust is a difficult issue for FinTechs because for traditional SMEs, where the owner is usually from older generations and sometime not very highly educated, safety lies in the institution and the history of the bank. By default, FinTechs do not have long history and well-established institutions therefore making it hard for those SMEs to trust them.

Moreover, as data showed, FinTech are pushing for a long-term relationship with SMEs this is why they build trust and strong customer relationships. However, the question arises, are the SMEs interested in and really loyal to FinTechs or they only see them as an add-on when the current bank rejects a loan and will they return to traditional banks as soon as they can? The data showed that SMEs would prefer traditional banks because of their history and most SMEs have banks accounts at a traditional bank therefore, this present a great threat to FinTechs if banks would start focusing on this customer segment.

Another question that arises is about the role informality plays in the interaction between FinTechs and SMEs. The data highlighted that SMEs like the way FinTechs are addressing them informally as if they are already friends. However, it could also have a negative side if they look at the fact that the formal and traditional manner of banks might play a role in why SMEs are considered trustworthier by SEMs. Since banks are trusted because of their reputation, what part does formality play in creating that reputation?

This analysis highlighted that there is a mutual agreement on the importance of customer relationships, more specifically a personal relationship from both the SMEs and the FinTechs. This is in line with what Buell et al., (2010) found in their research where they analyzed the importance of self-service. The results showed that the impact of self-service on satisfaction is insignificant compared to face-to-face services, which means that people prefer face-to-face interaction and personal relationship. This personal relationship also helps to create an ongoing conversation with SMEs, which allows the FinTechs to customize their products to the needs of the SMEs. Through this strategy FinTech can develop more holistic products where several needs of the SMEs can be fulfilled at the same time. Not only the need for credit but also the need for cash flow optimization for example. Transparency, speed and flexibility were also important for SMEs and FinTechs.

When it comes to conflicting ideas between the FinTech providers and SME customers, trust came out as one of the main issues. Since SMEs trust the institution and history behind the banks, it is very hard for the FinTechs to compete with that. According to the literature building trust in a new FinTech product might be easier with those customers who have some previous experience with technology-based solutions (Kim & Prabhakar, 2004). This is in line with the findings since most of the interviewed SMEs are owned by older, less educated people who probably have no previous FinTech experience. Other important conflicting ideas were discussed in the analysis such as the loyalty of SMEs towards FinTech and whether informality play a positive or negative role in trust creation.

4.3.2. Market challenges are calling for new products

The following paragraphs will focus on the product itself and review, compare and contrast the role that financial products play to both the FinTech companies that produce then as well as the customers that are considering purchasing them. In order to do so, the following part will first provide an overview over the key relevant patterns discussed in the case study before providing a detailed analysis of the similarities and difference and finally some concluding remarks.

The data presented three significant patterns that shed light on the approach FinTech providers take when they develop, launch and present a new product to the market. First of all, the data showed that FinTechs place a lot of emphasis on addressing the challenges that exist in the market space today. This might include for example developing products for the SME target group which has long been ignored, adapting to the existing regulatory system, reacting to the lack of innovation and risk appetite of existing financial market players as well as addressing existing problems like power imbalance or the need for more financial inclusion. Once a challenge is identified, FinTechs, second of all, rely on both the existing system as well as their core differentiators in order to launch and present products in an attractive way. Here, third-party intermediaries for example, industry segmenting or outside innovations are used while at the same time, trying to mitigate data dependencies and the blind trust that exists towards their competitors. Finally, FinTech providers are benefiting from modern tools in order to deliver the products in a cheaper and more effective way. This might include the use of more holistic credit assessment systems, mobile data, the incorporation of human interaction into the assessment process or the modeling of credit scores as an alternative income source.

Need for products that better serve SMEs was the key pattern that was presented during the SME case study to address the kind of products needed and requested by the customers. Particular focus was placed on the credit needed for small business owners as well as the predominant perception that even the credit products available were difficult to access. The data also showed, that there is significant personal risk involved in SME credit, the history of the business owner matters, opaque SMEs are difficult to assess and SMEs in general see a number of opportunities for alternative financial products.

After briefly summarizing the two different perspectives on product introduction, development and presentation that emerged during the data collection, this paragraph will now highlight the similarities that help to showcase the harmony in the relationship between SMEs and FinTechs. The data shows that first of all, there is clear consistency in the evaluation of SME credit need. As the founder of Truly Tea showed when she was talking about traditional banks, *"they won't lend to small businesses, it's just too risky"* (Code #177), which is something that was clearly noticed by many of the FinTech providers, who saw this as one of the key un- or underserved groups present in today's financial markets (Code #67, 110). The second clear similarity relates to the complexity of understanding the creditworthiness of SME customers. SMEs on the one hand observe that even when there are credit products advertised to exist, it becomes very difficult for SMEs to actually access those products. Our research, for example, found cases where customers are actively discouraged from choosing products targeted at small business owners (Code #166). This goes in line with the supplier side, where the data shows that FinTech providers are actively trying to improve the product delivery method. This means that it might not be enough to offer credit to SMEs, as many of the problems occur during the actual credit application process. Here, FinTech providers are trying to improve actual product access through more holistic credit assessments, human interaction in credit evaluation or the inclusion of third-party intermediaries.

A third similarity between the SME and FinTech perspective relates to the risks that potentially comes up with the introduction of new products. Limited or non-existent regulations towards new FinTech products is key issue and while there might not be an agreement over whether this unregulated space should be seen as something positive or negative, it is clear that it is a relevant issue to consider for both sides. This can be elaborated through the following example: *"Ok then fine, we just use a credit card. In your personal name of course but that didn't bother me anyways. That was fine"* (Code #203). Personal liability is an often-underrepresented issue in the provision of SME credit. Some SMEs might not understand the potential risk exposure linked to these kinds of products and without adequate regulation, FinTech providers have limited incentive to refrain from the introduction of such products. Finally, the data shows that both SMEs and FinTech providers believe that product development in financial markets should be more flexible and ad-hoc and include innovations from unlikely places. Small business owners are confronted with a variety of different issues every day and are looking for products that can serve this need. *"We have been looking around for probably six or seven years for some kind of solution where it's a third party (after-payment provider) who is actually doing the hard work"* (Code #208). Here we can see the immense potential in the relationship between SMEs and FinTechs as the latter group is uniquely equipped to serve this need for flexibility and adaptability of products. FinTechs are using innovative ideas from outside the financial sector in order to for example improve the provision of online payments or assessment of credit applications (Code #21, 136).

After highlighting the similarities of the two different perspectives on product introduction, development and presentation, this analysis will now focus on the differences or contrasting ideas that emerged from the data. First of all, as seen in the previous paragraph, there is a general understanding for the need for SME credit from both sides as traditional banks are unwilling to serve that target group. Yet, while FinTech providers agree that the risk is a key barrier for banks, the cost of serving small businesses (Code #40) is something that might be currently underestimated from the customer point of view. FinTech providers have a better understanding of the cost versus revenue relationship related to credit evaluation and customer service of small business clients. In order to overcome this cost-related barrier to SME credit, FinTech providers have focused on combining the cost savings of an automated decision-engine with a final personal assessment. In addition, they are starting to understand the value of a strong risk scoring tool and the possibility to develop business models around risk scores. A second contrast can be found in the topic of the evaluation of creditworthiness. While the data shows that SMEs understand that their sometimes opaque character can make a credit assessment difficult, they have a much more limited understanding of the options available to change that. As one of the FinTech providers pointed out, *"everything that don't have something real (tangible) is more risky for us"* (Code #91), which shows that at least some FinTech providers would consider segmenting SMEs by their industry, type of endowment or size. This shows a contradiction in the data as SMEs assume that especially the opaque SMEs, for example service ones, could be better served by FinTechs, yet they on the other hand might still dependent on some kind of tangible security in order to provide loans.

The final contradicting point involves the role of ethics and social justice in the financial system. Many FinTech providers have argued that financial inclusions is a crucial topic as providing access to finance will lead to social and economical benefits for an entire community (Code #110). Yet, it is important to note that this might not be a topic that SMEs are necessarily aware of, as many would not consider themselves financially excluded if they are unable to take out a business loan, for example. In addition, FinTechs have argued that reducing the power imbalance is another key issue, *"it's changing, flipping I suppose decision making purely back to the customers"*(Code #162). SMEs, however, might not always be aware of their role in changing this power imbalance when they are for example willing to take out a loan with personal liability without considering the negative effects (Code #203) or continue to trust in the bank despite previous bad experiences (Code #169).

This analysis provided insights into the way products are developed, introduced, compared and perceived and therefore connected both the data gathered from SME and from FinTech providers. Similarities were found specifically in the evaluation of SME credit need, an argument that was also repeatedly mentioned in the literature as Bădulescu (2010) for example argues that there is an immense SME credit need that currently exists in the market and relationship-based lending techniques are needed to fulfill this need. Other similarities between the SME case study and the FinTech case study were found in the complexity of understanding the creditworthiness of SME consumers and the corresponding opportunities of modern credit scoring techniques. The use of credit scoring as a lending technology was also found to be positively related to the quantity of lending (Berger et al., 2009). In addition, the risk of new FinTech products and the flexibility in product development also showed consistency between the SME data and the FinTech data. After analyzing the similarities, the above paragraphs also referred specifically to some contradictions between the two case studies. The cost of SME credit evaluation for example was not perceived as critical by SMEs, while both FinTech data and the literature agrees that the cost in evaluation SME creditworthiness is a key factor in understanding the lack of adequate products (Berger & Udell, 2006). In addition, this analysis brought up a contrast in relation to the opaque character of SMes as well as the topic of financial inclusion as a social issue. The vulnerability of financially excluded or partially excluded customers includes aspects like the personal consequences, missed business opportunities and social consequences (Kamran & Uusitalo, 2016), many of which SMEs might not be aware of.

4.3.3. Building financial education and knowledge

The last group of patterns that needs to be compared is the FinTechs' view and the SMEs' current level of financial education and knowledge. The below paragraph will first summaries the key arguments that emerged in the FinTech case study as well as the SME case study, before analyzing similarities, contradicting points as well as providing a short conclusion involving some related arguments from the literature review.

Regarding the FinTechs, they look at financial education as the mean to build trust with customers. This relationship-building activity allows them to show to SMEs that they are interested in their businesses' well-being and want to establish long-term relationship with them. FinTech providers educate through several channels on social media, with presentations or by offering integrated software that helps them manage their cash flows better. The fact that FinTech are engaging in these activities also means that they know that SMEs are not well prepared when it comes to financial understanding and that they are vulnerable. They are vulnerable because they do not have the sufficient knowledge to make well-informed decisions for example over which financial provider to use. This is why Fintech providers also admit themselves, that there are many players on the market that are using the vulnerability of SMEs to trick them into unfavorable deals.

When it comes to SMEs, it is important to highlight that the lack of knowledge creates discomfort, it makes them suspicious and reluctant to try new financial products. This is why SMEs are often not that open towards financial innovations. It is not because they do not need a certain product or service but instead because they are afraid to try new things, due to a lack of sufficient information. On the other hand, this general suspicion might also protect them since there are also claims that some FinTechs want to use the uninformedness of SMEs to their advantage. Many companies disregard the question of whether they are giving out sustainable loans to SMEs, which have the capability to maintain their business. Some FinTech providers just lend money with very high interest rates to make quick money. As a way to overcome the knowledge gap, small business owners often use someone like a third party or their family members to help them. Several interviewees explained that they rely on their kids in financial decisions or in preparing the project plan for a loan application. Another important finding was that SMEs need to be proactive when preparing to apply for loans from traditional banks since they have to propose a very detailed project plan which requires high level of business and financial knowledge. Some of them even said that if an SME is not able to prepare a business plan, they do not deserve to get a loan. This means that if a small company does not have deep financial knowledge, it might even be safer for them not to receive a loan.

After providing a brief summary of the key results on financial education and knowledge from the respective case studies, the next paragraph will now highlight some of the similarities that can be observed between the two groups. First of all, we can see that both sides agree that there is a clear link between financial education and creating positive, trusting customer relationships. FinTechs have understood that a lack of financial education or knowledge can be a key source of discomfort for small business owners and support provided in this area is highly valued. This can be seen as a way to develop those customers that do not trust FinTechs based on a lack of knowledge on their products like Bruno from Preco Baixo who said: *"I don't know much about those (alternative loan providers) so I don't think I could trust them."* (Code #232). A second point that both sides agree on are the potential negative implications of FinTech products which are offered to consumers who lack the required financial knowledge to properly understand them. SMEs are often aware of the vulnerable situation that they are in, based on their lack of knowledge. Therefore, they might perceive FinTech products as an additional risk because these products are different to the kind of products SMEs are used to.

Yet, even though both FinTechs and SMEs saw the topic of financial education and knowledge as critical, there are some contrasting ideas or arguments that should be considered at this point. First of all, the data shows a contradiction in the timeline for financial education. Many FinTech providers, on the one hand, argue for example that financial education should be tackled in small steps during the customer relationship with an SME. That would mean that resources like financial advice blogs, training or support (Code #51) are provided once a small business owner has already become a customer. SMEs on the other hand particularly mentioned that the lack of sufficient information about a new FinTech product, might be one of the main barriers that would keep them from trying it out in the first place as seen for example here: *"Mhm that's a good question. If it was really cheaper yes I think I would consider it at least. I mean I would still want to know more about how it works ... but I guess it doesn't have to be a normal bank."* (Code #245) . Second of all, the data highlights the critical question of who should be responsible for the financial education of SMEs. Many small business owners for example clearly see the need for investment into financial knowledge, yet they might also assign the responsibility to improve this issue to themselves. Proactively preparing for credit applications for example is seen as a key responsibility of the small business owner (Code #193) and not necessarily the financial provider. FinTechs on the other hand assign themselves a significant part of the responsibility for the financial education and knowledge of their customers (Code #131). It is important to understand these small contradictions in the data are crucial for us to better understand the relationship between FinTechs and SMEs.

The previous two paragraphs provided an analysis of the main similarities and differences between the data gathered through FinTech interviews and that gathered through SME interviews. First of all, the data shows that both sides agree on the link between improvement of financial education and the creation of a positive and trusted customer relationship. In addition there is an overall awareness of the potential negative aspects of FinTech products towards uninformed customers. Understanding that innovation is not benevolent is something that was also reflected in Allen, 2012 which highlights that innovations might only have the appropriate, positive impact if it is able to reach the right people and is implemented within the right framework. In this case a FinTech innovation might only have a positive effect if it is implemented in collaboration with appropriate financial education measures to mitigate the risk associated with it. In addition the analysis highlights two contradictory points where the FinTech case study and the SME case study disagree. First of all, there was a contrast in the moment in time where financial education is deemed appropriate. Literature would agree with the SME point of view as the information asymmetry between the supplier and customer is deemed significant enough to warrant the need to improve financial knowledge already in the consideration phase (Kim et al., 2016). Finally, this analysis also highlighted the inconsistencies between the allocation of responsibility on financial education between the SMEs and the FinTechs.

4.3.4. The empirical framework

The previous sections first highlighted the research methodology used in this thesis by explaining the selection of interview partners, the interview process and the coding process. In addition, rich descriptions were provided of the two case studies, FinTech and SMEs individually focused around the three key topics of **„Market challenges are calling for new products“, „Good customer service creates trust“** and **„building financial education and knowledge“.** Finally the case studies were analyzed in section 4.3 by comparing and

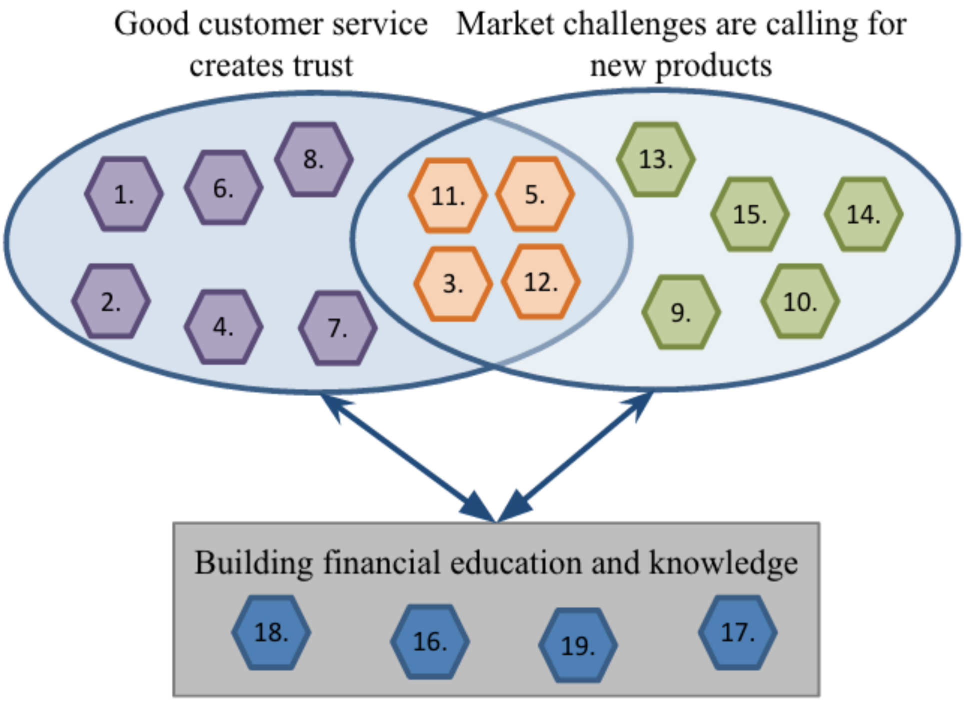

Table 6: The empirical framework

contrasting results from the FinTech case study with those derived from the SME case study. Through this analysis process we were able to reflect on the most crucial aspects of our empirical research - the empirical highlights. These brief statements focus on the main points that need to be considered in order to properly answer the question of how FinTech providers create new products for the financial inclusion of small and medium enterprise.

The above picture visualizes the framework that was created from the empirical data. It shows how education and knowledge are the foundation of the rest of the financial space. Most of our empirical highlights showed a relation to education even though some more directly than others. This is why „**Building financial education and knowledge**“ is linked with both the „**Good customer service creates trust**“ and the „**Market challenges are calling for new products as well**“. When it comes to the upper two groups, they contain empirical highlights that clearly belong to Good customer service creates trust or to Market challenges are calling for new products as well but we identified an overlap. The joint segment includes the empirical highlights where a clear seperation is not possible, which is why this placement is best to avoid any misleading assignments.

Good customer service creates trust

1. IMPORTANCE OF PERSONAL RELATIONSHIP
2. PORTFOLIO OF TAILORED PRODUCTS
3. TRANSPARENCY CREATES TRUST
4. NEED TO UNDERSTAND SMEs' BUSINESS
5. IMPORTANCE OF SPEED IN SERVICE PROVISION
6. TRUST LIES IN THE INSTITUTION
7. SMEs' VIEW ON LONG-TERM RELATIONSHIP WITH FINTECHS
8. ROLE OF INFORMALITY

Market challenges are calling for new products

9. SME'S NEED FOR CREDIT
10. EVALUATING SME CREDITWORTHINESS
11. RISK OF FINTECH PRODUCTS
12. FLEXIBILITY IN PRODUCT DEVELOPMENT
13. UNDERSTANDING THE COST OF EVALUATING AND SERVING SMEs
14. ADDRESSING OPAQUE SEMs
15. IMPORTANCE OF SOCIAL RESPONSIBILITY IN FINTECH

Building financial education and knowledge

16. EDUCATION LEADS TO TRUST
17. NEGATIVE ASPECTS OF FINTECHS
18. THE RIGHT TIME OF INTRODUCING FINANCIAL EDUCATION
19. DEBATING THE RESPONSIBILITY FOR FINANCIAL EDUCATION

5. Discussion

The aim of the following section is to review, discuss and reflect the findings of both the literature review as well as the empirical part of this research. This is done in order to derive a strong basis for answering our research question of how FinTech providers create new products for the financial inclusion of small and medium enterprises. First of all, two frameworks that were developed in section two and four of this thesis will be briefly summarized. Once the literature and empirical highlights are brought in again, the synthesis part of the discussion will bring them together and reflect on agreements, disagreements as well as potential gaps in both the literature and the empirical analysis. In order to allow contingency in the reading flow, this synthesis will also be conducted based on the three thematic groups, namely “Market challenges are calling for new products”, “Good customer service creates trust” and “Building financial education and knowledge”. In addition the synthesis will place specific attention to those highlights, that are missing from either the empirical or the literature highlights as these signify the areas, where this thesis is able to expand on the existing knowledge base.

5.1 The frameworks

The conducted literature review highlighted the key ten position that currently define the scholarly dialogue surrounding how FinTech companies develop products for the financial inclusion of SMEs. Each position encompasses the leading research paper in the area as well as relevant supporting articles, as this allowed us to compare and contrast the different positions in order to derive key conclusions. A theoretical framework was developed in an effort to provide a better overview and facilitate this discussion. This framework captured the causality between the different literature highlights, which was discussed in the development of the framework.

The center group in the literature framework can be seen as the individual level of analysis. It encompasses the following literature highlights: adoption needs customer perception, experience determines behavior, trust is critical and use determines inclusion. The individual level of analysis is supported by the broader group of SMEs as customers. Here we can find the following positions: small business - untapped potential, right portfolio for SME targeting, size & context matter, lending techniques drive access to credit and self-service is critical to survive. Finally, we have found the underlying issue to be the questions regarding the benevolence of innovation as we argued that without this underlying assumption, none of the other conclusions would have any basis.

The findings of our empirical research show both similarities and differences to the derived literature highlights as well as some points that the existing literature does not capture sufficiently. The framework, which summarizes the highlights of the empirical research, consists of three main parts. The underlying assumption is that a certain level of knowledge and education is necessary for any kind of financial decision or activity, which can be seen as connected to every other empirical highlight from our research. This is why this aspect is a separate group that connects to the two others namely, that market challenges are calling for new products and good customer service creates trust. A more detailed explanation of the empirical highlights as well as the derived framework can be found in point 4.3.4. of this thesis.

5.2 Synthesis

As already mentioned in the start of this section, the synthesis will bring together the gathered literature highlights with the corresponding empirical highlights on the bases of the already explained three thematic groups. Each of these comparisons will close with a brief statement on our own opinion on the presented ideas.

5.2.1 Good customer service creates trust

The following paragraph is aimed at reviewing the key ideas and arguments regarding the role of customer service and trust from both the theoretical and empirical framework in order to detect where linkages can be formed.

5.2.1.1 Adoption meets consumer perception - SMEs' view on long-term relationship with FinTechs

According to the literature highlight **adoption needs consumer perception,** one can conclude that perceived usefulness of FinTech products is one of the key criteria in adopting it. This is even more important when we compare the FinTech product to others on the market since long established products had the chance to prove to be useful which is not the case for new FinTech products (Kim et al., 2016). One of the empirical highlights, **the SMEs' view on long-term relationship with FinTech** in the meantime argues that small companies might not be that interested in long-term relationships with FinTechs. The reason for that is that FinTech products are often only considered because traditional bank loans are not available to a specific SME even though traditional banks are still trusted more. Therefore, we argue that both the perceived usefulness and the access to traditional bank products together are crucial for the adoption of FinTech products.

5.2.1.2 Self-service is critical to survive - Importance of personal relationship

The research conducted in the literature highlight, **self-service is critical to survive,** found that the effect of self-service usage on customer satisfaction and retention is not as positive as expected since its impact is insignificant compared to face-to-face services (Buell et al., 2010). This finding is in line with our data and the empirical highlight, **the importance of personal relationships**, which shows that SMEs significantly value the personal interactions with financial providers such as phone calls and meeting since it makes them feel important and it creates trust. Some SMEs even claimed that they feel like they have a new friend in the form of a FinTech. On the other hand, this informality could have a negative effect for Fintech as the empirical highlight; **the role of informality** suggests that too much informality could also damage credibility and professionalism in the eyes of the SMEs. Therefore we argue that both the level of personal interaction as well as the level of formality will be crucial aspects to consider for FinTechs that want to improve their customer relationships.

5.2.1.3 The size and context matters - The need to understand the SMEs' business

The research of Beck et al. (2004) in the literature highlight: **the size and context of SME matter** shows that age, size and ownership predict financial obstacles best. Therefore, younger, smaller and domestic firms report higher financial obstacles than other types of firms. Moreover, government-owned, manufacturing, agricultural and construction firms also face higher obstacles than foreign-owned, not listed, multinational companies. FinTechs recognized these unserved and vulnerable segments, which can be seen in the empirical highlight of **the need to understand the SMEs' business.** The data shows that they aim to really understand the SME's business through ongoing conversation or by providing more overarching product packages that help both parties to gain a better understanding of the firm's performance. Moreover, the data supports the literature and shows that size and context of the SME does matter in getting a loan. In the empirical highlight **understanding the cost of evaluating and serving SMEs,** FinTech providers claim that the size of the SME matters, since it determines the size of the loan and creates a cost of serving barrier. This means that under a certain loan size, it does not pay of for the traditional banks to serve SMEs. On the other hand, FinTechs have access to better credit scoring tools that enable them to offer loans at a better margin. This point is often not too widely known by SMEs as they mostly associate rejection with their own perceived risk-status. Therefore, we believe that FinTechs need to gather a broad understanding of the realities and perceptions that guide the financial decisions of small business owners.

5.2.1.4 The crucial role of trust - Trust lies in the institutions

The literature highlight - **trust is critical** - points out that building trust in the competences of a newly established FinTech and its products might be easier with those customers that already have some experience with similar technology-based solutions (Kim & Prabhakar, 2004). Our empirical highlight also showed that **trust lies in the institutions** which stems from the believe that banks are trustworthy because they are established institutions with long histories. These two results might seem contradictory at first, but if we look at the fact that our data is primarily based on SME owners, which are in their late 40s or 50s, and generally less tech-savvy, the results might be explained. In our opinion, building trust is a crucial task for FinTech providers, yet it is important for them to understand the complicated nature of the existing relationship of SMEs with traditional banks and other actors to adjust trust-building measures accordingly.

5.2.2 Market challenges are calling for new products

The following paragraph is aimed at reviewing the key ideas and arguments regarding the product development, introduction and perception from both the theoretical and empirical framework in order to detect where linkages can be formed.

5.2.2.1 Innovation is not necessarily benevolent - Risks of FinTech products

The first literature highlight showed that within the research **financial innovation is considered as not necessarily benevolent** (Allen, 2012). When reviewing the potential impact of new FinTech products on the financial inclusion of SMEs, it is therefore essential to keep the potential negative effects in mind (Mullineux, 2010). We have found similar evidence for this phenomenon in three particular empirical highlights. First of all, it was interesting to observe that both from an educational as well as from a product development point of view, interviewees referred to the potential **risks or negative aspects of FinTech products**. Yet, on the other hand many FinTech providers were discussing the social vulnerability of their SME clients. In our opinion, it is therefore important to keep these potential negative implications in mind, yet in comparison with traditional banking institutions, we believe that FinTech providers, especially in developing countries, need to pay closer attention to the social impact of their products in order to retain their customers.

5.2.2.2. The untapped potential for SMEs - SMEs' need for credit

Second of all, our research found two literature highlights that focus on the **need for SME credit** present in today's financial market space. On the one hand, the current **lack of credit available to small business owners** can be seen as an untapped growth potential (Niyogi & Niyogi, 2012; Gupta & Jain, 2015). Lost business opportunities are therefore one of the key consequences of financial exclusion besides personal and social loss. The second literature highlight - **right portfolio to target SMEs -** adds to this by showing that the right lending technologies alone are not enough to address the need for SME credit (Bădulescu 2010).

Instead a well-balanced banking sector is needed that includes the presence of different types of banks both large and small. The data strongly agreed with this assessment, as there was overwhelming agreement throughout our interviews that **SME credit is needed** and FinTech providers were actively targeting the segment. In our opinion SME credit is not only one of the most promising areas for FinTechs today but they are not also uniquely qualified to address the issue.

5.2.2.3 Lending techniques drive access to credit - Evaluating SME creditworthiness

Finally, specific focus within this thesis has been placed on the specific tools available to accurately evaluate the creditworthiness of SMEs. One literature highlight specifically focused on the role of **lending techniques driving access to credit**. The findings show that the use of credit scoring as a lending technology is positively related to the loan amount given (Berger et al., 2009) as well as providing an insight into the importance of evaluations that are specifically targeted towards understanding small business owners themselves (Beck et al., 2008). During our empirical analysis, we found multiple empirical highlights that related specifically to this aspect. First of all there are multiple different modern tools used by FinTechs to better **evaluate the creditworthiness of SMEs,** for example analyzing behavior factors, cash flow, the business owners individual creditworthiness or mobile data. In addition we found that FinTech providers are in a stronger position to **address opaque SMEs** (Code #159). In our opinion, the holistic approach towards the evaluation of SME creditworthiness could be seen as one of the major tools to reduce the barriers to SME financing and allow more accurate descriptions of the business potential of these companies.

5.2.3 Building financial education and knowledge

Finally, the below paragraphs will review the empirical and literature highlights that correspond to the final thematic group and center around building financial education and knowledge.

5.2.3.1 Experience determines behavior - Education leads to trust

The literature highlight **experience determines behaviour** describes that without prior financial experience, an individual lacks the basics to benefit from a lot of financial education (Lyons, Chang & Scherpf, 2006). Moreover, in order to change financial behavior, we have to assess one's state of readiness. If we do, we can act accordingly and customize the education efforts to the needs of the particular group of individuals (Lyons, Chang & Scherpf, 2006). On the other hand, the empirical highlight - **education leads to trust** - emphasizes that financial education creates a positive trusting customer relationship since FinTechs understand that lack of knowledge creates discomfort in SMEs. By having a strong customer relationship, FinTechs can assess the level of education the customer has, and tailor products to their needs even better. Another important question brought up by the data is **debating the responsibility for financial education.** Many SMEs see it as their responsibility to proactively prepare themselves and get informed while on the other hand, FinTech also have this responsibility on their agenda to try to educate their customers. This brings up the question, is it safe for the SMEs to assume they have the capability to understand everything on their own?

5.2.4. Not covered empirical and literature highlights

Through our empirical data collection, we discovered a number of aspects, which show alignment with the current state of research as presented in our literature framework. Yet, our research also provided us with a few key topics, which we believe are currently underrepresented in literature. This means that we examined the current literature and we believe that the below explained point are extending the existing literature space. The below paragraphs will provide insights into these empirical highlights.

5.2.4.1 Tailored products

First of all, the data showed that FinTech providers place a lot of attention onto **tailoring their products as much as possible to specific customer needs**. While traditional banks might only offer a standard product portfolio, these companies are willing and able to adjust their products in order to best fit the wishes of their customers. This might also include understand the benefit of offering an individualized combination of different products. SMEs, on the other hand, perceive this as a very positive development as it shows interest in the every-day financial problems they face in their business operations.

5.2.4.2 Using transparency in trust building

Second of all, we have found that the **role of transparency in trust building** was significantly underrepresented in the financial adoption literature. Most FinTech providers agree that it is crucial for them to embrace full transparency in the way products are presented or customers are addressed. Being open, honest and clear about all the terms and conditions related to a particular credit contract for example, can be crucial for FinTechs in building trusting and long-lasting relationships with their customers.

5.2.4.3 Speed of service

In addition, our research showed that in contrast to traditional banks, FinTechs are able to convince their customers through the **speed of service** they provide. Instead of waiting months for a credit decision for example, customers are often positively surprised by the speed at with FinTech providers are reacting to their applications or requests. This could be especially critical for the credit market where SME customers might be dependent on a fast response in order to save their business.

5.2.4.4 Timing financial education efforts

Finally, one could argue that very limited attention in the literature is placed onto the **timing of financial education efforts**. While scholars agree on the importance of financial education in general, our empirical analysis shows that one also needs to consider the right time for financial education efforts in the customer life cycle. Especially potential FinTech consumers often need support already before they decide to become customers.

The only not covered empirical highlight was **the use determines inclusion.** In this section the authors argue that having a bank account does not assures frequent usage of it. Therefore, being financially included should not only mean having an account but also using it. This research was however conducted in a developing country, India. Since our data is from a mostly developed financial space, our empirical research could not contribute significantly to this point.

5.3 Concluding the discussion

Section six provided the discussion to our research and can therefore be seen as one of the key findings that allow for the answering of the research question of how FinTech providers create new products for the financial inclusion of small and medium enterprises. The section was started by first briefly summarizing the main literature and empirical highlights from the corresponding frameworks. Once the results were collected, the synthesis focused on bringing these two groups of findings together in order to highlight both the similarities and differences between the two. In line with the previous sections, this discussion was conducted based on our three thematic groups, namely “Market challenges are calling for new products”, “Customer service creates trust” and “Building financial education and knowledge”. Finally, we paid specific attention to those aspects, which we believe are currently underrepresented in the literature discourse. By highlighting the importance of “Portfolio of tailored products”, “Transparency creates trust”, “Importance of speed in service provision” and “The right time of introducing financial education” this research was able to extend the existing literature space.

6. Conclusion

The aim of our research was to shed light on the question of how FinTech providers create new products for the financial inclusion of small and medium enterprises. After conducting, analyzing and discussing the results of both the literature and the empirical research, the following section will serve to conclude our findings. We will do so by first highlighting the limitations to our research before elaborating on the implication for industry and academia and finally presenting the answer to our research question.

6.1. Research limitations

One of the limitations of our thesis was the timeframe we had to operate with. Since it is a master thesis, we had to clearly identify at the beginning of our work the scope of the research and limitation of resources. Moreover, we had to respect them throughout the work to be able to keep our goal to deliver a high quality master thesis on the limited timeframe. As we are both pursuing a double degree, a geographical limitation occurred as well. During spring semester of 2017, one of us studied in Brazil while the other person studied Australia. This was exactly the period, which we assigned to data collection, which is why a very strict time planning needed to be followed in order to align the thesis with the respective exchange semesters. Therefore, due to time differences and technical limitations, we decided to collect data in our current residencies, at the time. Yet, we also learned to see this as an advantage because it widened our understanding of the realities of different financial markets. An additional resulting limitation would be the fact that this limited our analysis to those two markets.

Another important limitation is the nature of the FinTech industry that is changing with a very high speed. This is what makes it so exciting, but this is also what makes the literature review hard. It creates limitations to the understanding of the current status of FinTech in the literature because to conduct research and write a paper can sometimes take a couple of years. This causes significant delay in the literature compared to the current status of the market therefore, we had to resort to mostly using literatures from a few years back or older.

Furthermore, due to the complexity of the FinTech product space and the often-combined product offerings, we did not clearly define a product scope. However, since the biggest problem for SMEs is the lack of credit, most of the data came from that area. This is why the thesis naturally became more focused on this area as we saw that the SMEs are mostly occupied with this question.

Another crucial point to consider is that the language barrier in Brazil limited the potential pool of interviewees as we were only able to rely on intermediary Portuguese skills and therefore decided to conduct most interviews in English instead. However this might have occasionally limited the depth of interview answers as some interview partners were not used to speaking English that much. In addition, we decided to limit our interview selection to specific types of SMEs, as a full comparison of sector differences would have been outside our research scope. Instead, we focused on small, traditional companies, as we believe these to be most relevant in answering our specific research question.

Another relevant aspect would have been interviews with fully informal and financially excluded SMEs - companies that have never had access to any kind of financial product before. Yet after our initial search we realized that our geographic selection as well as our limited time frame would have not allowed us to fully explore this aspect. Furthermore, we acknowledge that access to further interviews could have improved the quality of our research, as it would have provided us with more variety in inputs.

Another limitation of our gathered data and therefore thesis is the fact that we did not interview traditional banks. Even though it would have been interesting to see the third party's view on the evolution of the financial industry and the rise of the FinTechs, it was out of the scope of this thesis to examine another point of view. However, we think that including interviews with traditional banks could be an opportunity to consider for further studies.

6.2. Implication for industry

The below implications or recommendations are provided to specifically address FinTech providers as we believe that our research is able to add the most value to this group.

However, as already mentioned in the research limitation, we believe that further research might also provide crucial implication for traditional banks. In addition, we want to highlight that while these recommendations are based on our collected research results, they might not apply to all FinTech providers, as there is a significant level of diversity that exists in the industry.

First of all, we recommend FinTech providers to closely examine their target group in order to communicate effectively. Before conducting our research, we shared the assumption that FinTech products are mostly for the group of "tech-savvy young people" but in reality we see much more need in products that address traditional brick & mortar SMEs for example. These customers have limited previous experience and might take more time to adapt to innovative products. FinTechs should therefore be aware of the reality of their target group and address them correctly. In addition, we believe it is important to highlight that SME customers generally agree on the importance of the personal aspect in the customer relationship. The trend towards self-service should of course be taking into consideration, but FinTech providers need to understand that incorporating a level of personal interaction into their process will significantly improve the perceived customer service for SMEs. Our third recommendation concerns the role of FinTechs as the "one-stop shop" where SMEs can find a portfolio of connected and tailored products. We believe that this customization in combination with superior service is the real differentiator FinTech providers should use in order to compete successfully with traditional banks, as it is a common misconception that FinTechs compete on the basis of their prices.

Furthermore, we believe that it is crucial for FinTechs to understand that traditional banks are often trusted despite bad customer relationships. Trust as such is placed in the institution itself, has been accumulated through years and is often also linked to the formality present in everyday customer interactions. While FinTechs might come across as modern and cool, this alone is not enough to build long-lasting customer trust and they need to take into consideration that credibility might only be build over time. Our fifth recommendation concerns the evaluation of financial knowledge. We believe that FinTech providers need to present the product itself in such a way, that takes into consideration the lack of sophisticated financial knowledge of SMEs. We believe that it is important for FinTech providers to understand that a limit of existing financial knowledge does not necessarily equal a limit to creditworthiness. Only by presenting simple, easily understandable solutions that help the business owner to understand their own financial health can FinTech providers make sure that it is the actual creditworthiness that decides upon the provision of credit instead of previous experience or societal barriers. This will be an important step for FinTechs in fighting against financial inclusion and adding real value to the market.

Based on our research we believe that Fintech providers can succeed in creating new products for the financial inclusion of small and medium enterprises by taking into consideration these described five recommendations:

1. ADDRESS THE TARGET GROUP OF TRADITIONAL SMES CORRECTLY
2. SMES PREFER A COMBINATION OF SELF-SERVICE AND PERSONAL INTERACTION
3. FINTECHS AS THE HIGH QUALITY, TAILORED "ONE-STOP SHOP" FOR SMES
4. TRUST IN INSTITUTIONS AND FORMALITY NEEDS TO BE CONSIDERED
5. CREATE SIMPLE, EASY-TO-USE PRODUCTS

6.3. Implication for academia

Even though the focus in this research was on the practical implication, we believe there are also a number of implications for academia that can be drawn from our findings. First of all, we believe that the research should be extended to include the influence of these developments on traditional banks. Based on the limited scope of our research, no interviews were conducted with traditional banks, yet we believe that including this third group would allow for broader recommendations.

In addition, our research developed four empirical highlights that were either not represented or underrepresented in the current literature. This is why we believe that further research in these areas would add significant value to the theoretical discourse on the topic. These empirical highlights, namely **“Portfolio of tailored products”**, **“Transparency creates trust”**, **“Importance of speed in service provision”** and **“The right time of introducing financial education”** were already described in point 5.2.4 and center mostly around the area of good customer service.

Finally, we believe that our research highlights a crucial point for the academic discourse on financial inclusion. Even though the focus of course remains on developing countries, our research highlights the importance of considering the different levels of financial exclusion that also exist in emerging and developing countries. Understanding the different nuances of the issue of financial inclusion can add an additional level of richness to the academic discourse on the topic.

Based on our research we derived the following three implications for academia that in our opinion can enrich the academic discourse on the topics of FinTechs, product adaption and financial inclusion:

1. BROADEN THE RESEARCH THROUGH INTERVIEWS WITH TRADITIONAL BANKS
2. FURTHER RESEARCH TO BE CONDUCTED ON THE UNDERREPRESENTED EMPIRICAL HIGHLIGHTS
3. UNDERSTANDING THE DIFFERENT NUANCES OF FINANCIAL INCLUSION IS CRUCIAL

6.4. Concluding our findings

This research aimed at answering the question “**How do FinTech providers create new products for the financial inclusion of small and medium enterprises?**”. Based on the findings from our literature framework as well as the insights that were gained through our empirical research, we believe that this can be done by following a five-step approach. FinTech providers should address the target group of traditional SMEs correctly, consider the combination of self-service and personal interaction and provide a high-quality, tailored “one-stop shop” for SMEs. In addition trust in institutions and formality needs to be considered sufficiently and simple, easy-to-use products should be created.

Furthermore, this research was able to expand the existing knowledge base on FinTech products, the financial needs of SMEs and the topic of financial inclusion by pointing towards four areas of empirical highlights, which are currently underrepresented in the literature discourse. We believe that further research in these areas would enrich the theoretical discourse and allow for improvements in understanding of the realities of the financial inclusion of SMEs.

We see the development of the FinTech market as a great opportunity for the improvement of the financial inclusion of SMEs globally. These companies are able to prove that it can pay off to provide products to previously ignored groups of the market and show that sometimes social improvement and financial return can go hand in hand. It will be interesting to observe the future implications of this trend and see what place in the market FinTech providers will occupy in a couple of years. Depending on the reaction of traditional banks and customers we could see the potential for some FinTech providers to embrace the full range of financial function and became an umbrella organization for all financial needs of small business owners. Yet, at the same time it is also possible that their product will instead serve more as an important reminder to existing banks that improvement and innovation is needed.

7. References

Allen, F. (2012). *Trends in financial innovation and their welfare impact* (1st ed.). Amsterdam: DNB.

Ardic, O. P., Mylenko, N., & Saltane, V. (2012). Access to Finance by Small and Medium Enterprises: a Cross‐Country Analysis with A New Data Set. *Pacific Economic Review*, *17*(4), 491-513.

Arner, D. W., Barberis, J. N., & Buckley, R. P. (2015). The Evolution of Fintech: A New Post-Crisis Paradigm?. *Available at SSRN 2676553*.

Arner, D. W., Barberis, J. N., & Buckley, R. P. (2016). FinTech, RegTech and the Reconceptualization of Financial Regulation.*SSRN Electronic Journal*. doi:10.2139/ssrn.2676563

Arvidsson, N. (2014). Consumer attitudes on mobile payment services–results from a proof of concept test. *International Journal of Bank Marketing*, *32*(2), 150-170.

Bădulescu, D. (2010). SMEs financing: the extent of need and the responses of different credit structures. *Theoretical and Applied Economics*, *7*(7), 25.

Beck, T., Demirguc-Kunt, A., Laeven, L., Maksimovic, V., & Bank, W. (2004). The Determinants of Financing Obstacles. doi:10.1596/1813-9450-3204

Beck, T., Demirguc-Kunt, A., & Martinez Peria, M. S. (2008). Bank Financing For SMEs Around The World: Drivers, Obstacles, Business Models, And Lending Practices. *Policy Research Working Papers*. doi:10.1596/1813-9450-4785

Berger, A. N., Cowan, A. M., & Frame, W. S. (2009). *The surprising use of credit scoring in small business lending by community banks and the attendant effects on credit availability and risk* (No. 2009-9). Working Paper, Federal Reserve Bank of Atlanta.

Berger, A. N., & Udell, G. F. (2006). A more complete conceptual framework for SME finance. *Journal of Banking & Finance*, *30*(11), 2945-2966.

Buell, R. W., Campbell, D., & Frei, F. X. (2010). Are Self-Service Customers Satisfied or Stuck? *Production and Operations Management*, *19*(6), 679-697. doi:10.1111/j.1937-5956.2010.01151.x

Campbell, D., & Frei, F. (2010). Cost Structure, Customer Profitability, and Retention Implications of Self-Service Distribution Channels: Evidence from Customer Behavior in an Online Banking Channel. *Management Science*, *56*(1), 4-24. doi:10.1287/mnsc.1090.1066

Cronbach, L. J., & Shapiro, K. (1982). *Designing evaluations of educational and social programs*. Jossey-Bass.

De Sousa, S. (2010). The role of payment systems in reaching the unbanked. *Journal of Payments Strategy & Systems*, *4*(2), 145-155.

Demirgüç-Kunt, A., Klapper, L. F., Singer, D., & Van Oudheusden, P. (2015). The Global Findex Database 2014: measuring financial inclusion around the world. *World Bank Policy Research Working Paper*, (7255).

Dimitriadis, S., & Kyrezis, N. (2008). Does trust in the bank build trust in its technology-based channels?. *Journal of financial services marketing*, *13*(1), 28-38.

Frame, W. S., Padhi, M., & Woosley, L. W. (n.d.). The Effect of Credit Scoring on Small Business Lending in Low- and Moderate-Income Areas. *SSRN Electronic Journal* . doi:10.2139/ssrn.267532

Frame, W. S., & White, L. J. (n.d.). Technological Change, Financial Innovation, and Diffusion in Banking. *SSRN Electronic Journal*. doi:10.2139/ssrn.1434235

Ghosh, S. (2016). Does mobile telephony spur growth? Evidence from Indian states. *Telecommunications Policy*. doi:10.1016/j.telpol.2016.05.009

Gomm, R., Hammersley, M., & Foster, P. (Eds.). (2000). *Case study method: Key issues, key texts*. Sage.

Gupta, R., & Jain, K. (2015). Adoption behavior of rural India for mobile telephony: A multigroup study. *Telecommunications Policy*, *39*(8), 691-704.

Herington, C., & Weaven, S. (2007). Can banks improve customer relationships with high quality online services? *Managing Service Quality: An International Journal*, *17*(4), 404-427. doi:10.1108/09604520710760544

Hitt, L. M., & Frei, F. X. (2002). Do Better Customers Utilize Electronic Distribution Channels? The Case of PC Banking. *Management Science*, *48*(6), 732-748. doi:10.1287/mnsc.48.6.732.188

Kamran, S., & Uusitalo, O. (2016). Vulnerability of the unbanked: evidence from a developing country. *International Journal of Consumer Studies*, *40*(4), 400-409.

Kim, K. K., & Prabhakar, B. (2004). Initial trust and the adoption of B2C e-commerce: The case of internet banking. *ACM sigmis database*, *35*(2), 50-64.

Kim, Y., Park, Y. J., & Choi, J. (2016). The Adoption of Mobile Payment Services for "Fintech". *International Journal of Applied Engineering Research*, *11*(2), 1058-1061.

Lee, D. K., & Teo, E. G. (2015). Emergence of FinTech and the LASIC principles. *Available at SSRN 2668049*.

Lopez, J. C., Babcic, S., & De La Ossa, A. (2015). Advice goes virtual: how new digital investment services are changing the wealth management landscape. *Journal of Financial Perspectives*, *3*(3), 156-164.

Lyons A, Chang Y, & Scherpf E. (2006). Translating financial education into behavior change for low-income populations. *Financial Counseling and Planning*, *17*(2).

Milne, J., & Oberle, K. (2005). Enhancing rigor in qualitative description. *Journal of Wound Ostomy & Continence Nursing*, *32*(6), 413-420.

Morawczynski, O., Hutchful, D., Cutrell, E., & Rangaswamy, N. (2010). The bank account is not enough. *Proceedings of the 4th ACM/IEEE International Conference on Information and Communication Technologies and Development - ICTD '10*. doi:10.1145/2369220.2369242

Mullineux, A. W. (2010). Financial innovation and social welfare. *Journal of Financial Regulation and Compliance*, *18*(3), 243-256.

Nejad, M. (2016). Research on Financial Services Innovations: A Quantitative Review and Future Research Directions. *International Journal of Bank Marketing*, 34(7), 1042 - 1068.

Nițescu, D. C. (2015). Banking Business and Social Media–A Strategic Partnership. *Theoretical and Applied Economics*, *22*(4 (605), Winter), 121-132.

Niyogi, A., & Niyogi, S. (2012). Mobile Money for Unbanked in India. *International Journal of Finance & Policy Analysis*, *4*(2).

Ian Pollari, J. (2017). *Australian Fintech Landscape*. [online] KPMG. Available at: https://home.kpmg.com/au/en/home/insights/2017/08/australian-fintech-landscape.html [Accessed 5 Sep. 2017].

Ratten, V., & Ratten, H. (2007). Technological Innovations and m-commerce Applications. *International Journal of Innovation and Technology Management*, *4*(01), 1-14.

Reaves, B., Scaife, N., Bates, A., & Traynor, P. (2015). Mo(bile) money, Mo(bile) problems: analysis of branchless banking applications in the developing world. *24th USENIX Security Symposium*.

Rowlands, B. H. (2005). Grounded in practice: Using interpretive research to build theory. *The Electronic Journal of Business Research Methodology*, 3(1), 81-92.

Salerno, F., Berriche, A., Crie, D., & Martin, A. (2015). Helping consumers to change their financial behaviour: Contributions of a multi-phase change model. *Recherche et Applications en Marketing (English Edition)*, *30*(3), 61-84.

Schumpeter, J. A. (1912). Theorie der wirtschaftlichen Entwicklung. Leipzig: Duncker & Humblot. English translation published in 1934 as The theory of economic development.

Shim, Y., & Shin, D. (2016). Analyzing China's Fintech Industry from the Perspective of Actor–Network Theory. *Telecommunications Policy*, *40*(2-3), 168-181. doi:10.1016/j.telpol.2015.11.005

Sreeharsha, V. (2017). *Goldman Sachs Sees Big Potential for Fintech in Brazil*. [online] Nytimes.com. Available at: https://www.nytimes.com/2017/05/15/business/dealbook/goldman-sachs-sees-big-potential-for-fintech-in-brazil.html [Accessed 7 Sep. 2017].

Walker, A. (2014). Banking without banks: Exploring the disruptive effects of converging technologies that will shape the future of banking. *Journal of Securities Operations & Custody*, *7*(1), 69-80.

Xiao, J. J., O'Neill, B., Prochaska, J. M., Kerbel, C. M., Brennan, P., & Bristow, B. J. (2004). A consumer education programme based on the Transtheoretical Model of Change. *International Journal of Consumer Studies*, *28*(1), 55-65.

Yawe, B., & Prabhu, J. (2015). Innovation and financial inclusion: A review of the literature. *Journal of Payments Strategy & Systems*, *9*(3), 215-228.

Yin, R. K. (1994). *Case study research: design and methods* (2nd ed.). the University of Michigan: Sage Publications.

Yunus, M., Moingeon, B., & Lehmann-Ortega, L. (2010). Building social business models: Lessons from the Grameen experience. *Long range planning*, *43*(2), 308-325.

Empirical referencing

Code#1, 03:41:00 - Credit SME, Australia, 2017-06-16

Code #4, 07:41:00 - Credit SME, Australia, 2017-06-16

Code #5, 15:14:00 - Credit SME, Australia, 2017-06-16

Code #7, 19:16:00 - Credit SME, Australia, 2017-06-16

Code #8, 20:58:00 - Credit SME, Australia, 2017-06-16

Code #13, 09:36:00 - Cignify, Brazil, 2017-06-13

Code #14, 10:54:00 - Cignify, Brazil, 2017-06-13

Code #17, 19:11:00 - Cignify, Brazil, 2017-06-13

Code #18, 27:48:00 - Cignify, Brazil, 2017-06-13

Code #20, 32:59:00 - Cignify, Brazil, 2017-06-13

Code #21, 06:05:00 - Cignify, Brazil, 2017-06-13

Code #24, 16:10:00 - Cignify, Brazil, 2017-06-13

Code #27, 27:18:00 - Cignify, Brazil, 2017-06-13

Code #28, 30:08:00 - Cignify, Brazil, 2017-06-13

Code #33, 08:45:00 (Part 2) - Cignify, Brazil, 2017-06-13

Code #34, 05:25:00 (Part 2) - Cignify, Brazil, 2017-06-13

Code #37, 06:16:00 (Part 2) - Cignify, Brazil, 2017-06-13

Code #40, 05:43:00 - Adianta, Brazil, 2017-06-14

Code #41, 08:55:00 - Adianta, Brazil, 2017-06-14

Code #44, 10:45:00 - Adianta, Brazil, 2017-06-14

Code #49, 29:42:00 - Adianta, Brazil, 2017-06-14

Code #50, 30:00:00 - Adianta, Brazil, 2017-06-14

Code #51, 31:43:00 - Adianta, Brazil, 2017-06-14

Code #53, 34:30:00 - Adianta, Brazil, 2017-06-14

Code #56, 02:55:00 - Adianta, Brazil, 2017-06-14

Code #66, 11:48:00 - Avante, Brazil, 2017-06-28

Code #67, 12:48:00 - Nexoos, Brazil, 2017-06-29

Code #72, 26:54:00 - Nexoos, Brazil, 2017-06-29

Code #77, 7:44:00 - Nexoos, Brazil, 2017-06-29

Code #78, 10:31:00 - Nexoos, Brazil, 2017-06-29

Code #79, 19:12:00 - Nexoos, Brazil, 2017-06-29

Code #80, 19:46:00 - Nexoos, Brazil, 2017-06-29

Code #81, 21:15:00 - Nexoos, Brazil, 2017-06-29

Code #85, 32:23:00 - Nexoos, Brazil, 2017-06-29

Code #88, 41:50:00 - Nexoos, Brazil, 2017-06-29

Code #91, 15:29:00 - Nexoos, Brazil, 2017-06-29

Code #97, 04:59:00 - Firgun, Brazil, 2017-06-30

Code #101, 11:11:00 - Firgun, Brazil, 2017-06-30

Code #108, 04:45:00 - Firgun, Brazil, 2017-06-30

Code #110, 13:13:00 - Firgun, Brazil, 2017-06-30

Code#112, 1:04:00 - Prospa, Australia, 2017-06-16

Code #115, 8:16:00 - Prospa, Australia, 2017-06-16

Code #118, 17:35:00 - Prospa, Australia, 2017-06-16

Code #119, 20:27:00 - Prospa, Australia, 2017-06-16

Code #120, 25:04:00 - Prospa, Australia, 2017-06-16

Code #124, 32:42:00 - Prospa, Australia, 2017-06-16

Code #127, 44:15:00 - Prospa, Australia, 2017-06-16

Code #128, 06:25:00 - Prospa, Australia, 2017-06-16

Code #131, 29:12:00 - Prospa, Australia, 2017-06-16

Code #132, 30:09:00 - Prospa, Australia, 2017-06-16

Code #134, 34:19:00 - Prospa, Australia, 2017-06-16

Code #136, 34:38:00 - Prospa, Australia, 2017-06-16

Code #137, 26:24:00 - Prospa, Australia, 2017-06-16

Code #140, 12:41:00 - Skipper, Australia, 2017-06-19

Code #142, 20:56:00 - Skipper, Australia, 2017-06-19

Code #143, 23:24:00 - Skipper, Australia, 2017-06-19

Code #144, 26:14:00 - Skipper, Australia, 2017-06-19

Code #147, 33:17:00 - Skipper, Australia, 2017-06-19

Code #149, 45:49:00 - Skipper, Australia, 2017-06-19

Code #153, 5:25:00 - Skipper, Australia, 2017-06-19

Code #156, 9:14:00 - Skipper, Australia, 2017-06-19

Code #157, 11:24:00 - Skipper, Australia, 2017-06-19

Code #158, 21:38:00 - Skipper, Australia, 2017-06-19

Code #159, 21:46:00 - Skipper, Australia, 2017-06-19

Code #162, 32:25:00 - Skipper, Australia, 2017-06-19

Code #165, 02:29:00 - Truly Tea, Australia, 2017-06-19

Code #166, 3:26:00 - Truly Tea, Australia, 2017-06-19

Code #168, 05:53:00 - Truly Tea, Australia, 2017-06-19

Code #169, 09:18:00 - Truly Tea, Australia, 2017-06-19

Code #170, 10:04:00 - Truly Tea, Australia, 2017-06-19

Code #171, 12:47:00 - Truly Tea, Australia, 2017-06-19

Code #173, 17:12:00 - Truly Tea, Australia, 2017-06-19

Code #175, 03:08:00 - Truly Tea, Australia, 2017-06-19

Code #176, 03:42:00 - Truly Tea, Australia, 2017-06-19

Code #177, 03:47:00 - Truly Tea, Australia, 2017-06-19

Code #178, 06:26:00 - Truly Tea, Australia, 2017-06-19

Code #183, 13:51:00 - Truly Tea, Australia, 2017-06-19

Code #186, 21:43:00 - Truly Tea, Australia, 2017-06-19

Code #189, 07:25:00 - Cobbler Caballero, Australia, 2017-06-24

Code #191, 09:34:00 - Cobbler Caballero, Australia, 2017-06-24

Code #193, 14:10:00 - Cobbler Caballero, Australia, 2017-06-24

Code #198, 08:38:00 - Cobbler Caballero, Australia, 2017-06-24

Code #201, 01:00:00 - The Artery Cont. Aboriginal Art Gallery, Australia, 2017-06-23

Code #203, 01:47:00 - The Artery Cont. Aboriginal Art Gallery, Australia ,2017-06-23

Code #204, 2:26:00 - The Artery Cont. Aboriginal Art Gallery, Australia ,2017-06-23

Code #208, 8:41:00 - The Artery Cont. Aboriginal Art Gallery, Australia, 2017-06-23

Code #212, 18:08:00 - The Artery Cont. Aboriginal Art Gallery, Australia, 2017-06-23

Code #213, 19:24:00 - The Artery Cont. Aboriginal Art Gallery, Australia, 2017-06-23

Code #216, 03:15:00 - The Artery Cont. Aboriginal Art Gallery, Australia, 2017-06-23

Code #217, 03:52:00 - The Artery Cont. Aboriginal Art Gallery, Australia, 2017-06-23

Code #219, 11:28:00 - The Artery Cont. Aboriginal Art Gallery, Australia, 2017-06-23

Code #221, 18:15:00 - The Artery Cont. Aboriginal Art Gallery, Australia, 2017-06-23

Code #228, 00:09:00 - Preco Baixo, Brazil, 2017-06-20

Code #232, 00:13:00 - Preco Baixo, Brazil, 2017-06-20

Code #237, 10:42:00 - Preco Baixo, Brazil, 2017-06-20

Code #238, 10:43:00 - Preco Baixo, Brazil, 2017-06-20

Code #241, 10:44:00 - Preco Baixo, Brazil, 2017-06-20

Code #242, 10:46:00 - Preco Baixo, Brazil, 2017-06-20

Code #243, 10:48:00 - Preco Baixo, Brazil, 2017-06-20

Code #245, 10:50:00 - Preco Baixo, Brazil, 2017-06-20

Code #248, 10:54:00 - Preco Baixo, Brazil, 2017-06-20

Code #251, 00:07:00 - Salgados, Brazil, 2017-06-22

Code #254, 00:17:00 - Salgados, Brazil, 2017-06-22

Code #263, 24:08:00 - Salgados, Brazil, 2017-06-22

Code #264, 30:31:00 - Salgados, Brazil, 2017-06-22

8. Appendices

The below section provides all relevant appendices that are aimed at providing further explanations to this thesis. However it should be noted that the audio recordings of all conducted interviews as well as the excel file containing all interview codes is included on the pen drive which was added to the printed hand-in.

8.1. Collection of literature summaries

SMEs Financing: the extent of need and the responses of different credit structures Badulescu Daniel (2010). Theoretical and Applied Economics. Vol XVII, No. 7(548), pp. 25-36	
Research context	SMEs are oftentimes described as engines of growth in developing countries. They are of major strategic importance in reshaping an economy and its sectors as well as to secure jobs.
Research question	What is the extent of the SME financing need and how are different credit structures addressing that need?
Problem area, identified knowledge gap.	There is significant research into the reasons why there is a lack of the SME financing that is available today and in survey's managers consistently identify this as one of their major concerns. Yet there is limited research into how different credit structures might be better equipped in addressing that need.
The use of theory, What theory they employ	Analysis is based on OECD 2006 and Pathrose 2005 that listed the following reasons why banks are reluctant to lend to SMEs: - Information asymmetry: lack of financial information and standardized financial statements + certain moral hazard problem - High risks involved in lending to SMEs: resulting from the limited assets that can be used as collateral + SMEs usually operate in a highly competitive and very uncertain environment - Banks are unable to assess technical, managerial and marketing skills of the SME > often characterized by insufficient technically or managerially experienced staff

Key Arguments;	Based on previous research authors would expect the following -Financing remains the main issue for managers of SMEs and therefore the

	main obstacle to SME-driven country development - Relationship-lending is better equipped to increase access for SMEs - Foreign-owned banks have comparative advantage in SME technologies lending - State-owned banks as well as small banks have an advantage in SME lending
Key findings, results and outcome of the research	Important of Financing as an issue: - Most pressing concern for SME managers from EU with 16 % of answers Relationship-lending - Relationship-lending is better equipped to include the character and reliability of SME's owner in addition to information on the company itself > likely to increase the availability of SME financing Foreign banks - Foreign banks are more likely to use hard information relative to private domestic banks yet they balance that with better access to information technologies for collecting and assessing hard information > researchers cannot find prove that foreign banks tend to lend less to SMEs than other banks State-owned banks - State-owned banks are more likely to lend to SMEs as they often have government subsidies and mandates specifically for SME lending Small banks - Small banks have an advantage in relationship-based lending and therefore their presence increases the availability of financing to SMEs
Perspective; Level of analysis, firm, Industry or others	Country level
Critique	-
Methodology; Describe the methodology in	Analyzed already existing research on SME

brief	financing based on five hypotheses on the availability of SME financing
Problems with the methodology, if any	Argumentation for the influence of foreign banks inconsistent
Insights you get when reading this paper	Lending technology alone is not sufficient to determine whether there will be more financing available to SMEs – the structure of banks present in a market also plays a significant role
Key conclusions	Financial institutions structure determines the comparative advantage in lending technologies & lending infrastructure (information environment, regulatory environment,…) which in term determines the availability of financing. A well balanced banking sector with a significant amount of state-owned and small banks are crucial for the availability of SME finance.

Building Social Business Models: Lessons from the Grameen Experience Muhammad Yunus, Betrand Moingeon and Laurence Lehmann-Ortega (2010), Long Range Planning 43 pp. 308-325	
Research context	In 1976 the Grameen bank launched one of the most successful social businesses focused on alleviating poverty in rural Bangladesh through micro-finance. In line with this trend the debate on the financial pay-off of CSR projects is still ongoing which further increases interest in a for- profit social business model for solving social problems.
Research question	How are social businesses set up and can the business model concept – and in particular the business model innovation literature – help us in that process
Problem area, identified knowledge gap.	Classic business model innovation literature focuses on profit-goal oriented businesses and the framework does not yet include social-profit oriented businesses.
The use of theory, What theory they employ	Social business can be defined as the intersection between profit-maximizing business and not-for-profit organizations. It is focused on being financially self sustainable and investing into achieving social gains for society.

	Conventional business model components: • Value proposition • Value constellation • Profit equation
Key Arguments;	A social business needs to be designed and operated just like a ‘regular’ business enterprise with products, services, customers, markets, expenses and revenues in order to became financial sustainable. Business model innovation is about generating new sources of profit by finding novel value proposition/value constellation combination. It should therefore also be in line with social businesses.
Key findings, results and outcome of the research	All three case companies (partnerships of Grameen Group with Telenor, Veolia and Danone) show similarities with conventional business model innovation in: • Challenging conventional wisdom and basic assumptions • Finding complementary partners • Undertaking a continuous experimentation process Yet they also all showed these two specificities not observed with profit- maximizing businesses: • Favoring social profit-oriented shareholders • Clearly specifying the social profit objective
Perspective; Level of analysis, firm, Industry or others	Sector level
Critique	Too focused on the Grameen Group
Methodology; Describe the methodology in brief	Based on initial in-depth study of about 30 cases witch then lead to the discovery of the Grameen example as a new case study possibility / use of 3 particular Grameen Group case examples in order to form a generalized framework.
Problems with the methodology, if any	-
Insights you get when reading this paper	The social value focus can help a business to innovate more rapidly as it often includes challenging the existing system and looking

	for complementary partners
Key conclusions	Social business show similiarities in the business model innovation process with profit-maximizing companies, yet they are more focused in attracting different shareholders and specifying the social objective of their business.

Innovation and financial inclusion: A review of the literature **Yawe Bruno & Prabhu Jaideep (2015). Journal of Payment Strategy & Systems, 9 (3)**	
Research context	G20 endorsed principles for innovative financial inclusion were published to provide guidance for policy and regulatory approaches; innovations to enhance financial inclusion have occurred both within and outside the mainstream financial industry
Research question	How can financial innovations satisfy the needs of the financially excluded? (unbanked, underbanked, financially illiterate)
Problem area, identified knowledge gap.	Significant amount of research into financial innovations and specific financial inclusion issues they could potentially address yet there is a need for research into how the relationship between financial innovation and financial inclusion can be regulated.
The use of theory, What theory they employ	Conceptualization of **social exclusion:** Financial exclusion as underexplored part of social exclusion that is rooted in the economic theory of consumer savings and, in particular, the credit or liquidity constraint concept. (Fuhrer 1992). As part of social exclusion – financial exclusion (or the inadequate access to commercial services such as banking and insurance) is part of the distributional dimension of social exclusion.
Key Arguments;	ICTs are vital in improving financial exclusion. Many of them combine the opportunity to reduce bank operational costs and deliver financial services universally. Therefore the authors expect financial innovations to play a role in all areas of financial inclusion (savings, credit scoring, micro insurance, payments,

	banking services for the excluded poor, financial literacy and consumer protection.)
Key findings, results and outcome of the research	Financial innovation has different roles from limited (-) to high (+) • **Savings:** lack of understanding of saving behavior of the poor (short- term savings / other forms of capital) >> tool to address are self-help peer groups (-) • **Credit scoring:** Alternative creditor data as greatest impact on financially underserved consumers (example YES BANK India) (+) • **Microinsurance:** Adopted from microcredit as a tool to fight the poverty trap – community-based (-) • **Payments:** various payment systems (mobile, bitcoin) growing immensely and contributing to the reduction of bank costs (+) • **Banking services for the excluded poor:** Branchless banking (non-bank retail agents) for example is growing as an option for underserved areas (+) • **Financial literacy:** Recognized as a growing need – no specific innovation found (-) • **Consumer protection:** Improving efficiency and transparency > Example mobile payment - key to reducing information asymmetries and power imbalance (new smaller players on the market) (+)
Perspective; Level of analysis, firm, Industry or others	Industry level
Critique	-
Methodology; Describe the methodology in brief	Areas of financial inclusion determined by the theory of social exclusion, are analyzed to find out how financial innovations have contributed to financial inclusion in each area.
Problems with the methodology, if any	Viewpoint of the providers of financial innovation is not included yet would have added value to the research
Insights you get when reading this paper	Credit scoring, payments, reaching excluded poor and consumer protection are

	the areas of financial inclusion where FinTech innovation has the highest impact. For other areas a non-technical, community-based approaches work better (savings, Microinsurance)
Key conclusions	• **Agent banking** (or branchless banking): regulation needs to be limited to allow agents to progress within reasonable level of risk • **Mobile banking:** Large challenges for regulation as it is cutting across various regulatory domains (banking, telecommunications,…) • **Diversifying providers:** Lower regulatory entry level could allow for start-ups and smaller providers to create products and increase competition • (Reforming public banks to improve access to finance) • **Financial identification**: creating a financial identity without personal identity or literacy will be crucial (big data / credit scoring) • **(Consumer protection**: needed especially when financial literacy is low)

Technological change, financial innovation and diffusion in banking Frame Scott, White Lawrence (2014) The Oxford Handbook of Banking, 2nd edn.	
Research context	Technological changes in telecommunications and data processing > financial innovations > altered bank products, services and products
Research question	How has technological change spurred financial innovations that have driven changes in commercial banking over the past 30 years?
Problem area, identified knowledge gap.	Similar to the survey by Berger 2003 but setting itself apart by looking at a large number of new banking technologies and bringing different studies together in the context of the broader economics literature on innovation // Lack of those studies looking into the structural conditions that encourage financial innovation

The use of theory, What theory they employ	Focus on Merton 1992 view on the financial system – operation of a financial system involves real resource costs (labor, materials, capital) employed by financial intermediaries (f.ex. commercial banks) and by financial facilitators (f.ex. mortgage brokers) >> much of these costs relate to asymmetric information >> financial innovations that reduce those information asymmetries would be expected to have a significant impact Yet for the diffusion of financial innovation the following conditions (Campbell 1988) need to be in place: - underlying technologies in place - unstable macroeconomic environment - favorable regulations - favorable tax environment
Key Arguments;	The literature on financial innovations is should be analyzed in the categories: - new products and services, new production processes and new organizational forms >> all of them focus on reducing the cost of obtaining financial services and all are specifically driven by technological change
Key findings, results and outcome of the research	A1 Products: · Subprime mortgages: initially helped to complete the credit supply schedule and create positive welfare impacts yet negative impact as part of the financial crisis A2 Services: · focused on enhanced account access and new methods of payment > ease of USE --- debit cards --- online banking --- prepaid cards B Production Processes · use of electronic transmission, reliance on statistical models and greater retail acceptance --- Automated Clearinghouse (ACH): electronic fund transfer network --- Small Business Credit Scoring – different lending technologies to lend to

	informationally opaque small business --- Asset Securitization: process by which assets are transformed into tradable “asset- backed securities” by repackaging cashflows --- risk management – both through advances in hardware and software C Organizational Forms Securities affiliates for very large banks, Internet-only banks
Perspective; Level of analysis, firm, Industry or others	Industry level
Critique	Very descriptive literature analysis without a critical look on the welfare aspects of many of the financial innovations mentioned
Methodology; Describe the methodology in brief	Analyzing broader trends of technology- enabled financial innovations based on specific examples of products, services, process and organizational forms that have changed
Problems with the methodology, if any	Future predictions are limited
Insights you get when reading this paper	Fintech has changed both what kind of products and services are offered but also HOW traditional products and services are produced (the processes behind) > for example small business credit scoring (changing the way a traditional bank product is produced)
Key conclusions	Last 30 years have shown substantial change in terms of bank services and production technologies, yet the organizational forms of financial service providers have only changed on a limited basis. Much has been learned about the characteristics of users and adopters of financial innovations and the attendant welfare implications > YET what is still missing is more on how and why financial innovations are initially developed.

Banking without banks: exploring the disruptive effects of converging technologies that will shape the future of banking **Walker Andrew (2014). Journal of Securities Operations & Custody, 7(1), p. 69-85**	
Research context	Broad-ranging and prolonged period of

	technological change and system convergence is expected > banks face competition from self-service 'bank-as-you-go' warehouses and services integrated into B2C social networks // arrival of TARGET2-Securities (T2S) expected in a couple of years – changing the technological infrastructure even further
Research question	What is the role of social computing for financial services and how can traditional banks deal with this disruptive force?
Problem area, identified knowledge gap.	While the benefits of technological advances for banking are easier to assess the creeping systemic issues that can come along with the increasing importance of social computing in banking. *Social computing is the collaborative and interactive aspect of online behavior. The term can be understood in contrast to personal computing, which describes the behavior of isolated users.
The use of theory, What theory they employ	The findings in this paper are based on the theory of cognitive dissonance and it's role in explaining the resistance to accept change in established industries. It is an umbrella term that includes concepts like confirmation bias and people's tendency to dismiss things they want but cannot obtain. Cognitive dissonance is the mental stress people experience when the new information they are trying to process conflicts with their own beliefs, values and intrinsic understanding of the world. One example would be digital natives who didn't experience the pre-digital world and therefore experience dissonance in trying to understand the products and services existing there.
Key Arguments;	The author compares the speed of evolution in computing to the development of the television to explain his hypothesis of increasing cognitive dissonance. In a limited amount of time the basic expectations of what an electronic device is for have changed and the demand for devices, data and services has been

	disrupted. The result of this is what the author calls the '**digital disruption trap'** – where companies struggle between adopting to new technologies first (and risking the competition to follow with better systems) or waiting until the competition moves (but risking to loose significant market share)
Key findings, results and outcome of the research	To escape the digital disruption trap companies need to adopt *kaizen* thinking – which describes commitment to continuous performance measurement, innovation and customer-responsive systems. Successful digital companies have broken with conventional wisdom on how to do business through kaizen thinking. (for example by developing 'freemium' business models). Yet self-disruption is something few banks are willing to accept. It is harder for their corporate structures to adapt to the world of crowd business than it is for crowd business to adapt them to the world of banking.
Perspective; Level of analysis, firm, Industry or others	Industry level
Critique	-Focused a lot on established traditional banks and less on how fintech companies are using this disruption to enter the market.
Methodology; Describe the methodology in brief	Predicting future development based on the theory of cognitive dissonance and initial industry trends in social computing and crowd-driven financial product & service development
Problems with the methodology, if any	Limited data on industry trends as the paper works more on a holistic perspective of where the industry is going
Insights you get when reading this paper	The unwillingness of banks to adopt to technological disruption in the industry can be largely explain through the digital disruption trap. Social banking can add value to communities through putting a value on social digital identities > overcoming the barrier of trust through building on existing

	digital structures
Key conclusions	Banking without banks will become a reality even though we have a hard time seeing that right now because our own cognitive dissonance is blocking us from understanding this disruptive change in the banking industry

Technological innovations and m-Commerce applications **Ratten Vanessa, Ratten Hamish (2007), International Journal of Innovation and Technology Management 4(1), pp. 1-14**	
Research context	A wide range of technological innovations have revolutionized the banking system, in particular related to the Internet which has allowed electronic payment systems to e- commerce and now m-commerce. From a marketing perspectives the Internet has enabled banks to have a generic low cost marketing strategy in addition to cheap online advertisements.
Research question	What influences a younger adopter's intention to utilize WAP banking?
Problem area, identified knowledge gap.	While there has been research on the importance and growth of m-commerce, the younger adopters have not been focused on. As early adopters of innovative new products and services young adopters and their adoption of WAP-based banking (one type of online banking) is key to m- commerce.
The use of theory, What theory they employ	The paper uses a conceptual model based on the social cognitive theory. Social cognitive theory or social learning theory implies that a level of problem solving has occurred before an individual behaves in a certain way. It is key to understand how individuals are influenced by their environments. In addition using the social cognitive theory in this context is useful as it acknowledges that human behavior is constantly changing.
Key Arguments;	Based on the social cognitive theory, the authors argue that there are a number of

	different factors that influence the behavioral intention of an individual to adopt a new technology. Sheeshka et al. (1993) model is adopted to fit the context Internet banking context. Adapted model: • Type of Communication: (Internet, television, newspapers, word of mouth) • Exposure: (external stimuli – watching other people's actions or hearing about a product) • Outcome expectancy: (believing that you know the end result from using a product) • Self-efficacy: (believe in your own abilities) • Outcome values: (believe in the outcome of HIGH values)
Key findings, results and outcome of the research	H1: the type of communication used influenced behavioral intention to adopt WAP banking H2: Exposure does not lead to a higher level of adoption H3: Outcome expectancy was not a significant factor for the level of adoption H4: Self-efficacy is not viewed as a necessary condition for techn. adoption H5: Research supported the hypothesis that outcome values have an impact on the level of adoption
Perspective; Level of analysis, firm, Industry or others	Individual level
Critique	Limited sample variety
Methodology; Describe the methodology in brief	Initial semi-structured interviews about the variables included in the conceptual model / then final sample of 203 younger adopters from a university in Australia
Problems with the methodology, if any	Only based on one country and one education setting / a control sample from a different educational setting and country would have been useful
Insights you get when reading this paper	Traditionally research assumes that exposure and self-efficacy would be

	important components. Yet for young adopters of fin tech products this is less relevant as they are more used to faster adoption of new technology and a shorter product life cycle.
Key conclusions	Younger adopters need to be addressed with the right communication mechanisms in order for banks to influence if the use WAP banking, yet the lack of existing expectations from young people allows for a smoother adaptation process

Mobile Money for Unbanked in India **Aditi Niyogi Syon Niyogi (2012), International Journal of Finance and Policy Analysis 4(2) pp. 26-35**	
Research context	Achieving financial inclusion is vital for India's growth and remains the objective of RBI and the Government of India. Yet about 41 % of the population is un-banked which puts India on the bottom of the financial inclusion list. Mobile banking has only recently entered the country.
Research question	Why is the M-PESA model in Kenya so successful and could it also work in the Indian context?
Problem area, identified knowledge gap.	India's government remains focused on increasing financial inclusion yet with very limited success. A non-bank model of mobile banking like M-PESA does not exist in the market despite large mobile phone access.
The use of theory, What theory they employ	The two different models of Mobile Banking and their strengths and weaknesses are compared as well as the two countries they are used in (Kenya & India) 1. Telco-led Mobile Banking a. Example M-PESA 2. Bank-led Mobile Banking a. Traditional Indian Banks
Key Arguments;	Telco-led Mobile Banking like M-PESA do not require their customers to have a bank account. Through loading a balance on their mobile contract they can still access part of the financial services of classic

	Mobile Banking (market transaction, transfers, security of savings) without many burdens of access. Yet they are still denied more substantial financial services (loans). Mobile Banking in India is more focused on adding additional services to already banked customers (increasing the ease of use but not the financial inclusion)
Key findings, results and outcome of the research	India still has a large number of financially excluded sections of society (farmers, self employed, poor,…) which creates social problems and limits India's growth potential. The support & promotion of non-bank models of mobile banking provides a big chance for the Indian government to include more people into the financial system faster.
Perspective; Level of analysis, firm, Industry or others	Country level
Critique	Lacking country information on Kenya & India to explain the comparison
Methodology; Describe the methodology in brief	Use of a specific product example from one country and its potential appropriateness in another country to explain the two existing models of Mobile Banking
Problems with the methodology, if any	Weak comparison as it is only based on two countries – further analysis on the two models would be needed
Insights you get when reading this paper	Telco-led Mobile Banking could be a stepping stone for unbanked in order to access at least part of the financial system faster
Key conclusions	Telco-led (non-bank) solutions for Mobile Banking would help to increase financial inclusion in India.

Banking Business and Social Media – A strategic partnership **Nitescu Dan (2015). Theoretical and Applied Economics Volume XXII, No.4(605), pp.121-132**	
Research context	Major changing in banking paradigms – caused by the challenges facing the banking sector: regulatory reforms, enhanced capital buffer requirements, the advent of peer to peer lending and payment

	systems, fast technology progress and new social business models
Research question	How can (European) banks use Social Media to improve the value of services delivered and face the numerous new challenges in the banking sector?
Problem area, identified knowledge gap.	New competitors are arising that use social and digital technologies to provide alternative ways of banking. Limited research on the use of Social media in traditional banks.
The use of theory, What theory they employ	The authors analyze the potential Social media use for banks by looking at the concept of relationship banking. Relationship banking is based on the customer expectation of banks working towards deeper social intimacy with their customers. Social Media is seen as one tool to achieve Relationship banking in today's digitalized world.
Key Arguments;	● Significant investment in advanced user friendly platforms is needed to enable empowering customer experience ● Products will no longer be tailored to specific customer segments but offered as a base-product with dynamic attributes ● Personalized surveys, pools and other comments are needed to involve the customer more in solving his own problem
Key findings, results and outcome of the research	Traditional banks should adopt Social CRM to combine existing CRM efforts with Social Media and this way change the way interaction with customers are viewed. Social CRM needs to include: ● Advanced data analytics capabilities – enabling relationship managers to gain a holistic view across previous interactions ● Respond to and harness the knowledge of the customers and use it better ● Convert customers into advisors via

	interactive social platforms ● Demystifying complex financial subjects via free downloadable guides and video clips ● Use social media platforms and forums as cross selling opportunities
Perspective; Level of analysis, firm, Industry or others	Industry level
Critique	Based solely on recommendations but additional insights into how customer perceive social CRM for example would help to support the author's argumentation
Methodology; Describe the methodology in brief	Describes a new trend in the industry based on past predictions of changes in the industry and predicted customer expectation
Problems with the methodology, if any	Theoretical bases only described on a limited bases
Insights you get when reading this paper	The advent of peer-to-peer lending and alternative ways of banking prompts even traditional banks to focus on relationship banking and social media // How can banks at the same time reduce personal interaction, increase digitalization and still pursue a relationship-banking approach?
Key conclusions	In order to keep up with the trends in the industry – banks should invest into Social CRM and use the insights gained their to build a better and longer-lasting relationship with their customers

Financial innovation and social welfare **Mullineux Andrew (2010). Journal of Financial Regulation and Compliance, 18 (3), pp. 253-256**	
Research context	Link financial innovation > financial crises (linked to the "shadow banking system" around subprime mortgages and collateralized debt obligation (CDO))
Research question	Do financial innovations have a negative social welfare impact and if so how can they be regulated better to avoid negative impacts?
Problem area, identified knowledge gap.	Significant work has been done on the role of specific financial innovations like CDOs

	in allowing for the global financial crisis. Yet research is missing on how regulation would affect financial innovation and whether this would improve the social welfare impact created.
The use of theory, What theory they employ	Follows Guttentag and Herring (1986) and Minsky (1963) on general theory on financial crises. After a financial crises we would expect a tightening of regulation that would then slowly start to relax again the longer the last crises is in the past. This then leads to the so-called 'disaster myopia where overall people agree that "IT" will never happen again which then in turn creates the conditions for the next financial crises.
Key Arguments;	The welfare impact of financial innovation is related to its **initial goal.** There will always be an incentive to develop tools to create off-shore and off- balance sheet activities aimed at achieving regulatory and financial "tax efficiency". >> expected negative impact as the are simply aimed at avoiding or evading regulation or tax on financial activity. Example of these would be subprime mortgages and CDOs that lead to the financial crisis. Yet if a financial innovation is developed to reduce transaction costs and better management of financial risks the authors assume positive effects on social and economic welfare as they allow for broader and safer access to capital. Examples would be microfinance. Regulation has the crucial role of steering & supporting financial innovation into the right direction.
Key findings, results and outcome of the research	• **Politics** are increasingly becoming the barrier to pushing through the right regulation (absence of EU or world finance ministry or international "burden sharing" agreements for failing banks)

	• **Speed of innovation** is argued to be a crucial element in determining the welfare impact of innovation > innovations that need to capture large market shares fast are often underpriced for their own riskiness. (Many financial innovations rely on network effects which mean they are underpriced to get enough members into the network – example CDO) • **Over-regulation** should also be avoided as it might stop financial innovations with positive welfare impact from ever reaching the market
Perspective; Level of analysis, firm, Industry or others	Industry level
Critique	Welfare is not defined clearly enough – who and where are people exactly benefiting from financial innovation?
Methodology; Describe the methodology in brief	Based on general theory on financial crises and regulation of financial products, the last financial crises is used as a case example to describe the welfare impacts and draw recommendations.
Problems with the methodology, if any	Previous financial crises are only mentioned a few times / more over time comparison would help.
Insights you get when reading this paper	Limited regulation on financial innovation as a **double-edged sword.** On the one hand it allows for "good" innovation to reach the market faster to create positive social and economic welfare (financial inclusion, capital for growth, reducing the risk for consumers,…). Yet on the other hand if everyone can access the market then their might be a raise-to-the-bottom and products that are underpriced for their own risk pose a systemic risk to the whole financial system.
Key conclusions	• Regulation must live up to its role and don't allow the creation of systemic risks • The introduction of patents provided by regulators to financial investors might be a solution to avoid underpriced risks

	• New wholesale and investment banking innovation should be "stress tested" • "Living will" should be adopted for banks that are "too big to fail" in order to make sure one failing part of the business would not ruin the entire bank • "Tobin tax" on financial transaction was suggested (paper from 2010!)

Advice goes virtual: how new digital investment services are changing the wealth management landscape **Lopez J., Babcic S., De La Ossa A. (2015), The Journal of Financial Perspectives: FinTech, Vol 3 Iss 3 pp. 156 - 164**	
Research context	The financial crisis has reduced trust in established financial institutions and gave an opportunity for FinTech start-ups to enter the financial advise market.
Research question	Are FinTech companies changing the wealth management industry landscape?
Problem area, identified knowledge gap.	A number of digital technology wealth management companies have started by focusing on tech-savvy millennial generation, yet the question remains if the same business models can also be scaled up and used on a broader segment of the population.

The use of theory, What theory they employ	Practically oriented report that focuses on the existing products & services and their potentials.
	
	Analysis on:
	• Market landscape:
	  ○ Business models
	  ○ Value proposition
	  ○ Investment
	• Innovations within the sector: comparing the traditional model and digital innovations
	• Customer needs:
	  ○ Across generations (Y, X, Baby boomers)

Key Arguments;	Innovations focus on three key aspects: 1. Broad use of technology across the whole client life cycle

	2. Financial education and providing client-relevant content is key 3. Low price strategy
Key findings, results and outcome of the research	The value proposition is a combination of simplified client experience, lower fees & increased transparency. This way digital entrance can offer automated advice direct to consumers. There are significant indicators that the digital entrants are substantially changing the industry especially as they start to look more towards mass market feasibility. Traditional firms need to decide on how to react.
Perspective; Level of analysis, firm, Industry or others	Industry level
Critique	The report mentions traditional firms struggling to adopt to tighter international regulations on their activities, yet regulations for new digital entrants are not considered.
Methodology; Describe the methodology in brief	Looks at industry players & their business models as well as the overall market size (financial assets available) to determine the feasibility of mass market up scaling
Problems with the methodology, if any	Counter-moves from traditional wealth management firms to better attract the same target group are not considered
Insights you get when reading this paper	- I learned more about the value proposition of digital wealth management models and their role as a change agent within the sector - I can better distinguish between the two alternative business models (fully automated digital wealth managers & simplified client experience models)
Key conclusions	Digital wealth management is not just relevant for a tech-savvy niche market of milennials.

Emergence of Fintech and the LASIC Principles
Lee, David Kuo Chen & Teo, Ernie (2015) - Journal of Financial Perspectives, vol. 3, iss. 3, pp. 24-36

Research context	Global investments in FinTech ventures have grown 3 times from US$ 4.05 billion in 2013 to US$ 12.21 billion in 2014. They will define and shape the future of the financial industry
Research question	What factors (internal and external) are crucial for the success of FinTech firms and why should they invest in financial inclusion?
Problem area, identified knowledge gap.	There are large amount of funds entering the market yet there is a need to better explain what makes those ventures successful.
The use of theory, What theory they employ	LASIC principles: In order for business models to successfully harness financial technology to achieve the objective of creating a sustainable social business for financial inclusion – five important attributes need to be present: • Low profit margin • Asset Light • Scalability • Innovative • Ease of Compliance Used on two specific cases (Alipay and M- PESA)
Key Arguments;	• LASIC principles are needed but not alone sufficient to determine the success of FinTech companies • Investing into financial inclusion and serving the unbanked and underbanked is key for long term sustainability • Cryptocurrencies (Bitcoin) have special potential in the sector
Key findings, results and outcome of the research	Alibaba/Alipay • Clear discruption to the banking and insurance sector • Financial inclusion in China as assisted by the political will • Success possible through LASIC principles as well as the backing of Alibaba (immense customer base) M-PESA

	• Expansion of services from telecom service to financial service • Success factors: stickiness of customers to their phones • Government support through goal of financial inclusion • Exhibits LASIC principles
Perspective; Level of analysis, firm, Industry or others	Industry level
Critique	
Methodology; Describe the methodology in brief	Testing of a theory on two specific case studies, only very limited quantitative data on the cases-
Problems with the methodology, if any	Very limited amount of cases - no generalization possible without further data (country comparison, different FinTech products)
Insights you get when reading this paper	• Success of FinTech companies can be determine through a set of general attributes • Government support or at least reduced regulatory pressure are often necessary
Key conclusions	To be successful a FinTech company needs to follow the LASIC principle.

The Adoption of Mobile Payment Services for "Fintech" Yonghee Kim Young-Ju Pakr Jeongil Choi Jiyoung Yeon (2016), International Journal of Applied Engineering Research, Vol 11 Iss 2 pp 1058-1061	
Research context	The mobile payment market is fast growing among Fintech services. So called mobile easy payment markets are improving customer experience.
Research question	What factors compel users of "K Pay" and similar products to accept Fintech services?
Problem area, identified knowledge gap.	There are a number of theoretical concepts describing the adoption process of new technology but a relative shortage of studies on which factors induce the acceptance or denial of Fintech services in specific.
The use of theory, What theory they employ	Elaboration Likelihood Model (ELM) - describing how humans accept and

	process information • central path – examining new information • VS peripheral path – swiftly accepting
Key Arguments;	1. Personal mobility of payment-type Fintech services has a positive effect on intention of use 2. Perceived usefulness of payment- type Fintech services : + 3. Perceived ease of use: + 4. Credibility: + 5. Social influence: + 6. Concern for information privacy: - 7. Self-efficacy: + 8. Concern for information privacy regarding payment-type Fintech services has a moderating effect on intention to use 9. Self-efficacy of payment-type Fintech services has a moderating effect
Key findings, results and outcome of the research	1. Most critical factors in acceptance were usefulness and ease of use 2. Self-efficacy has a significant effect on intention to use >> moderating effect 3. Social influence and intention to use >> positive relationship
Perspective; Level of analysis, firm, Industry or others	Consumer level
Critique	-
Methodology; Describe the methodology in brief	Hypotheses testing based on a developed research model – path analysis
Problems with the methodology, if any	No information on data background given
Insights you get when reading this paper	Mobile payment services need to invest into easy to use & easy to understand products to succeed.
Key conclusions	Swift registration, ease of use and a convenient online environment may act as the most significant factors in acceptance for potential users of payment-type Fintech services

Vulnerability of the unbanked: evidence from a developing country. **Sohail Kamran & Outi Uusitalo (2016). International Journal of Consumer Studies, Vol 40 p. 400-409**	
Research context	Over 2.5 billion adults globally don't have access to a bank account as well as 85 % of Pakistan's population. They experience vulnerability because of that.
Research question	How are low-income unbanked consumers in a developing country experiencing vulnerability and how they encounter it in their daily life?
Problem area, identified knowledge gap.	Financial exclusion leads to a broader vulnerability that can include various inequalities in the marketplace. Therefore this study fills the gap of highlighting consumer vulnerability based on financial exclusion.
The use of theory, What theory they employ	Research based on theoretical background from both literature on consumer vulnerability and financial exclusion: **Consumer vulnerability** • Both internal factors (personal characteristics of the individual) & external factors (beyond individual's control) • Multidimensional and contextual concept • Perceived and actual vulnerability (occurs when vulnerability is experienced by consumers) **Financial exclusion** • Refers to people who lack access to financial products • Affects: self esteem, prices for basic household services, job opportunities, risk of robbery, access to short-term credit, discrimination
Key Arguments;	Vulnerability of financially excluded consumers in developing countries originates from various external and internal factors & different subgroups experience it in different ways

	Negative consequences of personal, economic & social lives Particularly vulnerable: rural migrant workers, male participants with a large reliant family to support, illiterate and low- literate participants, informally employed
Key findings, results and outcome of the research	Personal consequences: • Fear of robbery • Time wastage (cash payments) • Intimidation from lenders • Sense of deprivation (bank staff's discrimination against low-income cust.) Economic consequences: • Difficulties in saving money • high cost money transfer • lack of business opportunities Social consequences: • Damaged relationships (reliance on loans from relatives & friends) • Embarrassment (of being unbanked)
Perspective; Level of analysis, firm, Industry or others	Country level
Critique	Control group missing – what vulnerabilities are directly linked to financial exclusions and which are more linked to low-income status?
Methodology; Describe the methodology in brief	Semi-structured interview method with 28 interviewees from four lower-social class areas in Rawalpindi and Islamabad, purposeful sampling
Problems with the methodology, if any	-
Insights you get when reading this paper	Education in the importance of having a bank account can be crucial – costs of being unbanked (higher charges for mobile money transfer, household bills,..) not always known.
Key conclusions	Low-income unbanked individuals suffer personal, economic and social detriment.

The effect of credit scoring on small business lending in low- and moderate-income areas **Frame Scott, Padhi Michael, Woosley Lynn (2001). Working Paper – Federal reserve bank of Atlanta. 2001-6**	
Research context	Advances in information technology used in finance > increased productivity and wealth coupled with an absence of significant inflationary pressures
Research question	Are households and firms operating in low- and moderate-income (LMI) areas benefiting from the adoption of a specific Fintech innovation: credit-underwriting software (credit scoring)?
Problem area, identified knowledge gap.	Little discussion of how the benefits of these improved technologies in finance are distributed along demographic lines, such as income.
The use of theory, What theory they employ	Conceptualization of SME loan-giving according to: Nakamura 1993 – increased information asymmetries / Stiglitz and Weiss 1981 – market imperfects that limit available amount of capital / Frame – long-term close relationships are needed to mitigate these problems and provide loans to SMEs Role of credit scoring in small business lending (Feldman 1997): Allows loan underwriting without personal contact, decreases the prices (reduced cost) and increase credit availability
Key Arguments;	Based on the theoretical background the authors would expect to see an overall positive effect of credit scoring on small business credit availability in LMI areas and that this effect may be larger than that for MHI areas (medium to high impact). This effect results from the lower fixed underwriting costs, reducing the use of proxies for individual creditworthiness and therefore increased objectivity. The authors argue that without credit scoring the borrower's location (whether they come from a LMI area or not) is often used by banks as a proxy for individual

	creditworthiness in a information asymmetry situation. If this is the case credit scoring should over-proportionally increase the credit availability in LMI areas.
Key findings, results and outcome of the research	Regression results: • Credit scoring is associated with increased small business lending activity by large banks • Bank organization size, net worth, institutional focus on the SME focus and local branches are positively related to the level of SME lending • Greater proportion of minorities in an area is associated with lower levels of SME lending • The availability of credit scores leads to banks being less likely to use geographic location or neighborhood racial characteristics as a proxy for borrower creditworthiness Credit scoring is estimated to increase small business lending by \$16.4 million in LMI areas and \$6.8 in MHI areas
Perspective; Level of analysis, firm, Industry or others	Industry level
Critique	Likelihood of repayment was not considered
Methodology; Describe the methodology in brief	Combining > demographic data from each census tract, business information for each census tract, bank data for each census track and survey data on the use of credit scoring by large banking organizations // Sample size of 99 large banking organizations in the Southeast of the US
Problems with the methodology, if any	Sound methodology but unfortunately old data set – can only be referenced by mentioning this!
Insights you get when reading this paper	Welfare impacts of financial innovations are not just limited to financially excluded groups or developing countries. Credit scoring as a method helps to address the vulnerability of SMEs in LMI areas while at the same time being a valid cost reduction measure for banks.
Key conclusions	The results suggest that credit scoring is

	increasing small business lending by reducing the problem of information asymmetry between borrowers and lenders. This effect proved to be particularly important in LMI areas where access to capital for SME's is often very limited.

Does trust in the bank build trust in its technology-based channels? **Dimitriadis Sergios, Kyrezis Nikolaos (2008), Journal of Financial Services Marketing 13(1), pp. 28-38**	
Research context	The integration of technology into the operations of banks have significantly changed the customer behavior and the channel structure of banking distribution systems. In the marketing strategy of a modern day bank the channel mix decision between traditional, mobile-based or Internet-based solution will be crucial for the bank's success
Research question	What is the role of trust in the 'parent' company in forming trust in its new technology-based channels?
Problem area, identified knowledge gap.	The importance of trust has been highlighted as key to the acceptance and use of technology-based channels, yet limited research exists on the specific form or antecedents of trust in a particular channel (as opposed to a company or product).
The use of theory, What theory they employ	The paper is based on a more multidimensional definition of trust according to the conceptual and empirical work on trust by McKnight et al. In this conceptualization trust describes four distinct components: • Competence – believe in the ability or power of the other party • Benevolence – believe that the other party cares about one's interest • Integrity – believe in the good-faith of the other party • Predictability – believe in the other party's consistency The antecedents of trust can be divided into:

	• Customer-specific trust: for example their disposition to trust • Company-specific trust: for example the company reputation
Key Arguments;	Based on what we know about trust we would assume that trust in the bank and trust in the channel are interconnected concepts. In the trust building model in alternative channels (Figure 1): the individual's disposition to trust influences both bank trust and channel trust // on the other hand the company-specific trust from the bank's reputation will also influence both // finally there is a direct transfer of trust existing between the concept of bank trust and channel trust.
Key findings, results and outcome of the research	· affective trust (benevolence and integrity) is transferred from the bank to the channel · cognitive trust on the other hand is developed specifically for the bank OR for the channel and not automatically transferred between
Perspective; Level of analysis, firm, Industry or others	Customer level
Critique	-
Methodology; Describe the methodology in brief	Pilot study and then large-scale survey sponsored by the federation of the greek banks with 762 bank customers and 20 mins long personal interviews // Respondents were filtered to be users of ATMs but nonusers of internet and phone banking
Problems with the methodology, if any	Limited information about users going from phone to Internet banking for example because only non-users of both services were even questioned
Insights you get when reading this paper	There is a separate concept of trust for a bank and their channel but if used correctly bank's can use their "capital of trust" to allow for a faster adoption of a new technology-based channel
Key conclusions	Affective trust can be transferred from a bank to its channel but cognitive trust must be build channel-specific (for example the belief in the speed, effectiveness, problem

	solving abilities of the channel)

The role of payment systems in reaching the unbanked **Sergio De Sousa (2010), Journal of Payments Strategy & Systems 4(2) pp. 145-155**	
Research context	Payment and banking services have been successfully developed and now actors are looking into the implementation for the unbanked. Focus is switching from 'banking the unbanked' to 'financial inclusion'. Namibia as a case country has a deposit bank account penetration of 47 % with limited interest by established bank to actively change that situation.
Research question	What are the main barriers to financial inclusion in Namibia and what is the role of regulators in reducing barriers?
Problem area, identified knowledge gap.	Previous focus has only looked at traditional banks to solve the problem of a high level of unbanked in Namibia. Limited research has been done into alternative actors involved in financial inclusion as well as the different levels of financial inclusion.
The use of theory, What theory they employ	The landscape of financial inclusion in Namibia is described along two important dimensions **Barriers to the non-banked becoming banked** Cost & Physical access: **Players in including the unbanked** Banks, Non-bank payment service providers, Mobile network operators & The central bank:
Key Arguments;	**Barriers to the non-banked becoming banked** 1. Cost: Based on surveys stated as the main reason for unbanked. Not just direct costs but also clarity and transparency on existing costs is important 2. Physical access: Lack of water, electricity and communications infrastructure to rural areas significantly limits this,

	long travel times & limited opening hours also lead to income loss **Players in including the unbanked** 3. Banks: So far not very interested, despite saturation in the classic markets 4. Non-bank payment service providers: Significantly growing sector, often in partnership with bank 5. Mobile network operators: High interest in mobile banking, in Africa often oligopolistic position – risk of exploiting power 6. The central bank: Has to decide between a bank account as a commodity vs a public utility
Key findings, results and outcome of the research	Payment service providers, researchers & regulators need to take several factors into account to provide effective service: • All-network access: including all different mobile networks • Low-cost transactions: necessary to be able to attract the unbanked segment • Ease of use: has to leverage the way people utilize their mobile phones for day-to-day living • Value adding: service has to be seen as integral part of the lives and businesses of the unbanked • Security: risk of mobile technology needs to be mitigated
Perspective; Level of analysis, firm, Industry or others	Industry level
Critique	Narrow focus on mobile-banking & mobile payment service solutions
Methodology; Describe the methodology in brief	Use of a specific country example to highlight the trends, focus areas and relevant players of financial inclusion in a developing country
Problems with the methodology, if any	-
Insights you get when reading this paper	Both regulators and mobile operators have significant power to enable or impede the

	development of services to include the unbanked via technology.
Key conclusions	Mobile network access, cost, ease of use, value-adding proposition and security are the most important aspects for payment service providers and researchers to consider when providing services to the unbanked

Cost structure, customer profitability, and retention implications of self-service distribution channels: Evidence from Customer Behavior in an Online Banking Channel **Campbell, Denns & Frei, Frances (2010). Management Science. Vol. 56, No.1,, pp. 4- 24**	
Research context	More and more banks have started to implement self-service technologies with the goals of reducing cost and increasing service quality, revenue and customer retention rates.
Research question	What is the impact of one self-service channel – the online banking – on customer-level service demand, cost, profitability and rentention?
Problem area, identified knowledge gap.	There has been limited attention to how such technologies actual change or alter the service demand of actual customers and the financial performance of those customer relationships. In addition the paper adds to existing literature by providing data on whether the difference between online and offline customers is based on individual behavioral change as opposed to selection of more profitable customers into the online channel.
The use of theory, What theory they employ	The hypotheses formulated in this paper draw on findings in the literature on consumer self-service adoption decisions as well as the conceptual literature on customer involvement in services (Chase 1978,1981).
Key Arguments;	Hypothesis tested: . Transactions in offline self-service channels decrease following the adoption of the online channel (‘Substitution effect’) 2. Transactions in offline assisted-service

	channels change following the adoption of the online channel (‘Substitution effect’ & ‘Augmentation effect’) . Total transaction volume increases following the adoption of the online channel (‘Volume effect’) . There is a change in customer profitability following adoption of the online channel. . There is an association between customer retention and the use of online banking. . Market share is increasing in the degree of online banking penetration among a firm’s customer base
Key findings, results and outcome of the research	H1+H2: Support for H1&H2 – there is substitution from offline self-service channels (ATM and VRU) and augmentation in offline assisted- service channels (branch and call center) H3: On average transaction volumes after adoption increase by about 28% all else being equal for active adopters. H4: Monthly customer profitability will decline on average by approximately 6% for both groups relative to the control group after adoption of the online channel H5: An active online customer with average 10 transactions per month – 2 % higher three- year retention rate than an offline customer H6: Online banking penetration is associated with market-level outcomes
Perspective; Level of analysis, firm, Industry or others	Customer level
Critique	-Customers were only compared based on

	their choice of offline vs self-service channels, yet other literature on adoption would have put more focus on customer characteristics like age, perceived usefulness of the product etc.
Methodology; Describe the methodology in brief	Primary data – sample of 100,000 customers from one large US bank – with a variety of traditional financial products but also an early innovator in electronic banking
Problems with the methodology, if any	Limited to one case
Insights you get when reading this paper	While online banking is associated with lower per-transaction costs for the bank, the total cost saving for the bank might be an illusion because the number of service transactions might increase after the adoption of online banking
Key conclusions	Customer adoption and use of online banking is associated with:) substitution from more costly self-service delivery channels) augmentation of service consumption in more costly assisted-service delivery 3) increase in total transaction volume 4) increase in estimated cost of service) reduction in short-term profitability Yet it increases the market share of the company / primary benefit of the online banking channel may be in attracting and retaining more profitable customers rather than increasing the profitability of existing customers

The Suprising use of credit scoring in small business lending by "community banks" and the attendant effects on credit availability and risk **Berger Allen, Cowan Adrian, Frame Scott (2011). Journal of Financial Services Research, 39(1), pp 1-17**	
Research context	Small firms have always faced more problems in accessing capital due to the informational opacity problem. Small business credit scoring (SBCS) as well as Consumer credit scoring on the business owner (CCS) are starting to be used to help banks to confront the opacity problem (> not enough data & information available to show the business' creditworthiness)
Research question	How is the use of credit scoring by 'community banks' affecting the availability

	of small business credit?
Problem area, identified knowledge gap.	There have been a number of deficiencies in the previous literature on credit scoring in small business lending as previous research was solely based on a single survey from 1998 that only covered the largest US banking organizations. This paper adds a focus on small 'community bank' as well as more recent data on the topic to support or dismantle previous results
The use of theory, What theory they employ	The paper is based on the theoretical contributions on the informational opacity problem in small business lending analyzed by Berger & Udell 2006. Their research concluded that small businesses have significant difficulties in accessing funding even when they have creditworthy projects. This is caused by the fact that SB are typically more informational opaque then large corporations. They lack certified audited financial statements or public ratings. The findings suggest that financial institutions use specific lending technologies to address this issue.
Key Arguments;	'Community' banks (small commercial banks with assets under $1 billion) can be used to show to what extent credit scoring technology for small business lending has diffused "down the food chain". Research shows that a vast majority of large banks use SBCS instead of CCS to evaluate small business loans and the authors expect the same to be true for 'community' banks *SBCS: a technology specifically designed to confront the opacity problem by combining personal financial data about the owner of the business with the relatively limited information about the firm > used to predict future credit performance. *CCS: consumer credit scoring used to

	evaluate small business loan applications based on the credit scores of the businesses' owners
Key findings, results and outcome of the research	• The use of credit scoring is positively related to the quantity of lending (9% increase in the quantity of small loans) • There is a learning curve for banks using credit scoring • Most 'community' banks don't use credit scores to automatically approve/reject loan applicants but instead use it to supplement other lending technology • Use of credit scoring is NOT strongly associated with a change in the quality of community bank's CI&I loan portfolio
Perspective; Level of analysis, firm, Industry or others	Firm level
Critique	The authors don't address the contradicting result that SBCS technology is not used as often as they would have expected.
Methodology; Describe the methodology in brief	Primary data from the new survey of US banks' use of credit scoring methods for evaluating small business credits from 2005 is used after it is sampled for specific bank criteria and analyzed using a regression analysis
Problems with the methodology, if any	-
Insights you get when reading this paper	A significant problem with increasing the availability of credit to small business owners is the lack of reliable business data. Credit is therefore oftentimes given based on the personal credit score of the business owner. SBCS technology could significantly increase the availability of small business loan without resulting in a loss in portfolio quality
Key conclusions	Banks use several lending technologies to reduce the effect of informational opacity with small business loans – one of them being credit scoring. Community banks use credit scores in small business lending more then before but tend to choose CCS instead of SBCS

	technology and don't automatically approve applications.

FinTech, RegTech and the Reconceptualization of Financial Regulation Arner, Barberis, Buckley (2016). Northwestern Journal of International Law and Business.	
Research context	After the 2008 Global Financial Crises the nature of financial markets, services and institutions has changed significantly. In particular 'RegTech' – the use of information technology in the context of regulatory monitoring, reporting and compliance has increased.
Research question	Are developments in RegTech initiating a paradigm shift that will ultimately lead to a reconceptualization of financial regulation?
Problem area, identified knowledge gap.	There have been tremendous developments in FinTech, changes in emerging markets and developments towards regulatory sandboxes. So far though the literature is missing a conceptual foundation of RegTech and analysis to answer the question how RegTech might influence financial regulation.
The use of theory, What theory they employ	They employ a framework of analysis that includes: · Post-crisis regulation: dramatically increased compliance burden on financial institutions as well as direct penalties · FinTech: including) the digital transformation in developed markets (payment systems,..),) digital financial services in developing countries (mobile services for the unbanked),) FinTech start-ups (new entrance with strong growth potential but lacking fitting regulatory approaches) - Reg Tech "sub-set of FinTech that focuses on

	technologies that may facilitate the delivery of regulatory requirements more efficiently and effectively than existing capabilities"
Key Arguments;	The development of RegTech was facilitated and supported by the following factors: · Globalization of Finance (periods of extensive financial liberalization and deregulation followed by crises) · The 2008 Global Financial Crisis in particular (Compliance costs increased, additional layers of compliance burdens were introduced, uncertainty about future regulatory requirements increased) · KYC (particular types of rules – knowing one's customer – KYC) · Prudential regulatory reporting and stress testing (capital and trading reporting requirements like Basel III) >> lead to RegTech as a clear FinTech opportunity – startups and IT firms getting involved and match Big Data with analytical tools
Key findings, results and outcome of the research	Building on the framework the author's developed they argue that "FinTech requires RegTech" – in order to catch up with the speed of FinTech innovations and the progress they have particularly in developing countries – RegTech is needed to reconceptualize and redesign financial regulation in order to transform the infrastructure of the financial market accordingly
Perspective; Level of analysis, firm, Industry or others	Industry level
Critique	-
Methodology; Describe the methodology in brief	Gives recommendation for needed future developments based on a framework developed through analyzing past experiences
Problems with the methodology, if any	Theoretical framework that lacks the data to back it up
Insights you get when reading this paper	We need new ways of regulating FinTech

	because you can’t regulate technological innovations with classic regulatory systems – in order to catch up financial regulation needs to also develop and evolve
Key conclusions	In the future RegTech has the potential to completely change how financial regulation is using new technology to follow up on the speed of the FinTech revolution. This implies that the use and security of data will become even more important and financial stability will include both monitoring financial networks as well as information networks.

The evolution of FinTech: A New Post-Crisis Paradigm? Arner Douglas, Barberis Jànos, Buckley Ross. University of Hong Kong Faculty of Law Research Paper No. 2015/047	
Research context	Today FinTech is often seen as a new marriage of finance and technology, yet it actually has a long history with three distinct eras of emergence.
Research question	How can regulators adopt to the interlinked evolution of financial services and technology based on the different types of FinTech firms?
Problem area, identified knowledge gap.	FinTech sector is rarely analyzed based on it’s long evolution, which is necessary to develop the right topology of the FinTech landscape as well as understand the development of fitting regulatory technology
The use of theory, What theory they employ	The evolution of an industry can be explained by looking both at its roots, actors, disruptors and growth opportunities. In the case of FinTech those disruptive forces can be used to divide the evolution in 3 distinct phases – before the digitalization of the financial service industry: FinTech 1.0 · from the digitalization in the late 80s until the global financial crisis 2008: FinTech 2.0 - after the financial crisis FinTech 3.0
Key Arguments;	In order to achieve a better regulation of new financial services, an attitude change is needed towards how FinTech products

	and services are viewed. Regulatory measures need to be adopted to particular era of FinTech the actors started out in to better align expectations and needs of different industry players.
Key findings, results and outcome of the research	FinTech 1.0 (1866 – 1987) Banking went from analogue to digital, clear landscape for regulation FinTech 2.0 (1987 – 2008) The development of traditional digital financial services – Interest in technology- based solutions increased, global growth and the opening of markets allowed for significant growth, fast-paced digitalization Regulators needed to get used to the technology & products but still dealt with the same kind of players (traditional banks) FinTech 3.0: Establishing new players Strongly influenced by the global financial crisis 2008 – customers no longer trust in banks, higher regulatory measures for banks limit their competitive capacity, under-utilized education workforce eager to apply their skills in a new industry >> rise of new technological players Topology of the FinTech industry today: (1) Finance and investment (2) Financial operations and risk mgmt (3) Payments and infrastructure (4) Data security and monetization (5) Consumer interface) FinTech 3.5 in Emerging Markets Also emerged as a reaction to the financial crisis in the West, but primarily prompted by the pursuit of economic development. Based on specific opportunities: - young digitally savvy populations - strong middle class - inefficient financial and capital markets - shortage of physical bank infrastructure - preference of convenience over trust - untapped market opportunities - less stringent data protection and comp.
Perspective; Level of analysis, firm,	Industry level

Industry or others	
Critique	Very descriptive approach with only limited space for future predictions
Methodology; Describe the methodology in brief	Strategize regulatory approaches based on the classification of the FinTech evolution into three distinct phases.
Problems with the methodology, if any	Only limited quantitative data used
Insights you get when reading this paper	) Limited banking infrastructure and opening regulations make Asian markets (in particular China) extremely interesting for FinTech start-ups.) Regulatory approaches to FinTech have to fit the particular actors in the industry today which are partly still from FinTech 2.0 and need to be treated differently
Key conclusions	The Fintech industry has gone through a long evolution from the early steps of digitalizing specific bank transactions to traditional banks taking their business models online to finally in phase 3 new players emerge that have no previous banking history but can address modern customer needs even better.

A consumer education programme based on the Transtheoretical Model of Change Jing Jian Xiao, Barbara O'Neill, Janice M. Prochaska, Claudia M. Kerbel, Patricia Brennan and Barbara J. Bristow, 2004	
Research context (what were the trends around the authors?)	Americans do not save enough to maintain their lifestyle in retirement. Government agencies, non- profit organizations, and businesses have launched efforts to encourage savings and reduce debts among consumers. MONEY 2000 is a consumer financial education program developed to encourage savings and debt reduction.
Research question	- How the MONEY 2000 program was developed based on a theory, the Transtheoretical Model of Change (TTM)? - Whether empirical evidence is consistent with theoretical predictions, by examining associations between change stages and processes specified by the theory.
Problem area, identified knowledge gap.	Most references to the TTM model are in the health-related area but the authors argue that the model's application to financial behavior is insightful.
The use of theory, What theory they employ	Prochaska' TTM model: how to change people's undesirable behavior or acquire desirable behaviors. -Traditional action paradigms focus on changes that occur dramatically and discretely while TTM shown

	that behavior change is a process, not an event. -People progress through five distinct stages: precontemplation, contemplation, preparation, action, and maintenance. -The model also identifies 10 major processes of change: consciousness-raising, social liberation, dramatic relief, environment re-evaluation, self-reevaluation, self-liberation, counter conditioning, stimulus control, contingency management, and helping relationships. - Early stages, people apply experiential processes that are cognitive, affective, and evaluative to progress through the stages of change. In later stages: people rely more on the behavioral processes of counter conditioning, contingency management, and environmental controls. - Key to successful change in others is to understand what stage a person is in and then decides what processes he could use to move forward. - Originally, the model was conceptualized as a linear progression through the change stages. It was later determined that a spiral pattern is the best illustration of how people change because most individuals relapse and return to previous stage.
Key Arguments;	- Most references to the TTM model are in the health-related area. *Bristow suggested that this model could be used to develop effective strategies to change people's financial behavior as part of the Cooperative Extension System's MONEY 2000T financial education program.* - MONEY 2000 participants were asked to set financial goals. They were then provided educational services (e.g. quarterly newsletters, classes, state conferences, home study courses) by Cooperative Extension personnel and surveyed about changes in their asset and debt level.
Key findings, results and outcome of the research	Participants were categorized into four groups. - Saver: planned and made progress to achieve the goal of increasing savings. - Debt reducer: reported having planned and made progress to achieve the goal of reducing debts - Saver and debt reducer: planning and making progress to achieve both goals. - Preactors because they were in the preaction stages - Although the TTM specifies five stages of change, for this study participants were grouped into two categories: preaction (not achieving their goal-precontemplation, contemplation or preparation) and action. If people started saving or reducing debts, or doing both, within 6

	months, they were considered in the action stage. If people started saving or reducing debts or doing both for more than 6 months since they joined program, they were considered in the maintenance stage - Based on these findings, program participants in the stages of action and maintenance were more likely to report the change processes of consciousness-raising, social liberation, dramatic relief, self-liberation, and contingency management. -There were behavioral differences between savers and debt reducers. For example, savers, and savers and debt reducers were more likely than debt reducers to report using dramatic relief, stimulus control, and helping relationships. -Results of this study are partially consistent with theoretical predictions. -The discrepancy between the theory and the findings may come from several sources, such as data limitations and differences between perceived and actual change process uses.
Level of analysis	Individual
Critique	What if the change is caused by not the education but the attention that their finances receives?
Methodology; Describe the methodology in brief	Data were obtained from a convenience sample of New Jersey and New York MONEY 2000 participants who completed a mailed survey during 1998. In New Jersey 303, in New York 217 questionnaires. Compared to respondents from New York, those from New Jersey were more highly educated, older, and had higher family incomes Compared to statistics of the populations in the two states, the sample over-represented consumers with higher education, whites, and females.
Problems with the methodology, if any	Sample used in this study is small, convenient, and non-random. The findings are only suggestive
Insights you get when reading this paper	It is important to determine the goal of the user and customize the service/education to their needs. It has to be targeted to be effective.
Key conclusions	Development of theory-based programs is fruitful and rewarding. The TTM is a useful theory for developing financial education programs. A focused program could help consumers in a more effective way. The findings of this study suggest behavioral differences between savers and debt reducers. If educational programs are developed to target one group a time, they could be more effective.

Adoption behavior of rural India for mobile telephony: A multigroup study **Ruchita Gupta, Karuna Jain, 2015**	
Research context	• Penetration rates of mobile telephony:

	30.11% in rural India, 140.53% in urban areas • In India the adoption pace of mobile telephony in rural regions is slower than in urban areas • Mobile phones have a positive and significant impact on the overall economic performance of individuals and the growth of a country • Cultural and individual actions vary from region to region within large countries
Research question	What are the differences in adoption patterns of mobile telephony among the rural Indian population divided into groups on the basis of gender (male and female), age (young, middle- aged, and old), technology subscription (subscriber and nonsubscriber), and region (Uttar Pradesh (UP) and Chhattisgarh). Also examine the moderating role of these factors.
Problem area, identified knowledge gap.	
The use of theory, What theory they employ	• The technology acceptance model (TAM): adoption intention is determined by attitude, the effect of perceived usefulness (PU), and perceived ease of use (PEOU). • In addition to the usual factors: PU, PEOU, personal image (PI), social influence (SI), mass media (MM), mobility (MOB), and cost of service (CS) - Gupta and Jain identified cost of handset (CH), perceived health hazard (PHH), lack of ease of service accessibility (LEOSA), lack of transparency of mobile service offerings (LOTSA), and lack of service quality (LSQ) as factors affecting intention to adopt (IA) for mobile telephony in rural India. • The current work enriches the work of Gupta and Jain (2014) by validating extended TAM across different groups and conducting a multigroup analysis in order to identify the differences in the perceptions of demographic groups (young, middle-aged, and old; male and female), technology subscription groups

	(subscriber and nonsubscriber), and regional groups (UP and Chhattisgarh) within the rural context.
Key Arguments;	They hypothesize that the relationships in the model of Gupta and Jain (2014) are moderated by **demographics, subscription to technology, and region**, as depicted in the proposed conceptual model 1. H1. Age has a moderating effect on the relationship between extended TAM factors and IA for mobile telephony in rural India. 2. H2. Gender has a moderating effect on the relationship between extended TAM factors and IA for mobile telephony in rural India. • H3. Technology subscription has a moderating effect on the relationship between extended TAM factors and IA for mobile telephony in rural India. • H4. Region has a moderating effect on the relationship between extended TAM factors and IA for mobile telephony in rural India.
Key findings, results and outcome of the research	• **Age** was found to have a moderating effect on the relationships between PU, PEOU, CS, and IA. • **Gender:** The results show that males' IA for mobile telephony was strongly influenced by PEOU, whereas females' IA was more strongly influenced by PU. In rural India, males and females seem to perceive communication differently. Males look for new functional features of current mobile phones (e.g., gaming, SMS) that are easy to use, while females look for specific functional features. Mobiles for females are a medium for personal communication. • **Subscription to technology** was found to moderate some relationships of the extended TAM for rural India. Results showed the direct effect of MM and SI on IA of subscribers and nonsubscribers, respectively. • **Region** was also found to moderate the relationships between MM, MOB, PEOU, PI, and IA. Results showed that

	individuals in UP adopt mobile telephony to improve their status and image in the society, whereas individuals in Chhattisgarh are more strongly influenced by the mobility factor (Chhattisgarh were located close to the border of another state).
Perspective; Level of analysis, firm, Industry or others	Regional
Critique	
Methodology; Describe the methodology in brief	Two phases, qualitative and quantitative: 1. In the qualitative phase, users were asked open-ended questions for identifying the factors involved in the adoption phenomenon in rural India. 2. In the quantitative phase, a questionnaire survey was conducted to measure the effects of the identified factors. Judgmental sampling with the snowball sampling technique. 578 questionnaires
Problems with the methodology, if any	
Insights you get when reading this paper	When thinking about rural India we have to be extremely careful not to simplify the population and say that everyone needs the same basic information in similar form because they all have common goals when it comes to technology usage. To be financially included is not a personal goal it.
Key conclusions	There are significant differences in adoption patterns of mobile telephony among the rural Indian population. Gender, age, technology subscription and region are important aspects.

Analysis of Branchless Banking Applications in the Developing World Bradley Reaves, Nolen Scaife, Adam Bates, Patrick Traynor, Kevin R.B. Butler,	
Research context	
Research question	
Problem area, identified knowledge gap.	One of the biggest perceived advantages of these applications is security. Whereas carrying large amounts of currency long distances can be dangerous to physical security, branchless banking applications can allow for commercial transactions to occur without the risk of theft. Accordingly, these systems are marketed as a secure new means of enabling commerce. Unfortunately, the strength of such claims from a technical perspective has not been publicly investigated or verified. Such an analysis is therefore

The use of theory, What theory they employ	Most mobile finance systems share the ability to make payments to other individuals or merchants. In our study, the mobile apps for these finance systems are distinguished as follows: • **Mobile Payment** describes systems that allow a mobile device to make a payment to an individual or merchant using traditional banking infrastructure. Example systems include PayPal, Google Wallet, Apple Pay. These systems acting as an intermediary for an existing credit card or bank account. • **Mobile Wallets** store multiple payment credentials for either mobile money or mobile payment systems and/or facilitate promotional offers, discounts, or loyalty programs. Many mobile money systems (like Oxigen Wallet, analyzed in this paper) and mobile payment systems (like Google Wallet and Apple Pay) are also mobile wallets. • **Branchless Banking** is designed around policies that facilitate easy inclusion. Enrollment often simply requires just a phone number or national ID number be entered into the mobile money system. These systems have no minimum balances and low transaction fees, and feature reduced "Know Your Customer" regulations. Another key feature of branchless banking systems is that in many cases they do not rely on Internet connectivity exclusively, but also use SMS,
Key Arguments;	- Over the past decade, these systems have helped to raise the standard of living and have revolutionized the way in which money is used in developing economies. Over 30% of the GDP in many such nations can now be attributed to branchless banking applications, many of which now perform more transactions per month than traditional payment processors, including PayPal. - **Analysis of Branchless Banking Applications**: We perform the first comprehensive security analysis of branchless banking applications. We methodically select seven Android-based branchless banking applications from Brazil, India, Indonesia, Thailand, and the Phillipines with a combined user base of millions - **Identifications of Systemic Vulnerabilities**: Our analysis discovers pervasive weaknesses and shows that six of the seven applications broadly fail to preserve the integrity of their transactions. We then

	fraudulent activity. *Therefore, it is our belief that these applications create significant financial dangers for their*
Key findings, results and outcome of the research	- Overall, we find 28 significant vulnerabilities across seven applications. All but one application (Zuum) presents at least one major vulnerability that harmed the confidentiality of user financial information or the integrity of transactions. Zuum is a Brazilian mobile money application built by Mobile Financial Services, a partnership between Telefonica and MasterCard. While many of the other apps we analyzed were developed solely by cellular network providers or third-party development companies, MasterCard is an established company with experience building these types of applications. This app is particularly notable because we did not find in Zuum the major vulnerabilities present in the other apps. - Why do these apps use weak authentication? Numeric PINs were the authentication method of choice for the majority of the apps studied. First, they are easily input on limited phone interfaces. Second, short numeric PINs remain usable for users who may have limited literacy. Creating a distinct strong password for the app may be confusing and limit user acceptability of new apps, despite the clear security benefits. - Does regulation help? The security standards give implementers wide leeway to use their best judgment about specific security practices. To our knowledge, other mobile money systems studied in this paper are not subject to such industry or government regulation. While a high-quality, auditable industry standard may lead to improved branchless banking security, it is not clear that guidelines like RBI's currently make much of a difference. - Terms of Service & Consumer Liability: It is overwhelmingly clear that the customer is responsible for all transactions conducted with their PIN/password on their mobile device. The presumption of customer fault for transactions is at odds with the findings of this work. The basis for these arguments appear to be that, if a customer protects their PIN and protects their physical device, there is no way for a
Level of analysis	
Critique	
Methodology; Describe the methodology	We first perform an automated analysis of all 46 known

in brief	Android mobile money apps across the 246 known mobile money providers and demonstrate that automated analysis fails to provide reliable insights. We subsequently perform comprehensive manual teardown of the registration, login, and transaction procedures of a
Problems with the methodology, if any	
Insights you get when reading this paper	
Key conclusions	We uncover pervasive and systemic vulnerabilities spanning botched certification validation, do-it-yourself cryptography, and myriad other forms of information leakage that allow an attacker to impersonate legitimate users, modify transactions in flight, and steal financial records. These findings confirm that the majority of these apps fail to provide the protections needed by financial services. Finally, through inspection of providers' terms of service, we also discover that liability for these problems unfairly rests on the

Analyzing China's Fintech Industry from the Perspective of Actor– Network Theory **Yongwoon Shima, Dong-Hee Shin, 2016**	
Research context	China's offline and online financial development is heavily regulated by the state
Research question	Q1. What factors are contributing to the rapid growth of China's fintech industry? How has China become the leading country in the translation process? Q2. Who are the focal actors that have been successfully translated in China's fintech industry, and how have they done so? Q3. What are the policy implications? How can Chinese policy regarding the fintech industry be defined?
Problem area, identified knowledge gap.	
The use of theory, What theory they employ	• Actor-Network theory (ANT) is designed to understand the processes of technological innovation. • It focuses on how networks form, hold together, and fall apart. However, it does not attempt to explore why a network exists • Therefore, "actors" in ANT are not just humans but non-human such as individuals, groups, texts, and technical

	artifacts. • ANT attempts to “open the black box” of science and technology by tracing the complex web of relations between human and non-human actors. • Behind this approach is an assumption that technologies contain a variety of political, social and economic elements. **Translation** and **inscription** are two crucial processes in ANT: • Inscription refers to the process of creating technical artifacts that ensure the protection of an actor’s interests. • Translation is a concept that bridges gaps between the varied aspects that are combined in technology. Callon’s 4 moments are the most widely used theoretical framework for applying ANT in research. The translation of an actor or actors into a network is achieved through four moments of translation: problematization, interessement, enrollment, and mobilization. 1. In problematization, the first moment of translation, focal actors define their interest in the problem they face in achieving their goal, and aim to establish themselves as an obligatory passage point (OPP) through which the other actors must pass. OPP is a situation that has to occur in order for all the actors to satisfy the interests. 2. Interessement is the second moment of translation, wherein focal actors impose and stabilize other actors’ identity. 3. During enrollment, the focal actors attempt to define and interrelate the various roles taken up by other actors. 4. Mobilization is the final moment of translation. Actors are persuaded that their interests are aligned with those of the focal actor, thereby avoiding betrayal; this allows the network to be maintained.
Key Arguments;	• Several studies have applied ANT to investigate the convergence of ICT. However, few have analyzed the fintech

	industry and fintech policy in the Chinese context. In this paper, the authors combine international political economy approach with ANT to draw the policy implications. • The authors draw a complicated timeline of the Chinese fintech evolution.
Key findings, results and outcome of the research	• Key factors in the success of the fintech industry in China, including government support for innovating the traditional financial system, the rise of private e- commerce companies and the evolution of TPP systems • Technology might be the driving force behind comprehensive changes in Chinese finance itself. Traditional banks had no choice but to launch new financial products and services converged with innovative technology. • When it comes to high-tech-related industry, China is focused on "pragmatic techno-nationalism," with policies designed to favor domestic firms while retaining close collaboration with international partners. • China possesses unique characteristics that may make it more suitable for fintech innovation compared to other countries.
Perspective; Level of analysis, firm, Industry or others	Country level
Critique	One of the weaknesses of ANT would be its descriptive characteristic.
Methodology; Describe the methodology in brief	This research was conducted mainly based on secondary data.
Problems with the methodology, if any	
Insights you get when reading this paper	Politics is too heavily involved in this financial development. It makes the researcher's task – to examine the financial evolution - almost impossible because the pure rules of competitions are never assured.
Key conclusions	The Chinese government makes use of a techno-globalist strategy for the purpose of improving its global competitiveness in the fintech industry, while also using a techno-

	nationalist strategy to fostering "national champions" and protecting domestic companies against foreign global players.

Can banks improve customer relationships with high quality online services? Carmel Herington and Scott Weaven, 2007	
Research context	Within recent years there has been a concerted effort by banking institutions to increase the number and range of services provided online.
Research question	How do customers judge the quality of online banking sites? Are their expectations any different for online and offline service encounters? Can banks rightly expect the same outcomes for online service quality as traditional service quality, for example customer delight, loyalty, strengthening relationships?
Problem area, identified knowledge gap.	There is some suggestion that reducing the human element in banking may impact upon customer satisfaction, and impede the development of long lasting relationships with customers. To remedy this, it may be necessary for banks to design online services so as to not only satisfy, but "delight" their customers, ensuring both customer retention and loyalty. Hence there is a need to fully understand customer encounters and interactions within the context of online banking. Research exploring or explaining such interactions and the differences between online and offline experiences is limited. However, prior research contends (particularly within the banking sector), that success with online experiences mirrors success with traditional face-to-face experiences of customers
The use of theory, What theory they employ	
Key Arguments;	H1. Online service quality is significantly positively related to customer delight. H2. There is a significant positive relationship between online service quality and the perceived strength of the relationship that customers have with their bank. H3. There is a significant positive relationship between online service quality provided by banks and e-trust. H4. There is a significant positive relationship between e-loyalty and online service quality, but this relationship

Key findings, results and outcome of the research	The provision of online service quality is now an expectation of customers and does not lead to strengthening relationships, although customers will remain loyal to the bank whilst “personal needs” and “site organization” requirements are met. The provision of quality online services is not sufficient to automatically build stronger relationships with customers. It is possible that customers see online

	service as separate to their relationship with other banking activities (and the bank as a whole) and merely perceive it as an expected service. Customers are not ordinarily "delighted" with higher levels of online service. Therefore, banks need to understand the "minimum" requirements of customers in relation to service quality expectations. Customers may only trust the bank's website as long as the online service remains efficient and user friendly. Finally, perceived attention to personal needs and a well-organized site are requirements in engendering consumer trust towards a bank's website.) When measuring and evaluating online service quality, managers should not use a general measure of online service quality, or merely adapt a previous traditional measure of service quality. Instead ensure that they are evaluating all aspects of their specific online service.) Managers should not use composite scores of online service quality as the benchmark indicator for the level of online service quality. If the online service quality scores have high user-friendliness and efficiency components, an issue with loyalty might be clouded.) The path to strong relationships with customers is not via improvement of online service quality, but rather through person-to-person interaction. It appears that all that managers can hope for in relation to online service quality provision is to meet customer expectations.) Similarly, managers should not expect that improvements in online service provision will lead to high levels of customer satisfaction and/or "delight".) Improvements in the efficiency of the online service site will assist in developing trust in using the website, but this should not be confused with the development of relationship trust. (7) There is a need to look beyond simply providing
Level of analysis	Individual
Critique	
Methodology; Describe the methodology in brief	A self-complete survey was used to collect data from a convenience sample of 200 Australian respondents who use online banking.
Problems with the methodology, if any	Generalizability is the main issue. Further research is required to confirm results and examine the identified lack of association between customer delight and e-loyalty. Further exploration of all scales is recommended.
Insights you get when reading this paper	

Key conclusions	Online service quality has no impact on customer delight, e-trust or the development of stronger relationships with customers. It does have a relationship to e-loyalty. However, the “efficiency” dimension of online service quality is related to e- trust and also indirectly to relationship strength through e-trust. The “personal need” and “site organization” dimensions of online service quality are related to e-loyalty, with “personal needs” exhibiting the strongest impact. Customer delight has no relationship to online service quality, nor e- trust, relationship strength or e-loyalty. Online service quality is not enough to develop strong relationships with bank customers. Banks can achieve customer loyalty through attending to their personal needs in online situations as well as providing a well-organized site. Alternatively, if banks wish to develop strong relationships with customers, they must provide user-friendly and efficient websites while also developing trust in the website. Relationship building and e-loyalty appears to represent different things to different customers. Therefore, online service quality alone is not a sufficient means of building strong relationships and retaining customers.

Do Better Customers Utilize Electronic Distribution Channels? The Case of PC Banking Lorin M. Hitt, Frances X. Frei, 2002	
Research context (what were the trends around the authors?)	Firms are increasingly utilizing electronic distribution methods. Nowhere has this trend been more important in business-to-consumer electronic commerce than in the financial services industry, especially in retail
Research question	As these investments in online delivery become larger and more central to the long-term strategy of financial institutions, it becomes important to understand whether and how they add value to the banks that invest in them?
Problem area, identified knowledge gap.	Whether and how characteristics or behaviors might differ between customers who use electronic delivery systems and those who use traditional channels? We explore these differences by comparing customers who utilize personal-computer-based home banking (PC banking) to other bank customers. How customer characteristics and behaviors differ between “traditional” and “online” channels in an industry where this is known to be important. Previous work on the value of electronic commerce has emphasized cost savings potential and strategic behavior (e.g., price discrimination, differentiation), but

	compared the direction or magnitude of the multiple potential sources of value simultaneously. In terms of our original hypotheses, we clearly reject the hypotheses that PC banking customers are the same as regular banking customers and that
The use of theory, What theory they employ	We explore three possible sources of value from electronic distribution that we believe to be important to this industry and likely generalizable to other online distribution environments: -Segmenting customers on unobservable, but profitable characteristics -Targeting desirable demographic segments
Key Arguments;	Hypothesis 0. Customers who utilize PC banking have the same value for the bank as those who do not. Hypothesis 1. There is no difference in value for the bank between PC banking customers and regular customers after accounting for observable characteristics (e.g., age, income, marital status, home ownership, and length of relationship with the institution). Hypothesis 2. There is no difference in incremental product purchases between regular customers and customers who adopt the PC banking product. Hypothesis 3. There is, after accounting for observ-able characteristics, no difference in the present value of accounts between customers who use PC banking
Key findings, results and outcome of the research	Overall, we find PC banking customers, on average, to be more profitable, use more products, and maintain higher balances than the traditional customer population. We also find evidence that customers who adopt online banking have a greater propensity than traditional customers to adopt future bank products over the same time period, but differences in product adoption is quite small compared to the initial differences in the two customer populations. These differences are remarkably robust across different banking institutions and customer segments, suggesting that these findings may generalize across different banks and geographic regions. Our results also suggest that previously unidentified differences in customers can have a significant influence on the measured value of
Level of analysis	customer
Critique	
Methodology; Describe the methodology in brief	We conducted interviews at seven large retail banks, four of which also provided extensive customer information file (CIF) data on all online customers and a

	subsequently obtained account retention data from an additional bank. Our diverse data set encompassed more than 500,000 customers at one point in time (2nd Quarter, 1998), spanning a range of bank sizes, geographic areas, and customer characteristics. We used these data to compare product use, product adoption times, account balances, and (where available)
Problems with the methodology, if any	
Insights you get when reading this paper	
Key conclusions	PC banking customers are apparently more profitable, principally due to unobservable characteristics extant before the adoption of PC banking. Demographic characteristics and changes in customer behavior following adoption of PC banking account for only a small fraction of overall differences. It also appears that

Does mobile telephony spur growth? Evidence from Indian states **Saibal Ghosh, 2016**	
Research context	- The number of internet users has increased from 413 million in 2000 to 2.5 billion in 2012. - The number of mobile users in India has increased from 5.5 million in 2000 to nearly 500 million in 2012 - In India, the mobile internet subscriber base has grown an average of 700% over a 7-year period - Fifth of the global population without bank accounts resides in India
Research question	The low levels of financial inclusion in relation to the large number of mobile phone subscribers makes it imperative to investigate whether an expansion of mobile phone deployment in general can contribute to greater financial inclusion.
Problem area, identified knowledge gap.	• Is it sure that the growth of mobile phone usage will result in greater financial inclusion? • Whether financial inclusion is one of the channels through which mobile phone penetration affects economic growth?
The use of theory, What theory they employ	
Key Arguments;	- Major barriers to financial inclusion

	include: **costs, distance, documentation** - Innovative use of mobile telephony can be a game changer: allows dispersed families to stay in touch, mitigates information asymmetries for the farmer, development of economic - Although several studies for India have focused on the finance-growth interface, few studies identify the relevance of mobile telephony in impacting economic growth, especially at the sub-national level. - Effects of varied legislations on growth performance has not been examined earlier - Population is uneven so as the phone usage within states - growth needs to be more inclusive
Key findings, results and outcome of the research	- Mobile telephone development contributed to economic growth: a 10% point increase in the mobile penetration rate led to an increase in GDP growth by 0.6% points, on average. - Growth across states has displayed significantly variability. - A 10% increase in cellular penetration leads to an increase in the growth rate of per capita income by 0.9% points. - The impact of mobile penetration on financial inclusion is quite substantial, especially the use of loan and deposit accounts. - Public investment be utilized appropriately to build economic infrastructure and push mobile telephony in the low-penetration states.
Perspective; Level of analysis, firm, Industry or others	State level
Critique	
Methodology; Describe the methodology in brief	- Data on Indian states during 2001–2012 - Advanced panel data techniques - The analysis combines several sets of data at the state-level: macroeconomic data, mobile-related data, financial inclusion data, other state-specific data - We utilize the following indicators of financial inclusion outreach at the state-

	level: ○ Geographic access: number of bank branches per 1000 sq. kms ○ Demographic access: number of bank branches per 100,000 people ○ Loan accounts per capita: number of loan accounts per 1000 people ○ Deposit accounts per capita: number of deposit (aggregate of savings, term and current) accounts per 1000 people ○ Loan-income ratio: average size of loans to per capita income ○ Deposit-income ratio: average size of deposits to per capita income. - The six indicators listed above take on board the three major dimensions of an inclusive financial system: penetration, availability and usage
Problems with the methodology, if any	These measures implicitly assume a uniform distribution of bank outlets within a country's area and across its population. In reality, bank branches and ATMs could be concentrated across population groups, limiting its utility in certain cases.
Insights you get when reading this paper	Mobile phones could help improve a connecting problem, the non-usage of existing bank accounts. These finding are not surprising and are all pointing in the same direction.
Key conclusions	• The evidence suggests that mobile telephony exerts a positive and statistically significant impact on growth. • The magnitude of the response differs across states with high and low mobile penetration. • Mobile telephony is observed to exert a significant impact on financial inclusion and especially on the loan behavior.

The Bank Account is not Enough: Examining Strategies for Financial Inclusion in India

Olga Morawczynski, David Hutchful, Nimmi Rangaswamy, Edward Cutrell, 2010

Research context	In India, the development of ICT could provide financial inclusion for even the poorest population. The state tries to develop financial inclusion but banks are uninterested and outsource the execution. Poorest are disillusioned and don't believe in a system without corruption.
Research question	What is the reason behind the underutilization of financial product even though 60% of the population is banked in India? How financial education helps financial inclusion (FI)?
Problem area, identified knowledge gap.	How to educate and change the regulations so that the people will start using their existing bank accounts?
The use of theory, What theory they employ	
Key Arguments;	1. Financial inclusion is successful in terms of enrollment but not in usage due to: - Accessibility - Poor or inadequate design of service - Lack of interest 2. The states introduces measures but not enough well-designed, partly the system supports financial exclusion
Key findings, results and outcome of the research	1. High and Middle earnings workers in the FI sites had the highest level of financial literacy. They also had more diverse sets of financial portfolios. – Helps to reduce vulnerability, and stops usage of informal financial supports 2. The low earning and NREGA dependent workers in non-FI sites had the lowest level of financial literacy. They also had less diverse portfolios of mechanisms. – Caused by bad state regulation, and dependence of shopkeepers and money lenders 3. Low earning workers at FI sites had more diverse sets of financial portfolios than those in non-FI sites. – shows that access and information helps the poorest and shows that income is not the only determinant of financial diversification 4. There was a demand for financial education in both FI and non-FI sites.
Recommendations	

Perspective; Level of analysis, firm, Industry or others	Country level
Critique	
Methodology; Describe the methodology in brief	Empirical study conducted in three Indian states over the period of 1 month, 133 interviews. Most informants were poor, coming from rural areas and held no-frills saving account.
Problems with the methodology, if any	1. Changes to Policy 2. Provide support through intermediaries
Insights you get when reading this paper	I so far believed that the biggest gap is the access and the enrollment of the people into finances but the usage is actually a greater problem. To gain the trust of people regarding their finances is something we have to consider strongly.
Key conclusions	Financial Education could be the key to success in Financial Inclusion

Helping consumers to change their financial behaviour: multi-phase change model Francis Salerno, Amira Berriche, Dominique Crié, Annabel Martin, 2015	
Research context (what were the trends around the authors?)	Many countries have been developing financial education of consumers that are often aimed at young people Problematic behavior among consumers when it comes to spending, debt or saving has attracted attention from an increasing number of actors and has consequences that are both financial and social
Research question	By considering a consumer's progress on the trajectory of change, what are the determinants of approach- and avoidance-type strategies of change?
Problem area, identified knowledge gap.	The knowledge developed in other areas is not sufficient to guide the design of social marketing policies and programs when it comes to changing
The use of theory, What theory they employ	Four research approaches can be associated with this issue: (1) studies based on behavioral theories, (2) research on consumer economic socialization, (3) research on consumer financial education and programme evaluation, and (4) studies devoted to consumer financial risk assessment. This article adopts the first approach. *Transformative Consumer Research*. This research area has provided perspectives on personal finance, financial knowledge and changes in the financial behavior of consumers (Xiao et al., 2004) Research into such changes is primarily based on a multi-phase model, the

	identifying the stage at which consumers find themselves and by designing actions that will help them to progress by moving onto the next stage. This initial model was subsequently developed (Brodeur, 2006; Prochaska et al., 1992; Sullivan, 1998) - Model's components: (1) behavioral phases of change: (precontemplation, contemplation, preparation, action, maintenance and termination) - critique: better to measure the intensity of each of the dimensions of change and then to group respondents together based on these measurements. It has to be a cyclical process (Prochaska)) Strategies of change refer to the different mechanisms that people use to modify their behavior (Boudreau, 2005). Divided into two sets: experiential processes (relate to the way individuals become aware of the importance of changing their behavior) and behavioral processes (actions put in place by individuals to help them adopt or maintain the desired behavior).) Decisional balance - decision-making model using the
Key Arguments;	This article differs from the model: - Highlights the fact that the strategies of change adopted by consumers are fundamentally approach and avoidance strategies. - Phases of change do not follow one another sequentially and that the cyclical process can progress in an upward spiral towards the desired behavior (Prochaska 1992) - Group people in similar situations on this trajectory or spiral of change based on the intensity of the stage (Brodeur, 2006; Prochaska et al., 1992; Sullivan, 1998). - For each group, the model considers the direct influence of decisional balance on approach or avoidance strategies of change. This makes it possible to study the mediating role of decisional balance in the relationship between the group's characteristic dimension(s) of change and the approach and avoidance strategies. The contribution of this research is an improved understanding of changes in financial behaviour, given that while the transtheoretical model can locate certain consumers at positions on their trajectory that correspond to one of the phases in the model, the position of other consumers may be more ambivalent. In terms of actions, this research helps us to understand how to help individuals based on their position on the trajectory towards changes in their budgetary and financial behaviour. - H1: Decisional balance (pros and cons) influences one's intentions to use approach and avoidance strategies. - H2: The dimensions of change characteristic of a group influence (a) decisional balance and (b) intentions to adopt approach and avoidance strategies of change. - H3: Decisional balance (pros and cons) mediates the

Key findings, results and outcome of the research	Two consumer groups obtained based on the state of their progress. ‘Maintenance’ group: who are avoiding relapses and use strategies to avoid situations in which there is a risk of excessive spending. ‘Action’ group is made up of consumers with a focus on approach strategies like the desire to put money aside regularly.) Analysis of the benefits and costs associated with change (decisional balance) plays a central role. The more a consumer is aware of the advantages that financial management will bring, the greater his intention to save (approach) and pay attention to his purchases (avoidance).) Greater the efforts made (action), more the consumer is persuaded by the advantages of sound financial management when it comes to avoiding unexpected financial problems and surprises. In both groups, these efforts have a positive influence on the cons associated with sound financial management.) In the case of both groups, the greater the efforts, the greater the intentions to reap the rewards of saving (approach strategy) and to keep excessive spending in check (avoidance strategy). <u>In the ‘Maintenance’ group</u>, the influence of the pros and cons of decisional balance on approach (saving) and avoidance strategies is identical which considerably undermines their motivation to save. The intensity of their efforts has a greater influence on their decision to adopt avoidance strategies than approach strategies. They endeavour to maintain the positive behavior they have acquired and to avoid relapses. <u>In the ‘Action’ group</u>, the influence of the pros in decisional balance on approach strategies (saving) is considerably greater than that of the cons. This means that those in the action phase pay greater attention to the benefits of sound financial management than the associated costs, which in turn means that their intention to save money remains strong. For this group, the intensity of the efforts made has considerably more influence on the adoption of approach strategies rather than avoidance strategies. Saving strategies (approach)
Level of analysis	Individual
Critique	
Methodology; Describe the methodology in brief	Data were collected from a final sample of 368 individuals with an equal split between men and women, aged between 19 and 33, mostly people in continuing education and students on various
Problems with the methodology, if any	Sample is made up of young adults, a segment to which public and private actors pay particular attention, but this limits the scope of our findings. Most of these consumers are in either the action or maintenance.
Insights you get when reading this paper	It is an important factor but only one to understand what determines the behavior of an individual but to put it into action and change it is something else. We have to keep in mind the cyclical nature of change.

Key conclusions	The objective of this research was to study the determinants of approach- and avoidance-type strategies of change by considering a consumer's progress on the trajectory of change. The results show that certain determinants of approach and avoidance strategies of change are shared by both groups, while others are specific to one.

Research on financial services innovations A quantitative review and future research directions Mohammad Nejad, 2015	
Research context (what were the trends around the authors?)	Significant growth in the number of new financial services in the last 50 years. The pace of financial innovations has increased since the millennium. The market is expected to grow.
Research question	-What is the current state of research on innovations in financial services? -What are the areas that have received less attention, and hence offer opportunities for future research?
Problem area, identified knowledge gap.	- Few recent studies have reviewed the literature on internet and mobile banking or payments. - Other topics related to the effects of financial innovations on consumers have received less attention - In addition, the number of papers on the new products and services development, firm strategy, and firm employees has decreased in the last few years.
The use of theory, What theory they employ	- New financial services: Two key factors account for this growth – technological advances and the deregulation of financial markets (Nejad and Estelami, 2012). This increase follows the technological advances in the areas of electronics, information technology, the internet, telecommunication, and mobile. Examples of such financial innovations are the online and mobile financial transactions, new payment services such as Apple Pay and Android Pay, money management such as Google Pay, digital currency such as Bitcoin. - <u>Financial innovations may be categorized in six groups</u>: (Merton and Bodie, 1995): (1) Facilitating payments (credit and debit cards and Apple Pay) (2) Pooling and settling payments (mutual funds) (3) Transferring resources across time and space (saving accounts, loans, and mortgages) (4) Managing and controlling risks and uncertainties (insurance and credit score systems) (5) Offering financial information to various parties in order to help connect different entities in the economic system (venture capital firms) (6) Dealing with incentive problems
Key Arguments;	- The analysis demonstrates that the number of publications significantly increased after 2000, which follows the changes that revolutionized the financial industry. These changes are the deregulation of financial services and the technological advances in the areas of the internet, telecommunication, and mobile. - Focus of studies identified six categories, organized

	two groups: consumer side (76 papers) and firm side (45 papers). The consumer side categories include 1.consumer adoption/resistance and 2.other topics related to consumers. The firm side categories comprise 3.service development and design, 4.firm strategy, 5.performance of firms or products, and 6.others topics related to firms. Consumer adoption/resistance. - Consumer adoption of financial services may be categorized into six categories: 1.consumer attributes; 2.the characteristics and attributes of the innovation such; 3.security factors covering the perceived risks and trust; 4.factors related to quality; 5.external factors; 6.voluntariness and coercive pressures - Research has identified several factors that affect consumer resistance to a new financial service including inertia and traditions, value barrier, risk barrier, usage barrier, image, lack of knowledge, general tendencies of an individual to resist to change, and lack of an innovative culture. - The performance of a new product or a firm, comprising two groups. First group explore the performance of an innovation and its diffusion – the spread in a market over time. Second group examines the effect of a firm's innovative activities on its financial performance.
Key findings, results and outcome of the research	- Studies should focus on bringing together previous study findings. For example, to what degree can we use the present findings to predict the success or failure of financial innovations in the future - Replicating previous studies on the adoption of financial innovations will have limited contributions. Future research should focus on the new aspects of innovations and incorporate them in their studies. For example, studies on mobile banking can focus on the integration of alternative sources of data including transactional, spatial (i.e. geographical), and temporal, as well as data from social media to explore consumers' behaviors and perceptions. Researchers in developing countries should study how mobile banking has led to leapfrogging advances in rural areas. Another area for future research is how mobile banking and other financial innovations can assist the large population of unbanked or under-banked consumers or those who lack the necessary financial literacy - Study the challenges arising from innovative technology firms, such as Apple and Google, who are starting to offer certain financial services. The
Level of analysis	Researches
Methodology; Describe the methodology in brief	Identified 121 papers that have studied innovations in financial services from 1990.01 to 2015.03 in Journal of Bank Marketing, Journal of Financial Services Marketing, and Journal of Financial Services Research.
Problems with the methodology, if any	- Focusing on 3 journals only

	- Must avoid making generic conclusions.
Insights you get when reading this paper	We can use these finding to argue for our choice of topic and direction of research. For example that firm side is less researched.
Key conclusions	Research on innovations in financial services is diverse and has explored various topics

Tag-based Interaction in Online and Mobile Banking A Preliminary Study of the Effect on Usability Rajinesh Ravendran, Ian MacColl, Michael Docherty, 2012	
Research context	• In the financial domain, tags are widely used to aid in personal financial management via external tools • Australian context. • Customization in online banking is cited as imperative to user satisfaction, particularly among the younger generation of Australia
Research question	Hypothesize that tag- based interaction can improve the usability especially user satisfaction of online and mobile banking.
Problem area, identified knowledge gap.	
The use of theory, What theory they employ	
Key Arguments;	The conceptual *interaction customization model* based on human to human interaction encompasses three types: • **Remembrance-based** This type is defined as interaction customization through simple remembering of user's information based on the recurrence rate of a particular action on a website. • **Comprehension-based** This type is defined as interaction customization through recognition of user's behaviors used to provide assistance towards fulfilling the user's needs • **Association-based** This type is defined as interaction customization through association of user's behaviors with other individuals who share similar interests or needs The current banking interface is largely based on standard html objects (dropdowns, checkboxes, tables and menus) with minimal customization. Presently, only remembrance- based interaction is offered via dropdown selection

	By default the conventional interface displays detailed financial information at all times for decision making. Conversely, the tag-based interface provides information on-demand.
Key findings, results and outcome of the research	• Improved overall score/rating for tag- based interface compared to conventional interface in both online and mobile banking. • Participants without prior experience in mobile banking experienced the biggest difference of 40%, while the experienced participants recorded a difference of 20.6%. • Participants in general completed their tasks within a shorter period of time online compared to mobile.
Perspective; Level of analysis, firm, Industry or others	Industry level
Critique	
Methodology; Describe the methodology in brief	• To assess the usability and overall user satisfaction they adapted System Usability Scale (SUS). The SUS is a 10- item questionnaire with Likert scales that gives an overview of effectiveness, efficiency and satisfaction of a software/website. • The population of interest for this study is online banking users. A total of 8 online banking users were recruited: 6 males and 2 females between the age group of 21 to 40. • All of the participants had at least one active online banking account at the time of participation and were familiar with online banking with at least one year of experience.
Problems with the methodology, if any	• A sample size of only 8 participants was used for the study. However, being a pilot study, this is around 65% of the recommended sample size • The result of this study is certainly influenced by the tasks, which were given to the participants. • They did not explain how each tag-based interaction worked instead, left the participants to ‘discover’
Insights you get when reading this paper	Mobile interface has to be even more simple

	and has to have a distinctively different logic than the online interface in order to make the usage as fast as the online
Key conclusions	Tag-based interface yielded a higher performance online for all tasks, but was on the slower side in the mobile context. Participants are quicker on the conventional interface in mobile for just about all tasks.

Translating Financial Education into Behavior Change for Low-Income Populations Angela C. Lyons, Yunhee Chang, and Erik M. Scherpf, 2006	
Research context (what were the trends around the authors?)	Because of more complex financial system, customers having more problem managing their finances. The burden for low-income individuals can be even bigger. Number of financial education programs have been developed in the recent years
Research question	How financial education programs for low- income populations can be improved, especially with respect to program length and the indicators currently being used to show how financial education can translate into actual behavioral changes.
Problem area, identified knowledge gap.	Limited research available on the effectiveness of the financial education for low-income populations. Most evaluations are only using post-test or pre and post-test to collect impact data.
The use of theory, What theory they employ	Lamb (2005): Retrospective pre-test (RPT) is more efficient. After the program, the participant asked to asses their knowledge before and after to program. Typical conclusion that financial education result is positive behavioral change. Studies on the effect of financial education in the workplace focused on employees' savings retirement plans. Youth's education through formal courses also has a positive effect. Others focus on how education effects behavioral change like transtheoretical model of change. Lyons and Scherpf says: no matter how much financial education some low-income participant received, they still will be unable to change their financial situation due to their overall financial position. Better question, do they receive the info that is needed to make decisions that are applicable to their

	circumstances?
Key Arguments;	"All my money" is a financial education program that targets two audiences: staff of social service who works with low-income audiences and low-income clientele who may have limited financial literacy. It is possible to measure the effect of financial education of low-income population through RPT model.
Key findings, results and outcome of the research	-The impact of the program on the behavior for both parties did not vary, thus agents and clients were more similar than what might think. -The quantity of the lessons received were more important than the specific type of lesson - Females were less likely to report improvement in their financial behavior -The program effect was greatest for those with some college education -Participants with children were more likely to experience improvement -The probability of improvement was larger for participants who started out with poorer financial practices -Larges impact on those behaviors that could be most readily altered in the short run. It would be useful to dived the education into those two segment to avoid too hard or too easy challenges. -Researchers should focus less on outcomes tied to individual's financial situation and more on whether the individuals are able to make sound financial decision regardless of their financial situation.
Level of analysis, firm	Individual
Critique	
Methodology; Describe the methodology in brief	Data collection through RPT model between 1998–2002. 589 observations, 428 agency personnel, 161 clientele. The pooled sample completed 6,7 lessons out of 8. Predominantly female (86,9%) and middle aged. Clientele completed 3,7 lessons, majority 58% under 35 years. Only 11,8 had college degree
Problems with the methodology, if any	The clientele-only sample is too small No control group with no financial education
Insights you get when reading this paper	-If they don't have money its might not even be an educational problem or the education should focusing on aspects like diversifying portfolio to

	create financial stability. -We probably expect too much of the agents and on average from the financial education of the population
Key conclusions	The amount of financial education received has positive impact on financial behavior, but prior financial experience probably matters even more.

Trends in Financial Innovation and their Welfare Impact: an Overview Franklin Allen, 2012	
Research context	Post-financial crisis, both developed and emerging economies
Research question	What are the evidences for negative and positive contributions for financial innovation to economic welfare?
Problem area, identified knowledge gap.	Does financial crisis caused by financial innovation? Are financial innovations like securitization and subprime mortgages the reasons for real estate boom that causes crisis?
The use of theory, What theory they employ	· Evidence for the dark side of financial innovation from Henderson and Pearson (2011) · Bergstresser (2008) provides further evidence for detrimental effect of financial innovation · Tufano (2003) provides survey of the literature on financial innovation. · Reinhart and Rogoff (2009) illustrates that real estate booms and busts lie at the heart of many financial crises · Demirguc-Kunt and Detragiache (1998) find that financial liberalisation increases the probability of a banking crisis. Relationship between financial liberalisation and financial fragility · Lerner and Tufano (2010) have considered the impact that Venture capital and Leveraged Buyouts have had · Allen and Yago (2010) Financial Innovations to Improve the Environment and Global Health
Key Arguments;	· Financial Innovation has a dark side. It has a dark side but how much did it contribute to the crisis? · It contributed to the crisis but how significantly? · What role did financial innovation play in the current crisis? - To blame financial innovation for the real

	estate booms seems misplaced. - Some of the most important financial innovations in terms of business finance in recent decades have involved private equity
Key findings, results and outcome of the research	- Real estate in the heart of financial crisis not financial innovation -While it may have contributed in some of crises, in many the set of financial products arguably did not change that much during the boom and bust. - Venture capital and Leveraged Buyouts are examples for positive financial innovations. - While many financial innovations have focused on financing businesses there have been financial innovations that have improved the allocation of resources in many other areas.
Perspective; Level of analysis, firm, Industry or others	Industry level
Critique	
Methodology; Describe the methodology in brief	Secondary data, building the argument on his previous and other authors' research no research made for this paper
Problems with the methodology, if any	
Insights you get when reading this paper	While many financial innovations have focused on financing businesses there have been financial innovations that have improved the allocation of resources in many other areas. Financial innovation can potentially harm society and this is a new perspective for me because innovation generally interpreted as something that has a inherently positive goal.
Key conclusions	- Financial innovation does have a dark side; it can have detrimental effects. - As far as the financial crisis that started in 2007 is concerned, securitisation and subprime mortgages may have exacerbated the problem. However, financial crises have occurred in a very wide range of circumstances, where these and other innovations were not important. - There is evidence that in the long run financial liberalisation has been more of a problem than financial innovation. There are also many financial innovations that have had a significant positive effect. These include venture capital and leveraged buyout funds to finance businesses. In addition, financial innovation has allowed many

	improvements in the environment and in global health.

A more complete conceptual framework for SME finance Allen N. Berger, Gregory F. Udell, 2006	
Research context	The availability of external finance for SMEs is a topic of significant research interest to academics and an important issue to policy makers
Research question	What is the reason for the significant portion of the variation in the use of lending technologies with differences in national financial structures?
Problem area, identified knowledge gap.	Recognition of heterogeneity among transactions technologies and its impact on credit availability to opaque borrowers is often missing from the academic literature. The effects of a nation's lending infrastructure on SME credit availability through determining the feasibility and profitability of deploying the different lending technologies is particularly under-researched.
The use of theory, What theory they employ	The authors built a framework that helps to understand how financial institution structure - that affect the market share and the competitive conditions - and lending infrastructure – that affect the environment in which these institutions operate – determine the use of lending technology. These technologies affect SMEs credit availability. He uses other authors to support smaller arguments within separate small reasoning.
Key Arguments;	Oversimplification in the current framework is the way that lending technologies are often categorized as: transactions lending based on quantitative and relationship lending based on qualitative data. Transactions lending is viewed as being focused on informationally transparent borrowers, while relationship lending is used for opaque borrowers. The inference that large institutions are disadvantaged in lending to opaque SMEs is flawed. Transactions lending is not a single homogeneous lending technology. We emphasize a causal chain in which the lending technologies provide the crucial link between government policies and financial structures on the one hand, and SME credit availability on the other hand.

Key findings, results and outcome of the research	Reviewed much of the extant research on SME credit availability through the lens of this more complete framework: - Findings argue against drawing simplistic conclusions from the extant research. The finding that large financial institutions have a comparative advantage in transactions lending technologies and comparative disadvantage in relationship lending does not imply that large institutions are disadvantaged in providing credit to informationally opaque SMEs. - The results make a strong case for taking into account the financial institution infrastructure - Investigation strongly suggests that lending infrastructures have important effects on SME credit availability. ''Better'' lending infrastructures may significantly improve SME credit availability through facilitating the use of the various lending technologies.
Perspective; Level of analysis, firm, Industry or others	Industry
Critique	
Methodology; Describe the methodology in brief	Analysis of various literature based on their model. For a framework to be useful, it must have clear testable implications,This framework has a number of clear testable implications for the links among a nation's financial institution structure, financial infrastructure, lending technologies employed, and SME credit availability.
Problems with the methodology, if any	The model tries to find supporting arguments and is not actually tested.
Insights you get when reading this paper	Contrary to how other papers do, it is very important to examine the environment of the Banks and then their operations and interests.
Key conclusions	We argue that the framework implicit in most of the literature is oversimplified, neglects key elements of the chain, and often yields misleading conclusions. A common oversimplification is the treatment of transactions technologies as a homogeneous group, unsuitable for serving informationally opaque SMEs, and a frequent misleading conclusion is that large institutions are disadvantaged in lending to opaque SMEs.

ACCESS TO FINANCE BY SMALL AND MEDIUM ENTERPRISES: A CROSS-COUNTRY ANALYSIS WITH A NEW DATA SET OYA PINAR ARDIC, NATALIYA MYLENKO, VALENTINA SALTANE, 2012	
Research context	· The recovery from the financial crisis of 2008–2009 requires economies to create employment opportunities for their citizens. In this respect, creation and growth of SMEs is an important item on the policy agenda due to evidence that points to significant contributions by SMEs to employment. · Given the importance of SMEs in supporting sustainable, diversified long-term economic growth, they have, indeed, attracted renewed attention recently. · SME development is also high on the reform agenda of many governments. · The newly created G-20 Global Partnership for Financial Inclusion works on, among other topics, strengthening the SME sector and closing the SME finance gap.
Research question	· This database represents the first attempt to collect globally-comparable SME statistics · What extent the difference in definitions is associated with the observed variation in the level of SME financing. · To what extent is cross-country variation in the volume of SME financing driven by differences in the definition?
Problem area, identified knowledge gap.	Without reliable SME data, it is difficult for policy-makers to implement programs aimed at expanding and strengthening the SME sector.
The use of theory, What theory they employ	
Key Arguments;	· Robust, positive relationship between the relative size of the SME sector and economic growth · SMEs have the largest share in employment, especially in low-income countries, and they generate the majority of new jobs. · SMEs face higher barriers to external financing, which limits their growth and development · Smaller firms and firms in countries with underdeveloped financial and legal systems use less external finance · More local lending authority, greater competition, carefully designed incentive

	schemes and stronger law enforcement encourages commercial banks to lend to SMEs. · Close relationships with financial institutions may generate advantages (improved conditions of financing) · Lack of negotiating power of small enterprises has significant explanatory power
Keyfindings,resultsandoutcomeofthe research	· There is no unique definition of an SME. · Differences in definitions across countries are not statistically significant in explaining the differences in SME lending volumes. · The global SME lending volume as $US10tn, roughly two-thirds of the current size of the US economy. The bulk of this volume (70%) is in high-income OECD countries. On average, SME loans constitute 13% of GDP in developed countries and 3% in developing countries. – Financial regulators in middle and low-income countries are more likely to require regular reporting of SME statistics. · The most common definitions used by regulators are based on the number of employees, sales volume, assets and/or loan size. · We find a positive correlation between the overall level of economic development measured by income per capita with the level of SME lending as a share of GDP. · Inflation and SME loans to GDP are negatively correlated. · The correlation between SME loans to GDP and interest rates is negative, although not statistically significant. · We do not find a statistically significant level of correlation between the level of bank concentration and the ratio of SME financing to GDP. · We do not find a statistically significant correlation between the share of foreign-owned or state-owned banks and levels of SME financing, · We find that the time it takes to start a business and the overall level of development are significantly correlated with the levels of SME financing. We also find that parameters characterizing the efficiency of the banking system, including cost ratios and net interest

	margins, have statistically significant negative coefficients.
Perspective; Level of analysis, firm, Industry or others	Cross-country
Critique	
Methodology; Describethemethodologyin brief	· The paper draws on the Financial Access database of the Consultative Group to Assist the Poor (CGAP) and the World Bank Group (WBG) - The data are as of end-2009 · The survey collected data from the main financial regulators in 140+ countries. · The survey included questions on the existing institutional arrangements for collecting SME data and the national SME definitions. It also requested the most recent statistics on the volume and number of SME loans, as well as the number of SMEs with outstanding loans
Problems with the methodology, if any	· Data availability and quality are based on the data collection processes of the regulators. · The data on SME lending are only based on those collected through regulated financial institutions. This severely underestimates SME lending volume, as a sizeable amount of SME financing is done through unregulated and informal institutions. · The data does not address an important vehicle for SME financing; trade credit. (Trade credit is an important source of short-term financing) · It is not possible to differentiate short-term loans from long-term loans using the data introduced in this paper.
Insights you get when reading this paper	SMEs means very different things in countries therefore when we compare two regions or two countries we always have to think about this aspect as well. SME in India is not the same as SME in Denmark!
Key conclusions	The data set is a first attempt to form a consistent cross-country database on SME access to finance. The main message emerging from the new data is that what constitutes an SME varies in different parts of the world. Nevertheless, these differences in SME definitions do not drive the variation in SME lending around the world. Income per capita, private credit to GDP, the legal and business environment, and the efficiency of the

Are Self-Service Customers Satisfied or Stuck?
Ryan W. Buell, Dennis Campbell Frances X. Frei, 2010

Research context	Firms are augmenting traditional face-to-face service strategies with self-service technology (SST). Firms implement SSTs with the intentions of improving satisfaction and loyalty through increased efficiency, convenience, and perceived control for the customer.
Research question	How satisfaction and switching costs contribute to retention among SST customers and the overall impact of self-service (SS) usage on customer satisfaction and retention?
Problem area, identified knowledge gap.	Overall impact of SS usage on satisfaction and retention remains unresolved. – Conflicted results in literature. They try to disentangle the relative impact of SS-related satisfaction and switching costs on actual customer retention, rather than on intention to stay with a firm.
The use of theory, What theory they employ	Conflicting findings among a portion of the relevant studies. Hill and Frei, Mols, Xue and Harker, Yen supports the positive relation between SST and satisfaction while Selnes and Hansen, Herington and Wearen supports negative effect. Authors develop a model to disentangle Switching Costs from Satisfaction Effects. This model could be tested on different products as well and would be still very relevant.
Key Arguments;	(H1): Relative to full-service (FS) channel usage, there is not a significant relationship between SS channel usage and retention. (H2): Usage of high switching cost SS channels is not associated with customer retention (H3): Usage of low switching cost SS channels is not associated with customer retention. (H4): Relative to FS channel usage, there is not a significant relationship between SS channel usage and satisfaction. - Argue that non-satisfaction effects are synonymous with switching costs: (H5): Controlling for satisfaction, SS customers who transact in high switching cost channels

	are more likely to remain loyal to a firm than FS customers. (H6): Controlling for satisfaction, SS customers who transact in low switching cost channels are no more likely to remain loyal to a firm than FS customers.
Key findings, results and outcome of the research	- Customer's total transactions conducted through SS channels have an insignificant impact on customer retention. **Consistent with H1.** - Customers who increase the proportion of their transactions in high switching cost SS channels are retained with statistical significance, while those who increase the proportion of their transactions in low switching cost SS channels are no more or less likely to be retained. **These findings do not support H2, but are consistent with H3.** - There are not systematic differences in the impact of high and low switching cost SS channels on satisfaction. SS channel transactions do not promote satisfaction relative to face-to-face channel usage.**These findings support H4.** - SS channel usage has an insignificant impact on retention net of satisfaction. Customers in high switching cost channels are retained with an intensity greater than that explained by their satisfaction, while low switching cost channels do not exhibit the same pattern. **These findings offer support for H5 and H6**. - Disentangled the relative magnitude of satisfaction effects and switching costs in each context. Find that while switching costs do serve as a driver of self-service retention, satisfaction effects do not. - Results highlight how little of the variation in satisfaction is driven by differences in a customer's proportional use of various channels. - Even among channel enthusiasts, SS usage has a positive impact on retention, only in cases where it increases the switching costs for customers.
Level of analysis	Individual level
Critique	The study is 14 years old
Methodology; Describe the methodology in brief	Observed the behavior of 26,924 randomly selected customers performing a transaction in the branch network of a nationwide US retail bank. Includes the number of transactions each customer initiated in each of the bank's channels for a 1-year period during 2003, as well as demographic and account information, customer satisfaction data, and lagged customer retention data. Characterizing customers based on their proportional channel mix. Examine the impact of channel mix on three levels.) SS channel mix vs. FS channel mix) Transactions conducted in the high and low switching cost SS channels we identified) Analyze the impact of each channel separately, to better understand if all channels are created equally with regard to switching costs, satisfaction, and retention.

Problems with the methodology, if any	It focus on customers at a single nationwide bank - it would be careless to generalize that such is the case for all SS offerings in all domains. This sampling mechanism could conceivably under-represent SS customers who rarely visit the branch.
Insights you get when reading this paper	These results are surprising and opposite to what I would expect. I would assume that a similar study with our generation in the sample would have a different result. Gen Y and Millennials did not have accounts back then. I think the time you gain by not having a face-to-face service is really valuable.
Key conclusions	Relative to face-to-face service, customers who use SS channels for a greater proportion of their transactions are either no more satisfied, or less satisfied with the service they receive. These customers are predictably less likely to defect to a competitor if they are heavily reliant on SS channels characterized by high switching costs. Demonstrate that, when SS usage promotes retention, it does so in a way that is consistent with switching costs. Examined the behavior of channel enthusiasts, find that SS enthusiasts in low switching cost channels defect with greater frequency, while SS enthusiasts in high switching cost channels are retained with greater frequency.

Bank Financing for SMEs around the World: Drivers, Obstacles, Business Models, Lending Practices Thorsten Beck, Asli Demirgüç-Kunt, María Soledad Martínez Pería, 2008	
Research context	The financing of SMEs has been a subject of great interest both to policy-makers and researchers because of the significance of SMEs in private sectors around the world. Most banks define SMEs in terms of annual sales.
Research question	Whether, why, and how banks are financing SMEs around the world?
Problem area, identified knowledge gap.	Little research exists on the supply side of bank financing to SMEs across countries. There is often the perception among policy-makers that banks, especially large ones, are not interested in financing SMEs.
The use of theory, What theory they employ	Until recently, a large part of the literature had argued that small banks are more prone to finance SMEs because they are better suited to engage in "relationship lending" However, some recent studies (see Berger and Udell, 2006; Berger, Rosen and Udell, 2007; and de la Torre, Martinez Peria and Schmukler, 2008) have disputed this conventional wisdom and argued that large banks, relative to other institutions, can have a comparative advantage at financing SMEs through arms-length lending technologies instead of relationship lending. De la Torre, Martinez Peria, and Schmukler (2008) combine the data from the IFC and World Bank case studies, along with data from SME surveys in Latin America, to show that the conventional wisdom that relationship lending by small and niche banks is at the heart of SME finance is misguided.
Key Arguments;	-Important to understand the supply side of large banks - Large banks also could be interested in financing SMEs - Small banks are not necessarily better at financing SMEs.
Key findings, results and outcome of the research	- Banks perceive SME segment to be big and with good prospects. Perceived profitability of the segment is the most important driver for banks' involvement with SMEs. - Among banks in developed countries the top obstacle seems to be competition in the SME

	segment. In developing countries, the top rated obstacle is the macroeconomic environment. - Banks in developed and developing countries have a positive perception of government programs and prudential regulations to have a positive or inconsequential effect on SME financing. - How do banks structure their operations to serve SMEs? - More than 60% of banks have an SME department, separate from the division that deals with large businesses. - What degree of decentralization do they allow for? - 61% of banks in developing and 70% of bank in developed countries respond that the sales of non-lending products to small businesses is done only or primarily at branches. - How do banks make lending decisions? - Banks' loan approval, risk management, and non-performing loan recovery functions tend to be more centralized. - What criteria do banks use to make loans? -Banks from developed and developing countries are more prone to use scoring models in making decisions regarding small enterprise loans. But scoring is used primarily as one input. The financial assessment of the business is the first consideration across all firms, credit history with the bank is the second, owner's characteristics and the purpose of the loan is third. - What types of collateral are most commonly used? - At least three-quarters of banks require collateral but there are no significant differences for small, medium-sized, and large firm financing. Real estate is the most frequently accepted type of collateral, regardless of firm size. There is more variety in the type of collateral that banks in developing countries consider important.
Perspective; Levelofanalysis,firm,Industry orothers	Industry level
Critique	
Methodology; Describe the methodology in brief	91 banks in 45 countries, a survey with 56 questions, includes quantitative and qualitative questions

Problems with the methodology, if any	38 are developing and the remaining 7 are developed. 11 banks operate in developed countries and 80 banks operating in developing.
Insights you get when reading this paper	to generalize among SMEs and large firms is misleading because the actual real difference between how the SMEs are getting money is based on their environment and context. Credit scoring could be decentralized as well.
Key conclusions	To serve SMEs, banks have set up dedicated departments and decentralized the sale of products to the branches. However, loan approval, risk management, and loan recovery functions remain centralized. Compared with large firms, banks are less exposed to small enterprises, charge them higher interest rates and fees, and experience more non-performing loans from lending to them. Although there are some differences in SMEs financing across government, private, and foreign-owned banks the most significant differences are found between banks in developed and developing countries. Overall, the evidence suggests that the lending environment is more important than firm size or bank ownership type in shaping bank financing to SMEs.

Consumer attitudes on mobile payment services – results from a proof of concept test Niklas Arvidsson, 2013	
Research context	Efforts in Europe that aim to increase the use of electronic forms of mass-payment services to the detriment of cash and this transition would benefit the society
Research question	Which factors are likely to make consumers willing (or not) to start using mobile phones as the platform for payment services?
Problem area, identified knowledge gap.	Need for theoretically based quantitative studies of consumers' attitudes toward mobile payment services (MPS).
The use of theory, What theory they employ	Authors bases his theory on consumer behaviour models: How consumers adopt mobile payment offerings have generally been studied via general technology adoption models (TAM) and diffusion of innovation theories. Rogers' (1995) diffusion of innovation: conceptual idea that innovation first is accepted and used by a small group of interested people and then over time diffused to more and more people. Mallat's model (extended TAM) which include relative advantage, costs, compatibility, complexity, network externalities, trust and security risks.
Key Arguments;	Higher the…. ● Relative advantages of MPS ● Perceived compatibility between users' preferences and the MPS ● Ease of use of the service ● Network externalities of a new MPS ● Perceived trust by consumers in the actors that are providing the MPS, ● Income ● Previous use of card payments by the consumer ….the more **positive** the attitudes to adopt Higher the... ● Perceived cost of a MPS ● Perceived security risks (in a technological form) in the MPS ● Age of the consumer ….the more **negative** the attitudes to adopting
Key findings, results and outcome of the research	● Ease of use was the most important factor for the adoption of MPS, which is in line with many studies

	• Relative advantage was found to be a critical factor for the adoption of MPS. • It is the trust in the one guaranteeing the value of money in combination with technologically related security risk that are the most important aspects of trust. • The relation between age and attitudes toward adopting MPS is not linear. • Study does not indicate a direct, positive linear relationship between income and attitudes toward adopting a new payment service. • Four factors – costs, compatibility, network externalities and previous use of card payments – did not show strong results in this study.
Perspective; Level of analysis, firm, Industry or others	Product
Critique	
Methodology; Describe the methodology in brief	Concept test of a new MPS done in Sweden. 22 merchants installed the MPS in their stores and there were 294 active users that made 972 transactions during the test period. The survey includes responses from 169 consumers
Problems with the methodology, if any	This group is dominated by male (81%) and young people (48% is below 30 years and 83% is below 40). The group is well educated (61% has a university degree) but not well paid (young age).
Insights you get when reading this paper	Relative advantage found to be very important to adoption but I am not sure how much people know that using cash has a lot of hidden and not-so-hidden costs for them and for the society. Would education be the key again?
Key conclusions	There is a lack of studies on MPS collect empirical data and is based on theory, and this study is one step to meet this call. The paper propose that future studies of MPS should turn to theories and models that acknowledge the relationships between companies and consumers as a critical factor explaining the success (or not) of MPS.

<table>
<tr><td colspan="2">Initial Trust and the Adoption of B2C e-Commerce: The Case of Internet Banking Kyung Kyu Kim, Bipin Prabhakar, 2004</td></tr>
<tr><td>Research context</td><td>- Most banks offer internet banking (IB) but bank branch is still the primary source of delivery of financial services.
- Significant number of users who visit banking website do not use IB.
- IB is defined as carrying out banking transactions over the internet like balance inquiry, transaction history, account transfer</td></tr>
<tr><td>Research question</td><td>- Does initial trust in the electronic channel as a banking medium influence the adoption of IB by consumers?
- What factors influence the level of consumers' initial trust in the e-channel?</td></tr>
<tr><td>Problem area, identified knowledge gap.</td><td>Few prior studies on the adoption of business-to-consumer e-commerce have considered trust in IT as an important determinant of adoption behavior
Lack of specificity of trust referents leading to confusion</td></tr>
<tr><td>The use of theory, What theory they employ</td><td>Trust theory within Psychology, Management and Marketing/Sociology
- Adopt Mayer et al's most frequently cited definition of trust.
- Rousseau: three forms of trust:
  - Institutional – trusting Banks
  - Calculative – trusting e-channels
  - Relational which is not relevant because it only plays a role in a later stage of the adoption process.
- Noteboom: Competence trust related to the e-channel and Intentional trust related to Bank itself
- Bhattacharya et al and Lewincki and Bunker: antecedents of trust and 3 diff perspectives:
  - Psychology - Individual - Propensity of trust
  - Management – Institutional – Structural Assurances
  - Marketing and Sociology (Social network theory) – Interpersonal transaction – Word of mouth referrals (WOM)</td></tr>
</table>

Key Arguments;	- Consumer's propensity-to-trust is positively associated with the level of initial trust in the e-channel as a banking medium. - Structural assurances are positively associated with the level of initial trust in the e-channel as a banking medium. - WOM referrals about IB are positively associated with the level of initial trust in the e-channel a banking medium. - Level of initial trust in the e-channel as a banking medium is positively associated with the adoption of IB. - Level of trust in the bank is positively associated with the adoption of IB.
Key findings, results and outcome of the research	Propensity-to-trust, Structural Assurance and relational context of WOM were significant predictors of initial trust in e-channel. Significant relationship between initial trust in e-channel and the adoption of IB. However, trust could be necessary but not sufficient for the adoption of IB:
Level of analysis	Industry level
Critique	
Methodology; Describe the methodology in brief	Developed either by adapting existing measures to the research context or by converting the definitions of the conducts into a questionnaire. Collected on-line from two sources: 1) website of mid-west banks that offer IB. 2) Seven web sites of a local media company. 266 responses: 180 were adopters, 86 were non-adopters
Problems with the methodology, if any	The population to which the inference of the study findings should be made is internet users who have bank accounts. Banner advertising was used to solicit responses potential biases such as self selection bias may be inherent in the data
Insights you get when reading this paper	In the case of SMEs' the trust factor is probably very similar to the outcome of this research because at the end of the day, those are individuals within an SME that decides if they engage in a new technology or not.
Key conclusions	This study considered the role of trust in the adoption of a specific e-commerce application. Initial trust in the internet as a banking medium was a significant influence of adoption.

prises

eir

The determinants of financing obstacles Thorsten Beck, Aslı Demirgüç-Kunt, Luc Laeven, Vojislav Maksimovic, 2006	
Research context	This literature relies on the assumption that external finance is more costly than internal finance. A firm is defined as financially constrained if a windfall increase in the supply of internal funds results in a higher level of investment spending.
Research question	- How successful are these a priori classifications in distinguishing between financially constrained and unconstrained firms? - What are the determinants of financing obstacles of firms?
Problem area, identified knowledge gap.	Unlike previous studies that focused on a sample of large, listed firms, or on a limited number of countries, this paper studies how financing obstacles differ not only across countries, but also across firm size.
The use of theory, What theory they employ	- The underlying theory is too technical to be relevant. Following Fazzari, each researcher developed different a priori classifications of firms to distinguish financially constrained and unconstrained firms (based on financial statement for example). But the authors are aiming to create a more sophisticated analysis.
Key Arguments;	Contributing to the existing literature in two ways: - Using survey data on a firm's perceived level of financing obstacles to avoid having to imperfectly infer financing constraints. Test the validity of the a priori group classifications used in the literature & to assess more accurately the determinants of financing obstacles. - Includes firms of all sizes from a large number of countries with different levels of institutional development, more precise firm-level predictors of financing obstacles. - Test whether size or age predicts financing obstacles. - Test whether stock market listing or business-group affiliation is correlated with financing obstacles. - Test whether geographical activity or ownership can explain differences in the reporting of financing obstacles.
Key findings, results and outcome of the research	-Small firms report higher financing obstacles than medium and large firms. -Reported financing obstacles decrease in the age of the enterprise.

	- Firm that are foreign-owned, not listed, part of a company group or are multinational enterprises firms report lower financing obstacles. Government-owned, manufacturing, agricultural and construction firms report higher financing obstacles. -In developed economies, size seems to be less important in predicting firms' financing obstacles, while age seems to be a robust predictor. - In developing countries size is a robust predictor of financing obstacles, while age is not. - Firms in countries with higher levels of financial intermediary development, stock market development, legal system efficiency, GDP per capita and institutional development report lower financing obstacles.
Level of analysis, firm, Industry or others	World wide
Critique	
Methodology; Describe the methodology in brief	The survey contains a large number of questions on the nature and severity of obstacles. In total, over 10,000 firms were surveyed, with the number varying across countries but with a minimum of 100 firms per country. The sample of surveyed firms in each country was constructed to reflect the sectoral, ownership and size structure. Data were mostly collected through personal interviews.
Problems with the methodology, if any	Data relying on unaudited self-reporting by firms. Thus, it is possible that while firms report financing obstacles; they are actually not constrained by them. However, Beck et al. (2005) show that many of these financing obstacles are related to firms' growth rates. In order to distinguish the self-reported constraints from actual constraints, we will refer to the former as obstacles.
Insights you get when reading this paper	There are a significant difference between the obstacles of firms in developing and developed countries. But the reason for that could be that the economy is generally focused on industries that are more financially constrained (like agriculture).
Key conclusions	The paper explores the firm characteristics that predict best firms' financing obstacles. Age, size and ownership predict financing obstacles best; younger, smaller and domestic firms report higher obstacles. Categorizing firms by their age, size and ownership is therefore most useful when considering the effect of financial and institutional development on firms' financing obstacles.

8.3. Talking Points SME interviews

1.Your Business

- What type of financial products do you use currently? Do you have loan from a bank?
- What technologies do you use when it comes to your finances? Online banking, bank terminal... How do you like them?

2.Access to credit

- Have you experienced constraints to credit?

3.Relation with traditional banks

- What is your view on traditional banks and their products, services?
- Do you trust them?

4.Openness to new products/technologies

- What do you expect from a good product/technologie?
- Did you start to use new financial product/ technologies? How was that experience?

If not, What do you think, how would you feel about it?

5.Financial literacy

- “Assess if they are comfortable with financial terms”
- When you read the terms and conditions, do you feel confident?

6.SMEs’ customers

- How do your customers like to pay?

8.4. Talking Points FinTech interviews

1. Business Model
    a. What product/service are you offering?
    b. ** If credit is offered - what kind of lending technologies are you using? Have you considered using social credit scoring?

2. Target group
    a. Who is your target group?
    b. Is your target group currently underserved?
    c. ** If SMEs - Why are small businesses more interesting than bigger ones? Would you consider this target group underserved?

3. Traditional providers (banks,..)
    a. Is the new product or service that you are offering already provided by traditional banks?
    b. Are you or have you ever thought about collaborating with traditional providers?

4. Customer relationship
    a. How do you build trust with your customer?
    b. What is the customer journey like? Can you describe your user's behavior (frequency of use, duration of stay,...)
    c. How is the relationship with the consumers?

5. Business context
    a. Have you faced any regulations?
    b. Are there a lot of competing FinTechs in your area?
    c. Is your product/service creating value for society?

8.5. Portuguese Translation Interview 1

20-June-2017. 10:35
Bella Vista. São Paulo.
Bruno Ribério. Owner Mini Mercado Preco Baixo

10:35. Pia (P):
First of all thank you very much for agreeing to talk to me. It really helps us to write our master thesis. And I am sorry for my Portuguese, it is not really that good unfortunately.
10:35. Bruno (B):
Oh it's fine. Better than my English. I am not sure if I will be of much help but like i said I can try.
10:36. (P):
Great thank you. Before we really get started I just want to make sure it is ok for you if I record this conversation? Just on my phone so I can translate it all afterwards.
10:36. (B):
It's ok.
10:36. (P):
So maybe to get started I would love to learn a bit about you and Mercado Preco Baixo. How long has the market existed?
10:37. (B):
Oh a long, long time. But I changed a lot with it because it used to be my fathers shop and people in the neighborhood always knew about it. He started the business, I think it was 1942 or 1943 and back then it was very different in São Paulo. Everybody in the neighborhood knew my father, Guilherme, because he knew a lot of business owners and he made good deals and that is why the market always had good products.
10.38. (P):
Ah ok so he was very much liked by everyone.
10.38. (B):
Yes, exactly and you know in Brazil that is very important because the people want to know who they are buying from, that they can trust them and that they actually give them good quality products. And then I took over the market. It was maybe 20 years ago, so I have been working here with my wife and my sister and my daughter is also helping out. We tried to continue with my father's legacy but things are very different in Brazil now.
10.38. (P):
How come?
10.39. (B):
Now there are so many huge supermarkets around so people are used to having thousands of products they can choose from. They want a big variety and our small market can't cater to that need. The people around here are still loyal, they come because they know us and we are a bit cheaper than the bigger supermarket but still it's hard for us to get younger people interested.
10.39. (P):
Ok, I understand. Now as I explained before the main topic of our thesis is finance and especially what kind of finance options are available to small businesses in Brazil like your own. So I have a number of questions prepared, but its also ok if you have never heard about something yet it is more to understand your situation and what banks are other financial services could do to better support you.
10.40. (B):
Ok that's fine.
10.40:(P):
Can you tell me about the financial product that you are currently using?
10.41: (B):
You mean the bank?
10.41: (P):
Yes exactly, do you have a bank account, a loan, insurance, shares and so on?
10.41: (B):
Yes we have one (savings) account at Itaú. I use it so I can store my money and have access to it always and my wife sometimes uses the card to buy things but I don't really like it, I just have cash and I use that.
10.42: (P):
And how long have you been a customer at Itaú?
10.42: (B):
Puh that is a good question, a long time. I think before my daughter was born. My wife said it would be a good idea to have our money at a safe place and I know a lot of people who use that bank so I know I can trust it.
10.42: (P):
And if you want to transfer money from your bank account, how do you normally do that? Do you go there in person or can you also do it online?
10.42: (B):

I go to the Itaú place. It takes a while to wait but then there is someone that can help you to fill it out. I don't really do a lot of transactions, just for taxes and the rent and I just do that maybe once or twice a month.
10.43: (P):
Have you ever tried online banking?
10.43 (B):
No. My daughter has talked about it, but I don't think I need it.
10.43: (P):
Ah ok because you don't have that many transactions?
10.43: (B):
Yes exactly. It would just take extra time for me to understand.
10.44. (P):
Ok. And how about bank loans? Have you ever had a bank loan or have you ever tried to apply for a loan?
10.44: (B):
Yes I have actually. It was almost five years ago because the market next to us was empty for a bit. And like I said Brazilian customers they actually really like when they go into a shop and they find a lot of products there, like many different brands and lots of space for fresh vegetables and fresh fruits and also meat and fish and so on. So my wife and me thought about expanding our shop to make it bigger so that we can offer more products to the customers. We thought it would maybe help us to be more interesting to the young people.
10.44: (P):
So you wen to your bank and asked for a bank loan?
10.44: (B):
Yes exactly. My daughter helped me to make a plan of how much money we would need to set up the new space and add more storage space and so on and then we went to the bank. I thought we should be fine, we have been at the same bank for years and they should know that we have enough money for it. They were really not to friendly with us. I don't like when they act like they are better then us and they try to tell you that you can't afford that but we would have been fine we had a plan. After we first asked they made us wait for such a long time, almost 2 months and then the bank guy he called and just said no we can't give you a loan. Just like that.
10.45: (P):
But did they say why they couldn't give you a loan.
10.45: (B):
Not really. They said something like that we didn't have enough documentation and that there are a lot of rules for bank loans now and that everyone has to give the right documentation and we didn't have that. And I tried to explain that we have a steady income, like most months we have very similar amount of sales so its easy to calculate because of course it will be more when the new stores opens but then he just said that he can't see that on my bank account so they cannot verify that.
10.45: (P):
How come they can not verify that?
10.46: (B):
You know its because we don't put money in the bank every day you know. So everybody pays in cash and we use that cash to also pay everything else we need like to buy the food itself and also I give money to my daughter who helps out and for my wife for everything at home.
10.46: (P):
Ah ok I understand so its only the things that are leftover that actually go to the bank only the cash that is extra?
10.46: (B):
Yes exactly. And I mean of course we have a book where we right it all down and the cash machine shows exactly how much money goes in and out everyday but the guy at the bank said that's not enough for us to get a loan, that there needs to be more documentation so that they can really see that we will be able to pay it back.
10.47: (P):
Ok so they weren't too flexible on it either?
10.47: (B):
No not at all.
10.47: (P):
Have you ever considered going to an alternative loan provider, like for example an online side that offers cheaper loans?
10.48: (B):
Not really no. I don't know much about those so I don't think I could trust them. I mean Itaú I'm also not too happy with because they are the reason that we couldn't expand our shop because they didn't give us a loan in time. But still at least there I know the shop and I can ask the people there when I have problems with doing a transaction and I know that my money is safe there.
10.48: (P):
Ok I understand. Trust is always very important when it comes to money. Is there another technology in relation to finance that you thought about using?
10.48: (B):
Yes we have though about adding a card terminal so that people could pay with credit cards also and not just cash. Most of the supermarkets have it and the customers, especially the young ones like the students from FGV for example, they always ask if we have it. So I guess it would be a good thing to have.
10.49: (P):
Of course, yeah. And what would you expect from a technology like that? How would it need to be done so you would buy a card terminal?

10.49: (B):
It needs to be cheaper. For a small market like ours its just too expansive because you need to buy the machine and the computer to use it and then they still want you to pay a fee for every single time someone uses it. Every single time. That's a lot of money and I'm not sure if it would pay off. So I'll wait and see if there is a way to do it cheaper first.
10:50: (P):
But if there was a new company for example an online platform that would offer to provide you a card terminal for cheaper then Itaú for example and your customers could still pay with all their cards. Would you use it?
10:50: (B):
Mhm that's a good question. If it was really cheaper yes I think I would consider it at least. I mean I would still want to know more about how it works so maybe I would ask my daughter to help out and set it up but I guess it doesn't have to be a normal bank. They have too much money in Brazil anyways.
10:51: (P):
When you say you have your daughter help out with doing it, what do you mean exactly?
10:51: (B):
Well you I just started working right after school, it was something that a lot of people did back then but my daughter she is very smart and she went to university and everything. So she helps us out a lot with like the taxes for example because there are a lot of regulations in Brazil and it's easy to make a mistake and loose a lot of money.
10:52: (P):
So before you sign a loan contract for example your daughter would also help out and look it through?
10:52: (B):
Yes exactly. That way we can just feel a bit more comfortable, so that we know exactly what is in there and if it's good that we sign it and everything.
10:53: (P):
You mentioned that some of the younger customers have asked if it was possible to pay with card. Are there any other ways that your customers pay when they come into the shop?
10:54: (B):
Mhm yeah sometimes people ask for that. But of course most people they just pay with cash that's easier and oftentimes they only buy a few things so it's also easy for them to have cash.
10:54: (P):
Ah ok so there are no other forms of payment here.
10:54 (B):
No. Ok wait actually we also have payment lists for our really good customers so that they can just write down something if they didn't bring the money one day and then they pay at the end of the week or something when they got their salary.
10:55 (P):
Ok and that's something that you do a lot?
10:55 (B):
Well not really but sometimes people just need it. You know this is a rich neighborhood in general but sometimes something happens and people have problems with money and they have to pay for something big for example and then it's nice if you can help them out and they are really grateful if they can just pay you back a few days later.
10:56 (P):
Ok but then for example the bank also doesn't know about that either right that there are customers that haven't paid yet so you will get even more money a few days from now.
10:56 (B):
No they don't. I guess that's also something they didn't like but you know that's just how it works here and the people that come here they do it because they know me and they know that I care about them not like the big supermarket that just wants to make money. So I think in the end I still like it better that way.
10:56 (P):
Ah ok yeah I understand.
10:56 (B):
Sorry, my friend the vendor just arrived and I have to ask him something actually. Do you have more questions or is this all for now. I can also answer something later.
10:57 (P):
Ah ok no worries that's ok I think that's all for now anyways. Otherwise I have your number too so I guess I can call you again after?
10:57 (B):
Yes of course you can do that.
10:57: (P):
Ok great then thank you very much for your patience and time. I hope you have a great day!
10:58: (B):
You are welcome. Enjoy the day. Bye-bye.

8.6. Portuguese Translation Interview 2

Interview 4.
22-June-2017. 16:05
Jardim Paulista. São Paulo.
Maria Pereira. Owner Street Food cart – Salgados

16:05. Pia (P):
It's just to record the interview because you can hear my Portuguese is not so great and this way I can listen to it again afterwards and translate. So I hope that's ok for you?
16:05. Maria (M):
Yes sure that is fine.
16:05. (P):
Ok so like I mentioned before I am an exchange student at FGV and together with my thesis partner who is currently in Australia I am writing my master thesis for my business studies. And as a topic we want to look at the situation for financing for small and medium size companies here in Brazil and also abroad and how new technology in finance can improve that situation.
So first of all thank you very much for taking the time and talking to me today, that is very nice and it will really help us to get a better understanding of the situation.
I have prepared a couple of question, but it is also more of an informal talk so it shouldn't take more than 30 mins.
16.06. (M):
Yeah that should be fine. I just might have to take a pause if a customer comes but normally they come a bit later anyways so it should be ok.
16.06. (P);
Of course yeah no problem, I'm not in a hurry.
So first of all, I would just like to know a bit more about yourself. Can you tell me how long you have had this snack stand and how you got to it?
16.06. (M):
Yes of course. So food has always been a big thing for me. I just love to cook and make delicious food and I like it when people come and tell me I make good empanadas. So I have worked with a friend before selling food at the beach in Praia Forte and then we came here to São Paulo and it was a bit hard in the beginning but after working for a while I was finally able with the help of my husband to buy this cart and start my business. It was maybe 5 years ago.
16.07. (P):
Ok great so since then you have sold empanadas and other salgados here?
16.07. (M):
No not really. I only came to Jardim around a year ago. Before that I was at a different place but it didn't go so well so I was trying to find something better and here it's really good because there are a lot of offices here and then I know that people come and want a fast snack in their break and then I am right there.
16.08. (P):
Ah ok so location is very important for you?
16.08 (M):
Yes, exactly people that often buy empanadas or something like that as a snack on their way to work or in their break. If they see me then maybe they think yes actually I am hungry let's buy something quick, they don't want to walk to far.
16.09 (P):
So for our thesis we are trying to understand what kind of financial products small vendors like you are using. Can you tell me a little bit about that?
16.09 (M):
What do you mean with financial products?
16.10 (P):
Ah ok sorry maybe I am using the wrong word. What I mean is what kind of products do you use for your finance so for example do you have a bank account or insurance or a credit for example?
16.10 (M):
Alright I see. Well me husband has an account at Caixa so that is good so we can keep everything we save there and not have just cash.
16.10 (P):
Have you had that for a long time?
16.11 (M):
Mhm yeah a while. It took a long time to get but now that my husband has a fixed job, he works construction, we could do that. I don't know what else you asked?
16.11 (P):
Do you personally have a bank account as well or you don't need that?
16.11 (M):
No I don't.

16.11 (P):
Is it too complicated to set up.
16.12 (M):
Yeah it's hard because I just have the income here but no salary and the banks here always want to see the salary you have so they know that you have money.
16.12 (P):
So you have tried to open a bank account for you already?
16.12 (M):
Once. It was a while ago and my friend said I should ask because he knew someone at the bank but they said that I didn't have enough papers and also it would cost money and I don't really need it so I thought why do it if they just say no in the end.
16.13 (P):
I see. But you can use your husband's card sometimes if you want to buy something with card, right?
16.13 (M):
Yes exactly so I don't really need more because we can have that and then we have that to pay rent or taxes or something. All we need. So it's actually good I think. My mother never had anything like that. Back then you didn't really get a credit card if you were from a Communidade like us. Because they don't think we will have money so they don't even have a bank were we used to live. So if you wanted to go to a bank you have to go really far and even then they probably would just turn you away anyways. So now it's much better. We really have it all like we need it. I have my business and my husband has his job so we both have everything we need.
16.14 (P):
Great. Then I was also wondering…
- customer stopped by –
16.18 (M):
Ok now I'm back, sorry.
16.18 (P):
Of course yeah no problem. I understand. For the account of your husband… have you ever used online banking or do you go directly to the bank?
16.19 (M):
No it's just my husband he goes to the bank mostly. Yes.
16.19 (P):
And have you ever considered a business loan? Or was that never something you needed?
16.19 (M):
Yes actually I would really need it. You see this here. So this is a really good cart and I take good care of it but I have used it for a while and it's not rolling properly anymore so it's really hard to push it around. So it would be nice to have a new one sometimes. Really nice.
16.20 (P):
Aha so you have tried to get a loan to buy a new cart for your business.
16.20 (M):
Mhm. It would be really nice. My husband, he and I, we went to Caixa and we asked if we can borrow the money. But they said its not possible with my husbands account because it's not a business account and something that this is not possible and they have some rules against that.
16.20 (P):
Ok I see. And did you try to find credit elsewhere? For example have you heard of Avante, I know that they have been really big already now.
16.21 (M):
Yeah I think I heard but I don't know what it is.
16.21 (P):
So you haven't tried to find credit elsewhere yet?
16.21 (M):
No.
16.22 (P):
The times that you have been at Caixa with your husband or what your husband says, is it a good experience for you? Do you trust the bank?
16.22 (M):
Mhm. I don't like that there are always so many rules. That we go there and we wait really long and then they just say no we can't give you money because there is a rule and we can't. They don't really try I think. But maybe it's also hard for them no you no in Brazil it's really hard to trust people with money. Everybody is always a bit careful. I understand that also.
16.23 (P):
But if they would have said yes we give a loan, would you have trusted them.
16.23 (M):
Yes of course. Everyone knows them they are really big and they have a lot of places in São Paulo also so you can go and talk to them.
16.24 (P):
So if they would have given you a credit contract to sign you would have done that right?
16.24 (M):
Yes of course. They have been a bank a long time so I know they are good.
16.24 (P):

A different question. I saw the woman earlier she paid with cash right?
16.25 (M):
Yeah.
16.25 (P):
Is that normal or do people also want to pay with card for example or a different way?
16.25 (M):
No I don't have that. Sometimes they ask. The younger people they sometimes ask because maybe they don't have change or they don't want to bring money with them I don't know but it's only snacks so it's easy with cash.
16.25 (P):
Would that be something you would considering …
-customer stopped by-
16.29 (P):
Would that be something you would considering adding if you would get a bank account for example?
16.29 (M):
Mhm. Yes maybe. I would consider I think. It would maybe make things easier sometimes if I don't have spare cash to return to them then they could also pay with card but I can't you need a bank for that I think right? I don't know but I don't think I can.
16.30 (P):
Yes normally I think that is linked to your bank account.
16.30 (M):
Maybe some day.
16.30 (P):
I'm sure. Well I see that there are more people coming now so I don't want to keep you much longer. Thank you very much for your time. It was really great to meet you.
16.31 (M):
Yes sure. No problem. Have a good day!