Disruptive innovations in the financial sector
how banks react on the rise of marketplace lending

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Disruptive Innovations in the Financial Sector:

*How banks react on the rise of marketplace lending*

By

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Preface & Acknowledgements

After finishing my bachelor Industrial Engineering on a university of applied science in 2013, I remained with many questions about my future. I was not completely satisfied with the direction I had chosen and was questioning if I already reached my personal boundaries. After three years at the Eindhoven University of Technology (TUE), I can truly say that I have found my true passion and that I have pushed my personal boundaries achieving results I declared impossible before. With this report in front of you I conclude my master study Innovation Management. I am glad that I got the possibility to combine several topics that interested me the most during my master in my thesis; changing markets, start-ups shaking up the status quo and the difficulties incumbents have in reacting to these changing environments. I would like to thank some people who made this possible.

First of all, I would like to thank my supervisors both at the university and PwC. Starting with Dr. Ir. Katrin Eling who has guided me as a mentor at the university throughout my master. I appreciate the freedom I got in determining my own direction and at the same time the guidance I received on the moments I needed it. Especially in achieving the academic standards the feedback I received was very helpful. In addition, I also would like to thank Dr. Myriam Cloodt who supervised me at the end of my master thesis. I am thankful that you were able to make time for me to guide me through these last steps in my graduation. I would like to thank you for your guidance and the feedback I received, as well as for the interesting courses I followed during my master under your supervision.

Moreover, I would like to show my appreciation to Noud Huisman and Freke Manschot for giving me the opportunity to do my graduation project at PwC and for guiding me throughout the process. I am really thankful for the freedom I got within PwC to match the assignment with my own interests and the flexibility I got in setting up my own research. It was great experiencing how it is to work for a consultancy firm and getting insights in the daily practices of PwC. I would like to thank Noud for supporting me, having confidence in me and guiding me through the process. I really enjoyed the informal way of working and appreciate the advises you gave me in a broader sense than just the graduation project. Moreover, I would like to thank Freke for her guidance, honesty and personal touch. Her input really helped me throughout the process and in improving my results. Furthermore, I would like to show my appreciation to all other employees at PwC that directly (by giving input for my research) or indirectly (by letting me feel at home) contributed to my graduation.

Finally, I also want to thank all the participants that were willing to make time available for an interview. I really enjoyed the enthusiasm I felt from the respondents about my graduation topic. The good responses gave me energy in conducting my research and finishing my master thesis report.

Overall I am grateful for the help and support I received, I would not have been able to achieve this alone.

Marco van Zon

Eindhoven, August 2016
**Management Summary**

**Introduction**

The banking industry today is in a state of flux. After decades of minor changes new entrants using new technologies and business models (commonly referred to as FinTech) are disrupting the financial sector. Marketplace lending (MPL), also referred to as Peer-2-Peer lending or Crowdlending, is one of those business models disrupting the existing banking business model. Linking aspirant borrowers with (corporate) investors, MPL platforms surpass traditional banks in providing loans. Especially in the US and UK, MPL increasingly forms a threat to the lending activities of banks. However, how MPL is developing in The Netherlands and how banks react on it remains under researched. Therefore, the aim of this research is twofold; first of all, to analyze the disruptive potential and the development of MPL platforms in The Netherlands and secondly to study how Dutch banks react on the rise of MPL. To realize these aims the following research question is formulated;

*Which reaction strategies do Dutch banks follow based on their ability and motivation to respond on the rise of marketplace lending platforms in The Netherlands?*

**Methodology**

To realize the aims of this study and to answer the research question, a qualitative study of a descriptive nature is used. Descriptive research is used to describe the development of the Dutch MPL market and how banks react on it. Two data collection methods are used in this research; desk research and conducting semi-structured interviews. Desk research is used to gather qualitative and quantitative information on MPL and how it is developing (especially industry research reports). Furthermore, semi-structured interviews with both insiders in the MPL market and managers from banks are conducted. Three interviews are conducted with MPL insiders to get an enriched view on the characteristics of MPL, the current Dutch MPL market and how it is developing. The interview targets are selected based on their expertise and position to draw general conclusions about the Dutch MPL market and from multiple viewpoints (both investors and borrowers). Moreover, a total of six semi-structured interviews are conducted with managers in the field of innovation or lending towards SME’s at three different Dutch banks. The interview targets are selected based on their authority and insights in the management of the portfolio of lending services or in the innovation activities of the bank in The Netherlands.

**Theoretical Model**

The theory on disruptive innovation is used to develop a framework that guides the research to fulfill the aims of this study. Disruptive innovations typically have certain characteristics; they have initially lower performance, emphasize other product attributes, promise lower margins and are first launched in emerging or insignificant markets. Furthermore, literature shows that disruptive innovations typically follow a certain process to develop in a market that is called low-end encroachment; (1) the disruptive innovation is first launched in an emerging market at the low-end of the existing market, (2) subsequently the innovation increases in performance in that market and eventually (3) the innovation encroaches in the mainstream market to disrupt the incumbents. However, where disruptive innovations are associated with the replacement of incumbents the competitive effects have largely been questioned in the literature; some incumbents succeed in adapting to a disruptive innovation, many potentially disruptive innovations failed and not all disruptive innovations completely replace the old market, a point that is especially true for disruptive business models. To realize the first aim of this study, the characteristics of disruptive innovations and the process they follow is used as a lens through which the development of MPL in The Netherlands is analyzed.

The literature so far on how incumbents can react on the introduction of a potentially disruptive innovation in their industry focused on the adoption decision; when and how firms adopt the disruptive innovation. However as stated above, not all disruptive innovations completely replace the incumbent business, which implies that adoption is not the only option for incumbents to react on a disruptive innovation. The literature suggests that how incumbents react on the entrance of a disruptive innovation in their industry depends on their ability and motivation to respond. The ability to respond is measured by the conflicts between the new and the old business model, the portfolio of skills and the resources available to react, while the motivation to respond is measured by the strategic relatedness between the two business models, the level of threat and the rate at which the
innovations grows. To realize the second aim of this study, this theoretical framework to assess the ability and motivation of an incumbent to respond to a disruptive innovation is used to analyze how Dutch banks react on the rise of MPL.

Conclusions

The results show that MPL in The Netherlands meets many characteristics of a disruptive business model; it initially offers lower performance, is first launched in an insignificant market, introduces different attributes from the incumbent solution and does not introduce a new technology or product, but redefines how loans are provided. However, contrary to disruptive innovation theory it is currently more expensive than a loan via the bank. MPL currently acts on the fringe of the traditional market mainly serving customers that cannot a banking loan because of their risk profile. Although still relatively small (€ 98 million euros in loans originated in 2015 with a market share under 1%) MPL in The Netherlands is gradually improving in performance starting to attract higher customer segments. Figure 1 shows how MPL in The Netherlands is developing following the process of disruptive innovations as explained above.

Figure 1: Development MPL in The Netherlands

The research results show that MPL in The Netherlands currently is in the earlier stages of disruption; the market is relatively small but expanding (in the past 4 years the market doubled annually), it is generally increasing in performance (especially the trust in MPL and loan amounts are increasing) and is starting to attract higher customer segments (from mainly start-ups towards more mature and medium sized firms). The development of the Dutch MPL market in the future can be monitored by looking at how the market expands in terms of total loan volume and market share, by tracking quality improvements and by monitoring the customer segments that MPL platforms serve (from startups towards more mature firms).

Contrary to literature, which state that incumbents react to a disruptive innovation based on their ability and motivation to respond, this research shows that the banks in the sample mainly react to MPL based on the conflicts it perceives between the two business models and the changes it perceives in its environment as a whole. The research shows that the banks in the sample have a low motivation to respond directly to MPL; due to the limited size and since it is perceived as a different business MPL is not perceived as an immediate threat, the growth rate is not perceived as attractive and contrary to theory in this research it seems that the strategic relatedness of the business models has little influence on the reaction strategy of the banks. The research shows that the motivation to respond of banks is mainly influenced by the changes the banks perceive in their environment as a whole and the changing customer behaviours and demands that MPL (among others) reveal (transacting online and demanding more convenient and quicker services). In the ability to respond the banks experience little obstacles in the skills and resources needed to respond, but perceive significant conflicts between the two business models. Adopting MPL would possibly harm the reputation of banks as solid and reliable organizations when loans default and investors lose their money, but banks differ in the degree to which they perceive this risk.

Overall, the banks in the sample react to these developments in MPL by improving their current business model (all cases) and collaborating with MPL platforms by redirecting customers (2 of the 3 cases), while one bank adopts parts of the MPL business model on an explorative basis. Banks are improving their current business model by standardizing and simplifying their current propositions to make them more attractive also for lower customer tiers. Overall it seems that banks are convinced that when they are able to improve their current propositions, customers still prefer a loan via the bank. In addition, two of the three banks in the sample collaborate with MPL platforms by redirecting customers that cannot get financing via the bank to help and
keep the connection with the customer. Finally, one bank adopts parts of the MPL business model (allow private investors to co-finance SME loans) on an experimental basis, as a reaction to external threats from increasing regulations and the volatility in the market. Overall, the research results show that banks follow less integrated and more reversible reaction strategies (collaboration/adoption on experimental basis) because of the uncertainty in the market and/or to manage the conflicts between the two business models.

**Implications for Theory**

This research also has multiple contributions to theory. First of all, this research provides new insights on how incumbents react to a potentially disruptive innovation in its early stages. Whereas previous research showed that in later stages incumbents reactions depend based on the ability and motivation to respond, this research indicates that in early stages an incumbents reaction is largely based on the conflicts they perceive between the two business models and the changes it perceives in its environment as a whole. Furthermore, a contradiction with the theory on disruptive innovation is found; whereas Christensen argues that incumbents will always be motivated to move upmarket towards more demanding customer tiers when confronted with a disruptive innovation, this research actually shows incumbents moving down market making their propositions more attractive to lower customer tiers. This might give disruptive innovations less space to step out their niche and attract higher customer segments. Finally, this research also provides new insights on how incumbents can use less integrated and more reversible reaction strategies in adopting a disruptive innovation to manage the conflicts between the two business models.

**Implications for Practice**

The first practical contribution of this study is to provide new insights on how managers can learn from disruptive innovations about new product or service attributes not or not sufficiently provided by their current business model. Managers can assess which new performance attributes become prominent to their business and subsequently assess to which degree they are able to address these attributes with improvements in their current business model. Secondly this research provides new insights for incumbents how their focus on certain customer segments effect the possibility of disruption. Whereas moving upmarket towards more demanding customers actually can facilitate disruption, this research shows that incumbents can also move downmarket by adapting their propositions to make them more attractive also for lower customer tiers. This might give disruptive innovations less space to step out their niche and attract higher customer segments. Finally, this research provides new insights on how managers can use less integrated and more reversible reaction strategies (e.g. collaboration or adoption on experimental basis) to deal with the conflicts between two business models when responding to a disruptive innovation. By using such reaction strategies, firms remain flexible to make adaptations when conflicts arise and to gradually extend the approach when the results are positive.
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1. **Introduction**

In this chapter first the problem is described, where after the research questions are defined and finally the remaining parts of this report are outlined.

1.1. **Problem Definition**

The banking industry today is in a state of flux. After decades of minor changes new entrants using new technologies and business models (commonly referred to as FinTech) are disrupting the financial sector. New entrants are targeting digital solutions across almost the entire value chain of financial services, cutting margins or luring away customers from traditional financial institutions. In five years’ time, the investments in FinTech start-ups skyrocketed from $2.4 billion in 2011 to $19.1 billion in 2015 globally (Fortnum, et al., 2016). With an amount of $306 million in 2014, also the FinTech investments in The Netherlands are significant. Regulations, a risk averse culture, complex and outdated IT systems and the inability to attract top talent, all restrict banks in responding to these innovations (The disruption of banking, 2015). Market actors predict that more than 20% of financial services business is at risk to FinTech companies by 2020 (PwC Global FinTech Report, 2016).

Marketplace lending (MPL), also referred to as Peer-2-Peer lending or Crowdlending, is one of those technologies disrupting the existing banking business model. Linking aspirant borrowers with private or institutional investors, MPL platforms surpass traditional banks in providing loans. After the financial crisis, the restricted access to loans for borrowers and low interest rates for investors, left an opportunity for new entrants. MPL is challenging traditional lenders on price, service offering, and convenience (Srethapramote, et al., 2015). Making use of technology advances in internet and big data processing, MPL platforms are able to process loan application and evaluate the creditworthiness and default probability of borrowers at significant lower cost than banks. Whereas MPL experiences rapid growth in the U.S. and the U.K., the market in continental Europe is still relatively small and fragmented. This is shown by the fact that the U.K. has over 80 percent of the European MPL market (Hopstaken, et al., 2016). In The Netherlands several new entrants exploit MPL platforms providing loans to both consumers and firms. Although still relatively small in size, also the Dutch market shows significant growth, by doubling in the last 4 years (Crowdfunding, 2014). These figures show that also in The Netherlands, MPL platforms increasingly form a threat to the lending activities of banks. MPL potentially shrinks the role and relevance of banks in providing loans in the future.

As a consultancy firm active in the financial sector, PwC is increasingly following and exploring the developments in MPL and FinTech in general. The developments in MPL pose a potential threat to the lending activities of Dutch banks. In the face of uncertainty on how MPL will develop in the future, banks have to consider whether or not to respond on it. And if so, how to react on it. However, how MPL is developing in The Netherlands and how banks react on it remains under researched. To ensure the service quality towards clients, PwC wants to address these topics.

1.2. **Research Question**

As described in the problem definition, PwC is increasingly following and exploring the developments in MPL to ensure the service quality towards clients in the financial sector. However, how MPL is developing in The Netherlands and how banks can react on it remains under researched. Therefore, the aim of this research is twofold;

First of all, the aim of this research is to analyze the disruptive potential and the development of MPL platforms in The Netherlands. To achieve this, MPL will be analyzed following the characteristics of disruptive innovations and the process of disruption that is described in the literature.

Secondly, the aim of this research is to study how banks in The Netherlands react on the rise of MPL. Following the literature, the Dutch banks will be assessed on their ability and motivation to respond and descriptive research will be performed to research which reaction strategy they follow and why.

Based on the above analysis, the following research question is formulated:

*Which reaction strategies do Dutch banks follow based on their ability and motivation to respond on the rise of marketplace lending platforms in The Netherlands?*

In order to provide a grounded answer to the research question, nine sub-research questions are formulated (5 for the review of the literature and 4 for the empirical research).
Literature Review

1. **What is the definition and what are the characteristics of a disruptive innovation?**
2. **How does a disruptive innovation develop in its market?**
3. **What are the competitive effects of a disruptive innovation?**
4. **Which determinants affect how incumbents can react on the entrance of a disruptive innovation in their industry?**
5. **Which alternative strategies do incumbents have in reacting on the introduction of a potentially disruptive innovation in their industry?**

Empirical Analysis

6. **To what degree does marketplace lending follow the characteristics of disruptive innovations?**
7. **How is marketplace lending developing in The Netherlands in terms of market volume, performance and customers (borrowers and investors)?**
8. **To what degree are Dutch banks able and motivated to respond to the entrance of marketplace lending?**
9. **How do Dutch banks react on the rise of marketplace lending?**

1.3. **Report Outline**

The outline for the remaining of this report is as follows. Chapter 2 describes the research methodology used both for the literature review and the empirical research. Subsequently in Chapter 3, a review is given on the relevant literature on disruptive innovations and reaction strategies by incumbents. The chapter is concluded with answering research questions 1 to 5 and evaluating the current state of the literature and the applicability to the empirical research. Chapter 4 outlines the empirical results; starting with an introduction to MPL, the international and Dutch MPL market, followed by an assessment on the disruptive characteristics and the development of MPL in The Netherlands. The chapter is concluded with the results on the ability and motivation to respond and the reaction strategies to MPL of three Dutch banks. Subsequently in Chapter 5, the results from the empirical analysis are discussed and the implications for theory and practice are outlined. Moreover, Chapter 6 provides a tool designed to monitor the development of the MPL market in The Netherlands. Finally in Chapter 7, the conclusion on the report can be found.

This chapter outlined the problem definition and the research questions that will be used in this research to address this problem. In the next chapter the research methodology used for addressing the research question is described in more detail.
2. **Methodology**

The controllability of research results is one of the quality criteria for research (Swanborn, 1996). To ensure the controllability, the research methodology must be described (Van Aken, Berends, & van der Bij, 2012). The diagnosis of a business problem should be based on both empirical analysis and theoretical analysis (Van Aken, Berends, & van der Bij, 2012). Below both the research methodology for the literature review and the empirical analysis is described.

2.1. **Literature Review**

This chapter describes the chosen approach for the literature review; how the search for relevant articles is executed and how articles are assessed and selected based on quality requirements.

2.1.1. **Search Method**

A systematic literature search reduces the probability of a biased review and increases the chance that the majority of the relevant literature is incorporated in the review (Van Aken, Berends, & van der Bij, 2012). Two methods for systematic literature search are used; search engines and the “snowball” method.

As the “founder” of the disruptive innovation theory, the book “The Innovators Dilemma” of Christensen (1997) formed the basis for the subsequent literature search. Based on the book, relevant search strings are derived to use in the search engines “Web of Science” and “Google Scholar”. By studying the title and summary the relevance of the articles found are evaluated. Relevant articles are read entirely and relevant findings are marked.

A second search technique that is applied is the “snowball” method; both backwards and forwards. Backward snowballing is done by tracing references, while forward snowballing is searching for articles that cite a specific article (Van Aken, Berends, & van der Bij, 2012). The relevant articles found using the search engines form the basis for applying the snowball method.

2.1.2. **Source Quality**

Except from a relevancy assessment, the articles are also judged on the quality of the journal it is published in. For evaluating the quality of the journals the “Academic Journal Guide 2015” from the Association of Business Schools (ABS) is used. Table 1 shows the ratings ABS uses to score the quality of journals.

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<th>Rating</th>
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<tr>
<td>4*</td>
<td>World elite journals</td>
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<tr>
<td>4</td>
<td>Top journals</td>
</tr>
<tr>
<td>3</td>
<td>Highly regarded journals</td>
</tr>
<tr>
<td>2</td>
<td>Well regarded journals</td>
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<td>1</td>
<td>Recognized journals</td>
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Table 1: ABS 2015 Ranking (Cremer, Laing, Galliers, & Kiem, 2015)

In Appendix 1 a complete oversight of the consulted journals in the literature review can be found. The journals most used for the literature review are Strategic Management Journal and Journal of Product Innovation Management (see also Appendix 2). The majority (more than 60%) of the articles consulted for the literature review are published in the period from 2000 to 2010 (see also Appendix 2).

To assess the quality of the articles used, the ABS rating scores of the journals publishing the articles is analysed. Figure 2 shows the partition of the journals consulted in the literature review per rating score. As shown in Figure 2, more than 40% of the articles cited in the literature review are published in word elite journals. Furthermore, only 10% of the articles consulted for the literature review are published in lower quality journals (rating score 1 or 2).
To further ensure the quality, only articles with an ABS rating of 2 or higher are used in the literature review. Two exceptions are made on this rule for the articles of Enders et al. (2006) and Lettice & Thomond (2008).

The article of Enders et al. (2006) discuss a case study about a firm that succesfully managed the shift to a disruptive innovation. Since case examples of firms succesfully adopting a disruptive innovation are rare (most literature covers firms that fail), it is decided to incorporate it in the literature review. However, because of the lower quality of the publishing journal, the article of Enders et al. (2006) is only used to reinforce statements of other authors with a case example.

The article of Lettice & Thomond (2008) bridges the gap between literature on mental models and resource allocation to disruptive innovations. No other literature covers this explicit link between these two literature streams. Due to this scarcity of research in this direction and since Lettice & Thomond (2008) use well regarded articles to support their statements, it is decided to incorporate the article in the literature review.

Next to scientific articles, also eight books are cited in the literature review. The quality of the books is assessed based on the reputation of the publisher and the number of citations according to Google Scholar. Appendix 1 provides an oversight of the books cited in the literature review.

### 2.2. Empirical Analysis

The empirical research is qualitative, and of a descriptive nature. According to Van Aken et al. (2012), qualitative research has to precede quantitative research to define what to measure. Considering the newness and limited information available about MPL and how banks react on it in The Netherlands, a qualitative design is chosen for this research. Descriptive studies describe an intervention or phenomenon and the real-life context in which it occurred and provide more information about a known intervention or phenomenon (Yin, 2003). Descriptive research is used to describe the development of the Dutch MPL market and how banks react on it. Following Van Aken et al. (2012) the research design is described along the unit of analysis, data collection, data analysis and the data reliability & validity.

#### 2.2.1. Unit of Analysis

In this research both a market level and an organizational level is used to analyze the development of the MPL market in The Netherlands. At the market level, valuable information is generated about the overall size, development and characteristics of the Dutch MPL market. Analyzing the individual MPL platforms active in The Netherlands (organization level) on different parameters provided more in depth information and underpinning for the findings at the market level.

For researching how banks can react on the developments in the market, two units of analysis are used; the organization and department level. At the organization level general information is collected about the banks that participated in the interviews. This information provided input for the preparation of the interview and for framing the research results. Most Dutch banks offer a wide range of different services to a wide range of customers, in contrast to MPL platform who only offer lending services. The lending activities of banks are clustered in a specific department which is the unit of analysis to determine the ability and motivation to respond and the possible reaction strategies.

#### 2.2.2. Data Collection & Selection

To realize the aim of the research and answer the research questions, two data collection methods are used; desk research and conducting semi-structured interviews. In semi-structured interviews a list of specific questions are used but sufficient room is left for additional information (Van Aken, Berends, & van der Bij, 2012). Semi-structured interviews are well suited to explore views of a person towards something and enhances the completeness of the view on a specific situation. On the other hand, the perceptions of the researcher and the unique characteristics of the interviewee can influence the response in case of semi-structured interviews (Van Teijlingen, 2014). Considering the descriptive nature, semi-structured interviews are appropriate for this study to gain deeper insights and to remain flexible to explore new solutions. Table 2 shows how the data is collected per research aim.
As shown in Table 2, both desk research and semi-structured interviews are used to achieve the first aim of this study; analyzing the rise of MPL platforms in The Netherlands. Desk research is used to gather qualitative and quantitative information on MPL and how it is developing (especially industry research reports). The research reports provided valuable input for preparing the semi-structured interviews and quantitative underpinning of the statements. Company websites and documents are used to analyze the MPL platforms while online databases are consulted to access statistical data for underpinning the statements. To ensure quality, industry reports and online databases are selected based on the reliability and relevance of the research and reputation of the publishing organization. However, the most extensive and important information is gathered through three semi-structured interviews with insiders in the MPL market. The semi-structured interviews are used to get a richer view on the characteristics of MPL, the current Dutch MPL market and how it is developing. To provide a representative view on the Dutch MPL market and limit personal and positional bias, interview targets are selected from multiple viewpoints (both investors and borrowers). The three insiders in the MPL industry that participated in the research are outlined in Table 3.

### Table 2: Data Collection

<table>
<thead>
<tr>
<th>Research Aim</th>
<th>Data Collection Method</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of MPL</td>
<td>• Desk research</td>
<td>• Company websites and documents</td>
</tr>
<tr>
<td></td>
<td>• Semi-structured interviews</td>
<td>• Industry research reports</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Online databases</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 3 interviews with industry insiders</td>
</tr>
<tr>
<td>Reaction Banks</td>
<td>• Desk research</td>
<td>• Company websites</td>
</tr>
<tr>
<td></td>
<td>• Semi-structured interviews</td>
<td>• Company Annual reports</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 6 interviews with managers divided over three different banks</td>
</tr>
</tbody>
</table>

The respondents outlined in Table 3 were selected based on their expertise and position to draw general conclusions about the (Dutch) MPL market. All the interviews lasted approximately 1 hour (see Appendix 3 for the interview guide).

For researching how banks can react on the entrance of MPL platforms, desk research is performed and semi-structured interviews are conducted at three Dutch banks. Desk research consisted of studying company websites and annual reports to gather background information for the interviews such as the company characteristics and the loan portfolio. Furthermore, a total of six semi-structured interviews are conducted with managers in the field of lending towards SME’s or innovation at three different banks (see Table 1).
Table 4: Interviewees per Case

<table>
<thead>
<tr>
<th>Case</th>
<th>Interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank A</td>
<td>• Business Manager Companies</td>
</tr>
<tr>
<td></td>
<td>• Project Manager</td>
</tr>
<tr>
<td></td>
<td>• Account Manager SME</td>
</tr>
<tr>
<td>Bank B</td>
<td>• Head of Credits, Product &amp; Price</td>
</tr>
<tr>
<td></td>
<td>• Head of Innovation Centre</td>
</tr>
<tr>
<td>Bank C</td>
<td>• Director External Relations Business Credits</td>
</tr>
</tbody>
</table>

To ensure quality the interview targets are selected based on their authority and insights in the management of the portfolio of lending services or in the innovation activities of the bank in The Netherlands. Before the interviews, an introduction on MPL and the research was sent to the respondents to prevent ambiguity about what MPL is in the interviews and to familiarize the interviewee with the research topic and interview topics. The interviews lasted between 1 and 1.5 hours each (see Appendix 4 for the interview guide).

2.2.3. **Data Analysis & Evaluation**

Van Aken et al. (2012) distinguishes two methods for analysing qualitative data; the grounded theory and the template approach. Whereas the grounded theory is a method to develop theory out of raw qualitative data, the template approach utilizes existing concepts and theories (Van Aken, Berends, & van der Bij, 2012). For this research both methods will be used.

For realizing the first aim of this study (analyze the rise of MPL platforms in The Netherlands) a large amount of qualitative data from various sources is analyzed. The interviews are transcribed to text and analyzed using the template approach. Coding is used to analyze two main aspects; (1) evidence for the characteristics of a disruptive innovation and (2) indications for the phase in the process of disruption where MPL is currently in.

For realizing the second aim of this study (how banks can react on the entrance of MPL platforms) both the grounded theory and the template approach is used to analyze the interview data. For analyzing the ability and motivation to respond of an organization to a disruptive innovation, Charitou & Markides (2003) provide clear theoretical underpinning. The different banks are classified along two axes in their ability and motivation to respond on MPL. Based on the interview data an assessment is made on the ability and motivation to respond and a score is assigned ranging from - - (low ability or motivation) to ++ (high ability or motivation). These scores are used to determine the degree to which a specific bank is able or motivated to respond to MPL. To determine how Dutch banks are reacting to the rise of MPL, the grounded theory is used. No previous research has investigated how firms react to a potentially disruptive innovation in its earlier stages. During the interview open questions are asked and open coding is used to draw new theory.

2.2.4. **Data Reliability & Validity**

Next to controllability, Swanborn (1996) distinguish two other quality criteria for research; reliability and validity. Validity can subsequently be subdivided in construct validity, internal validity and external validity. To secure the quality of this research, measures are taken on beforehand to ensure the reliability and validity (see Table 5).
Table 5: Measures Reliability & Validity

<table>
<thead>
<tr>
<th>Research Aim</th>
<th>Quality Criteria</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of MPL</td>
<td>Reliability</td>
<td>• Use of multiple sources</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Conducting multiple interviews with MPL insiders</td>
</tr>
<tr>
<td></td>
<td>Construct Validity</td>
<td>• Measurement instruments derived from literature</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Measurement instruments evaluated by experts at PwC</td>
</tr>
<tr>
<td></td>
<td>Internal Validity</td>
<td>• Theoretical triangulation</td>
</tr>
<tr>
<td></td>
<td>External Validity</td>
<td>• Replication</td>
</tr>
<tr>
<td>Reaction Banks</td>
<td>Reliability</td>
<td>• Use of multiple sources</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Discuss interview results with experts at PwC</td>
</tr>
<tr>
<td></td>
<td>Construct Validity</td>
<td>• Use of validated measurement instruments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Measurement instruments evaluated by experts at PwC</td>
</tr>
<tr>
<td></td>
<td>Internal Validity</td>
<td>• Theoretical triangulation</td>
</tr>
<tr>
<td></td>
<td>External Validity</td>
<td>• Replication</td>
</tr>
</tbody>
</table>

Reliability is ensured when the research results are independent of the particular characteristics of that study and can therefore be replicated in other studies (Swanborn, 1996). Taking more measurements is a common strategy to improve reliability (Van Aken, Berends, & van der Bij, 2012). The reliability of this research is therefore ensured by using multiple sources and replicating interviews. In assessing the rise of MPL the same interview questions have been asked to different insiders. For researching the reaction from banks multiple interviews with different managers are held at Bank A (3) and Bank B (2). To ensure the reliability at Bank C, one interview is held with a senior director (directly reporting to the CEO) and the interview results have been validated by PwC, with the limitation that the validation is performed from a consultancy perspective.

Construct validity is defined as the extent to which a measuring instrument is intended to measure (Van Aken, Berends, & van der Bij, 2012). For both assessing the rise of MPL and the reaction of banks no standard measurement instruments are available. The literature provides a good description of the different constructs and for some constructs standard question lists used in previous studies are available. Construct validity is therefore ensured by deriving the measurement instruments from the literature and by validation by PwC.

Internal validity is achieved when conclusions about relationships are justified and complete (Van Aken, Berends, & van der Bij, 2012). First of all, following Van Aken et al. (2012), theoretical triangulation (viewing a problem from several theoretical angles) is used in the literature review to ensure internal validity. Moreover, respondents both at the banks in the sample as the MPL insiders are selected based on their complementarity to each other. This enhances the completeness of the suggested relationships and subsequently the internal validity of the study.

External validity is defined as the generalizability of research results and conclusions to other people, organizations, countries and situations (Van Aken, Berends, & van der Bij, 2012). External validity in this study is achieved by replicating the same interview questions along different cases. The external validity of this research is limited to the Dutch banking industry. The aim of this research is to assess the ability and motivation of a specific organization to react on a specific innovation. So in line with Van Aken et al. (2012) it is concluded that external validity across industries and countries is less important for these kind of researches. In the future this research can be executed in other industries and countries.

This chapter provided a description about the methodology used both for the review of the literature as the empirical research. The next chapter shows the review of the literature.
3. Literature Review

To research what is already known about disruptive innovations and how incumbents react to them, a review of the current literature is executed. First is described what disruptive innovations are, how they develop and what their effects are for incumbents, where after the current state of the literature on the reaction of banks on disruptive innovations is reviewed.

3.1. Disruptive Innovations

This chapter aims to answer sub research questions 1, 2 and 3 by summarizing the findings in the literature on the definition and characteristics of disruptive innovations, the process through which a disruptive innovation evolves and the competitive effects of a disruptive innovation.

3.1.1. Definition Disruptive Innovations

Disruptive technologies bring to a market a very different value proposition than had been available previously. Disruptive innovations stand in contrast to sustaining innovations that improve the performance of established products, along the dimensions of performance that mainstream customers in major markets have historically valued (Christensen, 1997). Christensen (1997) observes that firms experience little difficulties in adopting sustaining innovations that target their current customers, but fail in the face of disruptive innovations that target new or low-end markets. The notion of sustaining versus disruptive innovations is very different from the most used distinction between incremental versus radical innovations (Christensen, 1997). Radical innovations are based on a substantially new technology and could initially be targeted at both a mainstream or emerging market. In contrast, disruptive innovations are initially targeted at an emerging market and may not involve the newest technology (Govindarajan, Kopalle, & Danneels, 2011). In his original theory, Christensen (1997) focused on disruptive technologies, defining technology as “the processes by which an organization transforms labor, capital, materials and information into products or services” (Christensen & Bower, 1996, p.198). Therefore, Christensen & Bower (1996) argue that the theory applies to all types of firms. In later work, Christensen & Raynor (2003) also broadened the definition to disruptive innovations. In today's literature the terms disruptive technologies and disruptive innovations are used interchangeably.

One of the limitations in the theory on disruptive innovations is the lack of a widely accepted definition (Kostoff, Boylan, & Simons, 2004; Tellis, 2006; Yu & Hang, 2010; Sood & Tellis, 2011). Consequently the word disruption has become loaded with meanings and connotations (Schmidt & Druehl, 2008). Christensen only loosely defined the term disruptive innovation (Klenner, Hüsig, & Dowling, 2013) and does not provide clear cut criteria whether or not an innovation is considered disruptive (Danneels, 2004). In the few definitions that have emerged in the literature all authors agree on one thing; a disruptive innovation introduces a new set of performance attributes along which firms compete (Christensen & Bower, 1996; Danneels, 2004; Kostoff, Boylan, & Simons, 2004; Govindarajan & Kopalle, 2006). In his original work, Christensen (1997) described disruptive innovations along the following characteristics; they have initially lower performance, emphasize other product attributes, promise lower margins and are first launched in emerging or insignificant markets. Although Govindarajan et al. (2011) statistically tested these characteristics of disruptive innovations and found consistent results, several contradictions and exceptions can be found in the literature. Below these characteristics are explained in more detail and the contradictions and exceptions in the literature are discussed.

3.1.1.1. Lower Performance

According to Christensen (1997) new products based on disruptive technologies initially have lower performance on dimensions relevant to the mainstream market segment. This so called “lower attack” occurs when, at the time of its entry, a new technology performs worse than the dominant technology on the primary dimension of performance (Sood & Tellis, 2011). It is derived from the literature that a lower attack is more threatening than an upper attack because firms that focus on the dominant technology often do not perceive the new technology as a threat (Schmidt & Druehl, 2008; Schmidt & Porteus, 2000; Sood & Tellis, 2005). Innovations using a lower attack are targeted at new consumers or those in low-end markets and thus avoid direct competition with the dominant technology (Sood & Tellis, 2011).

The characteristic of lower performance is questioned in the literature by Danneels (2004) and Sood & Tellis (2011). Danneels (2004) uses the example of DVD’s to question if all disruptive innovations start with lower performance. Sood & Tellis (2011) acknowledge the danger of lower attacks but argues that the effect has been
exaggerated. Researching 36 technologies in seven markets, Sood & Tellis (2011) showed that only 25% of all firm disruptions were caused by entrants using a lower attack.

3.1.1.2. Different Attributes
Although disruptive technologies initially have lower performance on parameters valued by the mainstream, they have higher performance on alternative dimensions valued by remote or emerging market segments (Danneels, 2004). Christensen observed that disruptive technologies are typically simpler, cheaper, easier, and more convenient than dominant technologies. These disruptive technologies often disrupt workforce participation by allowing unsophisticated individuals to enter and become competitive in the industrial workforce (Kostoff, Boylan, & Simons, 2004). However, these characteristics may be typical, but not necessary to qualify an innovation disruptive (Danneels, 2004; Tellis, 2006).

Christensen (1997) state that disruptive innovations bring to a market a very different value proposition than had been available previously. Disruptive innovations change the bases of competition because they introduce a dimension of performance along which products did not compete previously (Danneels, 2004). As a result, the markets around disruptive innovations tend to have different key success factors than established markets and require a different combination of tailored activities on the part of the firm (Markides C., 2006; Christensen, 1997). In many cases, these activities are not only new, but also conflicting with the current way of doing business (Christensen, 1997; Markides C., 2006; Henderson, 2006). Since disruptive innovations require different and conflicting value chains from the ones established companies currently have, incumbents initially have little incentive to adopt them or to respond to them (Markides C., 2006).

3.1.1.3. Emerging Market
Disruptive innovations create growth in the industries they penetrate, or create entirely new industries (Kostoff, Boylan, & Simons, 2004). The literature states that disruptive innovations are typically launched in emerging or insignificant markets, either targeting at non-consumption or at the low-end of the existing market. Three types of markets where disruptive innovations are initially launched in are identified in the literature, as shown in Table 6. As explained in Chapter 3.1.1.1 & 3.1.1.2, disruptive innovations perform lower on the core attributes offered by the current product but offer higher performance on a different/ancillary attribute. As argued by Schmidt & Druelh (2008) and Van Orden et al. (2011) the performance and preference for the ancillary attribute determines which type of market a disruptive innovation is launched in first (see Table 6).

<table>
<thead>
<tr>
<th>Market-type</th>
<th>Ancillary Attribute Performance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detached-market</td>
<td>High</td>
<td>Opens up a new market where the preferences are so divergent that it is detached from the current market (Schmidt &amp; Druelh, 2008; Van Orden, Van der Rhee, &amp; Schmidt, 2011).</td>
</tr>
<tr>
<td>Fringe-market</td>
<td>Moderate</td>
<td>Opens up a new market where the preferences are only incrementally different from those on the low end of the current market (Schmidt &amp; Druelh, 2008; Van Orden, Van der Rhee, &amp; Schmidt, 2011).</td>
</tr>
<tr>
<td>Low-end market</td>
<td>Low</td>
<td>Immediately encroaches on the low end of the current market (Schmidt &amp; Druelh, 2008; Van Orden, Van der Rhee, &amp; Schmidt, 2011; Christensen, Johnson, &amp; Rigby, 2002).</td>
</tr>
</tbody>
</table>

In the case of a detached-market customers are willing to pay a high price for the product or service because the performance on the ancillary attribute is so high, although it performs low on the core dimension (Van Orden, Van der Rhee, & Schmidt, 2011). In the case of a fringe-market, a disruptive innovation offers substantively improved performance on an alternative dimension such that it attracts new customers on the low-end fringe of the current market (Van Orden, Van der Rhee, & Schmidt, 2011). A new market is on the fringe of the old market when buyers would have bought the current (old) product if it was less expensive (Schmidt & Druelh, 2008). Depending on the extent to which the core attribute is de-rated and depending on the strength of performance of the new attribute, this type of product can cost less or a bit more than the original product (Van Orden, Van der Rhee, & Schmidt, 2011). According to Christensen et al. (2002) new market disruptions that
target non-consumption by giving customers direct access to products or services that had been too expensive or too complex for the mainstream are most effective.

In his original theory, Christensen (1997) argues that incumbents find it difficult to react on new-market disruptions because their current customers initially do not want the disruptive innovation. Christensen (1997) supports his statement with the theory of resource dependencies which states that while managers may think they control the flow of resources in their firms, in the end it is really customers and investors who dictate how money will be spent (Christensen & Bower, 1996). This is also in line with the famous phrase of Hamel & Prahalad (1994) “the tyranny of the served market”, to refer to the destroying effect of solely focusing on serving current customers. Established firms get most of their revenues and profits from the existing products targeting the mainstream segment (Raffi & Kampas, 2002), so they devote all their efforts to perfect the current product (Sood & Tellis, 2011; Kleiner, Hüsig, & Dowling, 2013). Danneels (2004) questioned the theory of Christensen by arguing that the firms investigated by Christensen (1997) just showed a shallow understanding of their customers’ needs. It seems that the incumbents researched by Christensen (1997) had a strong first-order customer competence, but lacked the ability to build the resources necessary to serve new markets (Danneels, 2006). A truly customer oriented firm understands the latent and unexpressed needs of its customers (Slater & Narver, 1998) and focusses both on current and potential customers (Danneels, 2004; Paap & Katz, 2004). Research of Govindarajan et al. (2011) supports this statement, showing that a mainstream customer orientation has a positive impact on sustaining innovations, while an emerging customer orientation was positively related to disruptive innovations.

In contrast to new-market disruptions, low-end disruptions attack the least-profitable and most over-served customers at the low end of the original market (see Table 6) (Christensen & Raynor, 2003). The low-end of the market thus consists of customers with the lowest demand for the product’s key performance attribute and the lowest willingness to pay for the product (Schmidt & Druehl, 2008).

For low-end disruption to succeed there must be less demanding customers in the market who would welcome a cheaper product and the product must be commercialized in a disruptive business model that enables the entrant to compete profitably while pricing at deep discounts (Christensen, Johnson, & Rigby, 2002). If a new entrant introduces a new product that encroaches from the high end, then the incumbent tends to defend its market quickly and resolutely, since the established firm is losing its best customers (those with highest willingness to pay) (Schmidt & Druehl, 2008). In contrast, when new entrants attack the less profitable customers in the less attractive tiers of the market they avoid direct competition with established firms (Sood & Tellis, 2011) and incumbents will be motivated to move towards more profitable customer tiers (Christensen, Johnson, & Rigby, 2002).

Next to a focus on current customers, Christensen (1997) also argues that the initial small size of the markets where disruptive innovation are typically commercialized in, make it not a rational decision for large firms to adopt a disruptive innovation early. Emerging markets are not large enough for larger firms to create a strong argument that emerging markets can be a useful engine for growth (Christensen, 1997). Established firms tend to prefer to wait until the disruptive technology is proven and until the market is large enough to be interesting (Kassicieh, et al., 2002; Christensen, 1997). Although Danneels (2004) acknowledge that it seems crucial for a disruptive innovation to mature in a marginal market, the generalizability of the claim that incumbents are unable to enter new small markets is questioned. The results of King & Tucci (2002) and Chesbrough (2003) on the hard-disk-drive industry conflict with the findings of Christensen (1997) in that the former scholars found that firms with greater prior disk drive revenues were more likely to enter new market niches, albeit later in time, than firms with less prior revenues.

3.1.1.4. Lower Margin

The literature states that disruptive innovations typically are cheaper, have a lower margin and require a different cost structure than the incumbent solution.

The statement that disruptive innovations are typically cheaper than incumbent solutions is most extensively studied by Adner (2002) from a demand based view. Adner (2002) showed that while disruption is enabled by sufficient performance, it is enacted by price. When the incumbents solution surpasses the functional threshold, customers have diminishing marginal returns and willingness to pay for performance improvements. When consumers’ performance requirements are well satisfied, technologies that offer lower relative performance at lower price become increasingly attractive (Adner, 2002). However, Christensen et al. (2004) list several
exceptions on the rule of low price such as the cell phone and digital cameras. As described in Chapter 3.1.1.3, in these cases the new market segment so highly values the alternative attributes of the disruptive innovation that it is willing to pay a high price for it, even when the new product offers lower performance on the parameter that mainstream customers value most (Schmidt & Druehl, 2008). Furthermore, Sood & Tellis (2011) found contradicting results on Christensen’s statement that disruptive innovations are typically cheaper. Although Sood & Tellis (2011) acknowledge that lower price increases the likelihood of disruption, they found that most potentially disruptive innovations (using a lower attack) are not priced lower than existing technologies at entry.

Christensen (1997) also argues that investing in disruptive technologies is not a rational financial decision for established firms because they generally promise lower margins, not greater profits. The rationale behind this claim is that companies earn attractive profit margins by targeting more demanding customers who are not yet satisfied by existing offerings. A move down-market toward customers who are already satisfied by existing solutions promise profit margins that aren’t nearly as attractive (Christensen, Johnson, & Rigby, 2002). Christensen et al. (2002) argue that when entrants attack less profitable customers, incumbents will always be motivated to move toward more profitable customer tiers.

Finally, disruptive innovations frequently deliver revenues through different mechanisms as the current product/service (Gilbert & Bower, 2002). Christensen (1997) therefore argues, that disruptive innovations require a different cost structure in comparison with the dominant technology. When not targeting at non-consumption, a disruptive business model have to consist of a cost structure, operating processes and a distribution system in which profit margins are thinner, but net asset turnovers are higher (Christensen, Johnson, & Rigby, 2002). The unattractiveness of disruptive innovations for established firms gives new entrants the opportunity to address the needs of current non-users or low-end users and build a competitive advantage in manufacturing cost and design experience (Husig, Hipp, & Dowling, 2005).

3.1.2. Process of Disruption
One of the misconceptions in the theory on disruptive innovations is that disruption is described as an event (Christensen, 2006; Gilbert C., 2003). In contrast, the disruption of a market is a dynamic process (Husig, Hipp, & Dowling, 2005; Adner, 2002) and it can take years and even decades before the new disruptive innovation encroaches heavily on the mainstream market (Gilbert C., 2003). It is in part because of the non-disruptive nature of a disruptive innovation in the short turn, that an incumbent may fail to react in a timely manner (Schmidt & Druehl, 2008). From the literature it seems that a disruptive innovation operates through a specific mechanism (Danneels, 2004). Following the literature, the process of disruption follows three phases; (1) the disruptive innovation is launched in an emerging market, (2) subsequently the innovation increases in performance in that market and eventually (3) the innovation encroaches in the mainstream market to disrupt the incumbents, as shown in Figure 3.

Figure 3: Process of Disruption

Disruptive innovations are first launched in either a new market or at the low-end of the existing market (Christensen, Johnson, & Rigby, 2002; Schmidt & Druehl, 2008; Van Orden, Van der Rhee, & Schmidt, 2011), as described in Chapter 3.1.1.3. The different functional package offered by disruptive innovations, plays an important role in the initial adoption by the remote or emerging market segments (Adner, 2002). Although Raffi & Kampas (2002) argue this stage is not always necessary, they do agree that it can help the new entrant develop size and momentum before going after a powerful incumbent. Moreover, disruptive innovations are associated with using a lower attack; initially they perform worse than the dominant technology on the primary dimension of performance (Sood & Tellis, 2011; Schmidt & Druehl, 2008; Christensen, 1997), as described in
more detail in Chapter 3.1.1.1. Finally the theory suggests that incumbents do not enter the new sub-market early because of the initial small size (Christensen, 1997), uncertainty about the technology and potential market size (Chesbrough H. W., 2003; Walsh, 2002; Henderson, 2006; Christensen, 1997), long time range for pay-offs (Walsh, 2002; Henderson, 2006; Kostoff, Boylan, & Simons, 2004), conflicts between the current and the disruptive business model (Christensen, 1997; Markides C. , 2006; Henderson, 2006; Kostoff, Boylan, & Simons, 2004) and resource dependency (Christensen & Bower, 1996; Raffi & Kampas, 2002; Sood & Tellis, 2011; Klenner, Hüsig, & Dowling, 2013). Established firms are periodically confronted with the emergence of new sub-markets, and entering them is a calculated risk (Chesbrough H. W., 2003). Firms must decide whether to enter into these new sub-markets and if so, when to enter them (Chesbrough H. W., 2003). However, because of the technology and market uncertainty, the commercialization of disruptive technologies is hard to quantify and therefore justify in financial terms (Walsh, 2002; Henderson, 2006).

Disruptive innovations follow a pattern that is called low-end encroachment; the disruptive innovation encroaches on the old product from the low end upward toward the high end, with the low-end customers the first to switch and the high-end customers being the last to switch (if ever) (Schmidt & Druehl, 2008; Sood & Tellis, 2011). Key in the mechanism of disruption is that the innovation matures in the marginal market and gradually improves its performance to satisfy the needs of higher-end segments (Danneels, 2004). Low-end disruptions (as described in Chapter 3.1.1.3) improve to attract higher customer segments while new-market disruptions improve enough to become attractive to the low-end customers of the older product (Schmidt & Druehl, 2008). To continue growth, the firms exploiting the disruptive innovation must continue to find important but unresolved problems or must compete for differential advantage against the traditional technology (Myers, Sumpter, Walsh, & Kirchhoff, 2002).

It is common that new technologies are first commercialized in niche segments but, whereas some stay in their niche it is typical for a disruptive innovation that it eventually moves from the emerging to the mainstream market (Govindarajan, Kopalle, & Danneels, 2011; Adner & Zemsky, 2005). Bower and Christensen (1996) note that disruptive innovations have superior performance trajectories in comparison with the old technology along critical performance dimensions that customers value. Over time, the disruptive innovation improves to such an extent that it is able to deliver sufficient performance in the old attributes, and superior performance on the new attributes (Markides C. , 2006). At this moment the disruptive innovation appeals even to the very mainstream customers that initially neglected it (Schmidt & Druehl, 2008). Scholars contradict in what actually enacts the shift of mainstream customers from the old product to the disruptive innovation. Christensen (1997) argues that disruption occurs because the new technology offers sufficient performance on the old attributes, but superior on the alternative attributes. However, Adner (2002) argues that the superior performance on previously marginal attributes is an incomplete explanation for the adoption in the mainstream market. With a simulation study Adner (2002) showed that while disruption is facilitated by sufficient performance, it is enacted by a lower unit price. Central in the theory of Christensen (1997) is that at the time of introduction of a disruptive innovation, incumbents have little incentive to react on them. However, at this point in the process of disruption incumbents cannot ignore the disruptive innovation anymore and they begin to consider ways to respond to it (Markides C. , 2006; Myers, Sumpter, Walsh, & Kirchhoff, 2002). When the market for the disruptive innovation grows, it is starting to attract the attention of incumbents and as more mainstream customers embrace the new product or service, they begin to consider ways to respond (Charitou & Markides, 2003). Most large incumbents adopt a strategy of waiting until new markets are large enough to be interesting (Kassiech, et al., 2002). From the literature it can be deducted that incumbents delay decisions on how to respond until the disruptive innovation encroaches in the mainstream market.

3.1.3. Competitive Effect

Many authors have largely questioned the generalizability of two of the statements of Christensen (1997); (1) the inability of incumbents to respond and (2) that disruptive innovations necessarily grow to take over the entire market.

The theory of disruptive innovation is often associated with the replacement of incumbents by new entrants (Yu & Hang, 2010). However, this universal claim came under attack by recent research (Husig, Hipp, & Dowling, 2005; Yu & Hang, 2010). Several authors state that many but not all firms failed in the face of disruptive technological change (Christensen, 1997; Yu & Hang, 2010; Danneels, 2004). Multiple studies show examples of firms that managed to identify and exploit a disruptive innovation in a timely manner (Chesbrough H. W., 2003; Paap & Katz, 2004; Enders, König, Jelas, & Hungenberg, 2006). Disruptiveness is also regarded as a relative phenomenon; what may be disruptive to one firm can be sustaining to another organization in the same industry (Sainio & Puumalainen, 2007; Yu & Hang, 2010; Christensen, 2006). Incumbents are often treated as
one population rather than as many populations with different resources, market positions and strategies (Sandström, Magnusson, & Jörnmark, 2009). The disruptiveness of a disruptive innovation for an incumbent can only be measured relative to the current business model (Christensen, 1997; Sainio & Puimalainen, 2007; Christensen, 2006).

Many scholars have also questioned the predictive value of the theory on disruptive innovations (Yu & Hang, 2010). Tellis (2006) questioned the logic of sampling; while all of Christensen’s case studies are of disruptive innovation that did succeed, there are many potentially disruptive innovations that failed (Danneels, 2004). The question remains how you can distinguish disruptive technologies from the many other underperforming technologies that small and large competitors in the market are constantly introducing (Tellis, 2006).

Several authors also observed that not all disruptive innovations completely replace the incumbent business (Yu & Hang, 2010; Schmidt & Druehl, 2008; Markides C., 2006; Adner & Zemsky, 2005; Markides C., 1997), a point that is acknowledged by Christensen (2006). A disruptive innovation can have a major impact on an existing market without totally displacing it (Schmidt & Druehl, 2008). To correct for these inconsistencies in the literature, Markides (2006) makes the distinction between two specific types of disruptive innovations; disruptive business-model innovations and disruptive technological innovations. Disruptive technologies and disruptive business models share many similar characteristics, are both disruptive to incumbents but they have different competitive effects and produce different markets and thus should be treated as distinct phenomena (Markides C., 2006). Whereas the theory on disruptive technologies is associated with replacement of the old technology, the literature on business-model innovations does not support such an extreme position (Markides C., 2006). In market after market, the new ways of playing the game grow to a respectable size but never really replace the old ways (Charitou & Markides, 2003; Kim & Mauborgne, 1999). Disruptive business-models follow the same characteristics as disruptive innovations, but whereas disruptive technologies are based on new technologies or adoptions of existing technologies, disruptive business-models do not discover new products or services but redefine what an existing product or service is and how it is provided to the customer (Markides C., 2006).

3.2. React to Disruption

Whereas the previous chapter described what a disruptive innovation is, how it develops and what the competitive effects are, this chapter addresses the literature available how incumbents can react on the introduction of a disruptive innovation in its industry. Sub research question 4 and 5 are addressed by summarizing the literature on the determinants on how incumbents can react on a disruptive innovation and which alternatives incumbents have in reacting to a disruptive innovation.

3.2.1. Determinants

Most of the literature in the reaction on disruptive innovations have focused on how firms can adopt a disruptive innovation. However, as shown in Chapter 3.1.3 disruptive innovations do not always completely replace the incumbent business, and not adopting it can thus be a rational choice. However what determines how an incumbent can react on a potentially disruptive innovation? Charitou & Markides (2003) addressed this question and found that the reaction of an incumbents is determined by its ability and motivation to respond. The statements made by Charitou & Markides (2003) are supported by various literature streams. Below the distinction between the ability and motivation to respond, and their underlying concepts, are explained in more detail.

3.2.1.1. Ability to Respond

Charitou & Markides (2003) assesses the ability of a firm to respond to a disruptive innovation based on the available resources, its portfolio of skills and the conflict between the old and new business model.

3.2.1.1.1. Conflict between old and new

The nature and size of the conflicts between the traditional business and the new business is believed to be the most constraining factor in the ability of incumbents to respond to disruptive innovations (Charitou & Markides, 2003; Osiyevskyy & Dewald, 2015). The existence of conflicts between traditional and disruptive business models have been widely reported in the literature (e.g. Christensen, 1997; Markides C., 2006; Osiyevskyy & Dewald, 2015; Charitou & Markides, 2003). Table 7 summarizes the different types of conflicts, and the associated risks of adopting a disruptive business model, that are present in the literature on disruptive innovations.
Table 7: Conflicts between old and new business model

<table>
<thead>
<tr>
<th>Risk of Conflicts</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of shifting customers from high-value activities to low-margin ones</td>
<td>Markides &amp; Charitou (2004) and Moorthy &amp; Png (1992)</td>
</tr>
<tr>
<td>Risk of undermining the company’s image or reputation and the value associated with it</td>
<td>Porter (1996), Markides &amp; Charitou (2004) and Sandström et al. (2009)</td>
</tr>
<tr>
<td>Risk of legitimizing the new business, thus creating an incentive for other companies to also enter this market</td>
<td>Debruyne &amp; Reibstein (2005) and Markides &amp; Charitou (2004)</td>
</tr>
<tr>
<td>Risk of adding activities that may confuse the employees and customers regarding the company’s incentives and priorities</td>
<td>Markides &amp; Charitou (2004)</td>
</tr>
</tbody>
</table>

A constraining factor in reacting to a disruptive innovation that is often mentioned in the literature is the cannibalization of the existing customer base (Chandy & Tellis, 1998; Walsh, 2002; Markides & Oyon, 2010; Schmidt & Druehl, 2008; Govindarajan & Kopalle, 2006; Kostoff, Boylan, & Simons, 2004; Kim & Min, 2015). Cannibalization of sales is defined as a loss in sales of a firm’s current product due to sales of a new product by the same company (Mason & Milne, 1994; Schmidt & Druehl, 2008). Firms face the risk of shifting customers from high-value activities to lower-margin ones (Markides & Charitou, 2004; Moorthy & Png, 1992). Companies have to balance the risk of rushing into new areas and potentially cannibalizing their existing business against the risk of missing the emerging market (Debruyne & Reibstein, 2005). However, since disruptive innovations start new markets and attract new customers, they are not cannibalistic immediately to incumbents (Gilbert & Bower, 2002).

Furthermore, Porter (1996) argues that a firm, by competing with two business models in the same industry, risks paying large straddling cost by damaging their existing brands and diluting their organizations. Firms face the risk of undermining the company’s reputation or image, creating confusion about the firms’ incentives and priorities and of defocusing the organization by trying to do everything for everybody (Markides & Charitou, 2004). The tradeoffs that arise between the two conflicting businesses might lead to a situation where the firm get stuck in the middle (Markides & Oyon, 2010). Markides & Charitou (2004) also highlight the risk of legitimizing the new business and thus creating incentives for other companies to also enter the new market.

Since disruptive innovations emphasize different performance attributes, they have also different key success factors and require a different set of tailored activities in comparison with the existing business (Markides C., 2006). These activities are not only different, they often also conflict with the current business (Markides C., 2006; Markides & Charitou, 2004; Porter, 1996; Christensen, 1997). Several authors also state that firms by competing with two business models in the same industry risk reducing the value of its existing activities (Porter, 1996; Kim & Min, 2015). This is supported by Markides & Charitou (2004), who state that firms with adopting a disruptive business model risk compromising the quality of service offered to customers. By adopting a disruptive innovation, firms also face the risk of destroying the overall culture of the organization (Markides & Charitou, 2004). Case studies have shown that in times of disruptive change the organizational
culture generates an inertia that is so difficult to overcome directly that it is a key reason why managers often fail to introduce substantial change in a timely manner (Henderson, 2006; Christensen & Raynor, 2003).

3.2.1.1.2. Skills Portfolio
An incumbents ability to respond to a disruptive innovation is also determined by the relatedness of its skills and competences in comparison with the new business (Charitou & Markides, 2003). Tushman & Anderson (1986) were the first to distinguish competence-enhancing and competence-destroying discontinuities. Whereas competence-enhancing discontinuities build on existing experience, competence-destroying discontinuities require fundamentally new skills and technological competence (Tushman & Anderson, 1986). Leonard-Barton (1992) showed that the competencies that are an organizations competitive advantage in its current business, may become its core rigidities in future business. Disruptive innovations are also frequently related to competence destroying discontinuities (Henderson, 2006; Sainio & Puumalainen, 2007; Christensen, 1997). Since a disruptive innovation target different customers and offers different value propositions in comparison with the traditional business, it also requires different skills and competences (Sood & Tellis, 2011; Charitou & Markides, 2003). However, it should be noted that Christensen (1997) explicitly mentions that incumbents do not seem to have difficulty surviving competence-destroying technological shifts as long as it addressed the needs of the incumbents' mainstream customers.

What customers value may change over time, inducing the need for firms to adapt their capabilities accordingly (DaSilva, Trkman, Desouza, & Lindic, 2013). However, it is difficult for an organization to abandon known ways in favor of new ones (Dewald & Bowen, 2010). Firms develop a dominant logic based on the ways in which past success is achieved. A dominant logic helps firms in stable environments, however in changing environments it can blind managers making it hard to see emerging opportunities or threats of new innovations, and it may become an obstacle to developing new capabilities (Prahalad, 2004). However, the literature stream on dynamic capabilities do suggest that some firm do learn new skills to adapt to shifting environmental contexts (O’Reilly & Tushman, 2008). Teece (2007) define dynamic capabilities as “the distinct skills, processes, procedures, organizational structures, decision rules and disciplines that enable the senior leaders of a firm to identify threats and opportunities and to reconfigure assets to meet these”. These capabilities enable firms to reconfigure existing competences and learn new capabilities to both explore the disruptive innovation and exploit the current business (O’Reilly & Tushman, 2008). In reacting to a disruptive innovation, firms should assess what kind of skills and competences they currently have and what they need in the new business (Charitou & Markides, 2003).

3.2.1.1.3. Available Resources
Charitou & Markides (2003) note that an incumbents ability to respond is also influenced by the resources and the time it has at its disposal. In their efforts to grow, incumbents have many investment alternatives such as investing in adjacent markets or expanding the current business internationally (Markides C., 2006; Christensen, 2006). As explained in Chapter 3.1.1, investing in a disruptive innovation in most cases does not make economic sense for established firms (Christensen, 1997; Markides C., 2006). Considering the limited resources and other growth options, investing in a disruptive innovation may rank low on an incumbents priority list (Markides C., 2006).

Resource allocation is explained in the literature on disruptive innovations by the concepts of resource dependencies (Christensen, 1997; Yu & Hang, 2010) and path dependencies (Lettice & Thomond, 2008; Chesbrough H. W., 2003) and the resulting investment decision processes (Christensen, 1997; Yu & Hang, 2010). The concept of resource dependency, also explained in Chapter 3.1.1.3, states that not the firm itself but his customers and investors dictate how resources will be used (Christensen & Bower, 1996). Therefore, resource dependencies limit a management team’s freedom of action to satisfy the needs of those entities outside the firm that give it the resources it needs to survive (Lettice & Thomond, 2008; Christensen, 1997; Yu & Hang, 2010). Therefore, established companies find it very difficult to invest adequate resources in disruptive technologies until their customers want them (Christensen, 1997). Resource dependency also influences how managers may develop and apply resource allocation routines (Lettice & Thomond, 2008). Incumbents develop structured routines, such as the key evaluation factor of financial returns (Christensen 2006) and traditional market research reports to evaluate businesses (Yu & Hang, 2010). Following the concept of path dependency, firms replicate the routines that are associated with success, while those associated with failure are discarded or adjusted. The ongoing process of discarding unproductive routines and replication of successful ones, leads to a situation where an organizations routines are specialized towards very specific outcomes (Ahuja & Lampert,
2001). Path dependency generates efficient processes allocation of resources in favor for sustaining innovations (Lettice & Thomond, 2008), eliminating disruptive projects that are evaluated by the same criteria (Yu & Hang, 2010). Chen et al. (1992) also showed that most firms are unlikely to respond and to respond quickly to a competitive challenge which requires significant efforts to implement. Reacting involves complex coordination among many departments or external constituencies, disruption of existing systems, relocation of personnel, and a high chance of costly error. Responding thus requires considerable managerial and financial resources (Chen & Miller, 1994). From a resource perspective, the size of an incumbent plays a role in the resources available to respond to a disruptive innovation.

### 3.2.1.2. Motivation to Respond

Charitou & Markides (2003) assesses a firm’s motivation to respond to a disruptive innovation based on the strategic relatedness, level of threat and the innovation’s growth rate.

#### 3.2.1.2.1. Strategic Relatedness

The most important motivation to respond for incumbents according to Charitou & Markides (2003), is how strategically related the new business is to the existing one; the more strategically related, the more motivated the firm will be to respond. The rationale behind the positive influence of strategic relatedness on the motivation to respond to a disruptive innovation originates from the literature on related diversification. Diversification allows companies to exploit economies of scale to increase efficiency and subsequent performance (Palich, Cardinal, & Miller, 2000; Hill, Hitt, & Hoskisson, 1992; Markides & Williamson, 1994). Diversified firms can exploit any synergies between two or more businesses to achieve cost or differentiation advantages over an undiversified competitor (Markides & Williamson, 1996). However, expanded diversification to unrelated businesses has been found to increase strain on top management, decision making and governance (Palich, Cardinal, & Miller, 2000). In a meta-analysis Palich et al. (2000) showed that moderate levels of diversification yield higher levels of performance, finding support for a curvilinear relationship between diversification and performance. Related diversification allows firms to exploit the interrelationships among its different businesses and so achieve cost and competitive advantages over its competitors (Markides & Williamson, 1994; Hill, Hitt, & Hoskisson, 1992; Peteraf, 1993).

Markides & Williamson (1994, 1996) and Robins & Wiersema (1995) argued that relatedness must be measured at the strategic asset level. Strategic assets are defined as skills, resources, assets, or competences that are valuable in the production function and difficult for competitors to access (Barney, 1991). Strategic assets are typically imperfectly tradable, substitutable and imitable (Barney, 1991; Peteraf, 1993). Only if the traditional and the new business share enough strategic assets should the two businesses be considered related (Charitou & Markides, 2003). In deciding to adopt a disruptive innovation, firms should assess what kind of assets they currently have and what they need in the new business (Charitou & Markides, 2003). Whether an asset of an established firm is complementary or conflicting depends on the match between its current and the disruptive business model (Kim & Min, 2015). As shown in Table 8, Markides & Williamson (1994) distinguishes three types of strategic assets (customer, channel and process assets) and provided several indicators for each type of strategic asset.
<table>
<thead>
<tr>
<th>Strategic Asset Type</th>
<th>Indicators</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer assets</td>
<td>Customer concentration/fragmentation</td>
<td>The degree to which a firm deals with few, large customers rather than interfacing with a fragmented account base. The objective is to measure the scope to which a firm can build deep and sustained relationships with their customers. To the extent that firms share these similar sales management requirements in their portfolio of businesses, it is expected that there are greater opportunities to share and build strategic assets.</td>
</tr>
<tr>
<td>Service Requirement</td>
<td>Service Requirement</td>
<td>In an industry characterized by a high level of service requirement it is more likely that strategic assets such as good customer relationships (service reputation) and organizational capital to provide quality of service are important. To the extent that a firm share the same service quality requirements across its businesses, it is expected that there are greater opportunities for building and sharing core competences in providing quality of service to the customer.</td>
</tr>
<tr>
<td>Channel assets</td>
<td>Channel Dependence</td>
<td>Distribution relationships are considered strategic assets in many businesses that depend on third-party channels. Skills in building and managing distribution and dealer networks form the basis of a potentially important core competence. Strategic relatedness will therefore also tend to be higher among markets that share similar levels of channel dependence.</td>
</tr>
<tr>
<td>Process assets</td>
<td>Product standardization vs. customization</td>
<td>Product customization (made-to-order supply) require strategic assets to facilitate two-way communication with customers, flexible production systems and reduction of lead times. In contrast, product standardization requires strategic assets which underpin effective stock control, demand forecasting and batching efficiencies. Strategic relatedness between businesses will therefore tend to be high when they share a common focus on either made-to-order production or supply from stock.</td>
</tr>
<tr>
<td>Skill level of labor force</td>
<td>Skill level of labor force</td>
<td>In businesses skilled staff are an important source of advantage, human capital and the systems in place will be more critical to advantage than in businesses with high labour intensity, but low skill levels. Businesses which share the need to develop an effective base of skilled staff with experience working together will have higher strategic relatedness than a pair of businesses, one requiring highly skilled staff and the other, a base of cost effective, low skilled workers.</td>
</tr>
</tbody>
</table>

Several authors have stressed the importance of firms’ willingness to cannibalize current assets in coping with disruptive change (Tellis, 2006; Govindarajan, Kopalle, & Danneels, 2011; Druehl & Schmidt, 2008; Garrison, 2009; Ghemawat, 1991). Chandy & Tellis (1998) defined willingness to cannibalize as “the extent to which a firm is prepared to reduce the actual or potential value of its investments”. Such investments can be in the form of assets or organizational routines (Chandy & Tellis, 1998). In most instances cannibalization requires a firm to reallocate resources, develop new procedures and routines, and alter its organizational strategy (Garrison, 2009). In a study of 128 strategic business units of 19 different firms, Govindarajan et al. (2011) showed that an organization’s willingness to cannibalize is positively related to disruptive innovation. However, for reacting to disruptive business models this importance may be less prominent because they do not grow to dominate the market and firms might have more options than adopting the innovation (Markides C., 2006).

3.2.1.2.2. Level of Threat
A second factor Charitou & Markides (2003) point out that determines an incumbents motivation to respond is the level of threat to the main business. This statement is supported by literature on disruptive innovation (Gilbert & Bower, 2002; Dewald & Bowen, 2010; Osievskyy & Dewald, 2015) and competitive responses (Debruyne, et al., 2002; Chen & Miller, 1994; Chen, Smith, & Grimm, 1992). When firms are faced with a competitive attack, such as the introduction of a disruptive innovation, managers’ reactions are particularly driven if a situation is perceived as a threat to their business (Markides & Charitou, 2004; Dewald & Bowen, 2010; Gilbert & Bower, 2002; Osievskyy & Dewald, 2015; Chen, Smith, & Grimm, 1992). The perception of
threat is defined as a sense of negative vulnerability, likely to result in loss that is largely out of one’s control (Gilbert C. G., 2005). When incumbents have the feeling that something important is at stake, they view a competitive attack as potentially costly and they will have an incentive to counter it (Chen & Miller, 1994). Literature on strategic change shows that the perceived threat can overcome inertia (Huff, Huff, & Thomas, 1992), enhances commitment to strategic change (Lant, Milliken, & Batra, 1992) and enabling internal change (Barr & Huff, 1997). Literature on competitive responses indicates that firms are more likely to perceive a competitive attack as threatening when the attack addresses a rival’s major market and when the attack is highly visible. Chen & Miller (1994) introduces the term of centrality of an attack; the extent to which it attacks markets that are especially large, valued by, or vital to potential responders. Firms are motivated to respond quicker and stronger if they view a new entry as a threat to important markets (Chen, Smith, & Grimm, 1992). Debruyne, et al. (2002) showed that firms do react if a new product is introduced within an existing product category, but fail to product introductions in niche markets. As explained in Chapter 3.1.1.3, disruptive innovations are often initially launched in a small niche market, and thus initially perceived as less threatening to incumbents. Another determinant of perceived threat is the visibility of an attack; the more obvious an attack, the greater the likelihood that it will be countered (Chen & Miller, 1994). Firms that are highly visible are more likely to elicit competitive responses (Chen & Miller, 1994). Chen & Hambrick (1995) showed that the size of a firms influences its visibility; the larger the firm, the more visible its actions. Moreover, Carayannopoulos (2009) argues that the limited information available about young firms, due to their short track record, make it difficult to notice from the perspective of the large firm.

3.2.1.2.3. Innovations Growth Rate
According to Charitou & Markides (2003), another factor influencing an incumbents motivation to respond is the level at which the disruptive innovation grows. This statement is supported by literature on disruptive innovation (Christensen, 1997; Chesbrough H. W., 2003) and competitive responses (Debruyne, et al., 2002; Chen & Miller, 1994).

Larger and successful firms do not consider emerging markets as useful engines for growth due to their small size (Christensen, 1997; Charitou & Markides, 2003). Even when firms believe in their ability to enter a new market, without a sizeable reward there will be less incentive to respond (Chen & Miller, 1994). Therefore, disruptive business models only attract the attention of established players when it grows to capture a larger share of the established market (Charitou & Markides, 2003).

The growth rate of an innovation increases the likelihood that incumbents react and enter the new market (Debruyne, et al., 2002; Charitou & Markides, 2003). However, market uncertainty inherent in the emergence of new-sub markets make predicting market growth and size of a potentially disruptive innovation very difficult (Christensen, 1997; Chesbrough H. W., 2003). Forecasting of disruptive innovation differs from forecasting regular innovation due to the relative novelty of the new product or service (Linton, 2002). In addition, firms have no guarantee that the new market will develop according to the expectations (Claude - gaudillat & Quelin, 2009)

3.2.2. Reaction Strategies
One of the key findings of Christensen (1997) is that disruptive innovations eventually grow to dominate the market. If correct, the only way to respond to the disruption for incumbents is to find ways to exploit it (Markides C., 2006). However, as discussed in Chapter 3.1.3, not all potentially disruptive innovations materialize and not all disruptive innovations completely replace the incumbent business. Therefore, contrary to what the theory of Christensen (1997) suggests, adoption might be not the only way to respond to potentially disruptive threats.

The majority of the literature on how incumbents can react to disruptive innovations focused on how firms can adopt the technology. Alternative reaction strategies to disruptive innovations are most extensively studied by Charitou & Markides (2003). Charitou & Markides (2003) inductively developed an action-response framework with five reaction strategies based on a firms ability and motivation to respond (as described in more detail in Chapter 3.2.1). Figure 4 shows the possible reaction strategies of incumbents based on their ability and motivation to respond according to Charitou & Markides (2003).
Figure 4: Reaction Strategies (Charitou & Markides, 2003)

Figure 4 shows how firms according to Charitou & Markides (2003) can determine based on their ability and motivation to respond which reaction strategy is most appropriate. Next to the reaction strategies discussed by Charitou & Markides (2003), some authors like Adner & Snow (2010) and Raffi & Kampas (2002) have identified alternative options. However, these reaction strategies are not linked to the model shown in Figure 4.

Table 9 shows the complete oversight of reaction strategies on disruptive innovations identified in the literature and the authors that discussed a specific strategy.

### Table 9: Reaction Strategies Disruptive Innovations

<table>
<thead>
<tr>
<th>Reaction Strategy</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignore the disruptive innovation and focus on existing business model</td>
<td>Charitou &amp; Markides (2003), Yu &amp; Hang (2010) and Raffi &amp; Kampas (2002)</td>
</tr>
<tr>
<td>Improve existing business model to make it more competitive in comparison with the disruptive innovation</td>
<td>Charitou &amp; Markides (2003), Osiyevskyy &amp; Dewald (2015), Adner &amp; Snow (2010) and Schiavone (2011)</td>
</tr>
<tr>
<td>Reposition the old technology in the market or into a new market</td>
<td>Adner &amp; Snow (2010)</td>
</tr>
<tr>
<td>Adopt the disruptive innovation and add it to the old business model</td>
<td>e.g. Christensen (1997), Charitou &amp; Markides (2003) and Osiyevskyy &amp; Dewald (2015)</td>
</tr>
<tr>
<td>Disrupt the disruption by introducing another kind of disruptive innovation</td>
<td>Charitou &amp; Markides (2003)</td>
</tr>
<tr>
<td>Embrace the disruptive innovation, scale it up and abandon the old business model</td>
<td>Charitou &amp; Markides (2003), Kim &amp; Min (2015)</td>
</tr>
</tbody>
</table>

Below the reaction strategies shown in Table 9 are discussed in more detail.
3.2.2.1. Ignore the Innovation

Although a disruptive innovation may be part of the industry of an established player, it may not be part of its market (Charitou & Markides, 2003). When the core business of an incumbent is not threatened by the disruptive innovation, monitoring the competitive landscape may be sufficient (Raffi & Kampas, 2002). In the case of disruptive innovations, established firms that concentrate on how to satisfy the most demanding but least price sensitive customers can survive through inaction (Yu & Hang, 2010). In such cases, a disruptive innovation is not viewed as a threat to the incumbents business and ignoring the innovation is a legitimate reaction (Charitou & Markides, 2003).

3.2.2.2. Improve Existing Business Model

Incumbents can also respond by investing in their existing business to make the traditional way of competing more competitive relative to the disruptive innovation (Markides C., 2006; Osiyevskyy & Dewald, 2015; Adner & Snow, 2010; Schiavone, 2011). In contrast to the first reaction strategy “Ignoring the innovation”, an incumbent that focuses on improving its existing business model does perceive the disruptive innovation as a threat to its current business. Firms fight off the rise of the new technology by extending the performance of the old technology (Adner & Snow, 2010) to preserve the value of their current competences (Schiavone, 2011). This reaction is typical for firms faced with the entrance of a, from their viewpoint, inferior technology (Osiyevskyy & Dewald, 2015). A focus on the current business model in times of environmental change has been associated with organizational rigidity and a focus on exploitation and local search (Osiyevskyy & Dewald, 2015). However, some business model innovations might not have an economic sense for incumbents, and responding by developing the existing business model might be the optimal strategy for incumbents (Markides, 2006). According to Paap & Katz (2004), the key to avoiding the negative effects of disruptive technologies is to focus primarily on what is happening with customer and operational needs instead of focusing on technologies. Faced with a disruptive threat, incumbents need to identify solutions to improve the value of the current technology and identify market segments that value the old technologies offering (Sood & Tellis, 2005).

3.2.2.3. Reposition Old Technology

Adner & Snow (2010) showed that not adopting a disruptive innovation can also be a potentially viable, rational, and profitable strategy instead of a sign of inertia or incompetence. Instead of fighting off the disruptive innovation by improving the existing business model (as descried in Chapter 3.2.2.2), firms can also accommodate the rise of the disruptive innovation by repositioning the old technology in the demand environment (Adner & Snow, 2010). The introduction of a disruptive technology can reveal underlying heterogeneity in the demand environment. This heterogeneity can provide opportunities for repositioning the old technology into a niche position in the current market or relocating the old technology to a new market (Adner & Snow, 2010).

3.2.2.4. Exploring the Potentially Disruptive Innovation

Many of the other reaction strategies identified in the literature are based on a time point where the disruptive innovation is already encroaching on the mainstream market and established players cannot afford to ignore it anymore (Markides C., 2006). However as argued by Christensen (1997), due to significant early mover advantages it is crucial to enter emerging markets when they are small and least attractive to large companies. However, disruptive innovations in their early stages are associated with significant uncertainty about the technology and potential market size (Chesbrough H. W., 2003; Walsh, 2002; Christensen, 1997; Henderson, 2006). Under high levels of uncertainty firms need to remain flexible by using strategies that involve low level of commitment and a high level of reversibility to cope with unforeseen contingencies (Van de Vrande, Lemmens, & Vanhaverbeke, 2006; Ghemawat, 1991; Claude - gaulliat & Quelin, 2009). However, little research has addressed how firms can react to a potentially disruptive innovation in its earlier stages. Lee & Grewal (2004) discusses the magnitude/intensity of organizational response, ranging from not adopting the disruptive innovation on one side of the continuum, to reengineering the current processes to assimilate the disruptive innovation on the other side. On lower levels of the continuum, firms can also adopt the technology on an experimental basis to explore the market and learn about the technology (Lee & Grewal, 2004). Similarly, Raffi & Kampas (2002) states that when the core business is potentially threatened, firms have to invest in preemptive efforts. Such efforts can involve performing a more thorough analysis of the opportunity or threat, starting an in-house development effort, or exploring potential partnerships with emerging players that have valuable technology or market position (Raffi & Kampas, 2002). Similarly, Chesbrough & Crowther (2006) proposed that open innovation might be a way to monitor potentially ‘disruptive technologies’ that may threaten existing businesses, but provided no evidence for his statement.
3.2.2.5. **Adopt the Innovation**

Disruptive innovation is often associated with destruction, but in contrast the net effect in every industry changed by disruption has been total market growth (Gilbert C, 2003; Kostoff, Boylan, & Simons, 2004). Adopting a disruptive innovation can be a powerful avenue for growth, also for incumbents (Christensen, Johnson, & Rigby, 2002; Gilbert C., 2003; Van de Vrande, Lemmens, & Vanhaverbeke, 2006). The task of adopting the disruptive business model next to the existing business model is difficult, but not impossible (Markides C., 2006). How firms adopt the disruptive innovation do not have to be homogenous (Osiyevskyy & Dewald, 2015). A single new technology can be commercialized in several ways through different business models (Chesbrough H., 2007). Firms can adopt the disruptive business model with adaptations to match the company’s existing competences (Osiyevskyy & Dewald, 2015). In this reaction strategy adoption means an addition of the new disruptive business model to the existing business model (Charitou & Markides, 2003; Kim & Min, 2015). It can take years before the new business generates revenues at the same level of the old model, and firms can take advantage of the assets the old business still has (Gilbert, Eyring, & Foster, 2012). However, as discussed in Chapter 3.2.1.1, managing two different business models in the same industry at the same time remains challenging, because the two models and their underlying value chains can conflict with each other.

Porter’s view is that that a company could find itself “stuck in the middle” if it tried to compete with both low-cost and differentiation strategies (Porter, 1996). To overcome these challenges, Christensen (1997) argues that firms should use a separate organization to commercialize disruptive innovations. However, this statement is debated in the literature. For instance, Markides & Charitou (2004) argue that the decision to separate the new business form the old should be based on the degree of conflicts between the models and the strategic similarities between the market of the old and new product/service. According to Markides & Charitou (2004) separation is preferred when markets are strategically different and the two business models face serious conflicts. On the other hand, no separation is needed when the new market is very similar and few conflicts are present. Integrating has the advantage that synergies can be created to reinforce both business models (Osiyevskyy & Dewald, 2015).

3.2.2.6. **Disrupt the Disruption**

Instead of adopting the disruptive business model, Charitou & Markides (2003) argues that established firms can also respond by disrupting it. Where disruptive innovations offer new, nontraditional product or service attributes, incumbents can react by developing products or services that emphasize still different attributes.

3.2.2.7. **Embrace and Scale Up**

The final option available to established companies identified in the literature is to abandon the existing business model and fully embrace the disruptive business model. In that case, the goal is not only to imitate the innovation but also to scale it up and grow it into a mass market (Charitou & Markides, 2003). Some recent research even suggests that incumbents may even be better positioned to exploit new technologies because of superior financial and managerial resources (Hill & Rothaermel, 2003), R&D capability (Rothaermel & Hill, 2005) and complementary assets (Tripsas, 1997). Since the firm replaces the old technology with the new, there is less concern about managing both technologies simultaneously (Kim & Min, 2015). However, Gilbert & Foster (2012) argues that firms risk abandoning any advantages the old model still has and that it can take years before the disruptive innovations generates revenues on the level of the old model.

3.3. **Conclusion & Evaluation**

In this chapter a conclusion on the literature review is given, answering the five research questions formulated in Chapter 1.2. After that, an evaluation is outlined on to what extent the current literature can address the problem identified in Chapter 1.1.

3.3.1. **Conclusion**

As discussed in Chapter 1.2, five sub-research questions were formulated for this literature review. First of all, the goal of this literature review was (1) to define what disruptive innovations are, (2) how they develop in their market and (3) what its competitive effects are. In addition, the goal was (4) to define determinants on how incumbents can react on disruptive innovations and (5) which alternative strategies they have in responding.

Answering sub-research question 1, no widely accepted definition for a disruptive innovation has emerged yet in the literature (Kostoff, Boylan, & Simons, 2004; Tellis, 2006; Yu & Hang, 2010; Sood & Tellis, 2011), although disruptive innovations typically have certain characteristics; they have initially lower performance,
emphasize other product attributes, promise lower margins and are first launched in emerging or insignificant markets. However, several contradictions and exceptions can be found in the literature, making these characteristics typical but not necessary to call an innovation disruptive (Danneels, 2004). In defining disruptive innovations scholars authors agree on one thing; a disruptive innovation introduces a new set of performance attributes along which firms compete (Christensen & Bower, 1996; Danneels, 2004; Kostoff, Boylan, & Simons, 2004; Govindarajan & Kopalle, 2006).

Answering sub-research question 2, the literature shows that disruptive innovations typically follow a certain process to develop in a market that is called low-end encroachment; (1) the disruptive innovation is first launched in an emerging market at the low-end of the existing market, (2) subsequently the innovation increases in performance in that market and eventually (3) the innovation encroaches in the mainstream market to disrupt the incumbents. During this process the disruptive innovation gradually increases its performance to attract higher customer segments and to expand their market.

Providing an answer to sub-research question 3, the literature shows that the competitive effects of potentially disruptive innovations remain uncertain; not all firms fail to adapt, not all potentially disruptive innovation succeed and not all disruptive innovation take over the market completely. The statement of Christensen (1997) that disruptive innovations and new entrants grow over the market completely has been largely refuted by several authors (Yu & Hang, 2010; Schmidt & Druelh, 2008; Markides C. , 2006; Adner & Zemsky, 2005; Christensen, 2006). Recent research shows that many but not all firms failed to adapt in the face of disruptive technological change (Christensen, 1997; Yu & Hang, 2010; Danneels, 2004), that many potentially disruptive innovations failed (Danneels, 2004) and that not all disruptive innovations completely replace the incumbent business (Yu & Hang, 2010; Schmidt & Druelh, 2008; Markides C. , 2006; Adner & Zemsky, 2005), a point that is especially true for disruptive business models (Markides C. , 2006).

Answering sub-research question 4, the literature shows that an incumbents reaction strategy is determined by its ability and motivation to respond to a disruptive innovation. The ability to respond is measured by the conflicts between the new and the old business model, the portfolio of skills and the resources available, while the motivation to respond is measured by the strategic relatedness between the two business models, the level of threat and the rate at which the innovations grows (Charitou & Markides, 2003). Charitou & Markides (2003) tested their framework empirically and supported by various literature streams.

Finally, providing an answer to sub-research question 5, the literature shows that incumbents have many potential reaction strategies which generally can be classified as sticking to the current technology/business model, adopting the disruptive innovation or counteracting by introducing another kind of disruptive innovation. The literature on how incumbents can react on the introduction of a potentially disruptive innovation in their industry have focused on the adoption decision; when and how firms adopt the disruptive innovation (Adner & Snow, 2010). However as stated above, several authors observed that not all disruptive innovations completely replace the incumbent business, which implies that adoption is not the only option for incumbents to react on a disruptive innovation (Markides C. , 2006; Adner & Snow, 2010; Osievskyy & Dewald, 2015; Raffi & Kampas, 2002). Alternative reaction strategies to disruptive innovations have only been studied by few authors, most extensively by Charitou & Markides (2003) which linked their framework on ability and motivation to respond to several reaction strategies.

3.3.2. Evaluation
As outlined above, the theory on disruptive innovations suffers from a lack of a widely accepted definition, unified set of characteristics and limited predictive ability of the competitive effects for incumbents. Applying it to the empirical research this means that if MPL does meet the characteristics of a disruptive innovation, it is still uncertain if it eventually will dominate the market and the banks will be replaced by new entrants. However, the theory on disruptive innovations does provide a rich description on certain characteristics that have proved to be especially difficult for incumbents to react on in a timely manner. The theory provides powerful examples of how innovations initially perceived as inferior and non-threatening can evolve to encroach the mainstream market. For the empirical research the theory on disruptive innovation will therefore be used as a lens through which MPL can be analyzed and insights can be gained in the challenges banks can have in reacting to it and to monitor the process of disruption. This is in line with Sainio & Puumalainen (2007), who state that since it is impossible to classify an innovation as disruptive ex ante, only its disruptiveness potential can be evaluated based on the characteristics described in the literature.

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For determining how incumbents can react, Charitou & Markides (2003) provides a framework based on the ability and motivation to respond (as described above). The framework consists of clear determinants supported by various literature streams which can be used to assess how incumbents react on the introduction of a disruptive innovation in their industry. However, whereas the framework provides good arguments for assessing firms on their ability and motivation to respond, the corresponding reaction strategies of Charitou & Markides (2003) suffer from a limitation; the reaction strategies are designed for a moment in time where more mainstream customers already start to embrace the new product or service. At that point in time established players cannot afford to ignore it anymore (Markides C., 2006) and brings us back to the original “Innovation Dilemma” described by Christensen (1997); by then it might be too late. In contrast, the problem description in Chapter 1.1 shows that MPL can potentially be a disruptive innovation but still in an early stage. Especially in The Netherlands MPL has gained a limited foothold so far forming no immediate threat to incumbents from an economic perspective. Only few scholars have researched how incumbents can react on a disruptive innovation in its early stages; few authors propose that firms can adopt the disruptive innovation on an experimental basis (Lee & Grewal, 2004; Raffi & Kampas, 2002) or exploring potential partnerships with emerging players that have valuable technology or market position (Raffi & Kampas, 2002). However, both researchers do not provide any empirical evidence for their statements or determinants on which strategy is most suited in a specific situation. Therefore, it is concluded that although the current literature provides guidelines on which reaction strategies incumbents follow in later stages of the process of disruption, it cannot be explained by literature how incumbents respond to a potentially disruptive innovation in its early stages. The empirical analysis will address this gap in the literature by investigating how Dutch banks are reacting to MPL. The framework of Charitou & Markides (2003) to assess incumbents on their ability and motivation to respond to a disruptive innovation forms the basis for the empirical research.

This chapter provided a review of the current literature providing frameworks for the empirical research; the disruptive potential and the development of MPL can be assessed based on the characteristics and the process of disruptive innovations, while the reaction of banks can be assessed based on their ability and motivation to respond to MPL. The next chapter shows the results from the empirical research.
4. **Empirical Results**

In this chapter the results of the empirical analysis are outlined; first an introduction is given to define MPL, and analyze the international and Dutch MPL market, secondly the results on the development of MPL in The Netherlands are outlined and finally the results on the reaction of banks are discussed.

4.1. **Introduction to Marketplace lending**

In this chapter first a definition is given on what MPL is where after a description is provided about the rise of MPL in general and specifically in The Netherlands.

4.1.1. **Definition of Marketplace Lending**

In recent years, several alternative forms of finance for traditional banking have emerged such as crowdfunding, online platform lending and MPL. Regulatory advantages, new technologies lowering the entry barriers and a favorable macro environment with all-time low interest rates, all contributed to the rise of non-bank lending (Nash & Beardsley, 2015). Figure 5 summarizes the different alternative forms of finance.

![Figure 5: Alternative forms of finance](image)

When you consider the investment side, two alternative forms of finance have emerged. Whereas online lending platforms use one investing institution (their own or bank funds), crowdfunding platforms link a group of investors (can be both institutional and private) to provide funds for finance (Bremer, Stancu, Unterasinger, & Klackova, 2015). Within crowdfunding, four distinct types of investments can be identified (Roodink & Kleverlaan, 2016); either in equity shares, in exchange for a reward, as a donation or in a loan (MPL). This report will solely focus on MPL.

Marketplace lending (MPL), also called peer-2-peer lending or loan-based crowdfunding, is the process of investors (can both be institutional or private) lending money online to consumers or businesses¹ (see Figure 6).

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¹ The term businesses also include sole proprietorships
MPL platforms act as an intermediary linking investors with loan-seeking individuals or businesses, most of them providing additional services such as credit scoring and payment transactions. Some platforms use the credit score to assign a fixed interest rate to a loan, while others provide it as a risk indicator for investors and use a reversed auction model or let the borrower determine the interest rate. For handling the payments between the lender and borrower, MPL platforms in The Netherlands are obliged by the AFM (the Dutch authority for financial markets) to separate the investors’ money from their own balance sheet, using either an account at a separate foundation or make use of a payments service provider. In the case of bankruptcy, the MPL platform has no claim on the investors’ money and the contractual agreement between the borrower and investor is still effective (Hopstaken, et al., 2016). In return for the services, most MPL platforms charge fees to both the borrower and the investor. Depending on the platform, borrowers can pay assessment fees (one-time fee for credit scoring), placement fees (one-time fee when the project is placed on platform), success fees (one-time fee when the project is fully funded) and/or periodical administration costs. These fees can be both a fixed amount or a percentage of the loan amount. Most platforms also charge a yearly or one-time fee to investors which is determined as a percentage of the total investment amount. Platforms differ in the types of fees they ask to both borrowers and investors. For instance, FundingCircle only asks a success fee when the project is fully funded to borrowers, and platforms like Oneplanetcrowd and Greencrowd ask no fee to investors (see Appendix 5).

Applying for a loan via a MPL platform generally follows a specific process, as displayed in Figure 7.

### Figure 7: MPL Loan Application Process

As shown in Figure 7, a SME can apply and submit the necessary information for credit scoring online via the MPL website. The MPL platform will evaluate the project and assign a credit score based on their own developed credit scoring process. Most MPL platforms pre-defined criteria based on which a decision will be made whether the project will be accepted or declined. When the project is approved, it will be placed online allowing investors to finance the project. When the target amount is reached, the loan is funded and the project will be closed. Finally, the MPL platform will then transfer the loan amount to the bank account of the SME. If the loan is not totally funded within the time range, the project will also be closed and the investments will be returned to the investors.

#### 4.1.2. The Rise of Marketplace Lending

The first MPL platform “Zopa” started in the UK in 2005, while one year later MPL spread to the US with the launch of “Prosper”. Both platforms started with providing unsecured loans to consumers, who generally used
MPL to refinance their credit card debts against lower rates (Hopstaken, et al., 2016). MPL has grown significantly in the US and the UK ever since, as shown in Figure 8.

Figure 8: Market Size MPL UK & US 2015 (Roodink & Kleverlaan, 2016)

In the UK more than 2 billion euro in new loans are initiated via MPL platforms in 2015, while in the US this amount was almost 30 billion euros in 2015 (as shown in Figure 8). Whereas in the US the majority of the platforms still lent to consumers, this proportion is more evenly spread in the UK. Industry research reports show six factors for the growth of MPL (see Table 10).

Table 10: International growth factors MPL

<table>
<thead>
<tr>
<th>Growth Factors</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>MPL is enabled by the rise of internet, while the technology-driven platforms use the advance in big data processing and analytics.</td>
</tr>
<tr>
<td>Demographics</td>
<td>Consumers (especially millennials) and SME’s are increasingly comfortable in performing transactions online and via mobile channels.</td>
</tr>
<tr>
<td>Capital needs</td>
<td>A credit gap (especially for SME’s) emerged with the reduced funding of banks due to the increasing capital requirements from the Basel accords.</td>
</tr>
<tr>
<td>Low threshold of investment</td>
<td>Minimal investment amounts are low (starting at €5, see Appendix 5)</td>
</tr>
<tr>
<td>Regulatory advantage</td>
<td>As a new phenomenon MPL acts under fewer regulations than traditional financial institutions.</td>
</tr>
<tr>
<td>Interest rate environment</td>
<td>Low interest rates lead investors to search for alternative investment options.</td>
</tr>
</tbody>
</table>

Advances in technology such as the internet and big data processing and analytics are key enablers of MPL. The internet offers a new distribution channel and enables platforms to efficiently match borrowers with investors. The online interface enables platforms to provide customers a simplified and streamlined lending process (PwC - Peer Pressure, 2015). Furthermore, the best MPL platforms make use of big data processing and analytics to evaluate potential borrowers (Moldow, 2015). With the rise of the internet the availability of alternative data sources increases (such as social media and website traffic data) which help MPL platforms to improve their underwriting models. Moreover, the best platforms use machine learning techniques to refine and build underwriting accuracy over time (Srethapramote, et al., 2015).

With millennials (born between 1982 and 1997) become increasingly part of the labour force and the aging population, also the demographics in developing countries play a role in the rise of MPL. Consumers (especially millennials) and SME’s are increasingly comfortable in performing transactions online and through mobile channels (Srethapramote, et al., 2015). Research by Morgan Stanley showed that millennials are more brand
agnostic and favour fast and convenient products (Srethapramote, et al., 2015). At the same time, most developing countries experience an aging population which are increasingly looking for investment products that generate higher returns than traditional savings accounts (PwC – Peer Pressure, 2015). Since MPL platforms allow multiple investors to partly finance one loan, the threshold of investment is low. At some platforms the minimal investment amount is €5 (see Appendix 5), allowing investors to diversify their portfolios. As a new phenomenon MPL also experiences fewer regulations than traditional financial institutions, which allow them to operate with lower regulatory overhead costs. The MPL platforms also do not take the credit risks themselves, which means that they do not have to hold capital against the loans they originate (Nash & Beardsley, 2015). Furthermore, the stricter capital requirements from the Basel accords have led banks reduce the amount of funding to SME’s and individuals (Kirby & Worner, 2014). Especially for SME’s MPL provides an alternative way to fulfil their capital needs. Finally, also the historically low interest rates at savings accounts (under 1%) led to a search for yield which contributed to the rise of MPL. MPL provides investors with a new asset class that can deliver attractive yields (Srethapramote, et al., 2015).

4.1.3. Marketplace Lending in The Netherlands

MPL started in The Netherlands in 2010 with the launch of “Geldvoorelkaar”. With a sharp rise in 2014, currently more than 30 MPL platforms are active in The Netherlands. Although no figures are available specific for MPL, the market for crowdfunding in general doubled each year in the period from 2012 to 2015 (Douw&Koren - Crowdfunding in Nederland, 2015). The figures of Douw&Koren over 2015 show that MPL is the dominant form of crowdfunding in The Netherlands. In 2015 €98,9 million is lend out via MPL platforms in The Netherlands, while the total crowdfunding market was €128 million (see Figure 9).

![Marketshare per type of Crowdfunding in 2015](Figure 9)

Most Dutch MPL platforms focus on lending to businesses with only 4 platforms that lend to consumers. This concentration in the platforms is also reflected in the market shares as shown in Figure 10.

![Marketshare Dutch MPL Market 2015](Figure 10)

As shown in Figure 10, 96% of the total amount of funding via MPL platforms in 2015 was lend to businesses. As indicated in Chapter 4.1.2, this is in contrast to the UK and especially the US where lending to consumers is
more popular. Interviews indicate that this contradiction is mainly due to a difference in credit culture; whereas consumers in Anglo-Saxon countries (such as the US, UK and Australia) are more used to credit cards and having debts, consumers in countries like Germany and The Netherlands are not used to having debts. Because of this strong concentration, this research will solely focus on MPL lending to businesses in The Netherlands. As showed in Appendix 5, “Geldvoorelkaar” is the biggest platform lending to businesses active in The Netherlands.

4.1.3. Regulations

MPL platforms act under significant less strict regulations than banks. Currently there is no specific regulatory framework for MPL platforms in The Netherlands. Platforms have to act under already existing regulatory frameworks, namely a license for financial service advisor (vergunning financiele dienstverlener) for lending to consumers or act with an exemption to mediate in repayable funds (Ontheffing van het bemiddelen in opvorderbare gelden) for business lending. For getting an exemption, MPL platforms have to hand in a policy for a controlled and upright business execution. The platforms have to provide a description of their internal processes, legal conditions of their products and recruiting policy. Specifically for MPL, platforms have to document their policy and the processes for risk classification and, as explained above, to use either an account at a separate foundation or make use of a payments service provider for handling the money flows of investors. A platform is also obliged to provide sufficient background information of the loan for the investor to make a deliberate choice. The AFM advises platforms to at least provide the financial results and business plan of the borrower. Furthermore, platforms have to prove that the daily policymakers and the board of directors are suitable for exploiting and supervising the MPL platform. The MPL platform has to show that the daily policymakers and board of directors show professional behavior and have sufficient knowledge, experience, skills to fulfill the function. Finally, MPL platforms also have to document measures to protect borrowers and investors. Private investors are allowed to invest a maximum of € 80,000 in total via a MPL platform.

Moreover, private investors have to fill in an investors test when it invests via the MPL platform for the first time, when the total investment amount exceeds €500 and before every investment when the total amount first exceeds € 5000. The goal of the test is to assess if the private investor has sufficient knowledge and experience to understand the risks of MPL and is investing a responsible share of its freely investable capital (the AFM assesses that 10% of the freely investable capital is responsible). The outcome of the test can either be positive or negative but is not binding; in the case of a negative outcome the platform must warn the private investors by stressing the risks of investing via MPL. The MPL platforms that act with an exemption are not under continuous supervision by the Dutch supervising authority for financial markets AFM. Platforms do have to inform the AFM about incidents and hand in twice per year a monitoring form. For lending to businesses, loans larger than € 2.5 million an approved prospectus must be acquired at the AFM. The prospectus document must include extensive information that is important for the investor to make a responsible assessment about the financial situation and prospects of the firm and the conditions of the investment.

For getting a license to lend to consumers as a MPL platform additional and stricter regulations apply. The platform has to be registered at the Dutch credit registration organization “BKR” and have to consult the credit registration for arranging loans larger than € 250. Furthermore, additional requirements apply to get a license on the capabilities of advisors, required insurances and management structure. Platforms with a license are acting under continuous supervision of the AFM. Supervision is focusing on researching the risks in the market, but at times also inspections on a sample basis are executed. The AFM has a positive attitude towards MPL, and believes it has the potential to play a useful role in the Dutch financing landscape. In their report “Crowdfunding - Naar een duurzame sector” (2014) the AFM states that the regulatory frameworks under which MPL platforms act are too light on the long term when the industry continuous to grow. The current frameworks are insufficient in protecting investors and borrowers and securing the transparency and professionalism of the platforms. The AFM wants to let the MPL market grow on a responsible and sustainable manner by adapting the intensity of the regulations and supervision based on the developments of the market. The AFM distinguishes three growth phases; a starting market (< €50 million per year), a growing market (€50 - €100 million per year) and a mature market (> € 500 million per year). During the growth phase where MPL is currently in, the AFM monitors the market and when necessary introduces new prescriptions to stimulate the professionalism of the platforms. When MPL moves to a mature market the AFM

*“Geldvoorelkaar” was acquired by the Swedish MPL platform “Trustbuddy” that went bankrupt in October 2015. However, because Geldvoorelkaar is a separate organization and legal entity the platform is still running. In an official statement Geldvoorelkaar indicates that in the acquisition contracts both parties agreed on certain conditions for the founders to buy back the shares, an option the founders want to exercise.*
wants to introduce two new regulatory frameworks; one specifically for MPL and one for equity based crowdfunding. The regulatory frameworks will be pointed at ensuring the professionalism, integrity and continuity of the platforms, protecting both investors and borrowers and ensuring transparency.

4.2. Development of Marketplace Lending
The results of the empirical analysis on the development of MPL in The Netherlands are outlined in this chapter along the characteristics of disruptive innovations and the process of disruption (as described in Chapter 3.1).

4.2.1. Disruptive Characteristics
As described in Chapter 3.1.1, disruptive innovations generally have certain characteristics; initially they have lower performance, offer different attributes, are launched in an emerging or insignificant market and are cheaper or promise lower margins than existing offers. Below MPL in The Netherlands is analyzed on these characteristics.

4.2.1.1. Lower Performance
Interviews with MPL insiders indicate that the following four dimensions are the most important performance indicators of loans; interest rate/cost, trust, loan volume and loan duration. Table 11 shows the performance of MPL in The Netherlands along these dimensions.

Table 11: Performance MPL

<table>
<thead>
<tr>
<th>Performance Dimension</th>
<th>Performance Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest rate/cost of lending</td>
<td>Generally more expensive compared to general bank loans</td>
</tr>
<tr>
<td>Trust</td>
<td>Relatively low trust in general towards MPL platforms</td>
</tr>
<tr>
<td>Loan volume</td>
<td>Maximum of €2.5 million/ average of €133,000,- in 2015</td>
</tr>
<tr>
<td>Loan duration</td>
<td>Maximum of 5 to 7 years</td>
</tr>
</tbody>
</table>

On the first dimension, interest rate/cost, MPL platforms are generally more expensive than banks, as explained in more detail in Chapter 4.2.1.4.

MPL platforms in general also have lower trust from borrowers and investors than banks. Interviews indicate that this lower trust is mainly caused by the limited scale/track record of MPL platforms and regulatory uncertainty. Most MPL platforms are relatively young and their track record in providing loans is limited. In addition, most MPL platforms active in The Netherlands are not transparent; providing no or limited information about loans provided in the past. Investors want to get insight in the results of the platform to assess the risk and to gain trust in the platform. Several respondents also stress the importance of regulations for the trust in MPL, as indicated by the following quote;

“Regulations are very important. You just want to know as an investor and as a borrower that you deal with an organization that fulfill the regulations and that supervising authorities are keeping an eye on them” (Managing Director, HJCO Capital Partners)

As outlined in Chapter 4.1.3.1, the Dutch supervising authority “AFM” has a positive attitude towards the industry, but no regulatory framework specific for MPL platforms exists. Especially for professional or institutional investors this lack of clear and stable regulations increases the uncertainty towards the industry. The interviews with MPL insiders do indicate that the trust in the sector in general is increasing. Whereas in the past especially banks criticized MPL, in recent years banks, politics and regulatory institutions speak positive about the MPL industry in public. However, the interviewees note that over time during the process of maturation it is likely that the trust in the sector will receive some damage. Respondents both from banks as well as MPL insiders note that they expect incidents in the future such as loan defaults with investors losing their money, bankruptcy at MPL platforms and possibly also scandals. It is still highly uncertain how different market actors will react on these incidents and how it will affect the trust in the industry.

The loan amounts initiated via MPL platforms are limited by law and the eco-systems of platforms. The upper limit for MPL platforms in The Netherlands is €2.5 million per loan because of prospectus rules, as explained in
Chapter 4.1.3.1. Furthermore, MPL platforms are also limited in the loan amount they can process by its own eco-system of investors. Research by “Crowdfundmarkt” shows that the average loan amount issued by MPL platforms in The Netherlands was € 133,000 in 2015. Although the figures show that the total volume of the market grows each year, no quantitative data is available if the same counts for the volume of the individual loans provided via MPL platforms in The Netherlands. The interviews however do indicate that the loan amounts are increasing.

Regarding the loan duration, data from “Crowdfundmarkt” show that the average duration of a loan initiated via a MPL platform in The Netherlands is 52.7 months (4 years and 4 months) (Van der Beek & Van der Linden, 2016). As can be found in Appendix 5, the largest MPL platforms active in The Netherlands set a maximum duration ranging from 5 to 10 years. Interviews with MPL insiders indicate that the loan duration is limited to 5 to a maximum of 7 years because of the liquidity of investors. Private investors have a maximum period in which they want to lock-in an investment. Because of the limited liquidity of private investors, no real improvement in loan duration is detected or expected in the near future. In the future this can change when platforms start a secondary market for loans or when more institutional or professional investors lend money through MPL platforms.

4.2.1.2. Different Attributes
The Dutch MPL industry is diverse with many different business models that emerge. The interviews and an analysis of the Dutch MPL landscape indicates that generally two different business models, with two different value propositions can be distinguished. As shown in Table 12, the distinction is mainly based on the interest of the investor; purely yield or also driven by social motives.

Table 12: Different Business Models MPL

<table>
<thead>
<tr>
<th>Information Supply</th>
<th>Yield Focused</th>
<th>Social Focused</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited information about borrower and investment purpose</td>
<td>Extensive information about borrower and investment purpose</td>
<td></td>
</tr>
<tr>
<td>Investors Interest</td>
<td>Investors focus on yield likely without any connection with the borrowing firm</td>
<td>Investors seeking for yield but likely to delve into the borrowing firm and to have a connection with the company and/or investment purpose</td>
</tr>
<tr>
<td>Organizational Focus</td>
<td>Focus on efficient processes</td>
<td>Combination of efficient processes and personal service/advice to borrowing firm</td>
</tr>
<tr>
<td>Value Proposition</td>
<td>Quick access to capital for borrowing firm</td>
<td>Can serve as a marketing tool for the borrowing firm</td>
</tr>
</tbody>
</table>

As shown in Table 12, some platforms provide limited information about the firm and investment purpose of the borrower to the investor. The platform shows little more information than the risk qualification, the industry, the interest rate and some financial figures. Investors are thus likely to focus on getting a higher yield on their capital. On the borrower side, the main value proposition of the MPL platform is quick and convenient access to capital. The MPL platforms focus on having efficient processes in place for quick loan application, scoring and evaluation.

Although the main goal of investors will always be to get yield on its investment, also social factors play increasingly a role. Interviews indicate that investors increasingly want to know where they invest in. Social focused MPL platforms accommodate this by providing extensive information about the borrowing company.
and the investment purpose. MPL platforms show an extensive description of the company, investment purpose, results and forecasts supported by video’s and pictures. Some platforms also purely focus on social projects such as sustainability, cultural or regional initiatives. For the borrowing firm this connection of the investor with the company or investment purpose can serve as a marketing tool or alternative communication channel. Firms can use MPL as a marketing campaign allowing potential customers to invest in their business, as expressed in the following quote;

“An entrepreneur can use it to build a client base, so it is also a kind of marketing tool. You enable your customers to invest in your own business so that can be interesting” (Co-founder, Crowdfundmarkt)

MPL platforms also tend to provide more personal service to the borrowing firm. Because of the high diversity in the market not all platforms necessarily fit into one of these two categories and can have characteristics of both models.

The interviews indicate that the more yield focused platforms will become the largest of the two business models in the future, especially when more institutional investors get involved. It is more difficult to achieve scale when only private investors are involved in comparison with platforms that also allow institutional investors without direct connection to the investment purpose to invest in loans. How large it eventually will grow is highly uncertain, and depends on how the banks react and the platforms develop.

4.2.1.3. Emerging or Insignificant Market

Both research reports and interviews show that mainly small and medium sized companies (SME’s) make use of MPL platforms to get access to finance. More specifically, interviews with both MPL insiders and banks indicate that the majority of the firms that apply for a loan via a MPL platform are not able to get a loan via banks because of their higher risk profile. MPL platforms in The Netherlands generally have a higher risk acceptance than banks, or are less selective in the industries they accept as exemplified in the following quote;

“It can be because they are active in a sector where banks are hesitant to provide finance to such as the hotel and catering industry. It can also be that the companies according to the current calculation models of banks cannot receive finance” (Founder, CrowdfundingHub)

So in contrast to the US and UK, where refinancing credit card debts at lower rates was the main driver, in The Netherlands the access to finance is the main driver behind MPL. Data of “Crowdfundmarkt” confirm the quote above by showing that the hotel & catering industry is the largest industry sector on MPL platforms (see Figure 11).

![Number of MPL Projects per Sector in 2015](Van der Beek & Van der Linden, 2016)
Figure 11 shows that almost 1 out of 5 projects in 2015 on Dutch MPL platforms where started by companies active in the hotel and catering industry. As derived from the interviews, banks are hesitant to finance the hotel and catering industry because of the above-average risks in this sector.

The interviewees also note that, especially in the early stages, mainly starting companies make use of MPL platforms to get finance. This is confirmed by figures from “Crowdfundmarkt” as shown in Figure 12.

![Number of MPL projects per development phase in 2015](image)

**Figure 12: Number of MPL Projects per Development Phase (Van der Beek & Van der Linden, 2016)**

Figure 12 shows that almost 50% of the loan requests via MPL platforms in The Netherlands are placed by starting companies with an existence of less than 2 years. Because beginning firms have no history, it is especially difficult for them to get finance via the bank. One respondent noted that the social factor with the involvement of investors, as explained in Chapter 4.2.1.2, is especially attractive for start-ups since they have to build up a client base from scratch.

One respondent observes that currently also more mature and medium sized companies are starting to make use of MPL that are also lending higher amounts. This is supported by the data in Figure 12, which show that approximately 30% of the projects are started by mature companies (older than 5 years). The respondent indicates that the reason for more mature firms to make use of MPL are diverse; it can be because the loan amount is too risky for banks, they can be active in a sector where banks are hesitant to finance or the company wants to enable their own customers and employees to profit from the loan (why not pay interest to people in our own network instead of to the bank). The interviews with MPL insiders indicate that it is likely that this trend towards more mature companies will continue.

From the investor perspective, the interviews indicate that mainly private investors that want to use part of their capital to earn an attractive yield in an alternative asset class invest via MPL platforms in The Netherlands. These investors are typically somewhat older, already investing through the stock market and regard MPL loans as an addition to their current investment portfolio. Whereas in the US and the UK more professional and institutional investors are investing through MPL platforms, this trend is not observed in The Netherlands. Only the MPL platform Funding Circle arranged a deal with an institutional investor to invest through its platform in Dutch SME’s. The limited scale, the professionalism of the platforms and uncertainty about regulations prevent professional or institutional investors from investing through MPL platforms in The Netherlands. Professional or institutional investors are more focused on risks (downside potential), while the private investors currently investing through MPL platforms are more focused on the yield they can receive (upside potential). When the size of the market expands and increasing regulations can take away the uncertainty, the respondents indicate that it is expected that more institutional investors will participate in the Dutch MPL market in the future.

### 4.2.1.4. **Lower Price & Margin**

Figures of “Crowdfundmarkt” indicate that the average interest rate of a loan via a MPL platform in The Netherlands was 7.15% in 2015 (Van der Beek & Van der Linden, 2016). On top of this interest rate, borrowers also have to pay a fee of 1.06% to the MPL platform as shown in Figure 13. However, because of differing risk profiles no reliable quantitative comparison between rates at banks and MPL platforms is publicly available. Furthermore, as indicated in Appendix 5, at several platforms borrowers can determine their own interest rate. Overall the interviews with both MPL insiders and banks indicate that loans via a MPL platform are somewhat more expensive than loans via banks, as indicated by the following quotes;
“What you see is that those kinds of platforms in many cases are still a little bit more expensive” (Founder, CrowdfundingHub)

“If you look at when we jointly finance, so partly via the bank and partly via crowdfunding, then is crowdfunding somewhat more expensive” (Account Manager, Bank A)

MPL platforms can operate without the legacy and regulatory requirements of banks, but still act on a limited scale which increases the price. No data is available about whether the costs of getting finance via MPL platforms are currently declining. Interviews with insiders do indicate that when the scale increases the cost of MPL will decline.

Although the costs for a loan are higher, the margins for a MPL platform are lower than banks. MPL platforms only act as an intermediary so the yield on the provided capital goes to the investors. As explained in Chapter 4.1.1, MPL platforms are earning revenues by charging fees to both the borrower and the investor. This stands in contrast to banks who earn the margin between the interest rate they pay for acquiring capital (base interest rate or interest rate of saving account) and the interest rate at which they lend out capital. To make a comparison between the margins of MPL platforms and banks, the average fee charged by platforms is calculated and converted to a percentage per year over the total loan amount\(^3\). As shown in Figure 13 the Dutch MPL platforms charge a fee of 1.64% over the total loan amount per year, of which 0.58% to investors and 1.06% to borrowers. Consulting the public information available on the websites of large Dutch banks indicate the rate at which they acquire capital (based on saving account interest rates) is 0.5%, while the minimal rate at which they lend out capital to SME’s is 4% (excluding a company dependent risk increase).

![Figure 13: Margins MPL Platforms](image)

4.2.1.5. Additional Findings

Whereas in the US and the UK MPL platforms such as Lending Club are regarded as technology companies, this trend cannot be identified in The Netherlands. Many MPL platforms in the UK are backed by venture capitalists, heavily investing in technology to develop scalable processes. On the contrary interviews with MPL insiders indicate that Dutch MPL platforms are not backed by venture capitalists, choose to invest only limited in technology and often stick to non-scalable processes. MPL platforms active in The Netherlands are generally directed by former bankers, still executing manual and face to face tasks in making deals. Many platforms act as a financial advisor, helping SME’s to get finance and using technology to do so. Platforms do invest in technology and knowledge but it is not yet sufficient to build scalable processes. The respondents do note that there are qualitatively good and professional platforms active in The Netherlands, but with their current way of working it will be difficult to achieve large scales. It is still uncertain if the Dutch platforms are able to make the transition to a technology company.

The interviews with MPL insiders do indicate that there is a high possibility that foreign platforms enter the Dutch market, but when or which platforms is still uncertain. Because of differing regulations it is difficult for platforms to spread across Europe, although the legal entry barrier for the Dutch market is relatively low. On the other hand, the Dutch market is also relatively small in comparison with for instance Germany or France, creating little incentive to enter. Overall the respondents indicate that the probability that a foreign platform enters the Dutch market is high, but it is still uncertain when or which platforms will take this step.

\(^3\) Calculated based on data from the four largest marketplace lending platforms in The Netherlands (Geldvoorelkaar, Collin Crowdfund, Kapitaal op Maat and Funding Circle) and the average loan term (5 years) and amount (€ 134,000,-) originated via MPL platforms in The Netherlands according to data from “Crowdfundmarkt” (Van der Beek & Van der Linden, 2016).
4.2.2. Process of Disruption

Although the market size of MPL in The Netherlands doubled the past few years, it is still relatively small in comparison to the amount of finance banks provide to SME’s. Table 13 shows the amount of outstanding loans and amount of new provided loans to SME’s of MPL platforms compared with banks.

Table 13: Market Share MPL

<table>
<thead>
<tr>
<th>Outstanding loans to SME’s</th>
<th>New provided loans to SME’s</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amount in 2015 (in millions)</strong></td>
<td><strong>Source</strong></td>
</tr>
<tr>
<td>Market Share MPL</td>
<td>0,13%</td>
</tr>
</tbody>
</table>

As shown in Table 13, both the total amount of outstanding loans and the amount of new provided loans to SME’s via MPL platforms in The Netherlands are still small in comparison with the total market which is dominated by banks (under 1%).

The interviews indicate that both MPL insiders as banks expect the market to grow at considerable rates the upcoming years, as indicated by the following exemplar quotes;

“I expect that the considerable growth rates will continue, not necessarily doubling each year but it will certainly continue to grow” (Co-founder, Crowdfundmarkt)

“It is surely more than 1 billion. It depends on how it accelerates. If I would have to make a prediction I would say between 1 and 2,5 billion in 2020” (Founder, CrowdfundingHub)

“I think that the current growth will continue” (Director External Relations, Bank C)

The latest figures of Douw&Koren however show that the growth rates of MPL in The Netherlands are declining; whereas the past years the figures doubled each year, in the first half of 2016 the Dutch market grew with 51% (€69,5 million in loans are provided via MPL platforms (Crowdfunding in Nederland; Eerste helft van 2016, 2016)).

Based on the interview results and statistical forecasts by Statista (Statista Digital Market Outlook, 2015), an estimation is made on the future market volumes of MPL in The Netherlands. Figure 14 shows the forecast for the yearly volume of loans originated via MPL platforms in The Netherlands.

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4 Exact figures about the total amount of outstanding loans via MPL platforms are not available. Outstanding loan amount is estimated by taking the total amount of loans issued via crowdfunding in the last 5 years (€240 million), corrected for the percentage of loan based finance in crowdfunding (72%).

5 SME’s are defined as all privately held companies with a maximum turnover of € 50 million.
As shown in Figure 14, it is expected that by 2020 for more than €1 billion in loans per year will be handled by MPL platforms in The Netherlands.

Next to encroaching the market in terms of market share, disruptive innovations also typically improve their performance to attract higher customer segments (see Chapter 3.1.2). The findings outlined in Chapter 4.2.1.1 on how MPL is developing in terms of performance are summarized in Table 14. Figure 15 shows a description of the symbols used to indicate the development of MPL on each parameter.

Table 14: Development MPL

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Development</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Indicators</td>
<td>Interest rates/ cost of lending</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Trust</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Loan amounts</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Loan duration</td>
<td>0</td>
</tr>
<tr>
<td>Customer segments</td>
<td>Borrowers</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Investors</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 14 shows that 2 of the 4 performance indicators of MPL are gradually increasing in performance, while also more mature companies are starting to apply for loans via MPL platforms. Especially the shift to more mature and medium sized companies also increases the loan amounts processed via the MPL platforms. The trust in platforms is generally increasing although some drawbacks in the development are expected in the future. On the other hand, no development is observed in the duration of loans, the costs of getting a loan via a MPL platform and the type of investors that finance loans via MPL platforms.

4.3. Reaction Banks

In this chapter the results on the motivation and ability to respond and the reaction strategies of the three banks in the sample are outlined.

4.3.1. Case: Bank A

4.3.1.1. Motivation to Respond

The respondents indicate that, although Bank A takes the new market serious, it perceives MPL not as an immediate threat because of the limited size of the market and since they perceive it as a different business. The activities of MPL platforms are regarded as different to their own business, as one respondent notes;

“I think it is not a threat because they do something different. When there is no direct relation between the customer and the financer, the rent asked will be higher. So it is only profitable at higher risks and there will always be a market for higher risks” (Business Manager, Bank A)

The high risk acceptance stands in contrast to banks which have a lower risk appetite due to their duty to be a safeguard for peoples savings accounts and the capital requirements from regulations. The activities are not only perceived as different, but also as somewhat inferior to banks;

“Up until now the main advantage of banks is trust. Although the whole sector received a blow, trust is still relatively high if you compare it with FinTech parties” (Project Manager, Bank A)

Moreover, Bank A also perceives MPL not as a threat because of the relatively small size of the market. Even if it continuous to grow at the current growth rates the upcoming few years, it will still be relatively small compared to what the banks do. The respondents also show some uncertainty about whether the current growth rates continue in the future because of maturation issues that can arise. It is still uncertain how the platforms deal with and the market will react on loan defaults;

“At the moment that one or two remarkable things go wrong, how will it affect trust?” (Business Manager, Bank A)

One respondent notes that although they do not perceive MPL as a threat, it does influence their decision making. Bank A monitors their external environment and the new entrants keep them alert and provide them with new information.

The interviews with employees of Bank A indicate that the strategic assets needed to deploy both businesses become increasingly related. Bank A already has the channels, sales organization and customer relationships in place to serve the SME segment which MPL platforms are currently targeting. The respondents argue that the current customer and channel assets could be applied to successfully deploy a MPL platform. With increasing levels of standardization and automation, process assets of Bank A and MPL platforms are perceived as increasingly related.

4.3.1.2. Ability to Respond

The interviews with employees indicate that Bank A experiences some conflicts between their current and the MPL business model, but these are mitigated by their internal organization and changing environmental conditions. The interviewees indicate that adopting MPL is potentially damaging to their reputation as a solid party. Banks have by law a duty of care towards investors to provide them with sufficient information in making a deliberate choice. Therefore, banks risk conflicts with investors and subsequent reputational damage in the
case of loan defaults. However as the following quote indicates, Bank A expects to mitigate this risk by their internal organization;

“On the other side you have the investors and there it is more about if you can fulfill the promise with respect to risks. However, we have years of experience in managing that risk” (Business Manager, Bank A)

Although MPL business model promise lower margins than the banking model (see Chapter 4.2.1.4), the respondents think a possible adoption will not lead to cannibalization or shift from high to lower margin activities. One respondent notes the difference in risk management between the banking and MPL business model. Whereas banks have to compensate for the risk of default, MPL platforms replace these risks to the investor;

“But in our margin also a risk reserve is incorporated. I would be pleased to receive 1,6% without risk on every loan. There is a difference” (Business Manager, Bank A)

Another respondent notes that new regulations increase the capital requirements for banks, which put the margins of the traditional banking model increasingly under pressure.

In terms of skills, the interview results indicate that the skills needed to run a MPL platform are very similar to those Bank A possess, as illustrated in the following quote;

“If you look at all those platforms, mainly former bankers are working there. What they do is very similar” (Business Manager, Bank A)

The respondents also argue that Bank A possesses superior skills in assessing risks and managing a portfolio of loans. On the other hand, MPL platforms do not have the legacy Bank A has, which make them leaner and quicker to respond. However, as outlined in Chapter 4.3.1.4, Bank A is improving their current business model to become leaner.

The interview results also indicate that Bank A has extensive resources available to react. Although the main investment priorities are preserving what they already have and fulfilling legal requirements, within the budget for innovation improving and developing lending activities have a high priority. Financing is the core activity of Bank A, so there is a big focus on preserving their position in the market.

4.3.1.3. Additional Findings
Although Bank A does not perceive the rise of MPL platforms as a threat, it does perceive threats from increasing regulations and changing environments. These external developments constrain the amount of financing Bank A can provide in the future and therefore threaten its market position.

As explained above, banks suffer from increasing regulations from the Basel accords, which force them to keep more capital in reserve. This limits Bank A in the amount of finance it can provide to customers via their own balance sheet and potentially threatens its market position. Furthermore, Bank A experiences more risks in the whole society due to faster changing markets, as indicated by the following quote;

“For the whole society this means that there is more volatility in the market, changes are going faster. If you have a good plan now and you are running for two years, your business can suddenly be totally different because the market changes. This increases the risks” (Business Manager, Bank A)

One respondent notes that these fast changes and increasing risks in the society changes the financing landscape where there is a demand that cannot be fulfilled by the traditional banking model. The amount of risk banks can take via their own balance sheet is limited, constraining Bank A to provide loans to customers.

Finally Bank A also experiences changing customer demands; customers demand faster and more convenient solutions and second of all the markets are changing at an increasing pace. The changing customer demands forces Bank A to improve their current propositions, as the following quote exemplifies;
“If we do not deliver quickly, they will go somewhere else” (Project Manager, Bank A)

4.3.1.4. Reaction Strategies
The reaction of Bank A is threefold; first of all, it is improving their existing business model, second of all it collaborates with MPL platforms and third it is adopting parts of the MPL business model on an explorative basis.

First of all, Bank A is improving their existing business model by making their internal processes leaner and improving their propositions to customers. Bank A is initiating multiple improvement projects to react on the general changes it perceives in its environment from changing customer demands, by streamlining internal processes and digitalizing existing propositions. In addition, it is increasingly using new data sources to make better credit assessments.

Secondly partnerships are arranged with MPL platforms to redirect or co-finance customers that are too risky for Bank A to finance. Bank A made contractual arrangements with these platforms on how to deal with customers. The motivation to start the collaborations is to help and keep the connection with those customers that are not able to get a loan via Bank A. The higher risk acceptance of MPL platforms make their proposition complementary to that of Bank A, as indicated in the following quote;

“We do that now with crowdfunding platforms, we do not see them as competitors. They do their own thing and we do our own thing and we can support each other with that” (Account Manager, Bank A)

Finally Bank A also is adopting parts of the MPL business model on an experimental basis. The front end towards SME’s requesting a loan remains intact, but principles of the MPL business model on the financing side are adopted on an experimental basis. Bank A starts an experiment to allow wealthy private investors to partly finance SME loans. The experiment starts for a restricted group and with Bank A still financing the majority of the loan, with the possibility to broaden the boundaries if the test is successful. The experiment allows Bank A to test the technologies and the reactions from the market and to identify and solve any legal issues. The respondents indicate that the decision to perform the test is mainly driven by the threats it perceives from the increasing regulations and the volatility in the market. Bank A sees adopting parts of the MPL business model as an opportunity to keep their current levels of financing towards SME’s, despite the increasing restrictions on financing via their own balance sheet.

4.3.2. Case: Bank B

4.3.2.1. Motivation to Respond
The interviews indicate that Bank B does not perceive MPL as a threat yet because of the small size of the market and because they perceive it as complementary to their own business. For now, MPL platforms are focusing on a specific product or customer segment in niches where Bank B is less active. Therefore, they not necessarily perceive them as an immediate threat, but more as complementary. However, Bank B does foresee that some of these platforms scale up and expand in their niche or enter new segments. Therefore, it can pose a threat on the long term, as indicated in the following quote;

“They start out in niches and of course there will be companies that will look at how they can achieve more scale. So we need to ensure that we know what is happening in the market, I am not going to trivialize it” (Head of Innovation Centre, Bank B)

Although Bank B does not perceive MPL as an immediate threat, it is monitoring the market to assess what the new entrants do differently and what they can learn from it.

Regarding how MPL will develop in the future the respondents indicate considerable uncertainty about how the innovation will grow. One respondent notes that the initiatives are relatively new and it is highly uncertain how large the market eventually will grow. Bank B expect loans initiated via MPL platforms will default in the future, and is uncertain about how investors will react on it and how it affects the trust and growth of the market. Furthermore, one respondent also noted there is some uncertainty about how the regulations will develop and how it will affect the competitive position.
Regarding the strategic relatedness one respondent notes the similarities between banks and MPL platforms;

“Every bank is also a platform because it brings demand and supply together, but uses its balance sheet to gain interest. However, these platforms do not use their own balance sheet so the debts are not on their own account” (Head of Innovation Centre, Bank B)

Moreover, the interviews indicate that the two business models become increasingly related, although the uncertainty about the market withholds Bank B from doing concrete statements about how strategically related the business models are. One respondent notes the importance for platforms to achieve scale by quickly processing loan requests, a topic Bank B is investing in to improve it internally. Furthermore, Bank B did an experiment with how it can offer propositions like crowdfunding to private investing clients. The experiment also showed that whereas MPL platforms have processes in place to effectively match demand and supply, in large banks these functions are separated in different departments.

4.3.2.2. Ability to Respond

The interviews indicate that Bank B mainly perceives the risk of reputational damage between their current and the MPL business model. Bank B perceives it as a risk that adopting MPL would possibly harm its reputation as a trusted party. Bank B manages its reputation with great care because it perceives being a trusted party as one of its main strengths. For exploiting a MPL platform, Bank B perceives the risk of loan defaults, with the consequence that private investing customers losing their money and the possibility to get sued. Even if the platform would be exploited in a separate organization, it is still related to Bank B’s reputation and indirectly it still would give the impression that Bank B indirectly gives advice on the platform, as expressed in the following quote;

“You cannot easily exploit this next to your own business and say we are now just the platform that mediates between demand and supply. You are very quickly regarded as a party that is advising indirectly” (Head of Innovation Centre, Bank B)

In managing their reputation and with respect to the supervisory of regulatory authorities, Bank B wants to deal carefully with the impression that one can get that Bank B is related to possible defaults when it would exploit a platform.

In terms of skills the respondents indicate that Bank B possesses or is acquiring the same competences MPL platforms have.

“Most of the things we see at platforms are things we actually can do very good ourselves, but for us it is tougher because the existing systems work against us” (Head Product & Price Credits, Bank B)

One respondent notes that Bank B already acquired many digital competences and it changed its method of working to become more agile.

Throughout the interviews the respondents indicated that Bank B is investing heavily to improve their lending activities. In addition, one respondent also points out that Bank B recently developed a new vision and strategy on lending to the SME segment, indicating that there are resources available to react.

4.3.2.3. Additional Findings

Although Bank B does not directly perceive a threat from MPL, it does perceive changes in customer demands that potentially threatens their market position. One of the respondents note that some clients do not apply for a loan at a bank anymore and directly go to other credit providers. Some clients already assess for themselves in advance that they won’t get a credit at the bank.

4.3.2.4. Reaction Strategies

The reaction of Bank B is threefold; firstly they are improving their existing business model, secondly they are exploring how they can collaborate with MPL platforms and finally Bank B is also exploring new lending propositions.
In first instance Bank B is focusing on improving their current business model because they perceive that there is a lot of unused potential left to make their current propositions more attractive. Bank B is currently digitalizing processes and their products to make their current propositions quicker and more convenient. For lending towards SME’s Bank B wants to lower the threshold for applying for a credit by making the application process easier and by reducing the lead time of assessing the loan application. Next to improving their existing business model, Bank B is also looking for new innovative lending propositions towards SME’s. However, currently this is still in an explorative stage.

Furthermore, Bank B is also planning to collaborate with one or more MPL platforms to redirect customers that cannot get a credit via Bank B. By collaborating with platforms Bank B wants to smoothen the process of redirecting customers, as

“The idea is to not just to say “sorry we cannot provide you with a loan, here you have a list of 6 parties where you can also hand in an application”. No the idea is to really introduce them to a platform. (Head Product & Price Credits, Bank B)

Bank B is currently still exploring how to set up the collaborations; what kind of information they want to share and are allowed to share from a legal perspective. Because the MPL platforms are acting in a niche and have a higher risk acceptance, it is perceived as complementary to their own business. The main aim is providing a service to keep the connection with the client and possibly providing complementary products to them and/or provide finance to them in a later stage when they grow bigger. Moreover, collaborating with MPL platforms is also a learning mechanism for Bank B to explore the MPL market. Collaborating by redirecting customers is a first step for Bank B to gain experience with collaborating with MPL platforms and evaluate if it works. Based on this evaluation Bank B can decide if it wants to intensify the collaboration. Eventually the goal for Bank B is to finance certain projects that exceed their risk appetite collaboratively with partners.

4.3.3. Case: Bank C

4.3.3.1. Motivation to Respond

Although the respondent notes that Bank C is taking MPL serious, is intensively monitoring the environment and it potentially can take business from them, it not necessarily perceives MPL as a threat, as indicated in the following quote;

“Without any doubt that we lose credits of our clients to others. For me that is a given, the market will change. That is fine for me, it also triggers us to stay competitive” (Director External Relations Business Credits, Bank C)

The respondent notes that the market for financing SME’s in The Netherlands is large (€130 billion, as indicated in Chapter 4.2.2) and that Bank C perceives a high level of heterogeneity in the market, which allows different organizations to develop its own niche. The market share of Bank C within that market is modest, neither is it their ambition to reach the whole market. Bank C wants to settle in a certain niche and focus on optimally serving that segment. In that sense, the respondent indicates that Bank C perceives MPL as complementary to their own business. The respondent does note that he expects that the current growth in the Dutch MPL market will continue, however because of their focus the growth is not perceived as attractive for Bank C.

In terms of strategic relatedness, the respondent notes that there are similarities but also differences between the banking and the MPL business model. The interview results also indicate that the business models also become increasingly related. Whereas MPL platforms offer mostly standardized products, Bank C is also decreasing the complexity and standardizing their product portfolio. However, the lack of interest to deploy a MPL platform prevent Bank C from doing concrete statements about the strategic relatedness of the business models.

4.3.3.2. Ability to Respond

The interview indicates that Bank C perceives major conflicts between their current and the MPL business model because of the focus of the organization and their reputation. From the interview it seems that the main
conflict Bank C perceives is the difference in risk acceptance; whereas MPL platforms accept customers with higher risk profiles, Bank C has a moderate risk acceptance policy. Bank C is willing to provide finance to SME’s but Bank C only wants to lend in a responsible way against low and reasonable interest rates with some warranties to avoid that it puts its client and itself into trouble. This focus of Bank C, also outlined above, is also related to the second conflict it perceives; risk of damaging their reputation. Bank C wants to preserve their reputation as a solid and reliable organization. Bank C is also reluctant to let private investor clients to invest in SME loans with the risk of damaging their reputation in the case of default.

The skills between the two business models become increasingly related. Bank C has extensive knowledge in risk assessment of SME’s and is continuously improving these skills to do it more accurately and faster. The interview also indicates that Bank C has superior skills in risk management in comparison with MPL platforms and is increasingly streamlining and digitalizing its internal processes.

Considering the size and the numerous projects Bank C is initiating to improve its lending activities, it is also concluded that they have extensive resources available to react.

### Additional Findings

Although Bank C does not perceive MPL as a direct threat, the interview results show it does perceive changes in customer demands. In particular, it perceives that customers demand more convenient and faster services. For instance, it wants to know quicker whether or not his request for finance is accepted or not.

### Reaction Strategies

Bank C is reacting to the general changes in its environments by improving its own business model and monitoring the MPL market. Although the respondent indicates that Bank C already significantly improved their propositions and internal processes, they perceive that there is still a lot of improvement potential left. Bank C is reacting on the changes in customer demand by focusing on improving their internal processes to offer more customer friendly, quick and convenient products. Furthermore, Bank C is exploring how it can make smarter use of data to make more accurate credit assessments and how to develop tooling to better guide SME’s in their search for finance.

Next to improving its existing business model, Bank C is also monitoring the MPL market, following the developments and talking to different organizations. However, in contrast to the other banks it does not arranged collaborations with MPL platforms yet, although the respondent does not exclude that it will collaborate in the future. Bank C is willing to collaborate with other credit providers, but only when it results in an attractive proposition for both the customer, Bank C and the partner. Bank C does collaborate with other credit providers by redirecting or co-financing customers. Bank C redirects SME’s to an external partner when it perceives that the business model is not fully developed yet and it needs coaching instead of purely finance. Furthermore, at the upper side of the market (for larger loan amounts) Bank C also collaborates with different external organizations to co-finance projects that exceed the limits of Bank C or are harder to finance for a bank because of the increasing capital requirements from new regulations. However, because of the complexity and additional costs, Bank C thinks that co-financing is not a viable option for the lower side of the market (for smaller amounts). For collaborating with MPL platforms Bank C have not found a business case for a sustainable and responsible collaboration, with added value for the customer, the platform and Bank C. Moreover, the unclarity about the regulations for MPL platforms provides Bank C with little securities for developing a sustainable collaboration. With redirecting customers to MPL platforms, Bank C perceives the risk to get charged because of their duty of care when loans default. Bank C is wary for the risk that it is held responsible for a default of a client that they redirected to the platform.
4.3.4. Results Framework

Based on the analysis above, the different banks are rated on the parameters of the theoretical framework (ability and motivation to respond). Figure 16 shows a description of the symbols used to rate the different banks. The rating score on the ability and motivation to respond of each bank in the sample and their reaction strategies are summarized in Table 15. It should be noted that there are not necessarily positive or negative outcomes from this study. The study aims to research the vision of the bank towards one specific proposition namely MPL, not the innovation capability of the bank in general.

Table 15: Results Framework

<table>
<thead>
<tr>
<th>Motivation to Respond</th>
<th>Bank A</th>
<th>Bank B</th>
<th>Bank C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Threat</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Innovation’s Growth rate</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Strategic Relatedness</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

| Ability to Respond | Conflicts between old and new | - | - | - |
| Skills Portfolio | + | + | + |
| Available Resources | + | + | + |

<table>
<thead>
<tr>
<th>Reaction Strategies</th>
<th>Improving existing business model</th>
<th>Collaborate with MPL platforms</th>
<th>Adopt parts of MPL on an explorative basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction Strategies</td>
<td>Improving existing business model</td>
<td>Planning to collaborate with MPL platforms</td>
<td>Exploring new propositions</td>
</tr>
<tr>
<td>Reaction Strategies</td>
<td>Improving existing business model</td>
<td>Monitoring the MPL market</td>
<td></td>
</tr>
</tbody>
</table>

The results in Table 15 are processes to assess the ability and motivation to respond and displayed in Figure 17.
Figure 17: Ability and motivation to respond banks

Figure 17 shows that the banks in the sample are similar in their motivation to respond, but differ in their ability to respond. As shown in Table 15 this difference in ability to respond is determined by differences in the conflicts the banks perceive between the two business models.

This chapter showed the results from the empirical research on how MPL is developing in The Netherlands and how the banks in the sample are reacting on these developments. In the next chapter these results are discussed, related to theory and the implications for theory and practice are outlined.
5. Discussion

In this chapter first the results of the empirical research are discussed, whereafter the implications of this research for theory and practice are described.

5.1. Review of Empirical Results

In this chapter the results from the empirical research are discussed and related to the literature. First the findings on the development of MPL are discussed, whereafter the results of the reaction by banks are reviewed.

5.1.1. Development of Marketplace Lending

The research results indicate that MPL has some typical characteristics of a disruptive innovation in its earlier stages; it performs inferior to loans of banks that dominate the market, it is targeting non-consumption (customers that could not benefit from the old product) and introduces a different attribute. Especially the social focused MPL business model, which can be used as a marketing tool, provides a unique value dimension which cannot be provided via the traditional banking model. The yield focused MPL business model on the other hand, focuses on providing loans quicker, more convenient and potentially in the future also cheaper than banks. Consistent with the literature on disruptive innovations, MPL is first launched in an emerging and insignificant market targeting at non-consumption. The research results show that mainly firms that cannot get finance via the bank apply for a loan via a MPL platform in The Netherlands. From the results it can be derived that MPL opened a new market for loans with higher risk profiles. This is in line with the notion of a fringe-market, which opens up a new market where the preferences are only incrementally different from those on the low end of the current market (Schmidt & Druehl, 2008; Van Orden, Van der Rhee, & Schmidt, 2011).

According to Schmidt & Druehl (2008) a new market is on the fringe of the old market when buyers would have bought the current (old) product if it was less expensive. The research results suggest that when a loan via the bank was accessible for them, the SME’s would have used the old product. However, contrary to the traditional theory on disruptive innovations, the results show that generally a loan via a MPL platform is somewhat more expensive than the current product; a loan via the bank. This research thus found more support for the findings of Sood & Tellis (2011), who found that most potentially disruptive innovations (using a lower attack) are not priced lower than existing technologies at entry. Since the current product is not accessible for firms with higher risk profiles, they are willing to pay a higher price for finance via the MPL platform. Furthermore, some respondents indicate that for the social focused form of MPL, lenders are also willing to pay a somewhat higher price because they also get marketing exposure in return. This is in line with Van Orden et al. (2011) which state that a product in a fringe-market can cost less or a bit more than the original product, depending on the extent to which the core attribute is de-rated and depending on the strength of performance of the new attribute. In line with the distinction of Markides (2006) between disruptive technologies and disruptive business-models, the empirical results indicate that MPL can be classified as a potentially disruptive business model. In line with the theory on disruptive business models, MPL does not discover a new product or service, it redefines how loans are provided to customers and creates alternative investment options for investors. Moreover, the research results also show that MPL platforms in The Netherlands do not use new technologies; they use existing technologies to redefine how a loan is provided.

As outlined in Chapter 3.1.2, disruptive innovations follow a specific process; first the disruptive innovation is launched in an emerging market, subsequently the innovation increases in performance in that market and eventually the innovation encroaches in the mainstream market to disrupt the incumbents. From the research results it is induced that MPL in The Netherlands currently is in the beginning of the second phase; increase in performance (as shown in Figure 18).
In line with the theory on disruptive innovations, the research shows that the performance of MPL is gradually improving and is starting to attract somewhat higher customer segments. With regard to the increase in performance, the research results indicate that especially the trust and the loan amounts in the sector are gradually increasing (see Table 14). Furthermore, the research showed that, whereas MPL in the beginning mainly attracted starting companies, it starts to attract hi
ger customer segments with more mature companies increasingly applying for a loan via a MPL platform. However, although the market expanded significantly over the past years, the overall market share is still marginal (under 1%). In line with Danneels (2004), this process of maturing in a marginal market and gradually improving performance to satisfy the needs of higher-end segments is key to the mechanism of disruption. Also in line with theory on disruptive innovations in early stages is the high degree of uncertainty perceived around the development of MPL. Many authors state that the early stages of a potentially disruptive innovation is characterized by a high degree of market uncertainty (Chesbrough H. W., 2003; Walsh, 2002; Henderson, 2006; Christensen, 1997). The empirical results show that the respondents perceive a high degree of uncertainty about how MPL is going to develop, especially related to the trust in the sector and the regulations for the platforms.

5.1.2. Reaction Banks

In line with the theoretical framework the results of the reaction of banks is discussed by the motivation and ability to respond and the reaction strategies of the banks in the sample.

5.1.2.1. Motivation to Respond

All the banks indicated that, although they take the MPL serious and are monitoring the market, they do not perceive it as a direct threat because of the small size and since it is regarded as a different business. The banks in the sample seem to be aware of the potential threat of MPL, but do not perceive it as an immediate threat because the market is still small in comparison to their own business and the uncertainty on how the market will develop. With a market share of less than 1% the relative market size is small, while MPL platforms avoid direct competition with banks by mainly serving companies in higher risk categories rejected by banks. This is in line with the theory on competitive responses, which shows that firms experience lower levels of threats when the visibility of a competitive attack is low and the attack is not addressing its major markets. Moreover, in line with the theory on disruptive innovations, MPL follows a lower attack (starting at low-end segments of the market with inferior performance) as outlined in Chapter 3.1.1.1, which is often perceived as less threatening by incumbents (Schmidt & Druehl, 2008; Schmidt & Porteus, 2000; Sood & Tellis, 2005).

Although the banks in the sample differ in the explanations, overall they do not perceive adopting MPL as an attractive engine to growth. Bank A notes that the size of the market for MPL is relatively small even if it continues to grow at the current rates. This is in line with Christensen (1997 and Charitou & Markides (2003) who state that incumbents regard the small market size of potentially disruptive innovations in its early stages not as useful engines for growth. The results of Bank C show that because of their focus on a specific segment, the growth of a different sector is not perceived as attractive. Respondents at Bank B on the other hand, experiences significant uncertainty about how the market for MPL will develop and how large the market eventually grows. This is in line with Christensen (1997) and Chesbrough (2003) who state that during the early stages of a disruptive innovation forecasting the potential market size is extremely difficult due to high levels of uncertainty. Forecasting of disruptive innovation differs from forecasting regular innovation due to the relative novelty of the new product or service (Linton, 2002).
Overall it is derived that the business models of the banks incorporated in the study become increasingly related with the MPL business model. However, from this research it seems that the strategic relatedness had little or no influence on the reaction strategy to a potentially disruptive innovation in its earlier stages. Overall the most respondents were not able to give concrete answers about the possible similarities and synergies among the two business models. One possible explanation for this is the lack of interest to adopt MPL at this moment; whereas respondents of Bank A could give more concrete answers, the responses from the other banks remained more vague. Furthermore, the uncertainty in the market and heterogeneity among the platforms might limit respondents to make concrete statements on this point. No dominant design has emerged yet and it is still highly uncertain how the MPL industry will develop in the future. Another possible explanation might be that the limited size of the MPL market provides little possibilities to create synergies and achieve economies of scale, one of the advantages of related diversification (Palich, Cardinal, & Miller, 2000; Hill, Hitt, & Hoskisson, 1992; Markides & Williamson, 1994).

5.1.2.2. Ability to Respond
From the results it can be derived that the banks in the sample have the resources and the skills available to react, but perceive considerable conflicts between the two business models. All the banks indicated that they have extensive financial resources available to improve their current or to develop new lending propositions towards SME's. Furthermore, the research indicates that the banks in the sample consider that the skills needed to exploit the two business models become increasingly related. The banks are heavily investing in their digital capabilities and overall indicated that they identified only few platforms that possess relevant skills that are really distinct from theirs. In the literature on disruptive innovations this behaviour is often described as the competency trap; a strong believe in their current capabilities and subsequently fail to respond appropriately to the disruptive innovation (Lucas Jr. & Goh, 2009). However, as described in Chapter 4.2.1.5, also the interviews with insiders in the MPL industry indicate that the MPL platforms active in The Netherlands are not that distinctive from banks. Generally Dutch MPL platforms are exploited by former bankers and are not considered as real technology companies.

The ability to respond to MPL is mainly limited by the conflicts between the two business models. The banks in the sample especially considered damaging their reputation as a risk when adopting MPL. The reputation of banks as solid and reliable organizations where you can safely store your money is one of their most important assets. From their experience they know that in a portfolio of loans to SME's there will always be defaults. When loans default financed by private investors, the organization that originated the loan risks to get negative publicity or to get sued, especially because it has a duty of care towards investors. Banks perceive their reputation as one of their most important assets, because their business model is built on to be a save place where people can store their money. This conflict is in line with Porter (1996) and Markides & Charitou (2004) who state that firms risk to undermine their image or reputation and the value associated with it when adopting a potential disruptive innovation. Also differences between the banks have been noted; whereas especially Bank C was wary of the risk that MPL could damage their reputation, respondents of Bank A indicated that they expect that they can manage the risk with the expertise in their organization. The results also show that the focus of Bank C on moderate risk acceptance conflicts with the high risk acceptance of MPL platforms. Bank C focuses on serving a different segment of the market in terms of risk acceptance than MPL platform, and wants to stay in that niche. This finding is in line with Porter (1996) and Markides & Charitou (2004), which state that with adopting a potentially disruptive innovation firms risk defocusing their organization by trying to do everything for everybody.

5.1.2.3. Reaction Strategies
The main reaction strategy all the banks in the sample follow is improving their current business model. In the original theory of Christensen (1997), improving the current business model has often been observed as a move upmarket towards more demanding customers. Christensen et al. (2002) note that when entrants attack lower tiers of the market, incumbents will be motivated to move towards more profitable customer tiers. However, contrary to the theory of Christensen, this research shows that the banks in the sample are actually moving downwards; standardizing and simplifying their products and make their propositions more attractive also for lower customer tiers. This contradiction with the literature on disruptive innovations is important to note since it might give MPL platforms less space to attract higher customer segments. Overall it seems that banks are convinced that when they are able to improve their current propositions, customers in the first place still want a loan via the bank. This is supported by Paap & Katz (2004) who argue that firms should not abandon an old technology only if it appears to be mature, while there may be significant unmet needs in the value drivers it is addressing. One possible explanation for this contradictory movement of the banks in the sample might be that,
when managed correctly, banks can also earn attractive returns on lower customer tiers. Although banks are limited in the risks they can accept due to their business model and regulations, they charge risk adjusted interest rates which can lead to attractive returns in lower customer segments when they manage the risks properly. Another explanation might be that banks try to lower the threshold for applying for a loan to keep the connection with their customers. From the research it seems that banks want to stay central to their clients taking measures to ensure that customers still come to the bank to get finance.

However, the most prominent explanation for the move down market derived from this research is that banks are very aware of the potential threat from among others MPL, but are confident that they can prevent disruption by improving their current business model. From the results it seems that the banks improve their current business model by addressing two of the growth factors of MPL (as outlined in Chapter 4.1.2); they make increasingly use of technology and, with customers become more comfortable in performing transactions online and via mobile channels, they increasingly digitalize their offerings. Banks are improving their current propositions by making them more convenient and quicker, attributes that especially the yield focused MPL platforms is addressing. However, the research results indicate that banks do not react directly to the threat of MPL, but on the changes they perceive in customer demands and its environment as a whole. As outlined in Chapter 4.3, the banks in the sample are wary of the potential threat of MPL but do not perceive it as an immediate threat to their current business. However, the research results do suggest that indirectly MPL does influence the reaction of banks. The banks in the sample where all monitoring the MPL market looking for new initiatives where they can learn from. From the research it seems that the banks evaluated the new attributes MPL among others is addressing if it will be prominent to their business and to what degree they can address these attributes with their current business model. The banks in the sample are confident that the new attributes most prominent to their business can sufficiently be addressed with their current business model, benefiting from the advantage they have over MPL platforms. This is in line with Paap & Katz (2004), which state that the key to avoiding the negative effects of disruptive technologies is to focus primarily on what is happening with customer and operational needs instead of focusing on technologies. Especially because MPL is regarded as a disruptive business model (as concluded in Chapter 5.1.1), which typically fail to take over the entire market, focusing on the existing business model can be a valid strategy.

Secondly two of the three banks arranged or are planning to arrange collaborations with MPL platforms, while the third bank does also not exclude this option for the future although it has no plans currently. Bank A is collaborating with MPL platforms to redirect customers or co-finance projects, while Bank B has similar plans. The main motivation for the banks to start the collaboration is to stay central to the client, possibly sell other products and keep the connection with the client to possibly provide finance to the customer in the future when its risk profile improved. From the research it seems that the complementarity of the two business models in risk acceptance allows "competitors" to collaborate. This is in line with the statement of Gilbert & Bower (2002), which state that since disruptive innovations start new markets and attract new customers, they are not cannibalistic immediately to incumbents. Whereas Bank A regarded the collaboration purely as transactional, Bank B also indicated that the collaboration can serve as a learning mechanism to follow the MPL market. This is in line with Raffi & Kampaos (2002) who argued that incumbents can take preemptive efforts by exploring potential partnerships with emerging players that have valuable technology or market position. Similarly, Chesbrough & Crowther (2006) proposed that open innovation might be a way to monitor potentially 'disruptive technologies' that may threaten existing businesses.

Finally Bank A reacts by adopting parts of the MPL business model on an experimental basis. Bank A wants to keep the front end towards the customers intact, but is performing an experiment to not finance all loans via its own balance sheet, but allow private investors to co-finance. This is in line with Osyevsky & Dewald (2015) who state that how firms adopt the disruptive innovation do not have to be homogenous; firms can adopt the disruptive business model with adaptations to match the company’s existing competences. Again the respondents indicate that Bank A is not performing this experiment as a reaction on the potential threat of MPL platforms, rather they see it as an opportunity to react on external threats from increasing regulations and the volatility in the market. These environmental changes threaten the market position of Bank A on the long term, and it sees adopting parts of the MPL business model as an opportunity to sustain their current market impact.

From the research it seems that the uncertainty surrounding MPL leads to less integrated and more reversible reaction strategies. The literature states that under high levels of uncertainty firms need to remain flexible by using strategies that involve a low level of commitment and a high level of reversibility to cope with unforeseen contingencies (Van de Vrande, Lemmens, & Vanhaverbeke, 2006; Ghemawat, 1991; Claude - gaudillat & Quelin, 2009). Bank B is planning to start with a limited collaboration, with the possibility to extent the collaboration or to quit based on the results. Bank A also adopts part of the MPL business model in an experiment for a fixed
period with the possibility to adapt or extent the test based on the evaluation. The results also show that Bank A also uses a less integrated and more reversible reaction strategy to deal with the conflicts between the two business models. As outlined above, all the banks in the sample regard adopting MPL as a risk that could damage their reputation. In the case of loan defaults the investors could sue the bank which can damage the reputation of banks as solid and reliable organizations. Bank A mitigates this risk by allowing only more wealthier investors with more experience in investing to participate in the experiment. These investors are likely to be more aware about the risks of investing and are more likely to accept their loss in the case of defaults and less likely to sue Bank A. Based on the evaluation of the experiment Bank A can decide to broaden the boundaries. This is in line with Chesbrough (2010) who showed how companies can experiment with a new business model to resolve conflicts.

5.2. Implications for Theory

This research provides several new insights for theory. First of all, previous research from Charitou & Markides (2003) showed that in later stages of a disruptive innovation, the reaction of incumbents depends on the ability and motivation to respond. However, neglected in the literature is how incumbents react to a potentially disruptive innovation in its early stages. From this research it seems that in the early stages of a potentially disruptive innovation, incumbents reactions are mainly based on the conflicts between the two business models and the changes the incumbent perceives in its environment as a whole.

In contrast to Charitou & Markides (2003) who argued that the motivation of the incumbent to respond depends on the strategic relatedness, the level of threat and the growth rate of the disruptive innovation, it seems from this research that in the early stages of a disruptive innovation incumbents mainly react on changes in its environment as a whole. The main explanation is that, as explained in Chapter 5.1.2.1, incumbents do not perceive an immediate threat of the potentially disruptive innovation in its early stages, but do observe changes in its environment which can become prominent to their business. From this study it seems that incumbents, when confronted with a disruptive innovation in its early stages, do not react to the potential threat, but instead to the changing customer behaviours and demands the disruptive innovation reveals and the firm perceives in its environment as a whole. Disruptive innovation by definition address different performance attributes (as explained in Chapter 3.1.1.2), addressing new or different customer demands. Incumbents in the sample are monitoring the new market to assess what the new entrants do differently and to learn from the new initiatives to improve their own propositions. When incumbents are confident that they can sufficiently address the most important new performance attributes with their current business model, they perceive the potentially disruptive business model as less threatening. Overall it seems that incumbents try to avoid the negative effects of disruption by focusing on addressing the changes in customer demand and behaviour. This research shows that although disruptive innovations do not influence the reaction of the incumbent directly (because they do not perceive it as a threat), by revealing latent customer demands the disruptive innovation can indirectly influence the reaction of the incumbent. Moreover, in this research no real relationship could be found between the strategic relatedness of the two business models and the motivation to respond of incumbents. It seems that the possibility to create synergy between two business models is limited or not considered concretely by incumbents in the early stages of a disruptive innovation.

On the other hand, in the ability to respond this study found consistent results with Charitou & Markides (2003), especially on the influence of the perceived conflicts between the two business models on the subsequent reaction strategy. This research provides more evidence on how adopting a disruptive innovation can potentially harm the current business of the incumbent. Through the eyes of the managers the incumbent risks damaging the value of their current strategic assets. In the earlier stages the conflicts between the two business models might be especially prominent because adopting the disruptive innovation can possibly harm the incumbents current business while the returns on the short term are marginal because of the small market size and on the long term the returns are highly uncertain.

This research also provides new insights on how incumbents react to a potentially disruptive innovation in its early stages. First of all, an important contradiction with the theory on disruptive innovations is found; whereas Christensen predicts that incumbents will move upmarket towards more demanding customers when a potentially disruptive innovation enters its industry, this research found a contrary movement of incumbents down market. In the process of disruption it is essential that the potentially disruptive innovation matures in a marginal market to start attracting higher segments. From the theory of Christensen it seems that this process is actually facilitated by the move up market of the incumbent, leaving space for the new entrant to attract
higher customer segments. However, this research actually found a contrary move of incumbents down market. Contrary to the theory of Christensen, the banks in the sample were motivated to adapt their propositions to make them more attractive also for lower customer segments. This might influence the process of disruption since incumbents leave less space for new entrants to attract higher customer segments. This might be especially true for disruptive business models, which are typically not necessarily superior to the current business model and fail to take over the market completely. The market space left for the new entrants might therefore depend on the timeliness of the reaction from incumbents and the degree to which the old business models can be improved to serve lower segments. As explained above, this contrary movement might be because the incumbents do perceive the potential threat but are confident that they can prevent the negative effects of disruption by improving their current business model.

5.3. Implications for Practice
For managers this research provides new insights on how to deal with and react to the introduction of a potentially disruptive innovation in its earlier stages. The first practical contribution of this study is to provide new insights on how managers can learn from disruptive innovations introduced in their industry. Monitoring a potentially disruptive innovation can provide managers information about new product or service attributes not or not sufficiently provided by their current business model. Potentially disruptive innovations can reveal new or emerging customer demands, not sufficiently addressed with the current business model. Managers can assess which new performance attributes become prominent to their business and subsequently assess to which degree they are able to address these attributes with improvements in their current business model.

Secondly this research provides new insights for incumbents how their focus on certain customer segments affects the possibility of disruption. By moving towards more demanding and profitable customer tiers, incumbents might create space for disruptive new entrants to start attracting higher customer segments and proceed their process of disruption. Instead this research shows that incumbents can also move downmarket by adapting their propositions to make them more attractive also for lower customer tiers. This might give new entrants less space to step out their niche and attract higher customer segments. Managers should be aware of the process disruptive innovations follow and how they possibly can deter this mechanism by their own customer segmentation and offerings.

Finally, this research provides new insights on how managers can deal with the conflicts between two business models when reacting to a disruptive innovation. The difficulties firms experience to react to a disruptive innovation due to the conflicts between the business models have been widely reported in the literature. This research suggests that managers can use less integrated and more reversible reaction strategies to carefully manage the conflicts between the disruptive and the incumbents business model. By doing so, firms remain flexible to make adaptations when conflicts arise and to gradually extent the approach when the results are positive. The flexibility enables managers to quickly evaluate results and make timely corrections.

5.4. Limitations and Future Research
The results of this study should be considered with some limitations in mind. Since this study was a qualitative case study in a single industry and on a single disruptive innovation, the new insights gained are not automatically generalizable to other companies and industries. Therefore, it would be interesting to replicate this study to other disruptive innovations and industries to test and extent the generalizability of the results. This research shows that incumbents determine their reaction strategy in the early stages of disruption largely on the conflicts they perceive between the two business models and the changes the incumbent perceives in its environment as a whole. Future research can test and expand on these insights gained from this study. Because of the importance of reacting early to a disruptive innovation as stressed by many authors, it remains useful to keep analysing how incumbents can respond in the early stages of the process of disruption. As stated in Chapter 3.3.2, the literature on how incumbents can react, especially in earlier stages, is limited providing opportunities for scholars to contribute to theory with new insights.

Furthermore, this research only discussed the case of a disruptive business model, while for future research it is also interesting to analyse how incumbents react to a disruptive technological innovation in its earlier stages. This would give more insights in the difference between the two kinds of disruptive innovations to draw more accurate conclusions in the future. Currently especially Markides (2006) makes good statements about the differences between disruptive business models and disruptive technologies, but limited literature has extended
his results so far. The theory on disruptive innovation would have greater predictive value when more clear distinctions are made between these two different types of disruptive innovations.

Moreover, this study only provides a snapshot of the current Dutch MPL market with some predictions about the future, while it would also be interesting to do a longitudinal research in the future. This would provide more insights in the dynamics of the process of disruption and how attitudes and reaction strategies of incumbents towards disruptive innovations change over time. This study showed a move of banks down market to make their proposition more attractive also for lower customer tiers, arguing that this might limit the space for MPL platforms to attract new customer segments. In a longitudinal research the exact effect of this strategy in limiting the negative effects of disruption can be examined.

Finally this study is also susceptible to some biases. First of all due to resource constraints, the collection and coding of the data was executed by one researcher. Therefore, the results are susceptible for biased coding, which is especially true for the interpretation of the results on the development of the MPL market (described in Chapter 4.2.2) and the interpretation of the ability and motivation to respond of the banks (described in Chapter 4.3.4). These results are interpreted using a coding scheme ranging from - - to + +, which is susceptible to the subjectivity of the researcher. In future research this susceptibility for biases can be prevented by collecting and coding data by at least two researchers.

Moreover, although the respondents are selected with great care, the selection of responds can possibly introduce biases in the research results. Although a diversified set of MPL insiders is selected, they all have interests in a developed MPL market which could possibly bias the results by sketching a too positive picture of the industry. Also the respondents at banks could possibly introduce a bias in the results since they largely talk based on their own experiences within the bank. Although the respondents were selected based on their insights in the lending propositions of the bank towards SME’s, the personal views of the respondents could possibly have biased the results.

This chapter discussed the results and related it to the current literature, outlining the implications for literature and practice and discussing the limitations of the study and directions for future research. In the next chapter a tool designed to monitor the Dutch MPL market is shown and described in more detail.
6. **Design**

As described in Chapter 1.1, PwC wants to follow the developments in MPL to ensure the service quality toward clients. This chapter provides an advice towards PwC how they can ensure their service quality on the short term and a tool is designed to keep monitoring the MPL market and advising how clients can react on it on the long term.

6.1. **Short Term Advice**

This research showed that on the short term banks perceive little direct threat from MPL and show little incentive to adopt it. Instead banks are improving their current business model, making their current processes leaner, make increasingly use of technologies and digitalize their customer offerings. From an economic perspective, focusing on the current business model and not adopting MPL in this stage can be a legitimate reaction, considering the small market share (under 1%), the uncertainty about how the market will develop and the unlocked potential that is still present in the banking business model. Banks risk damaging their current business, while the returns on the short term are low and uncertain on the long term. In the literature this behavior is often referred to as organizational inertia; keeping a strong believe in the current business model and capabilities in the face of environmental change. However, the competitive impact of MPL is still uncertain, especially since the literature shows that disruptive business models typically fail to take over the market completely. Focusing on unlocking the potential left in the current business model might therefore be the right reaction for banks at this stage. New technologies and customers that are increasingly comfortable in processing financial transactions online, provide a wide array of changes for banks to streamline their processes and to offer new digital propositions to customers within their current business model. As outlined in Chapter 5.1.2.3, this move down market possibly limits the space left for MPL platforms to disrupt the market.

On the other hand, it should be noted that new regulations increasingly put pressure on the traditional banking business model. In that sense it is interesting to follow how the experiment of Bank A, by letting private investors co-finance SME loans, turns out. Although this approach might be controversial from the perspective of the traditional banking business model, acting more as an intermediary allowing external parties (can be both private and/or institutional) to (co) finance loans might be a viable futureproof business model.

Furthermore, by focusing on their current business model, the banks do not address a broader development in society where people, enabled by technology, increasingly perform mutual transactions. Although it might not be a rational choice from an economic perspective, from a social perspective it might be valuable for banks to participate in this movement. This social factor of MPL cannot be addressed with the traditional banking business model.

For PwC the many activities banks are deploying to improve their business model provides opportunities. As a consultancy firm with expertise on strategy, operations, technology and change management, PwC is well equipped to advise banks on improving their current business model and assist them in the transformation process.

6.2. **Long Term Advice**

On the long term it is advised to PwC to keep monitoring the development of the MPL market and consulting clients on how they can react on these developments. This study provides a snapshot of the current Dutch MPL market with some predictions about the future, but as outlined in Chapter 3.1.2 the disruption of a market is a dynamic process that can take many years. Currently MPL forms no direct threat to banks yet, but it is in part because of this non-disruptive nature of a disruptive innovation in the short term, that an incumbent may fail to react in a timely manner (Schmidt & Druehl, 2008). Therefore, to ensure the service quality towards clients, it is advised to PwC to keep monitoring the development of the MPL market. When the MPL market keeps developing it comes to a point where banks need to reconsider their reaction strategies. PwC can play an important role in advising banks on the development of MPL and how to react on it. Tools are designed for PwC to monitor the Dutch MPL market and to advise banks on how to react on it.

6.2.1. **Market Monitoring Tool**

As described in Chapter 3.1.2, disruptive innovations follow a specific process; first the disruptive innovation is launched in an emerging market, subsequently the innovation increases in performance in that market and eventually the innovation encroaches in the mainstream market to disrupt the incumbents. The literature
shows that disruption takes place by new entrants expanding their markets, improving the quality of their products or services and by attracting new customer segments. The tool, displayed in Figure 19, shows the parameters to monitor the development of the Dutch MPL market.

**Market Expansion**
- Total volume of loans generated via MPL platforms per year
- Market share outstanding loans to SME’s via MPL platforms
- Market share new generated loans to SME’s via MPL platforms

**Quality Improvements**
- Trust
  - General trust in MPL market
  - Regulatory supervision
  - Involvement of professional/institutional investors
- Cost of Lending
  - Interest rates offered via MPL platforms
  - Fees charged by MPL platforms
- Loan Volumes
  - Average loan amounts issued via MPL platforms
- Loan Duration
  - Average loan duration issued via MPL platforms
  - Availability of secondary market

**Customer Segments**
- Average size of companies lending via MPL platforms in terms of annual turnover
- Maturity of companies lending via MPL platforms in terms of number of years active
- Risk profile of companies lending via MPL platforms

**Figure 19: MPL Market Monitor**

As shown in Figure 19 the expansion of the MPL market can be monitored by measuring the total volume of loans generated yearly and to relate these figures to the total amount funding for SME’s in The Netherlands. This relative figure, expressed as the market share, can both be measured as the proportion to the total amount of outstanding loans or the percentage of newly generated loans in a specific year. As outlined in Chapter 4.2.1.1, the quality of MPL can be defined by the trust in the MPL industry, the cost of lending and the volume and the duration of the generated loans. The trust can be measured by researching the general trust in MPL. Special attention needs to be paid to the influence of incidents (like loan defaults or bankruptcy of MPL platforms) on the general trust in MPL. Moreover, Chapter 4.2.1.1 also showed that more clear regulations with supervision of the AFM positively influences trust and that the involvement of more professional and institutional investors is a sign of higher trust in the MPL market. The cost of a loan via MPL can be monitored by measuring the interest rates and fees charged at platforms. Furthermore, the quality improvements can be measured by analyzing the developments in the average loan amount and duration of loans issued via MPL platforms. The availability of an active secondary market can increase the liquidity of investors and subsequently also facilitate a performance increase in the loan duration. Finally, the development in the customer segments addressed by MPL markets can be monitored by three parameters. First of all, the developments of the market can be measured by the size and maturity of firms applying for loans via MPL platforms. Moreover, since MPL is currently targeting the non-consumption of firms that cannot get finance via the bank, it is also interesting to monitor the risk profiles of companies applying for loans via MPL platforms. Currently MPL is active on the fringe of the original market, and when firms with bank worthy risk profiles firms apply for loans via MPL platforms this is a sign MPL is moving upmarket to start encroaching the original
The parameters to monitor the Dutch MPL market are outlined in more detail in Appendix 6, while in Appendix 7 a scoring form to monitor the market is provided.

### 6.2.2. Reaction Tool

As outlined in Chapter 3.1.2, when a disruptive innovation starts encroaching the mainstream market, incumbents cannot ignore it anymore and need to reconsider how to react on it. When the market monitor explained above indicates that MPL starts to encroach the mainstream market, PwC can advise banks on how to reassess their reaction strategies based on these developments. To guide PwC in advising their clients how to react on MPL when it reaches this stage, a tool is designed. The framework of Charitou & Markides (2003) on the ability and motivation to respond is used as a basis for this tool. As described in Chapter 3.3.2, this framework is specifically designed for a phase where the disruptive innovation starts to encroach the mainstream market. The tool assesses banks on their ability and motivation to respond and these scores can guide PwC to formulate an advice to their customers how to respond to MPL. Based on this research and the current state of the literature, no concrete advice can be formulated to banks which reaction strategy to follow when MPL starts to encroach the mainstream market. As shown in Chapter 3.2.2, Charitou & Markides (2003) linked the motivation and ability to respond of incumbents to certain reaction strategies, but at the same time notes that these recommendations only count on average and that each firm needs to determine its own specific response strategy based on the unique circumstances it is facing. However, the model of Charitou & Markides (2003) does provide guidelines under which conditions it is a rational decision for an incumbent to adopt a disruptive innovation or to focus on its current business model. This tool builds on the model of Charitou & Markides (2003) and can serve as a guideline for PwC to structure their advice towards banks on how to react to MPL when it reaches this stage of disruption. Figure 20 shows the matrix while in Appendix 8 a scoring form can be found to determine the position of the bank in the matrix.

![Reaction Matrix](image)

**Figure 20: Reaction Matrix**

As shown in general two types of advices can be given to the banks; focus on their existing business or consider to adopt MPL. Below both advices are explained in more detail.
6.2.2.1. **Focus on Existing Business**

When the motivation of the bank to respond to MPL is low, it might be advisable to not adopt MPL and focus on the existing business. When the motivation to respond is low, the business is unrelated to that of the bank and/or is not perceived as a threat or an attractive engine to growth. Although MPL may be in the same industry, it can be active in a market that is unrelated to that of the bank. As explained in Chapter 3.2.1.2.1, diversifying to unrelated businesses can harm the organization, putting a strain on top management, decision making and governance. Adopting MPL in that case would make it more difficult for banks to share activities and transfer competencies between the two businesses, adding costs that might outweigh the potential benefits of achieving economies of scope. Furthermore, since disruptive business models such as MPL fail to take over the entire market, MPL might also on the long term not be a threat to the core business of all banks. During this research, multiple respondents noted the heterogeneity in the market for financing SME’s, providing opportunities for each market player to focus on its own customer segments. Therefore, although MPL might enter some mainstream segments, it can target different customer segments not posing a threat to the core activities of all banks active in the industry. Moreover, the bank can have a low ability to respond; experiencing significant conflicts between the business models that would harm its current business, not have the skills or resources necessary to respond and/or have other investment priorities.

Therefore, based on each individual business case, PwC could potentially advice some clients to focus more on their current business model instead of investing heavily in a new business model. When MPL does not pose a concrete threat to the bank, a potential advice is to focus on improving their current business model and simultaneously keep monitoring the MPL market. The bank can focus on improving the value of their current customers along the same value dimensions. Considering the unique characteristics of disruptive innovations which make them less threatening through the eyes of the incumbent, the decision to frame MPL as a threat or not to a specific bank should be taken with great care. Clear indicators should be present that MPL serves market segments unrelated to that of the bank and it is unlikely that their current customers can use MPL. When MPL does pose some threat to its business, to improve their current business model by making it more attractive relative to MPL (as described in more detail in Chapter 3.2.2.2). This research showed that the banks in the sample already are following this approach, addressing some of the differential attributes of MPL. Important in this case is that the bank considers that its current business model still has differential advantage over MPL in serving its core business. The bank must be confident that it can limit the disruption by MPL of its major market with its current business model. However, this assessment should be executed with great care since this believe in the current business model and capabilities is often reported as a managerial bias hindering the development of new capabilities (as also outlined in Chapter 3.2.1.2). When the ability to respond is high this provides opportunities to the bank to adopt MPL, although it should be wary of the constraining factors unrelated diversification can have on their organization.

6.2.2.2. **Consider to adopt Marketplace Lending**

When the motivation of the bank to respond to MPL is high, it is advisable for the bank to start considering ways to adopt (parts) of the MPL business model. This research shows that currently the motivation to respond of the banks is low, but this can change when MPL keeps expanding their market and attracting higher customer segments. In this case the bank perceives higher levels of threat from MPL to their core business. It is likely in this scenario that MPL has some differential advantage over the banking business model in the core customer segments the bank is serving. This might for instance be because of lower regulatory requirements for MPL platforms providing them a differential advantage in (cost) efficiency over the banking business model and/or when the trust in the traditional financial sector diminishes in favour of new business models. This research already showed that one bank perceives that increasing regulations puts their current business model and impact in the market under pressure. The ability to respond in this case will largely depend on the conflicts the bank perceives between its current and the MPL business model. As explained in Chapter 3.2.1.1.1, firms risk compromising the value of its existing business by competing with two business models in the same industry.

Therefore, based on each individual business case, PwC could potentially advice some clients to consider to adopt the MPL business model completely or to incorporate parts of it in its current business model (as explained in Chapter 3.2.2.5). Banks do not necessarily have to copy the MPL business model, but can also incorporate parts of it in its current business model leveraging the advantages it still has. This research showed that banks still have a differential advantage on the customer side, but become increasingly constrained at the financing side due to increasing regulations. Letting external investors (co) finance loans via its current
channels might in this case be an opportunity for the bank to counteract the disruption of MPL platforms. When the bank perceives significant conflicts between their current and the MPL business model it should be wary not damaging their current business, but simultaneously remain connected to their customers base and the developments in their customers’ needs. When the bank considers to build or acquire a MPL platform, special attention need to be paid to the decision to either integrate into the organization or to separate it in a different unit. As also outlined in Chapter 3.2.2.5, this decision can be based on the degree of conflicts between the business models and the strategic relatedness. Lower degrees of conflicts and higher relatedness provide opportunities for integration, but in the case of higher degrees of conflicts and lower relatedness it is probably better to separate the organizations.

It should be noted that the reaction tool provided only can serve as a guideline for determining directions on how banks can react to MPL when it keeps developing. The reaction strategies must be adapted to the specific characteristics of the bank and specific circumstances it is coping with.

This chapter showed a tool designed for PwC to monitor the Dutch MPL market and to advice clients on how they can react on these developments. In the next chapter the conclusion of this research is outlined.
7. **Conclusion**

The aim of this study was twofold; first of all, the aim was to analyse the development of MPL platforms in The Netherlands and secondly to study how Dutch banks react on these developments in MPL. This led to the following research question:

*Which reaction strategies do Dutch banks follow based on their ability and motivation to respond on the rise of marketplace lending platforms in The Netherlands?*

In total, four sub-research questions are formulated to provide a grounded answer to the main research question.

To realize the first aim of this study, analysing the development of MPL in The Netherlands, two sub-research questions are formulated. First of all is questioned to what degree MPL follows the characteristics of a disruptive innovation. This research shows that MPL in The Netherlands meets many characteristics of a disruptive business model; it initially offers lower performance, is first launched in an insignificant market, introduces different attributes from the incumbent solution and does not introduce a new technology or product but redefines how loans are provided. However, contrary to disruptive innovation theory, it is currently more expensive than incumbent solutions. MPL currently acts on the fringe of the traditional market mainly serving customers that cannot get finance via the bank because of their risk profile, or to a lesser extent because of the social factor of MPL.

The second sub-research question addresses how MPL develops in The Netherlands in terms of market volume, performance, and customer segments. Although still relatively small (€98 million euros in loans originated in 2015 with a market share under 1%), MPL in The Netherlands is gradually improving in performance starting to attract higher customer segments. As shown in Figure 21, disruptive innovations typically follow a specific process; (1) the disruptive innovation is first launched in an emerging market at the low-end of the existing market, (2) subsequently the innovation increases in performance in that market and eventually (3) the innovation encroaches in the mainstream market to disrupt the incumbents.

The research results show that MPL in The Netherlands currently is in the earlier stages of disruption; the market is relatively small but expanding (in the past 4 years the market doubled annually), it is generally increasing in performance (trust and loan amounts are increasing) and is starting to attract higher customer segments (from mainly start-ups towards more mature and medium-sized firms).

Also for realizing the second aim of this study, researching how Dutch banks react on the developments in MPL, two sub-research questions were formulated. First of all is questioned to what degree Dutch banks are able and motivated to respond to the entrance of MPL. Contrary to the framework of Charitou & Markides (2003), this research shows that the banks in the sample mainly react to MPL based on the conflicts it perceives between the two business models and the changes it perceives in its environment as a whole. The research shows that the banks in the sample have a low motivation to respond to MPL. The limited market size and since it is perceived as a different business, MPL is not perceived as an immediate threat while the growth rate is not perceived as attractive. Moreover, contrary to the framework of Charitou & Markides (2003), it seems from this research that the strategic relatedness of the business models had little influence on the reaction strategy of the banks. The research shows that the motivation to respond of banks is mainly influenced by the changes the banks perceive in their environment as a whole and the changing customer behaviours and demands that MPL among
others reveal (transacting online and demanding more convenient and quicker services). In the ability to respond the banks experience little obstacles in the skills and resources needed to respond, but perceived significant conflicts between the two business models. Adopting MPL can possibly harm the reputation of banks as solid and reliable organizations when loans default and investors lose their money, but banks differ in the degree to which they perceive this risk.

The final sub-research question addresses how Dutch banks react on the rise of MPL in The Netherlands. Overall the banks are reacting to MPL by improving their current business model (all cases) and collaborating with MPL platforms by redirecting customers (2 of the 3 cases), while one bank adopts parts of the MPL business model on an explorative basis. Banks are improving their current business model by standardizing and simplifying their current propositions to make them more attractive also for lower customer tiers. Overall it seems that banks are convinced that when they are able to improve their current propositions, customers in the first place still want a loan via the bank instead of via MPL platforms. Furthermore, two of the three banks in the sample collaborate with MPL platforms by redirecting customers that cannot get finance via the bank to help and keep the connection with the customer. Finally, one bank adopts parts of the MPL business model (allow private investors to co-finance SME loans) on an experimental basis, as a reaction to external threats from increasing regulations and the volatility in the market. Overall the research results show that banks follow less integrated and more reversible reaction strategies (collaboration/adoption on experimental basis) because of the uncertainty in the market and/or to manage the conflicts between the two business models.

In answering the research question, which reaction strategies Dutch banks follow based on their ability and motivation to respond on the rise of MPL, it can be concluded that banks are reacting by improving their current business model, collaborating with MPL platforms by redirecting customers and/or adopting parts of the MPL business model on an explorative basis. The banks are mainly reacting based on the conflicts they perceive between the two business models and the changes it perceives in its environment as a whole. The development of the Dutch MPL market can be monitored by looking at how the market expands in terms of total loan volume and market share, by tracking quality improvements and by monitoring the customer segments platforms serve (from startups towards more mature firms).

Finally, this research also has some contributions to theory. First of all, this research provides new insights on how incumbents react to a potentially disruptive innovation in its early stages. Whereas Charitou & Markides (2003) showed that in later stages incumbents reactions depend based on the ability and motivation to respond, this research indicates that in early stages an incumbents reaction is largely based on the conflicts they perceive between the two business models and the changes it perceives in its environment as a whole. Moreover, a contradiction with the theory on disruptive innovation is found; whereas Christensen argues that incumbents will always be motivated to move upmarket towards more demanding customer tiers when confronted with a disruptive innovation, this research actually shows incumbents moving down market making their propositions more attractive to lower customer tiers. Finally, this research also provides new insights on how incumbents can use less integrated and more reversible reaction strategies in adopting a disruptive innovation to manage the conflicts between the two business models.
8. References


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## Appendices

### Appendix 1: Overview Sources Cited

Table 16: Overview Journals Cited

<table>
<thead>
<tr>
<th>Journal</th>
<th>ABS 2015 Rating Score</th>
<th>Times Cited</th>
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Appendix 2: Analysis Articles Cited

Figure 22: Analysis Year of Publication Articles Cited
Definition and distinction is based on the categories in the Academic Journal Guide 2015 (Cremer, Laing, Galliers, & Kiem, 2015).

Figure 23: Diversity Articles Cited

Definition and distinction is based on the categories in the Academic Journal Guide 2015 (Cremer, Laing, Galliers, & Kiem, 2015).
Figure 24: Cited Journals
Appendix 3: Interview Guide Marketplace Lending Insiders

During the interviews with MPL insiders the following two research questions are addressed;

- *To what degree does marketplace lending follow the characteristics of disruptive innovations?*
- *How is marketplace lending developing in The Netherlands in terms of market volume, performance and customers (borrowers and investors)?*

To answer the research questions, the following agenda was set for the interviews with MPL insiders;

- **Introduction**
  - Personal introduction
  - Introduction to research
  - Discuss anonymity
- **Interview** (see Table 17 for the interview questions)
- **Closing**
  - Agree on feedback of results
  - Thank the respondent for the interview

To answer the research questions multiple interview questions are formulated per subject area; the disruptive characteristics of MPL, general information about the Dutch MPL industry and the development of MPL in The Netherlands (see Table 17). Based on the specific respondent additional questions have been formulated.

Table 17: Interview Questions MPL Insiders

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<thead>
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<th>Subject Area</th>
<th>Interview Questions</th>
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<tr>
<td><strong>Disruptive Characteristics</strong></td>
<td>What kind of companies apply in general for a loan via a MPL platform? Why do they choose for a loan via a MPL platform instead of a bank?</td>
</tr>
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<td></td>
<td>What kind of investors are currently investing through Dutch MPL platforms?</td>
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<td>What are the unique value propositions of MPL in comparison with a loan via the bank?</td>
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<td></td>
<td>On which basis do MPL platforms compete with each other? What are the key performance indicators to choose for a specific platform as a borrower and as an investor?</td>
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<td></td>
<td>Is a loan via a MPL platform in general cheaper than getting a loan via the bank?</td>
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<td><strong>Dutch MPL industry</strong></td>
<td>In the US MPL platforms are generally regarded as technology companies. Do you also see this trend in The Netherlands?</td>
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<td>To what degree are the processes of MPL platforms in The Netherlands digitalized?</td>
</tr>
<tr>
<td></td>
<td>What are the most important skills needed to exploit a MPL platform?</td>
</tr>
<tr>
<td><strong>Development of MPL</strong></td>
<td>To what degree do institutional and professional investors invest through MPL platforms active in The Netherlands? Do you see a development towards more institutional or professional investors?</td>
</tr>
<tr>
<td></td>
<td>Figures of Crowdfundmarkt show that almost 50% of the projects on MPL platforms are initiated by start-ups. Do you see a development towards more mature companies?</td>
</tr>
<tr>
<td></td>
<td>What kind of companies do you expect that will become customers of MPL platforms? Do you expect a shift towards more mature companies in the upcoming 5 years?</td>
</tr>
<tr>
<td></td>
<td>How high is the trust from the general public and the market towards MPL? And how is this developing</td>
</tr>
<tr>
<td></td>
<td>Is there a development in the types of loans initiated via MPL platforms in terms of loan amount and duration?</td>
</tr>
<tr>
<td></td>
<td>The regulations for MPL platforms in The Netherlands are increasing. Do you think this will have a stimulating or hindering effect on the MPL market?</td>
</tr>
<tr>
<td></td>
<td>How big do you expect that the Dutch market for MPL will be in 5 years from now?</td>
</tr>
</tbody>
</table>
Appendix 4: Interview Guide Banks

During the interviews with MPL insiders the following two research questions are addressed;

- *To what degree are Dutch banks able and motivated to respond to the entrance of marketplace lending?*
- *How do Dutch banks react on the rise of marketplace lending?*

The agenda for the interviews with banks was as follows;

- **Introduction**
  - Personal introduction
  - Introduction to research

- **Interview (see Table 18 for the interview questions)**

- **Closing**
  - Agree on feedback of results
  - Thank the respondent for the interview

During the interview different subject areas are discussed; the motivation to respond (level of threat, strategic relatedness and innovation’s growth rate), the ability to respond (conflict between old and new, available resources and skill portfolio) and the reaction strategies. Per subject area one general starting questions and multiple sub questions are formulated. During the interview the starting question provides a general view on the subject area, while the sub questions provided more in depth information. Table 18 shows an oversight of the starting and sub questions per subject area.

**Table 18: Interview Questions Banks**

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Starting Question</th>
<th>Sub questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflict between old and new</td>
<td>Which conflicts do you see between the current banking business model and the MPL business model?</td>
<td>To what degree do you estimate that exploiting a MPL platform would form a cannibalisation for the current portfolio of loans of the bank? And why?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To what degree do you estimate that exploiting a MPL platform would shift away current customers from more lucrative higher segment loans of the bank to MPL loans? And why?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To what degree do you estimate that exploiting a MPL platform would compromise the quality of service towards customers at the bank? And why?</td>
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<tr>
<td></td>
<td></td>
<td>To what degree do you estimate that exploiting a MPL platform would damage the reputation of the bank? And why?</td>
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<tr>
<td></td>
<td></td>
<td>To what degree do you estimate that exploiting a MPL platform would destroy the overall culture of the organization? And why?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To what degree do you estimate that exploiting a MPL platform would defocus the organization by trying to do everything for everybody? And why?</td>
</tr>
<tr>
<td><strong>Strategic Relatedness</strong></td>
<td>Which similarities do you see between the current banking business model and the MPL business model?</td>
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<td>--------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To what degree do you estimate that the current knowledge and channels for serving customers, such as service, advise, marketing channels and customer interfaces, of the bank can effectively be used to exploit a MPL platform? And why?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To what degree do you estimate that the current channels for (private) investors at the bank can effectively be used to successfully exploit a MPL platform? And why?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To what degree do you see similarities between the rate of customization of loans at the bank and at MPL platforms? And why?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To what degree do you see similarities between the importance of highly educated personnel versus low cost personnel or automation at the bank and MPL platforms? And why?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Skills Portfolio</strong></th>
<th>To what degree do successful MPL platforms possess competences that your organization does not have? Which competences?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>To what degree does your organization possess competences that MPL platforms does not have? And how can these competences be used to exploit a MPL platform?</td>
</tr>
<tr>
<td></td>
<td>To what degree does the commitment to the current competences hinder the development of new skills?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Level of threat</strong></th>
<th>To what degree do you experience MPL platforms as a threat to the banks current business?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>To what degree do you experience demands from current customers for MPL solutions?</td>
</tr>
<tr>
<td></td>
<td>To what degree do you expect that MPL will form a threat to the banks current business in the next 5 years?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Innovations Growth Rate</strong></th>
<th>What do you expect from the growth of MPL in The Netherlands in the upcoming 5 years?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>To what degree makes this expected growth participating in MPL interesting for the bank? And why?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Reaction Strategies</strong></th>
<th>What is the strategy of the bank towards MPL?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Is your organization planning or considering to participate in MPL in any form (for instance collaborate, invest or adopt)? If no, what are the reasons for this?</td>
</tr>
<tr>
<td></td>
<td>What do you see as the advantages and disadvantages of collaborating with MPL platforms?</td>
</tr>
<tr>
<td></td>
<td>What do you see as the advantages and disadvantages of investing in a MPL platform?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Available Resources</strong></th>
<th>To what degree are there resources available to improve current propositions or to develop new ones for lending to SME’s?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>How high is investing in MPL ranked in the priority list of investments at the bank?</td>
</tr>
</tbody>
</table>

Sub questions on the reaction strategies where customized per bank based on the information from the desk research (for instance publicly available information about a collaboration between the bank and a MPL platform)
## Appendix 5: List of MPL Platforms in The Netherlands

<table>
<thead>
<tr>
<th>MPL Platform</th>
<th>Year</th>
<th>Total Funding Amount (until 04-2016)</th>
<th>Description</th>
<th>Business Lending</th>
<th>Consumer Lending</th>
<th>Minimum Loan Amount</th>
<th>Maximum Loan Amount</th>
<th>Interest Rate</th>
<th>Maximum Loan Term</th>
<th>Cost for Borrower</th>
<th>Minim Investment Amou Per Project</th>
<th>Cost for Investor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geldvoorelkaar</td>
<td>2010</td>
<td>€ 79,787,200</td>
<td>X X</td>
<td>No maximum</td>
<td>To be determined by borrower</td>
<td>10 years</td>
<td>Onetime fee of €125, for consumers and €349 for businesses and a success fee of 1,25% + 0,95% for every year of the loan term</td>
<td>€ 100</td>
<td>Yearly fee of 0,3% of investment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collin CrowdFund</td>
<td>2014</td>
<td>€ 30,952,500</td>
<td>Combination of digital contact and personal (visitation)</td>
<td>X</td>
<td>€ 50,000</td>
<td>€ 2,500,000</td>
<td>3% - 15%</td>
<td>10 years</td>
<td>Assessment fee of €800, success fee of 1,5% of loan amount and monthly fee of 0,05% of loan amount</td>
<td>€ 500</td>
<td>Yearly fee of 0,85% of investment</td>
<td></td>
</tr>
<tr>
<td>Kapitaal Op Maat</td>
<td>2010</td>
<td>€ 12,788,400</td>
<td>X X</td>
<td>€ 25,000</td>
<td>€ 500,000</td>
<td>5,5% - 9,5%</td>
<td>10 years</td>
<td>Assessment fee of €295, placement fee of €350 and success fee of 3,25% of loan amount</td>
<td>€ 100</td>
<td>Onetime fee of 0,9% of investment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZIB Crowdfunding</td>
<td>2015</td>
<td>€ 10,600,000</td>
<td>X X</td>
<td>No maximum</td>
<td>To be determined by borrower</td>
<td>5 years</td>
<td>Onetime fee of 2% of investment</td>
<td>€ 2,500</td>
<td>Yearly fee of 1% of investment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Funding Circle</td>
<td>2010</td>
<td>€ 9,578,800</td>
<td>X X</td>
<td>€ 10,000</td>
<td>€ 250,000</td>
<td>2,7% - 15,68%</td>
<td>5 years</td>
<td>Success fee of 1% to 4,5% of loan amount dependent on loan term</td>
<td>€ 100</td>
<td>Yearly fee of 1% of investment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oneplanetcrowd</td>
<td>2012</td>
<td>€ 8,863,127</td>
<td>Focus on sustainability projects</td>
<td>X</td>
<td>€ 1,000</td>
<td>€ 1,000.000</td>
<td>4% -10%</td>
<td>5 years</td>
<td>Placement fee of €200 + 1% of loan amount, success fee of 2% +1% for each year of the loan term over the loan amount</td>
<td>€ 100</td>
<td>No cost</td>
<td></td>
</tr>
<tr>
<td>Symbid</td>
<td>2011</td>
<td>€ 8,302,120</td>
<td>Financial advisor to determine right form of finance</td>
<td>X</td>
<td>€ 20,000</td>
<td>€ 2,500,000</td>
<td>6% - 9%</td>
<td>7 years</td>
<td>Success fee of 1% + 1% for each year of the loan term over the loan amount</td>
<td>€ 20</td>
<td>Onetime fee of 1% of investment</td>
<td></td>
</tr>
<tr>
<td>CrowdAboutNow</td>
<td>2009</td>
<td>€ 5,611,105</td>
<td>X X</td>
<td>No maximum</td>
<td>To be determined by borrower</td>
<td>Placement fee of 1% of loan amount + success fee of 2% per year over loan amount</td>
<td>€ 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duurzaam Investeren</td>
<td>2013</td>
<td>€ 5,463,200</td>
<td>Finance of sustainable energy projects</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horeca Crowdfunding</td>
<td>2013</td>
<td>€ 3,383,000</td>
<td>Combination of digital contact and personal (visitation)</td>
<td>X</td>
<td>€ 30,000</td>
<td>No maximum</td>
<td>4% - 11%</td>
<td>Assessment fee of €275 and success fee of 5% over loan amount</td>
<td>€ 250</td>
<td>Onetime fee of 1% of investment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPL Platform</td>
<td>Year</td>
<td>Total Funding Amount (until 04-2016)</td>
<td>Description</td>
<td>Business Lending</td>
<td>Consumer Lending</td>
<td>Minimum Loan Amount</td>
<td>Maximum Loan Amount</td>
<td>Interest Rate</td>
<td>Maximum Loan Term</td>
<td>Cost for Borrower</td>
<td>Minim al Invest Amount Per Project</td>
<td>Cost for Investor</td>
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<td>------------------</td>
</tr>
<tr>
<td>Greencrowd</td>
<td>2012</td>
<td>€ 1.228.650</td>
<td>Finance of sustainable energy projects</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Placement fee of €100 and 3% of loan amount</td>
<td>€ 250</td>
<td>No cost</td>
</tr>
<tr>
<td>Lendico</td>
<td>2013</td>
<td>€ 1.072.500</td>
<td>Focus on larger SME’s with growing potential. Provide personal advise.</td>
<td>X</td>
<td>€ 500</td>
<td>€ 25.000</td>
<td></td>
<td>5 years</td>
<td></td>
<td>One time succesfee ranging from 0,50% to 3,75% of the loan amount</td>
<td>€ 100</td>
<td>Monthly fee of 1% of payment to investor</td>
</tr>
<tr>
<td>Voordegroci</td>
<td>2015</td>
<td>€ 600.000</td>
<td>X</td>
<td>€ 250.000</td>
<td>No maximum</td>
<td>7 years</td>
<td></td>
<td></td>
<td></td>
<td>Assessment fee of €400, succesfee of 1,5% of loan amount and monthly administration cost of 0,1% of loan amount</td>
<td>€ 1.000</td>
<td>One time fee of 0,5% of investment times the duration of loan</td>
</tr>
<tr>
<td>Investormatch</td>
<td>2011</td>
<td>€ 526.000</td>
<td>X</td>
<td>No maximum</td>
<td>To be determined by borrower</td>
<td>5 years</td>
<td></td>
<td></td>
<td></td>
<td>Placement fee of €250, succesfee of 4% and monthly administration cost of €25</td>
<td>€ 100</td>
<td>No cost</td>
</tr>
<tr>
<td>AygoDutch</td>
<td>2014</td>
<td>€ 472.500</td>
<td>Combination of digital, telephone and personal contact</td>
<td>X</td>
<td>No maximum</td>
<td>To be determined by borrower</td>
<td>Assessment fee of €495, succesfee of 3,5% of loan amount and €200 per quarter</td>
<td>€ 100</td>
<td>One time fee of 0,9% of investment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capitalcircle</td>
<td>2014</td>
<td>€ 497.000</td>
<td>X</td>
<td>€ 5.000</td>
<td>€ 1.000.000</td>
<td>Reversed auction</td>
<td>5 years</td>
<td></td>
<td></td>
<td>Assessment fee of €250 and succesfee of 2-5% depending on loan term</td>
<td>€ 500</td>
<td>Yearly fee of 1% of investment</td>
</tr>
<tr>
<td>All4Funding</td>
<td>2013</td>
<td>€ 365.000</td>
<td>X</td>
<td>No maximum</td>
<td>To be determined by borrower</td>
<td>5 years</td>
<td>Assessment fee of €495 and succesfee of €750 when loan is funded</td>
<td>€ 100</td>
<td>One time fee of 0,9% of investment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samen in Geld</td>
<td>2014</td>
<td>€ 288.650</td>
<td>Finance of real estate for rental purposes</td>
<td>X</td>
<td>Depends on value property</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>One time succesfee of 2% of loan amount and a monthly fee ranging from €50 to €100</td>
<td>€ 250</td>
<td>One time fee of 0,5% and yearly fee of 0,25% of investment</td>
</tr>
<tr>
<td>Moneybrothers</td>
<td>2014</td>
<td>€ 245.000</td>
<td>Combination of digital contact and personal (visitation)</td>
<td>X</td>
<td>€ 20.000</td>
<td>€ 500.000</td>
<td></td>
<td></td>
<td></td>
<td>Assessment fee of €395, placement fee of €295 and succesfee of 1,25% of loan amount</td>
<td>€ 500</td>
<td>One time fee of 0,9% of investment</td>
</tr>
<tr>
<td>OnderlingKrediet</td>
<td>2013</td>
<td>€ 185.000</td>
<td>X</td>
<td></td>
<td>To be determined by borrower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Assessment fee of €295, succesfee of 3,5% over loan amount and monthly administration cost of €7,50</td>
<td>€ 250</td>
<td>One time fee of 0,9% of investment</td>
</tr>
<tr>
<td>MPL Platform</td>
<td>Year</td>
<td>Total Funding Amount (until 04-2016)</td>
<td>Description</td>
<td>Business Lending</td>
<td>Consumer Lending</td>
<td>Minimum Loan Amount</td>
<td>Maximum Loan Amount</td>
<td>Interest Rate</td>
<td>Maximum Loan Term</td>
<td>Cost for Borrower</td>
<td>Minim al Invest Amount Per Project</td>
<td>Cost for Investor</td>
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<td>------------------</td>
</tr>
<tr>
<td>The Dutch Deal</td>
<td>2013</td>
<td>€ 100,975</td>
<td>X</td>
<td></td>
<td></td>
<td>€ 5,000</td>
<td>€ 1,000,000</td>
<td>To be determined by borrower</td>
<td>5 years</td>
<td>Placement cost of €250 and success fee of 1,25% + 0,75% per year of the loan term over the loan amount</td>
<td>€ 25</td>
<td>One time fee of 0,9% of investment</td>
</tr>
<tr>
<td>VDWVM</td>
<td>2016</td>
<td>€ 85,000</td>
<td>Also for non-financial contributions. Owned by ASN Bank</td>
<td>X</td>
<td></td>
<td>€ 25,000</td>
<td>€ 2,500,000</td>
<td>To be determined by borrower</td>
<td>25 years</td>
<td>Placement fee of €275, success fee of 5% of loan amount</td>
<td>€ 25</td>
<td>No cost</td>
</tr>
<tr>
<td>Geldrond</td>
<td>2014</td>
<td>€ 75,000</td>
<td>X</td>
<td></td>
<td></td>
<td>€ 25,000</td>
<td></td>
<td></td>
<td></td>
<td>One time fee of €250 and success fee of 4% over loan amount</td>
<td>€ 25</td>
<td>No cost</td>
</tr>
<tr>
<td>Regiofund</td>
<td>2015</td>
<td>€ 72,500</td>
<td>Combination of digital contact and personal (visitation)</td>
<td>X</td>
<td></td>
<td>€ 25,000</td>
<td>€ 2,500,000</td>
<td>To be determined by borrower</td>
<td>25 years</td>
<td>Assessment fee of €399, success fee of 1,5% over loan amount and monthly transaction cost of 0,5% of loan amount</td>
<td>€ 100</td>
<td>No cost</td>
</tr>
<tr>
<td>MyCrowdfunding.nl</td>
<td>2014</td>
<td>€ 2,500</td>
<td>X</td>
<td></td>
<td></td>
<td>€ 25,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>€ 100</td>
<td>No cost</td>
</tr>
<tr>
<td>Agrifinance</td>
<td>2013</td>
<td></td>
<td>Specialized in agriculture</td>
<td></td>
<td></td>
<td>€ 250,000</td>
<td></td>
<td></td>
<td></td>
<td>Assessment fee of €850 and success fee of minimal €1250 when loan is funded</td>
<td>€ 5,000</td>
<td>One time fee of 0,25% of loan amount</td>
</tr>
<tr>
<td>Crowdpartners</td>
<td>2014</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>€ 25,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>€ 100</td>
<td>No cost</td>
</tr>
<tr>
<td>Funduzo</td>
<td>2014</td>
<td></td>
<td>Also for requesting and offering knowledge</td>
<td>X</td>
<td></td>
<td>€ 25,000</td>
<td></td>
<td></td>
<td></td>
<td>Placement fee of €295 and success fee of 4% of loan amount</td>
<td>€ 25</td>
<td>No cost</td>
</tr>
<tr>
<td>Lendex</td>
<td>2014</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>€ 1,000</td>
<td></td>
<td></td>
<td></td>
<td>One time success fee of 1% per year of total loan amount</td>
<td>€ 200</td>
<td>Fee of 1% of payments to investor</td>
</tr>
<tr>
<td>Massafinanciering</td>
<td>2014</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>€ 25,000</td>
<td></td>
<td></td>
<td></td>
<td>Assessment fee of €499 and success fee between 2 &amp; 3% of loan amount</td>
<td>€ 100</td>
<td></td>
</tr>
<tr>
<td>NLInvesteert</td>
<td>2014</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yearly registration cost of €25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tailwind Crowd</td>
<td>2014</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>€ 150</td>
<td>No cost</td>
</tr>
</tbody>
</table>
### Appendix 6: Description Parameters Design

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Parameter</th>
<th>Description</th>
<th>Measurement Unity</th>
<th>Potential Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Expansion</td>
<td>Total Market Volume</td>
<td>The total volume of loans initiated via MPL platforms in The Netherlands would indicate how big the market for MPL expands.</td>
<td>Total of new generated loans in a specific year in euros</td>
<td>Research reports by Crowdfundmarkt and Douw &amp; Koren or data from Statista</td>
</tr>
<tr>
<td></td>
<td>Market share outstanding loans</td>
<td>The market volume of MPL relative to total outstanding loans to SME’s indicates how big MPL grows relative to the total market.</td>
<td>Percentage of the total amount of outstanding loans towards SME’s</td>
<td>Data from Crowdfundmarkt and DNB</td>
</tr>
<tr>
<td></td>
<td>Market share new generated loans</td>
<td>The market volume of MPL relative to total of newly generated loans to SME’s indicates how big MPL grows relative to the total market.</td>
<td>Percentage of total new generated loans towards SME’s in a specific year</td>
<td>Data from Crowdfundmarkt and DNB</td>
</tr>
<tr>
<td>Quality Improvement</td>
<td>Trust</td>
<td>General trust The trust from the general public towards MPL is lower than banks. An increase of the general trust, would indicate a quality improvement.</td>
<td>Descriptive</td>
<td>Surveys or interviews with MPL insiders</td>
</tr>
<tr>
<td>Regulatory supervision</td>
<td>General trust</td>
<td>This research indicates that clear and more strict regulations and continuous supervision of the AFM positively influences the trust in the MPL industry. New clearer regulations with continuous supervision of the AFM thus would indicate an increase in the trust.</td>
<td>Descriptive</td>
<td>Information of AFM or interviews with MPL insiders</td>
</tr>
<tr>
<td></td>
<td>Regulatory supervision</td>
<td>The research results show that the involvement of professional and especially institutional investors enhances the trust in the sector of other market actors.</td>
<td>Descriptive</td>
<td>Desk research or interviews with MPL insiders</td>
</tr>
<tr>
<td></td>
<td>Cost of lending Interest rates</td>
<td>Together with the fees charged by the MPL platform, the interest rate paid to investors comprise the cost of lending for the firms applying for a loan. A decrease in the interest rates indicates a quality improvement.</td>
<td>In a percentage per year over the loan amount or descriptive</td>
<td>Research reports by Crowdfundmarkt or interviews with MPL insiders</td>
</tr>
<tr>
<td></td>
<td>Charged fees</td>
<td>Together with the interest rate, the fees charged by the MPL platforms for their role as intermediary comprise the cost of lending for firms applying for a loan. A decrease in the fees charged by MPL platforms indicates a quality improvement.</td>
<td>In a percentage per year over the loan amount</td>
<td>Sample taken at random</td>
</tr>
<tr>
<td></td>
<td>Loan volumes Average loan amount</td>
<td>An increase of the average loan amount indicates that in general the loan amounts issued via MPL platforms are increasing.</td>
<td>In euros per loan</td>
<td>Research reports by Crowdfundmarkt</td>
</tr>
<tr>
<td></td>
<td>Loan duration Average loan duration</td>
<td>Currently the loan duration is limited due to the liquidity of the investor. Increasing average loan duration</td>
<td>In years/months</td>
<td>Research reports by Crowdfundmarkt</td>
</tr>
<tr>
<td>Secondary market</td>
<td>Active secondary markets at MPL platforms enhances the liquidity of investors and subsequently enables longer loan durations.</td>
<td>Descriptive</td>
<td>Sample taken at random or interviews with MPL insiders</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------------------------------------------------------------------------------------------------</td>
<td>-------------</td>
<td>---------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Customer Segments</td>
<td>Average size firms&lt;br&gt;MPL started as a solution for SME’s and especially small sized firms (start-ups). A move towards more medium sized firms indicated that MPL is attracting new customer segments.</td>
<td>Based on business entity (information from Crowdfundmarkt) or descriptive from experts</td>
<td>Research reports by Crowdfundmarkt or interviews with MPL insiders</td>
<td></td>
</tr>
<tr>
<td>Maturity of firms</td>
<td>MPL started mainly as a solution for starting companies to get finance, thus a move towards more mature companies indicates it is attracting new customer segments.</td>
<td>Following the distinction made by Crowdfundmarkt, firms can be categorized as start-up (&gt;2 years), growth (2-5 years) and mature (&lt;5 years).</td>
<td>Research reports by Crowdfundmarkt</td>
<td></td>
</tr>
<tr>
<td>Risk profile of firms</td>
<td>MPL currently mainly serves firms that cannot get finance via banks because of their risk profile. A move towards firms with a bank worthy risk profile would indicate MPL is encroaching the traditional market.</td>
<td>Descriptive from experts, limited quantitative information is publicly available.</td>
<td>Interviews with MPL insiders</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix 7: Scoring Form Development MPL

This scoring form is designed to determine the development of MPL in the process of disruption. The test is based on a combination of the literature on disruptive innovations and empirical research on the Dutch MPL industry. The test can be filled in based on the information gathered, as described in Appendix 6. In the scoring form a percentage is asked or a score ranging from - - to + +, as shown in Figure 25.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>- -</td>
<td>High decrease</td>
</tr>
<tr>
<td>-</td>
<td>Decrease</td>
</tr>
<tr>
<td>0</td>
<td>No development</td>
</tr>
<tr>
<td>+</td>
<td>Increase</td>
</tr>
<tr>
<td>++</td>
<td>High increase</td>
</tr>
</tbody>
</table>

### Market Expansion

<table>
<thead>
<tr>
<th>Question</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>At which rate is the total yearly volume of loans generated via MPL platforms growing?</td>
<td>%</td>
</tr>
<tr>
<td>What is the market share of MPL in outstanding loan to SME’s?</td>
<td>%</td>
</tr>
<tr>
<td>What is the market share of MPL in new generated loans to SME’s?</td>
<td>%</td>
</tr>
</tbody>
</table>

### Trust

<table>
<thead>
<tr>
<th>Question</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>To what degree is the general trust in MPL higher or lower than in banks?</td>
<td>- -</td>
</tr>
<tr>
<td>To what degree is the general trust in MPL increasing?</td>
<td>- -</td>
</tr>
<tr>
<td>To what degree is the regulatory supervision for MPL platforms increasing?</td>
<td>- -</td>
</tr>
<tr>
<td>To what degree is the number of professional/ institutional investors in MPL increasing?</td>
<td>- -</td>
</tr>
</tbody>
</table>
### Cost of Lending

To what degree is the cost of lending via MPL platforms higher or lower than via banks? - - - 0 + ++

To what degree are the interest rates offered via MPL platforms decreasing? - - - 0 + ++

To what degree are the fees charged by MPL platforms decreasing? - - - 0 + ++

### Loan Volumes

To what degree are the average loan volumes via MPL platforms higher or lower than via banks? - - - 0 + ++

To what degree are the loan volumes via MPL platforms increasing? - - - 0 + ++

### Loan Duration

To what degree is the loan duration via MPL platforms shorter or longer than via the bank? - - - 0 + ++

To what degree is the average loan duration via MPL platforms increasing? - - - 0 + ++

### Customer Segments

To what degree is the average size of the companies lending via MPL platforms increasing? - - - 0 + ++

To what degree is the maturity of the companies applying for a loan via MPL platforms increasing? - - - 0 + ++

To what degree are also companies with a bank worthy risk profiel applying for a loan via MPL platforms? - - - 0 + ++
Based on the scores in the tables above, the position of MPL in the process of disruption can be determined based on the table below. Each stage of the process of disruption is characterized by certain indicators which help to translate the scores in the form above into a position of MPL in the process of disruption.

<table>
<thead>
<tr>
<th>Market Expansion</th>
<th>Quality Improvements</th>
<th>Customer Segments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emerging/Insignificant</strong></td>
<td><strong>Increase in Performance</strong></td>
<td><strong>Encroaching Mainstream Market</strong></td>
</tr>
<tr>
<td>Market is relatively small (below 1%)</td>
<td>Market share is increasing but still relatively small in comparison with the banks</td>
<td>Market share is increasing and becomes significant. Starting to really compete with the banks</td>
</tr>
</tbody>
</table>
|  | • Overall MPL still performs inferior along the performance dimensions in comparison with banks, but the performance is gradually improving.  
• Especially the trust and loan amounts are increasing, while the cost of lending via MPL platforms decreases. |  |
| • MPL performs inferior along all four performance dimensions.  
• No significant improvements are detected yet |  | • The trust in MPL is equal to or nearing the general trust of banks.  
• Loan amounts are sufficient for mainstream market, while the cost of lending is competitive to banks or lower |
|  | • MPL is only an application for a very specific and limited market. | • More large and mature companies are considering MPL as a serious alternative  
• Companies with a bank worthy risk profile are starting to shift to MPL |
Appendix 8: Scoring Form Reaction Matrix

PwC can use the scoring form below to advise banks on how they can react on MPL when it developed to a point where it is starting to encroach the mainstream market. The scoring form while assess the banks’ ability and motivation to respond to MPL. The scoring form consists of several multiple choice questions which give a statement about the specific bank in relation with MPL. The answer possibilities range from “Not at all” to “Very much” indicating the two outsides of the spectrum. To each answer possibility a number ranging from 1 to 5 is assigned. The number that is assigned to the answer possibility that best match the answer to the question has to be marked in the table. Per question also a unique weighting factor can be assigned to highlight important questions as long as the average of the weighting factors per category remains one (weighting factors can be customized based on the unique characteristics of the bank). The numbers marked in the table have to be multiplied with the weighting factor and filled in on the right hand side of the table. At the end of each category the average of these multiplied scores have to be calculated based on the number of questions in that category. Below the categories are explained in more detail and the tables with questions are displayed.

Ability to Respond

As explained in more detail in Chapter 3.2.1.1, the ability to respond to MPL of banks can be measured by the conflicts between the two business models, the skills portfolio of the bank and the resources the bank has at its disposal to react.

Skills Portfolio

As explained in more detail in Chapter 3.2.1.1.2, the ability of the bank to respond depends among others on the relatedness of its skills and competences in comparison with those necessary to exploit a MPL platform. The table below shows the questions to assess the relatedness of the skill portfolio of banks.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Weighting Factor</th>
<th>5 Not at all</th>
<th>4 A little</th>
<th>3 A fair amount</th>
<th>2 A lot</th>
<th>1 Very much</th>
<th>Number x Weighting Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does adopting MPL require the bank to develop new skills?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the commitment to the current skills within the bank hinder the development of new skills necessary to exploit MPL?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Average Score:

Conflict between old and new

As outlined in more detail in Chapter 3.2.1.1.1, banks are limited in their ability to respond by conflicts that can arise between the two business models when adopting MPL. In the table below already customized weighting factors are assigned based on research results by Charitou & Markides (2003) and the results from this study (this research shows that banks especially perceive MPL as possibly damaging to their reputation). The table below shows the questions about the conflicts between the two business models.
### Parameter | Weighting Factor | 5 Not at all | 4 A little | 3 A fair amount | 2 A lot | 1 Very much | Number x Weighting factor
--- | --- | --- | --- | --- | --- | --- | ---
Would the bank damage their reputation or image and the value associated with it by adopting MPL? | 1,5 |  |  |  |  |  |  
Would the bank defocus its organization by adopting MPL (trying to do everything for everybody)? | 1,5 |  |  |  |  |  |  
Would the bank risk destroying the overall culture of their organization by adopting MPL? | 1,5 |  |  |  |  |  |  
Would the bank risk shifting customers from high-value activities towards low-margin activities by adopting MPL? | 1 |  |  |  |  |  |  
Would the bank compromise the quality of service it offers to customers by adopting MPL? | 1 |  |  |  |  |  |  
Would the bank losing focus through adding activities that may confuse their employees and/or customers regarding the company’s incentives and priorities by adopting MPL? | 1 |  |  |  |  |  |  
Would the bank undermine the value of our existing distribution network by adopting MPL? | 1 |  |  |  |  |  |  
Would the bank cannibalize their existing customer base by adopting MPL? | 0,5 |  |  |  |  |  |  
Would the bank destroy the value of their existing distribution network by adopting MPL? | 0,5 |  |  |  |  |  |  
Would the bank risk legitimizing MPL, thus creating incentives for other banks to enter the market as well, by adopting MPL? | 0,5 |  |  |  |  |  |  

**Available Resources**

As described in more detail in Chapter 3.2.1.3, an incumbents ability to respond is also determined by the resources in time and money it has at its disposal. The table below shows the questions to assess the relatedness of the availability of the resources to respond to MPL.

### Parameter | Weighting Factor | 5 Not at all | 4 A little | 3 A fair amount | 2 A lot | 1 Very much | Number x Weighting factor
--- | --- | --- | --- | --- | --- | --- | ---
Does the bank have sufficient financial resources available to build or acquire a MPL platform? | 1 |  |  |  |  |  |  
Does the bank have sufficient time and human resources at his disposal to adopt MPL now? | 1 |  |  |  |  |  |  
Is investing in MPL currently a priority within the bank? | 1 |  |  |  |  |  |  

**Average Score:**
**Motivation to Respond**

As explained in more detail in Chapter 3.2.1.2, the motivation to respond to MPL of banks can be measured by the strategic relatedness of the two business models, the level of threat by MPL and the growth rate of MPL. Note that the scores assigned to each answer possibility are reversed compared to the questions on the ability of the bank to respond.

**Strategic Relatedness**

As explained in more detail in Chapter 3.2.1.2.1, the motivation to respond of an incumbent is among others determined by the synergies it can create between the strategic assets it currently possesses and needs to exploit the disruptive business model. The table below lists the questions to assess the relatedness of the strategic assets the bank currently possesses and needs to exploit MPL.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Weighting Factor</th>
<th>1 Not at all</th>
<th>2 A little</th>
<th>3 A fair amount</th>
<th>4 A lot</th>
<th>5 Very much</th>
<th>Number x Weighting factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the bank be able to effectively use their current customer relationship channels to exploit MPL?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would the bank be able to effectively use their current customer service channels to exploit MPL?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would the bank be able to effectively use their current distribution channels for customers to exploit MPL?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would the bank be able to effectively use their current distribution channels for investors to exploit MPL?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the bank share a similar degree in loan customization versus standardization with MPL?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the bank share a similar degree in the importance of high skilled staff versus low cost personnel and automation with MPL?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Level of Threat**

As outlined in more detail in Chapter 3.2.1.2.2, the banks motivation to respond to MPL is influenced by the level of threat it perceives. The table below shows the questions to assess the level of threat the bank experiences from MPL.
### Innovations Growth Rate

As described in more detail in Chapter 3.2.1.2.3, the motivation to respond of an incumbent to a disruptive innovation is also determined by the attractiveness of the growth rate of the innovation. The table below shows the questions to assess the attractiveness of the growth rate of MPL for the bank.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Weighting Factor</th>
<th>1 Not at all</th>
<th>2 A little</th>
<th>3 A fair amount</th>
<th>4 A lot</th>
<th>5 Very much</th>
<th>Number x Weighting factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is MPL attacking one of the major markets of the bank?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the market under attack by MPL of strategic importance for the bank?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is reacting to MPL a priority within the bank (there might be other threats the bank has to deal with)?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can adopting MPL be a useful engine for growth for the bank?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are the growth rates of MPL significant relative to banks current business?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Average Score:
**Score Matrix**

To determine the ability and motivation to respond to MPL of the bank, the average scores on the parameters above need to be submitted in the table below. The theory by Charitou & Markides (2003) suggest that the reaction of an incumbent is especially influenced by the conflicts between and the strategic relatedness of the two business models. Therefore, adjusted weighting factors are added to the table. To calculate the final score, the average scores of each category have to be multiplied by the weighting factor. Subsequently to calculate the total score on the ability and motivation to respond the final scores of the categories have to be added up.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Average Score</th>
<th>Weighting Factor</th>
<th>Final Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ability to Respond</strong></td>
<td>Conflicts between old and new</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skills portfolio</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Available Resources</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td><strong>Total Score Ability to Respond:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Motivation to Respond</strong></td>
<td>Strategic Relatedness</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level of Threat</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Innovations Growth Rate</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td><strong>Total Score Motivation to Respond:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the table above a score ranging from 1 to 5 will result on the ability and motivation of the bank to react to MPL. The total scores on the ability and motivation to respond that result from this table can be used to determine the position of the bank in the matrix displayed in Chapter 6.2.2.