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Launching a Two-sided Platform

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Table of contents

Assignment text

To study how to launch a two-sided peer-to-peer platform, by studying two companies who have successfully launched, two companies who are still in the process and two companies who eventually failed.

The following main points will be included: Theory on two-sided platforms, case study, analysis of empirical data with the use of a theoretical framework, discussion and conclusion.

Preface

This master thesis is written by two master students at the Norwegian University of Science and Technology, one studying at the School of Entrepreneurship, and one study Industrial Economics and Technology Management. The paper is written as an assignment in the subjects TIØ4945 and TIØ4912. The authors want to thank our supervisor Lise Aaboen for her guidance. Her valuable support and feedback have been much appreciated. The authors would also like to thank the informants from each of the interviewed companies for taking the time to give their honest answers. It was of great value to the authors and for this thesis.

Abstract

Two-sided platforms, such as Airbnb, Uber and eBay, have all revolutionized their industries. Despite having colossal potential, they are very difficult to launch. This is due to what's referred to as *network effects,* which imply that the value of the platform becomes larger as more people use it. Network effects lead to a "chicken-or-egg-problem", where it is difficult to convince sellers to join if there are no buyers and vice versa, in addition to the need to reach a critical mass of users on the platform for it to start growing sustainably. Despite these unique challenges for two-sided platforms in the launch phase, current literature has mainly been concerned around established firms. Thus, the purpose of this master thesis is to investigate how two-sided peer-to-peer transaction platforms can reach critical mass. Based on existing literature, the authors have developed a theoretical framework that will guide the data collection and analysis. To answer the purpose, the authors have formulated two research questions based on the theoretical framework: 1) *"How can a two-sided platform attract users?"* and 2) *"facilitate interactions between them?"*

To find answers to the research questions, a qualitative approach has been chosen, with a multiple case study as research design. Six two-sided peer-to-peer platforms were selected, of whom two had successfully reached critical mass, two were still in the process, and two had failed. These were chosen to be able to look at similarities and differences between those who succeeded and those who did not. The case data was acquired through in-depth interviews with the CEOs, secondary data sources and observations of the platforms' services. Within-case and cross-case analyses were then conducted to analyze the gathered data.

The study has found that defining a category and geography focus is important both to attract users and facilitate interactions, as it allows the platform to create the same characteristics as of a large market. A range of different user acquisition tactics can be employed, but the seeding strategy where the platform e.g. adds supply themselves is often used. This starts a positive feedback loop, where new users have are more likely to join the value creation. The study shows that it needs to be frictionless for users to start using the platform, and building trust and removing risk is fundamental. In contrast to previous literature, it seems that it possible to have an unbalanced growth to reach critical mass. By focusing solely on building supply, the other side eventually wants to interact. Some platforms' ability to accumulate supply, seemingly makes this easier. Further research should further investigate those findings, as well as how two-sided platforms can create trust on the platform.

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Sammendrag

Tosidige plattformer, slik som Airbnb, Uber og EBay, har revolusjonert hver sin bransje de siste årene, men til tross for deres store potensiale, er de utrolig vanskelig å lansere. Dette er på grunn av *nettverkseffekter*, som innebærer at plattformen blir bedre jo flere som tar den i bruk. Nettverkseffektene fører til et *"høna-eller-egget" problem,* der det feks. er vanskelig å få med selgere hvis det ikke er kjøpere og motsatt, samt behovet for en *kritisk masse* med brukere for at plattformen skal bli bærekraftig. Til tross for disse unike utfordringene, samt hvor vanskelig det er å overkomme dem, har dagens litteratur hovedsakelig dreid seg om mer etablerte plattformer. Av den grunn, er formålet i denne masteroppgaven å undersøke hvordan man bør gå frem for å lykkes med å lansere en tosidig plattform. Basert på eksisterende litteratur, har forfatterne utviklet et teoretisk rammeverk som vil veilede datainnsamlingen og analysen. For å besvare formålet har forfatterne formulert to forskningsspørsmål med fundament i det teoretiske rammeverket: 1) *Hvordan kan en tosidig plattform tiltrekke brukere?* 2) *hvordan kan en tosidig plattform fasilitere interaksjoner mellom brukerne?*

For å finne svar på forskningsspørsmålene har det blitt valgt en kvalitativ tilnærming, med case-studie som forskningsdesign. Den empiriske dataen har blitt samlet inn gjennom intervjuer med daglig leder i seks ulike tosidige plattformer, samt sekundærdata og observasjoner av tjenestene deres. To har lykkes med å nå kritisk masse, to forsøker fremdeles, og to har måtte gi tapt. Disse ulike typene case ble valgt for å kunne avdekke potensielle avgjørende likheter og ulikheter. Singel og kryss-caseanalyser har blitt utført for å analysere den innsamlede dataen.

Resultatene viser at det er viktig å definere et kategorisk og geografisk fokus både for å tiltrekke brukere og fasilitere interaksjoner, da det gjør det mulig å gjenskape karakteristikaene til et stort marked. En rekke ulike taktikker kan bli brukt til å tiltrekke brukere, men seeding-strategien, der plattformen selv feks. står for tilbudet er ofte brukt. Dette starter en positiv feedback loop, hvor nye brukere har større sannsynlighet for å bli med på verdiskapningen på plattformen. Videre viser studiet at det må være friksjonsfritt for nye brukere å bli med på plattformen, og at tillit og reduksjon av risiko er kritisk for å lykkes. I motsetning til tidligere litteratur, viser studiet at det kan være mulig å ha en ubalansert vekst og fortsatt oppnå kritisk masse. Ved å ha fullt fokus på å bygge tilbud på tjenesten, vil den andre siden til slutt ønske å interagere. Noen plattformers evne til å akkumulere tilbud ser ut til å gjøre dette enklere. Fremtidig forskning bør se nærmere på disse funnene, i tillegg til eksakt hvordan en tosidig plattform kan skape tillit på plattformen.

1 Introduction

Two-sided platforms, such as Airbnb, Uber and EBay, are revolutionizing their industries (Parker, Van Alstyne, Choudary, 2016). In contrast to traditional firms, two-sided platforms create value by facilitating interactions between two *sides* of users, e.g. buyers and sellers on EBay (Rochet & Tirole, 2003). Hence, the existence of friction, which restrics users from interacting outside the platform, is key to understanding whether an entrepreneur has a hope of starting a two-sided platform. The fundamental feature of two-sided platforms, making them so powerful, is the existence of *network effects:* which imply that the value of the platform increases as more people use it (Parker & Van Alstyne, 2005; Armstrong, 2006; Gawer & Evans, 2016 e.g). For two-sided platforms, network effects can both occur between users on the same side, called *direct network effects,* and between users on opposite sides of the platform, called *indirect network effects.*

These indirect network effects, where the value for users on one side increases as more from the other side join, lead to several strategic challenges during the startup phase that are not present for traditional firms. First, it leads to a "chicken-or-egg-problem", where users from one side will not join if there are no one of the other side present (Caillaud & Jullien, 2003; Evans & Schmalensee, 2010). It also leads to the need to reach a critical mass of users on the platform, to generate enough network effects to enable it to start growing sustainably. These strategic challenges make two-sided platforms very difficult to launch (Eisenmann et al. 2006; Evans, 2009, Parker & Van Alstyne, 2014; Hagiu, 2014). However, current literature on two-sided platforms have mostly been concerned around established platforms (Rochet & Tirole, 2003; Caillaud & Jullien, 2003; Armstrong, 2006; Parker &Van Alstyne, 2000, 2005; Hagiu, 2014). Therefore, this master thesis will investigate how a two-sided platform can reach critical mass.

1.1 Gap in the literature

Despite the inevitable difficulties and critical need for two-sided platforms to reach critical mass, formal research has mainly focused on established and successful platforms, and not the launch of new platforms (Evans & Schmalensee, 2010). In 2016, some of the most important scholars within the literature on two-sided platforms, Geoffrey Parker, Marshall Van Alstyne and Sangeet Choudary, came with an important contribution, when they released their book; Platform Revolution. Although the book is not directly focused around the launch phase of a platform, they summarize many of their findings related to platforms in general. However, there is still a lot of room for further studies specifically on the launch of a two-

sided platform. Evans (2009) states that "little attention has been given to the critical issues that entrepreneurs must solve to create a viable platform business. These include strategies for getting both sides on board, the role of critical mass in establishing the foundations for success, and the particularly thorny issues that arise when both sides must arrive simultaneously".

1.2 Purpose of the study

Due to the above-mentioned gap in the literature, the following purpose has been outlined for this master thesis:

~ to investigate how a two-sided peer-to-peer transaction platform can reach critical mass ~

Before elaborating on the research questions that will help the authors find answers to this purpose, the definition of a *two-sided peer-to-peer transaction platform* must be explained, as well as what reaching mass means.

1.2.1 Defining a two-sided peer-to-peer transaction platform

Current literature on two-sided platforms have been studying different kinds of platforms, ranging from gaming platforms such as Xbox, who's matching game developers with gamers, payment services such as Visa, who's matching merchants with consumers, to nightclubs, matching males and females. Gawer and Evans (2016) divide platforms into two general categories: *transaction platforms* and *innovation platforms*. They explain that transaction platforms, facilitate transactions between different types of individuals or organizations that would otherwise have difficulties finding each other. Innovation platforms on the other hand, are defined as "technological building blocks that are used as a foundation on top of which a large number of innovators can develop complementary services or products". This thesis will focus on transaction platforms.

In the year of 2016, one has been witness to a large uprising of *two-sided peer-to-peer* transaction platforms in Norway, fueled by the sudden popularity of the so-called sharing economy (Ytterstad, 2016; Handelshøyskolen BI, 2016). Services such as Uber, Airbnb and Nabobil are all examples of such peer-to-peer platforms, who match individuals with other individuals. These new types of two-sided platforms have come as a result of the rapid advances in technology throughout the last decades, which have enabled two-sided platforms to connect different groups of people in a way that never before have been possible (Parker et al., 2016). Other renown economists within the literature on two-sided platforms, David Evans & Richard Schmalensee (2016a, p. 33), state that "the internet and smartphones have

turbocharged the ancient matchmaker business model", and that more industries are on the verge of being transformed.

This thesis will focus on these two-sided peer-to-peer transaction platforms (hereafter "two-sided platforms").

1.2.2 Defining critical mass

In terms of what critical mass involves, this thesis employs Evans'(2009) definition, who explains that two-sided platforms "must attain critical mass to ignite a catalytic reaction that leads to organic growth. Platforms that do not reach this critical mass implode." Thus, a platform has reached critical mass, when network effects on the platform become large enough to secure a sustainable and organic growth. According to Evans, two-sided platforms who don't reach critical mass within some time-period, will fail.

1.3 Research questions

As seen, the existence of indirect network effects constitutes the foundation for how two-sided platforms create value, and why they are so difficult to launch. To generate indirect network effects in the launch phase, to overcome the chicken-or-egg problem and reach critical mass, the platform must get enough users from both sides to board the platform. This entails that the platform both needs to 1) attract users to the platform, and 2) enable these users to interact, as illustrated in figure 1.1 below (Hagiu, 2014).
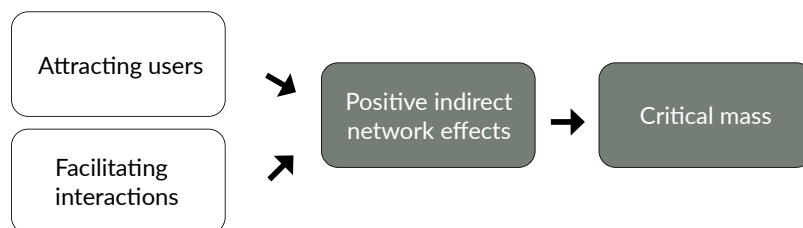
Figure 1-1 Reaching critical mass

Based on this, the following two research questions (RQs) will help the authors find answers to the purpose of this master thesis.

1. How can a two-sided platform attract users during the launch phase?
2. How can a two-sided platform facilitate interactions?

Hagiu's (2014) explains that: "the strength of cross-side (indirect) network effects on an MSP (two-sided platform) is not solely determined by the number of members on its respective sides and the number of interactions they engage in, but also by their quality.". Thus, RQ1 deals with how two-sided platforms can attract users in the launch phase, while being limited by the chicken-or-egg problem. This will differ from user acquisition tactics used by established two-sided platforms, who possess the benefits of existing network effects,

marketing funds and reputation. Facilitating interactions in RQ2, involve how the platform can remove friction for new users to start using the platform, as well as making sure the users on the platform hold large enough value to urge the opposite side to interact.

1.4 Contribution

By gathering data from six two-sided peer-to-peer platforms, where two have reached critical mass, two are still trying and two have failed, the authors will be able to explore important factors regarding how to reach critical mass. All cases are startups without large budgets or existing network effects, which strengthen the authors' ability to identify important factors specifically related to the thorny issues of getting both sides onboard. These findings will be analyzed through a theoretical framework based on the launch phase of a two-sided platforms, with the goal to identify new factors not before covered in the literature. Lastly, the contribution may also be the identification of future research agendas that need to be fulfilled to fill this gap in literature on how to launch a two-sided platform.

1.5 Structure of master thesis

In this introductory chapter, we have seen the importance of two-sided platforms and why they are so difficult to launch. It has also presented the purpose of the study, and the research questions that will help the authors to fulfil the purpose. Chapter 2 describes the methodical choices that have been taken to find answers to the purpose. In chapter 3, the literature on two-sided platforms will be presented, looking at their unique characteristics, tactics to attract users as well as how the platform can facilitate interactions on the platform. Together this creates the theoretical framework that guides the data acquisition and analysis. Chapter 4 contains case studies of the interviewed companies, while chapter 5 presents the analyses and findings. In chapter 6, the authors discuss the contribution of key findings to previous literature. Finally, chapter 7 presents a conclusion and suggested future research, before looking at managerial implications in chapter 8. Lastly, all references used in the thesis will be presented, followed by the study guide which guided the conducted interviews.

2 Method

To fulfill the purpose of the study, the authors have chosen a qualitative approach and to conduct a multiple case study of six two-sided peer-to-peer platforms. This chapter will elaborate on how the research was conducted as well as the rationale behind the research design and the means of data collection, the reasons for analyzing the data through within-case and cross-case analyses, before the authors will reflect on the strengths and limitations of the chosen method.

2.1 Research design

In this section, the choice of research design will be elaborated. The research design will work as the methodical framework for the authors to collect and analyze data in order to answer the research questions (Bryman, 2008; Philiber, Schwab & Samsloss, 1980, Flick, 2015).

2.1.1 Qualitative research design

The purpose of the study is to investigate how a two-sided peer-to-peer platform can reach critical mass. The authors sought to understand "how" something can happen - hence a qualitative case study was appropriate (Yin, 2014). This was further due to the need of getting in-depth understanding of this social contemporary case in its specific context (Yin & Davis, 2007), and find all relevant variables which could have played a part for the company to reach critical mass (Eisenhardt, 1989). The qualitative method may also help the authors to introduce more diversity and nuances, than would be possible with for example a quantitative research design (Flick, 2015).

2.1.2 Multiple case study

The authors have conducted a multiple case study of six peer-to-peer platforms in the Norwegian market. By choosing a multiple case study, the authors have been able to look at how the launch phase occurs for several firms, which will improve the authors' ability to draw analytic generalizations based on the findings, and find answers to the research questions (Yin, 2014).

2.1.3 Selection of case firms

In order to acquire data relevant to the purpose of the study, it was important to choose relevant subjects (Bryman, 2008), and to do so, it is wise to set up a list of selection criteria. The following case selection criteria were chosen to eliminate potential unrelated factors affecting the results. This will strengthen the validity of the study, and improve the authors' ability to draw analytical generalizations based on the findings.

- Two-sided peer-to-peer platforms

- Startups with no large differences in start capital who have launched in the Norwegian market within the same time period, 2015 and 2016
- The study should include companies who have successfully reached critical mass, companies who are trying to reach critical mass and companies who have failed to reach critical mass

Selection strategy

Due to the big challenge of reaching critical mass, this study has selected six cases divided into three groups, where 2 have successfully reached critical mass, 2 are in the process of trying to reach critical mass, and 2 have failed to reach critical mass. This is illustrated in figure 2 below. The authors identified six companies that are similar on most dimensions, except the dimension being studied; whether they have reached critical mass, and how they proceeded. In the analyzation of the cases, this strengthened the authors' ability to identify important factors determining what made the successful companies successful, why the companies who were still in the process of reaching critical mass were not successful yet, and what lead the unsuccessful companies to fail. The similarities of the case companies on most dimensions were essential to enable comparison of strategies employed and characteristics between the three groups of cases and the individual companies, to identify differences on the researched dimension.
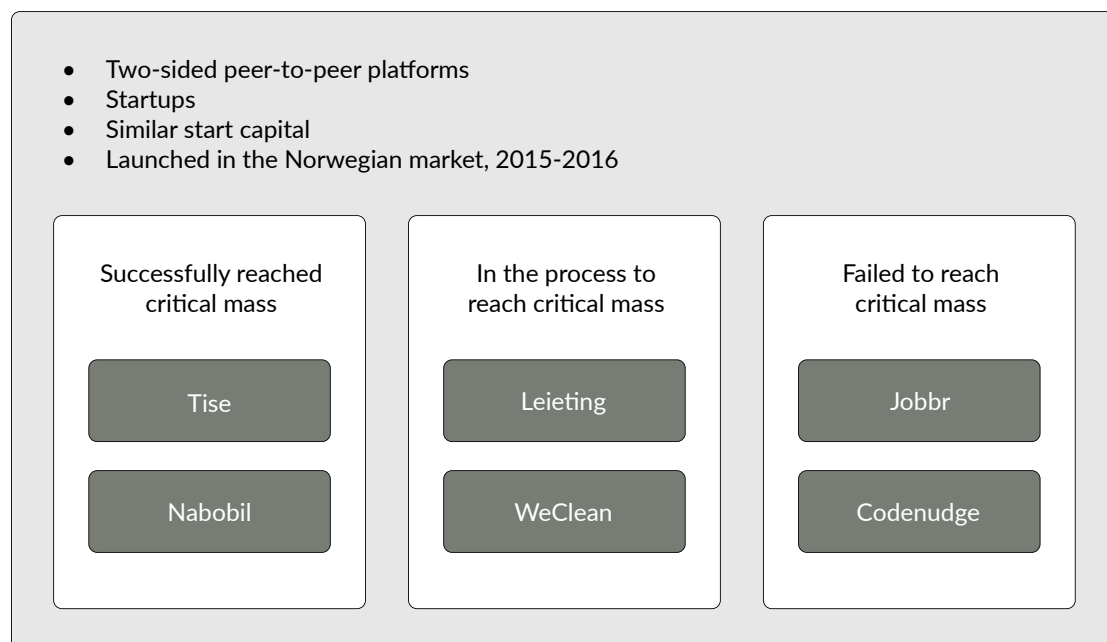

Figure 2 Selection of cases

Nabobil.no and Tise are peer-to-peer platforms that have successfully reached critical mass. Leieting.no and WeClean have not reached critical mass as of the time of this study, but continue to pursue this goal. Codenudge and Jobbr.no are two peer-to-peer platforms who

spent a long time trying to solve the problem, but eventually had to give up. All six meet the selection criteria listed, and are considered suitable cases.

Due to the often large differences between two-sided platforms and the rapid evolution of new platforms, it is difficult to claim that this study has reached complete saturation. The inclusion of even more cases could have provided further insight, increasing the quality of the study. However, the timeframe and available resources, limited the number of cases to six in this study. Due to the cases' similar characteristics, the authors are confident that it will be enough to find answers to the research questions, and draw analytic generalizations based on the findings.

2.2 Data acquisition

2.2.1 Theoretical framework

The research started out with establishing a theoretical framework for the study. The theoretical framework enabled the authors to ask sharp and insightful questions, which helped explore information that the subject had not thought of themselves (Yin, 2014).

2.2.2 Interviews scheduled

The six case companies were contacted regarding whether they would like to participate, and informed about the implications of participation. Interviews were scheduled within a reasonably short timeframe of two months, taking place in February and March 2017. The length of this timeframe was set so that the timing of the interviews wouldn't affect the findings, in line with the selection criteria.

In order to make sure that the data generated in the case study will be detailed and rich, the CEOs or CMOs of each company were viewed as ideal interviewees. This is because the decisions and responsibilities related to the launch phase are likely taken by them. One of the authors had previously been in contact with the CMO at Nabobil and the CEO of Tise on a number of occasions. Both were very cooperative and open to be interviewed. The CEOs of Leieting and WeClean were contacted by phone and were happy to be interviewed. Finally, the CEOs of Codenudge and Jobbr are current and former students at NTNU School of Entrepreneurship, and were open to be interviewed.

2.2.3 Gathering of case data

There was established a data collection protocol as advised by Yin (2014). This included a schedule of the collection of data, overview of needed resources for the interviews (e.g. digital audio recorder) and backup plans if something should come in the way of the interview. The acquired data was organized and sorted in the case study database, on Google

Drive, so that it would be easy for others to see how the research was conducted, increasing reliability of the study (Yin, 2014).

Public information

All publicly available information about each case was gathered, read and organized in the case study database. This included newspaper articles, the companies' own websites and publicly available financial records.

Observations

All the platforms and their functionalities were examined, but the services were not tested, which could have enabled the authors to get an even better feel of the experience for users. However, reading customer reviews from customers on some of the different services provided a good understanding.

These preparations enabled the authors to gain understanding and knowledge before the interviews, in order to focus on aspects that were not common knowledge in the interviews and ask better questions based on a deeper insight.

In-depth interviews with the CEO's

The interviews were semi-structured, with a duration of between 1 hour and 1 hour and 15 minutes. The authors had prepared questions surrounding two main categories they wanted to address based on the theoretical framework: 1) what strategies the company employed to acquire users, and 2) and what measures they took to facilitate interactions between these users. These questions were part of the interview guide which the authors used during the interviews. Keeping the interviews semi-structured allowed flexibility and the possibility of getting more personal answers (Bryman, 2008). It also enabled the authors to capture activities, behaviors and reflections that was not covered by the theoretical framework. When subjects had difficulties answering questions, the authors tried to use projective techniques. An example was asking one of the companies who failed: "why do you think most companies fail launch?".

Both the authors of the master thesis were present during the first three interviews. According to Eisenhardt (1989), this will enhance the creative potential of the study, as well as the confidence in the findings. It will also increase the likelihood of surprising findings, as having multiple observers will allow for different perspectives (ibid.). The authors found that there were occasions where one of them was able to ask follow-up questions the other did not think of. Whereas one of the authors had special emphasis on observing and taking notes, the other handled the interview questions and follow-up questions (e.g., Eisenhardt & Bourgeois,

1988). This allowed the authors to gather detailed and rich data about both what was said and what manner it was said, which was helpful in the later process to analyze the data more fully (Yin, 2014). Having both authors present during the first three interviews allowed for making the necessary adjustments to the interview guide, and the authors believe that one interviewer was sufficient for the last three interviews. As the interviews were recorded, the author was less dependent on taking notes, and this enabled him to actively listen, observe and ask articulate follow-up questions. The author who was not present for the last three interviews listened through all recordings in order to make sure potential nuances were noticed and that both authors had the same understanding.

After each interview, the authors wrote case reports. They consisted of a combination of the data had had been examined before the interview and the new data that had been revealed during the interview. The reports were based on the theoretical framework, but also included other factors which seemed to have influenced the cases' failure or success to reach critical mass. For instance, one factor not included in the theoretical framework was the importance the cases' timing to get media attention. Revealing the importance of this in the first interview, helped the authors to be aware of this in the next. In addition to writing case reports, each interview was transcribed.

Follow up interviews and other data sources

Nabobil

A 30-minute interview with the former CMO, who held the position as CEO during the launch of the platform. This enabled the authors to get a second source to verify the information provided by the CEO. Given the fact that the former CMO was present during the launch, his input was valuable. He also provided two PowerPoint presentations made during and after the launch period, as well as marketing material Nabobil used to attract initial users. The CMO had different views on some aspects of the business, such as the importance of paid advertising on Nabobil's growth.

Tise

One of the authors had kept in contact with the CEO of Tise on several occasions earlier, and had followed Tise during the previous years. This, in addition to examining public available data beforehand, helped the authors to remind the CEO about details he otherwise would not have remembered during the interview.

Conducted a 30-minute interview with the CMO after the interview with the CEO. This confirmed and provided more details to the information provided by the CEO, but did not provide noteworthy new insights.

There authors were sent the business plan Jobbr had created before launch of the service in November 2016. This helped the authors gain insight into some details that the CEO did not remember during the interview. The interview took place over Skype, which could have made it more difficult to build trust with the subject, but since the author who conducted the interview knew the subject well from beforehand, this did not seem to affect the interview.

The CEO of Codenudge attended The NTNU School of Entrepreneurship at the same time as one of the authors, which allowed for observation of the company, including its challenges and progress. This enabled the author to ask direct and detailed questions.

The combination of gathered documentation, interviews with the CEOs, follow-up interviews and the other mentioned data sources helped the authors to triangulate the research, and cross check the information provided by the subjects, in order to increase validity of the research (Yin, 2014).

2.3 Data analysis

After the data was acquired, it was analyzed based on the theoretical framework, which served as the theoretical propositions of the study (Yin, 2014). The theoretical framework was based on a literature review performed by the authors in an earlier semester. The data was analyzed in parallel with the data collection, as new insight was found (Runeson & Höst, 2009). By analyzing the data throughout, the authors identified patterns and interesting aspects, which enabled the authors to adjust the theoretical framework and interview guide between the different interviews. (Eisenhardt, 1989; Harris & Sutton, 1986). In this respect, it was important to have both the authors present on the first three interviews, so the authors together could reevaluate the interview guide.

2.3.1 Within-case analysis

The authors conducted within-case analyses, which involved detailed case study write-ups for each case. These write-ups were simply pure descriptions, but they were central to the generation of insight (Gersick, 1988), and helped the authors to cope early in the analysis process with the substantial volume of data. It also helped the authors to fill the often large

chasm separating data from conclusions, which strengthens the reliability of the study (Eisenhardt 1989, Miles and Huberman 1984). Further, the data was structured the same way for each case and analyzed throughout based on the theoretical framework, which enabled the authors to gain a deep understanding and a look at unique patterns in each case, before starting to generalize the data (Eisenhardt, 1989). In addition, it gave the authors a rich familiarity with each case which, in turn, accelerated the cross-case comparison. A figure was made for each case based on the framework, which helped to visualize each case and the strategies they had employed to reach critical mass.

2.3.2 Cross-case analysis

In addition to within-case analyses, the authors conducted a cross-case analysis. Doing cross-case comparison helped to avoid the limitations of the authors' cognitive maps, and secured accurate and reliable theory (Eisenhardt, 1989). Also, by doing cross-case comparison, enabled the authors to reveal related factors and find more novel findings in the data, than they had managed during the within case analyses (ibid).

The cross-case analysis focused on finding differences and similarities between the cases. Strategies employed to attract users and facilitate interactions were compared, and it was studied whether the strategies helped the cases achieve indirect network effects, liquidity and critical mass. Also, the market context of the different case companies were compared, with a focus on their differentiation from incumbent firms, if any existed. The following aspects were studied carefully:

- Similarities and differences between the companies who *had* achieved critical mass and the strategies they had employed
- Similarities and differences between the companies who had *not* achieved critical mass and the strategies they had employed
- Similarities and differences between the companies who had reached critical mass and those who had not

The authors also tried to identify:

- Strategies employed with successful outcome by some, and unsuccessful outcome by other, to figure out why
- Common factors across all cases
- If there were any factors that were more important than others for the case companies' success or failure to reach critical mass

2.4 Reflections on quality of the research and limitations

In this chapter follows a discussion of the quality and potential limitations of the chosen research method.

First, case study research with semi-structured interviews lack the structure available for other research methods, which makes it difficult to avoid that the authors' bias affect the data that is collected. The authors were aware of this, and tried to make sure to correct each other if they saw that the other author asked a biased or leading question. These corrections took place after the interview was finished. The authors' own experience with launching a two-sided platform and startups in general, can also be considered an advantage. It made it easier for the authors to understand their cases and their challenges, and relate to the interviewees to build trust and set a relaxed atmosphere during the interviews.

In order to secure good quality of the questions, they were tested thoroughly before the real interviews, by testing them in several test interviews with fellow students. Also, the examination of all public available information before each interview was important to ask questions that helped the subjects remember certain details they otherwise would not have remembered. It also allowed for the limited time per interview to be spent on gathering data that was not publicly available, and gain insight into the CEO's understanding of "how" and "why" rather than "what happened" and "when it happened". For Nabobil, the follow-up interview provided valuable information about activities during the launch phase, which had not been mentioned in the first interview. Further, one of the cases, Jobbr, was active some time before the others. This may have affected the CEO's ability to remember all details to the same degree as in the other cases. However, the additional documentation in the form of a business plan and various other documents helped the authors achieve sufficient understanding and insight in the case to carry out the analysis.

The limited number of potential subjects meeting the selection criteria for the study was perceived to potentially present a threat, in case the authors failed to motivate all chosen subjects to participate. In order to help solve this problem, the authors contacted the subjects long time in advance to plan a date for the interview. This also allowed the authors to build trust with the informants, as well as the possibility to find a new subject in case the original subject couldn't attend. All the selected case companies ended up participating in the study.

The large volume of data generated through the semi-structured interviews could make the authors tempted to reach too wide in building theories. Thus, the authors focused on sticking

to the study guide, in order to connect the research to the theoretical framework, which increases the chance of achieving external validity through analytic generalizations (Yin, 2014). Yin (2014) also stresses that it's very difficult to conduct case study research. None of the authors are professional interviewers, but one of the authors have achieved top grades in several research courses through former studies, which helped secure quality of the interviews.

The former CEOs of Jobbr.no and Codenudge.no are acquaintances of one of the authors, which could have affected the interviews both positively and negatively. On the one hand, it did make them relax and be comfortable going into detail about different subjects. On the other hand, it could have prohibited the truth sometimes, because they didn't want to admit all the failures in front of the author. To solve this, the authors made sure to emphasize the need for the subjects to be sincere before the interviews started. After having conducted the interviews, the authors did not experience any holding back of information from the subjects, and the fact that the author knew the subjects beforehand seemed to influence the interviews positively as the subjects seemed relaxed and willing to open up about all details.

The authors chose not to anonymize the participants. All participants were made aware of this when approached to participate in the study. The reasoning behind this is that there is a very limited number of two-sided peer-to-peer platforms in Norway, and it would be relatively easy to identify the companies.. The authors are confident this had minor impact on the information shared by Tise, Nabobil, Jobbr and Codenudge, who were all open with their data. Two of the case companies were somewhat hesitant to reveal not publicly known financial information and go into detail about concrete numbers about transactions on the platform, as they are still in the process of reaching critical mass. Those companies were WeClean and Leieting. Strict confidentiality might have been beneficial in these cases.

The chosen method and case studies allowed the authors to triangulate the research where the different data sources were compared to increase the construct validity of the research. The authors have investigated documentation thoroughly to help develop convergent evidence in the data. The authors have also made sure to maintain a chain of evidence, keeping transparency on how the authors went from the initial research questions to the ultimate case study conclusions (Yin, 2014). The interviews have also been marked with time and place, consistent with the case study protocol. Everything have been stored in the case study database. These measures helped secure both construct validity and reliability in the research.

Trustworthiness of the study

Lincoln and Guba (1994) listed four criteria to judge the trustworthiness of a qualitative study; credibility, transferability, dependability and confirmability. The table X below explains the four criteria and the actions taken by the authors to ensure quality of the study within each criteria.

Trustworthiness of the study	
Criteria	**Credibility**
Explanation	Credibility means establishing that the results of the research are believable in the eyes of the participants
Actions taken	**Prolonged engagement** by thorough examination of public available information about the case companies, the authors' previous knowledge about the field, and by building relations over time with the interviewees. **Triangulation** to investigate and understand by using the following data sources: publicly available information (web-sites, financial records, news articles, observation through examination of the platforms, and in-depth interviews, as well as follow up interviews, business plans and other internal documents.
Criteria	**Transferability**
Explanation	Transferability means whether the results of the research can be generalized or transferred to other contexts
Actions taken	Each case has been described in great detail, which increases the transferability of the study. Also, the selection process of the case companies and their context are described in detail.
Criteria	**Dependability**
Explanation	Dependability describes whether the research can be replicated or repeated with the same results
Actions taken	There has been carried out a form of external audit, where the advisor for the thesis and co-workers of the authors have overseen both the process and findings, and provided valuable feedback along the way.
Criteria	**Confirmability**
Explanation	Confirmability refers to the degree of neutrality, the authors' bias, and whether the results could be confirmed by others
Actions taken	As mentioned earlier in this chapter, the authors have been aware of the potential bias, and taken measures to avoid any bias from influencing the study negatively.

	There has been kept an audit trail, as documented in chapter 2.3.2 where all research steps have been described and all data has been stored in the case database. The triangulation described under credibility also increases the confirmability of the study

Table 1 Trustworthiness of the study

3 Theory

This chapter will present the theory that will constitute the theoretical framework, which will work as the foundation for the study, and lead the acquisition and analysis of data. The theory presented is focused around the launch phase of a two-sided peer-to-peer platform, and will not emphasize strategies only relevant to established firms. The chapter will start by defining two-sided platforms and network effects and elaborating on their strategic implications. Finally, the last sub-chapter will present what the literature says about how businesses can deal with these strategic implications, to acquire users and facilitate interactions to successfully launch a two-sided platform.
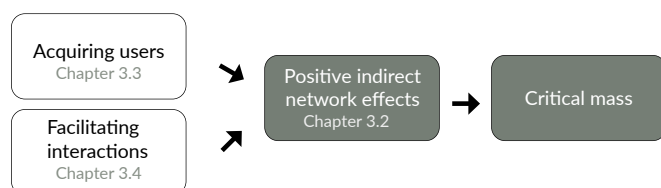
Figur 3-1 Structure of chapter

3.1 The evolution of the two-sided platform

Stabell and Fjeldstad (1998) were the first to recognize the platform business configuration, and defined it as one of three ways a company can deliver value. They found that, instead of a *value chain,* where value moves from left to right in a linear fashion (Porter, 1985), or a *value shop*, where the value creation comes from solving customer problems in a cyclical manner (e.g. a consultancy), the company could take the form of a *value network*. Here the idea was that instead of the company providing the value, it could create a platform where its customers could exchange value between each other. The foundation for the model was the concept of *network effects*, where the value of the service for existing customers became larger as more customers joined (Rohlfs, 1974; Katz and Shapiro, 1985).

The phenomenon of network effects was first recognized by Jeffrey Rohlfs (1974) who looked at landline telephone services in the US. He noticed how a telephone was useless if nobody else had one, and that it would become increasingly valuable as a user could reach more people. In the era of pipeline business, in line with Michael Porter's value chain and *five forces model*, one way a company could achieve sustainable competitive advantage was to achieve "supply economies of scale". However, due to the strong value of network effects, economists recognized *demand economies of scale* as another potential source of sustainable competitive advantage (Katz & Shapiro, 1999).

Initially, platforms were treated as one-sided in the literature, where the users on the platform constituted one unified group. However, in 2003, French economists Rochet & Tirole (2003)

found that most platforms with network effects in fact consisted of two distinct sides of users, where the value they got from the platform was from interacting with each other. They poised the following definition: "many if not most markets with network externalities are characterized by the presence of two distinct sides whose ultimate benefit stems from interacting through a common platform" (Rochet & Tirole, 2003, p. 990).

With Rochet & Tirole's definition it became evident that network effects, in addition to exist between users within the same group, also existed between the two groups of users on the platform. This *indirect network effect* meant that as more people from one side of the platform joined, the value of the platform increased for users on the other side. Evans & Schmalensee especially emphasize these indirect network effects in their definition of two-sided platforms: "businesses in which pricing and other strategies are strongly affected by the indirect network effects between the two sides of the platform" (2008 p. 667). In their view, the role of the platform is to make strategic choices that reinforce the indirect network effects to successfully attract both sides.

These indirect network effects gave rise to several strategic implications which had not before been treated in the literature. Before elaborating on the different implications of the indirect network effects, it's important to clarify the definitions of network effects.

3.2   Network effects

Network effects are interchangeably referred to as *network externalities* in the literature, but this thesis will employ the term *network effect.* Generally, network effects can be divided into *direct network effects*, and *indirect network effects*. Whereas direct network effects, which occur between users on the same side, commonly have been termed *same-side* and *within-group* network effects, this thesis will employ the term *direct network effect*. The same goes for indirect network effects, which occur between the two sides of users of the platform. The literature frequently refers to this as *cross-side* and *cross-group* network effects*,* but this thesis will employ the term *indirect network effect.*

Moreover, network effects can be *positive*, which is the case if more users lead to more value for existing users, or *negative* if a new user leads to reduced value for existing users. Further, positive network effects can both be *direct* and *indirect*. A *direct positive network* effect would appear if a new host on Airbnb attracts more demand to the platform, which increases the value for other hosts on the platform. A *positive indirect network* effect would appear if a new driver on Uber leads to shorter wait times for customers on the other side. If the new Uber driver steals demand from existing Uber drivers, it would constitute a *negative direct*

network effect. Finally, a *negative indirect network effect* would be if a new host on Airbnb made it more difficult for travelers to find a good place to rent.

Commonly, the literature explains indirect network effects as a phenomenon where the value of a service increases for the users on one side of the platform when more users from the other side join (Rochet & Tirole, 2003; Caillaud & Jullien, 2003; Armstrong, 2006 etc.) However, Hagiu (2014) and Evans & Schmalensee (2016a) underline that it is not only about the number of users. Evans & Schmalensee exemplify this by the example of the platform OneTable, who acquired numerous restaurants to their platform, but failed to attract the other side of the platform; the restaurant goers. That lead them to rethink their model, and rather focus on attracting more lucrative restaurants to the platform. This strategy worked, and they successfully managed to attract restaurant goers in sufficient numbers. As the story shows, the quality of the users, and consequently the strength of their indirect network effects, might be as important as the total number (ibid.)

In the following, the strategic implications of these indirect network effects for two-sided platforms will be elaborated.

3.2.1 The chicken-or-egg-problem

Due to having two distinct sides of users, two-sided platforms face a challenge not present for traditional businesses when starting out. Because of indirect network effects, where the value of the platform for one side is dependent on the existence of the other side, users from one side are hesitant to join if they are not certain that the other side will show up, and vice versa. In the literature, this coordination problem has been referred to as *catch-22* (Eisenmann & Hagiu, 2007; Hagiu & Wright, 2013) or the *chicken-or-egg-problem* (e.g. Caillaud & Jullien, 2003; Rochet & Tirole, 2003; Armstrong; 2006), and is emphasized as an important reason why two-sided platforms are so difficult to successfully launch.

3.2.2 Liquidity – high rate of successful interactions

In addition to attract enough users to the platform from each side, it's imperative that these users interact in valuable exchanges (Parker et al. 2016). Hence, when launching a platform, it's important to reach the point of *liquidity*: "Achieving liquidity is the first and most important milestone in the life cycle of a platform" (Parker et al., 2016 p. 190). They define liquidity as: "the state in which there are a minimum number of producers and consumers, and the percentage of successful interactions is high". Hence, if a user opening the Uber app ends up ordering a taxi, it would constitute a successful interaction. To reach liquidity, a platform must both achieve high producer liquidity and consumer liquidity, and the interactions they engage in must be successful for both parties (ibid). If a platform reaches

liquidity, the intent of users to interact is consistently satisfied within a reasonable time period (ibid.).

Evans & Schmalensee (2016a) also underline the importance of reaching liquidity. Although they refer to it as a *thick* and *thin* markets, they employ a similar definition as Parker et al. "Informally, a market is thin if it doesn't have enough participants for most of them to find many valuable exchanges most of the time. The market is thick if it does have enough participants for most of them to find valuable exchanges most of the time.". Reaching a *thick* or *liquid* market is imperative for two-sided platforms to generate the positive indirect network effects that will attract even more users to the platform, and ultimately lead the platform to reach critical mass (Evans, 2009; Parker et al, 2016).

3.2.3 Two-dimensional critical mass

In his study of telephone services, Rohlfs (1974) concluded that if a new telephone service acquired enough users to the service, it would reach a point he referred to as *critical mass*. At this point the service had become so great that it set out an organic cycle of growth. Reversely, if it failed to reach critical mass, current users would be inclined to leave, fueling a vicious cycle. Evans (2009) explains that platforms "must attain critical mass to ignite a catalytic reaction that leads to organic growth. Platforms that do not reach this critical mass implode.". Hence, if a platform manages to reach a critical mass of users, the network effects on the platform become so strong that they help the platform accelerate and secure a sustainable growth.

In contrast to the critical mass presented by Rohlfs (1974), the existence of indirect network effects makes the critical mass constraint two-dimensional for two-sided platforms (Evans, 2009; Evans & Schmalensee, 2010). For example, for Uber to successfully launch in a new market, they need to acquire both enough drivers and riders. According to Evans (2009, p. 21) this leads to a time pressure for two-sided platforms to reach critical mass: "if the platform does not grow quickly enough to critical mass, early adopters lose interest, fewer later adopters come, and word-of-mouth referrals stop or turn negative". This time pressure to reach critical mass, in combination with the chicken-or-egg-problem, are large reasons why it's so difficult for two-sided platforms to successfully launch (ibid; Hagiu, 2014).

In 2010, Evans & Schmalensee developed an economic model to show how reaching critical mass works for two-sided platforms (See figure 1 below).
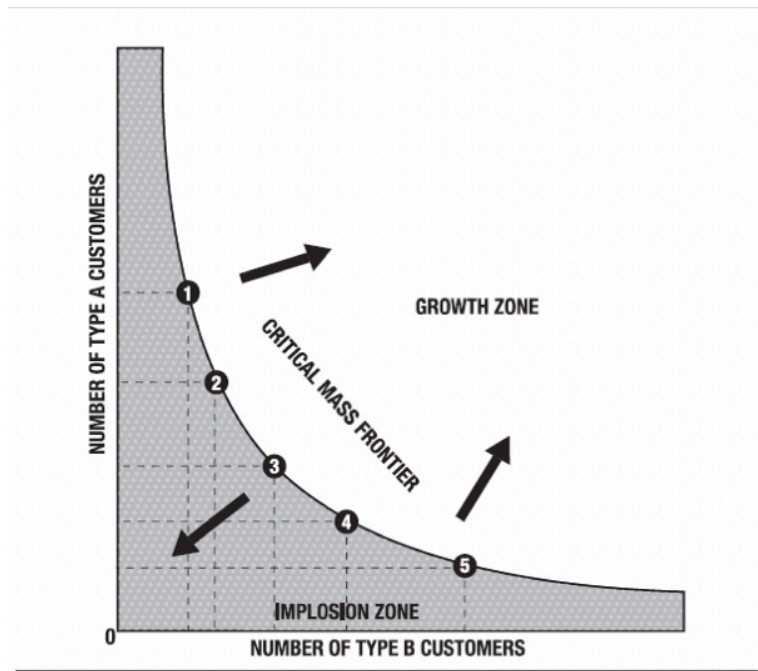
Figure 3-2 Critical mass frontier (Evans & Schmalensee, 2016)

The key feature in their model is the *critical mass frontier*, which shows how many users from both sides are needed to reach critical mass. Platforms that fail to reach the critical mass frontier, either because they do not acquire enough users from each side in time, or gets the balance wrong, will implode. This is demonstrated by the model, where getting too much of either *type A customers* or *type B customers* make the platform fall out of balance and into the implosion zone. Further, as the model shows, if the platform manages to acquire enough users from both sides, they pass the critical mass frontier and reach the *growth zone,* where the platform starts growing organically. Along with other economists, they underline that there is not a magical number of participants where this happens in practice, nor a specific balance between the two sides (Parker et al., 2016a). This is illustrated by the numbers 1-5 where platforms can reach the critical mass frontier. However, Evans (2009, p.7) notes that balanced growth towards the critical mass frontier is necessary. "The optimal growth path to critical mass and to long-run equilibrium is well away from the horizontal and vertical axes in most plausible cases. Relatively balanced growth is necessary."

3.2.4 Winner-take-all markets

In addition to study two-sided platforms on a business level, previous literature has also investigated the macro level. As the macro environment has been shown to have clear implications for companies interested in launching a two-sided platform, the following paragraph will present the most central findings.

During the 80s and 90s, there was a consensus among scholars that in markets characterized by network effects, only one player would eventually be left standing. Based on for instance

the battle between the video cassette platforms Betamax and VHS, the thought was that the *first mover* to reach critical mass would take the whole market. In line with the theories introduced by Rohlfs (1974), the first platform to launch and attract a critical mass of users to its platform would be the first to leverage the power of network effects. Then, in addition to secure exponential growth, these network effects would build large entry barriers, making it impossible for any other player to get a foothold. However, with the recent surge in literature on two-sided platforms since the early 2000s, academics find that in addition to the existence of strong network effects, there are usually three other conditions determining whether a market would *tip* and lead to a *winner take all market.* 1) high *multi homing and switching costs* and 2) *lack of ability to differentiate* (Eisenmann et al., 2006; Parker et al., 2016), and Parker et al. (2016) also find that *supply economies of scale* still play a role in certain industries.

Multi-homing and switching costs

In their pioneering paper in 2003, Rochet and Tirole introduced the concepts *single-homing* and *multi-homing*. In markets where users use more than one platform at the same time, they are said to be multi-homing (Rochet & Tirole, 2003). This would be the case with people who drive for both Uber and Lyft. On the other hand, when a user only uses a single platform, she is single-homing. This would be the case with VHS and Betamax, where most users only would buy one of the two video cassette players, as the costs to use both would be too high. Hagiu (2014) refer to these costs as *multi homing costs,* and define them as the "costs incurred by users who do not switch to another platform, but starts using both". Eisenmann et al. (2006 p. 99) find multi-homing costs to be an important determinant for tipping, and state that "when multi-homing costs are high, users need a good reason to affiliate with multiple platforms". Caillaud and Jullien (2001, 2003) also identified markets where users only can single-home to be the most important determinant for tipping.

Quite similar to multi-homing costs are *switching costs,* which *are* defined as the costs incurred by users to abandon a platform and switch to a competing one (Hagiu, 2014). Evans & Schmalensee (2010) suspect that the importance of tipping has been overstated partly because of the literature's general assumption that these switching costs make participation decisions irreversible. They find, however, that participation in most markets in fact is reversible, and that due to the internet, switching costs have often become very low. Parker et al (2016a) conclude that "in markets where multi-homing and switching costs are low, late entrants can gain market share more easily, leading to markets that are more open and fluid".

Differentiation

Eisenmann et al. (2007) state that if none of the users on either side have strong preferences for differentiated functionality, the market is likely to become a winner takes all market. On the other hand, if some segments have unique needs "that are intrinsically difficult or expensive to serve through a single platform", then there is room for more platforms (Eisenmann et al (2007, p. 5). Cusumano (2010) find that as long as there is room for companies to offer a differentiated service and users can multi-home, the is room for more players in the market. He notes, however, that if the indirect network effects or direct network effects are overwhelmingly strong, tipping might occur regardless. Parker & Van Alstyne (2014), underline that even though there are strong network effects and multi-homing costs, niche specialization can enable new entrants to successfully get established.

Zhu and Iansiti (2012) emphasize that new entrants can overcome an incumbent's advantage in network effects if the new platform offers sufficiently high quality, or if users' willingness to adopt a service which offers better quality, is sufficiently high (Wan et al. 2017). Further, Caillaud and Jullien (2003) find that companies can differentiate on revenue model, in markets where users can multi-home. They demonstrate that one company can offer high transaction fees and low registration fees, while the other company can adopt a *mirror pricing strategy* and offer low transaction fees and high registration fees. Hagiu (2007) also shows that platforms can differentiate by offering their providers flexibility in choosing revenue models.

Moreover, in the literature, two-sided platforms have often been referred to as "multi-sided platforms" (Boudreau and Lakhani, 2009; Hagiu & Wright, 2013; Evans & Schmalensee, 2008 & 2016a), showing that platforms often have more than two sides. Hagiu (2006) shows that platforms such as Facebook and LinkedIn have a lot more than two sides, with people, advertisers, company pages, game developers, etc. As more platforms bring down industry boundaries and attract new sides, Hagiu (2007) believes that it will open up a range of new sustainable market niches, where platforms with differentiable offerings can survive. In line with this, Parker et al. (2016a) emphasize that by knowing the value propositions offered by competitors it becomes easier to structure your own, and claim a relatively untouched market niche, even when the basic product appears similar on the surface. They also note that even though one strategy works for one platform it might not work for another platform even though it is similar: "Even platforms that are direct competitors may need to adopt different launch strategies in order to carve out powerful and unique positions in the marketplace".

3.3 User acquisition tactics

As seen by the previous chapter, indirect network effects create strategic challenges not present for traditional businesses. The following chapter will look at the strategies companies can employ to successfully attract users to its platform in the early stages, to generate enough indirect network effects, to overcome the chicken-or-egg problem and reach critical mass. The literature generally presents two different main approaches. Whereas, early scholars, including Rochet and Tirole (2003, 2006), Caillaud and Jullien (2003), and Armstrong (2006) all assumed that users on both sides arrive simultaneously, Hagiu (2006b) presents the possibility that the two sides can arrive sequentially.

3.3.1 Sequential entry

In the beginning, pioneering scholars within the field, including Rochet & Tirole (2003), Caillaud & Jullien (2003) and Armstrong (2006) treated "two-sidedness" as a given characteristic of the markets and firms. However, recent scholars (Hagiu, 2006; Rysman, 2009; Hagiu and Wright, 2015; Evans & Schmalensee, 2010 & 2016b), emphasize that two-sidedness is not a static characteristic, but a strategic choice each specific company makes. Hagiu (2006) demonstrates this with the example of Amazon, who started out as an online vendor of books, but later allowed third party sellers to sell books through their platform. In this way, Amazon strategically transformed from a one-sided platform into a "multi-sided platform" (ibid.).

Eisenmann and Hagiu (2007) show that following the sequential strategy, by starting out as a traditional business, allows the company to avoid the initial liabilities of indirect network effects altogether, including the chicken-or-egg problem and critical mass constraints. After having reached a critical mass of users on one side, they can transform the business model into a two-sided platform, and invite users on the other side to interact with their existing base of users. Evans & Schmalensee (2016a) note that by first building a critical mass of users on one side, it becomes easier to attract the other side. Evans (2009) refers to the sequential approach as the *Two-step strategy,* and underlines that it works when the first side does not value access to the second side. Parker et al (2016a) refer to it as the *follow-the-rabbit strategy* and describes it as using "a non-platform demonstration project to model success, thereby attracting both users and producers to a new platform erected on your project's proven infrastructure". Generally, the literature presents three specific ways a company can follow the sequential approach; the *merchant to two-sided platform strategy*, and the *vendor to two-sided platform strategy and the single side strategy.*

The merchant to two-sided platform strategy

The idea behind the *merchant to two-sided platform strategy*, is that the company first starts as a merchant, and acts like a reseller of products and services provided by external suppliers (Hagiu, 2006a and 2006b; Hagiu & Wright, 2013 and 2015). By doing so, the company absorbs all the risk, and avoids the chicken-or-egg problem, as the suppliers do not care whether the company manages to resell the products to their customers (Eisenmann & Hagiu, 2007). Then, when the company has built infrastructure and relationships with a large customer base, the company shifts the risk back to some of the suppliers, and gives them more responsibility for managing inventory, pricing and transacting with the customer base directly. As mentioned by Hagiu (2006a), Amazon is a famous example of a company who successfully employed this strategy, transforming from a merchant into a two-sided platform, that hosts other third party producers.

The vendor to two-sided platform strategy

With the vendor to two-sided platform strategy, the company itself starts out as a vendor selling products or services to customers on just one side, of the upcoming two-sided network (Eisenmann & Hagiu, 2007). This is different from the merchant strategy, where the platform works as a reseller of products. When the company has built a large base of customers on the first side, it invites third party producers to the platform, and facilitates transactions between users on both sides of the network.

The single-side strategy

In addition to the merchant and vendor approaches, Parker et al. (2016) present what they refer to as the single-side strategy. This strategy is quite similar as the above, but instead of creating a one-sided platform for the intended service, the platform is initially designed as a tool for one side of users. Parker et al (2016) explain that "the platform is designed to provide tools, products, services, or other benefits that will attract one set of users—either consumers or producers". Then, reaching critical mass on one side will enable strong indirect network effects, attracting users on the other side. Evans & Schmalensee (2016) present the example of the restaurant reservation platform OpenTable. OpenTable needed both restaurants on one side and patrons on the other, and faced the classic chicken-or-egg problem. They solved this by first targeting the restaurants and created booking management software that restaurants could use to manage their seating inventory. Then after having built up a large base of restaurants using their software, they added software that allowed customers to book tables through the service (ibid.).

3.3.2 Simultaneous entry

Sometimes the sequential approach is not possible and the platform needs to get both sides on board at the same time (Eisenmann & Hagiu, 2007). In this case, the platform manager must carefully determine which side of the platform market to emphasize and when to do so. According to Parker and Van Alstyne (2017) this often vary across platforms. "Sometimes at launch it's important to focus on attracting consumers over producers; sometimes it's the reverse, and sometime both sides need equal attention from the outset". Overall, the literature presents a number of strategies following this simultaneous entry approach. Before elaborating on each one, Parker et al. (2016a) find that all these strategies generally involve two techniques, that either can be used individually or together.

Staging value creation

The platform first arranges a way for a number of value units (e.g. sales post, rental request) to be created on the platform. These value units then attract users and demonstrate the potential benefits of participating on the platform (Gawer & Henderson, 2007). Then these new users create more value units on the platform, attract still other users, which in turn starts a *positive feedback loop*, leading to continuing growth (Parker et al., 2016).

Simultaneous on-boarding

For the second technique, the platform creates conditions so that value units that are created are relevant to users on the platform, even when the overall number of users is low. (Parker et al, 2016). Then, the platform makes sure to stimulate a lot of activity on the platform, and simultaneously attract both producers and consumers. As new users from both sides arrive, more value units will be added to the platform, and successful interactions will take place (ibid). In the following, the different strategies that are discussed in the literature will be presented.

The micro-market strategy

In line with the above-mentioned simultaneous on-boarding technique, the idea behind the *micro-market strategy* is to start focusing on a small community of users, to reduce the number of people needed to reach critical mass (Parker & Van Alstyne, 2014). Parker et al. (2016) explain that by doing this, the platform can offer the effective matchmaking characteristic of a large market, even in the startup phase. Evans (2003) show how EBay used this strategy, by initially only focusing on Pez candy dispensers, before they expanded to other categories. This is what Parker et al. (2016) refer to as a micro-market strategy with a *category focus*. However, platforms can also have a *geography focus*. Facebook started out focusing on the dense community of Harvard and successfully overcame the chicken-or-egg

problem in this micro-market before they expanded to new communities (Evans & Schmalensee, 2016a).

In addition to the category and geography focus, Parker et al (2016a) point at the importance of initially focusing on a single type of interaction. They refer to this as the *core interaction* of the platform. In line with the idea of the micromarket strategy, this will make it easier for the platform to enable interactions between the users in the beginning, which will spark positive network effects (Van Alstyne et al. 2016). "They then move into adjacent markets or adjacent types of interactions, increasing both value and volume" (Van Alstyne et al. 2016b).

The basic zig-zag strategy

Evans (2009) presents the basic zig-zag strategy which is quite similar to the micro-market strategy, as it builds participation on both sides incrementally. He explains that the platform starts with a small number of users on both sides, and then incrementally persuades new users on each side to join. Because of the indirect network effects, the platform becomes more valuable for each new group of users with each side it attracts. Evans (2009) demonstrates the strategy by showing how a company called eBillMe started out persuading one online retailer to offer their payment solution, which lead a small percentage of customers to start using the payment solution. Then EBillMe continued to incrementally allow new online retailers to adopt their payment solution.

The piggybacking strategy

Parker & Van Alstyne (2014) show that another strategy a two-sided platform can employ to overcome the chicken-or-egg problem is what's called the *piggyback strategy*. Parker et al. (2016) define it as "connecting with an existing user base from a different platform and stage the creation of value units in order to recruit those users to participate in your platform. This strategy was famously used by PayPal when they piggybacked on EBay's network of existing users, and Airbnb, when they piggybacked on Craigslist. (ibid). Here Airbnb took the information of producers on Craigslist, and posted it on their own platform, giving consumers the impression that the producer is participating on their platform. Then, when consumers sent a request to the producer, Airbnb forwarded this request to the producer on the other platform, and at the same time invited him/her to join their platform (Parker et al. 2016). This can effectively build up one side of the platform and start the positive feedback loop, as explained in the staged value creation (ibid.).

The seeding strategy

Another commonly mentioned strategy within the literature is the seeding strategy. Here the idea is to make sure that the users from one side achieve enough value so that they start using

the platform (Gawer and Henderson, 2007; Boudreau, 2012; Parker & Van Alstyne, 2014). One way to do this is involves the company seeding the platform with supply themselves (Evans & Schmalensee, 2016). Evans (2009, p. 20) calls this strategy *zigzag with self-supply*, and explains that "catalysts may be able to jumpstart their platforms by providing one of the sides themselves at least initially". In addition to kick-start the platform, Parker et al (2016) note that this strategy allows the platform owner to define the kind and quality of value units they want to see on the platform, thereby encouraging a culture of high-quality contributions among subsequent producers.

Parker and Van Alstyne (2014) also explain that platforms can give incentives to other producers to seed the platform with supply. Uber uses this strategy when they launch in new cities, by paying drivers to be on call. Parker et al. (2016) show that platforms also can seed the platform through simulated ("fake") supply, which is common for dating services, where they simulate initial traction by creating fake profiles and conversations.

The subsidizing strategy

In addition to network effects, pricing is the second field that has attracted much attention within the literature on two-sided platforms. In contrast to traditional companies, the existence of two different sides of users allow the platform to charge the two sides differently, to get both sides onboard (Rochet & Tirole, 2003; Caillaud & Jullien, 2003; Parker & Van Alstyne, 2005; Armstrong, 2006; Rysman, 2009). Rochet & Tirole (2006) add this ability to charge the two sides differently as a defining factor of a two-sided platform "A market is two-sided if the platform can affect the volume of transactions by charging more to one side of the market and reducing the price paid by the other side by an equal amount; in other words, the price structure matters, and platforms must design it to bring both sides on board."

In order to design the price structure in a way that gets both sides on board, economists have found that it often makes sense to subsidize one side, and charge the other to side for access to the subsidized side (Rochet & Tirole, 2006; Eisenman & Hagiu, 2007; Rysman, 2009; Spulber, 2010; Hagiu, 2014, Evans & Gawer, 2016). The idea is that when there are strong asymmetric network effects, where users on side one have more impact to attract users on side two, it makes sense to subsidize side one (Parker & Van Alstyne 2000, 2002, 2005; Evans & Schmalensee, 2007; Boudreau & Jeppesen, 2015).The subsidized side is often referred to as the "subsidy side", or the "loss leader" (Rochet & Tirole, 2006), while the other side is termed the "money side" and "profit making side" (Eisenmann et al., 2006). Evans (2012b) explains the pricing dilemma as slicing a pie, and by slicing the pie differently it will

result in smaller or bigger pies, because of the interdependencies between the groups. As a result, the firm needs to slice it in a way that makes it as big as possible.

Caillaud and Jullien (2001 & 2003) and Jullien (2011) refer to the subsidizing strategy as "divide and conquer", and emphasize how this strategy can be used to overcome the chicken- or egg problem. The idea is that by initially subsidizing one side, their presence could be used to attract users from the other side. In this way, the platform uses the subsidy side as a magnet to attract other users through indirect network effects (Evans et al., 2008). Eisenmann et al. (2006) emphasize the importance of making sure that these network effects can be internalized by the platform. If the side that is subsidized have the possibility to multi-home, the subsidy might well be wasted (ibid.). On the other hand, when the network effects are symmetrical, Evans & Schmalensee (2010) note that it makes sense to charge both sides equally.

The marquee user strategy

Another commonly mentioned strategy to acquire user to the platform, introduced by Rochet & Tirole (2003) is the *marquee user strategy* (Eisenman et al, 2006; Eisenmann & Hagiu, 2007; Evans 2009; Evans & Schmalensee 2010, Parker & Van Alstyne, 2014; Parker et al. 2016). The marquee user strategy is based on picking out some valuable *marquee* users and get them to board the platform. The idea is that their strong positive indirect network effects will attract users from the other side (Eisenman et al, 2006).

Scholars have commonly mentioned the marquee strategy as getting exclusive rights to the users from one side to single-home on the platform (e.g. Caillaud & Jullien, 2003; Eisenmann & Hagiu, 2007). Armstrong (2006) show that this will accelerate growth of the multi-homing side, which need to board your platform to interact with these marquee users. Evans & Schmalensee (2016a) also note that, in addition to strengthen indirect network effects, the marquee users can sometimes be so attractive that it also leads to positive direct network effects, where the users on the same side benefit from the traffic that is being created. Eisenmann et al. (2006) note that it might often be expensive for startups to sign exclusive deals with marquee users, so it's important to consider which side to choose, if any. However, Parker et al (2016) emphasize that the currency on the platform doesn't necessarily have to take the form of money, but can also be in the form of intangible values such as followers, likes, attention, fame and reputation.

Corts and Lederman (2009) and Rysman (2009) point out that if a platform gets exclusive rights to the marquee users on one side, it often doesn't make sense to get exclusive rights to

the other side. Evans (2009) on the other hand demonstrates that it sometimes makes sense to both employ *single* and *double marquee strategies*. In this case, the platform acquires *prestige* members from both sides on their platform, as their presence generate significant indirect network effects, leading to accelerated growth. Parker et al (2016) also find that both consumers and producers can be marquee users. An example they present is the case with PayPal, where marquee shoppers were incentivized to adopt their online payment mechanism, which in turn attracted sellers to adopt it. Finally, Evans (2009) and Parker et al (2016) note that the platform does not necessarily need to have exclusive rights for both sides to single-home on the platform. Specifically, when the company has the only platform within that market, the only way to reach the marquee users would be through the platform.

The producer evangelism strategy

To avoid having to persuade new users to join themselves, Parker et al. (2016a) present what they call the *producer evangelism strategy*, where the idea is to design the platform specifically for producers. By for instance giving producers access to tools for customer relationship management, the platform can make it easier for them to transact with their existing customer base. As a result, these producers can induce their customers to become users of the platform (ibid). However, it is important to be aware that producers may avoid a new network if they fear they will lose control over their relationships with existing customers (Eisenmann, 2000). To effectively deal with this problem, Parker et al. (2016) state that companies can give producers exclusive rights to the customers they bring on. As an example they present a platform called Mercateo, who told their suppliers: "bring us your customers, and you will have the last word in any bidding competition... but only for the customers you bring" (Parker et al., 2016, p. 97).

The big bang adoption strategy

Despite the other strategies' focus on pulling users to the platform through indirect network effects of the users on one side, Parker et al. (2016) show that it is sometimes effective for a platform to use traditional push marketing strategies to attract a high volume of attention to the platform. They call this *the big-bang adoption strategy*, and refer to Tinder as a good example. Tinder successfully launched during a frat party, because they made it easier for the two sides of users (girls and boys) to interact with each other (ibid).

The viral growth strategy

In addition to these launch strategies, Parker et al (2016) discuss another effective way some companies can attract users to its platform. It complements the other strategies, and revolves around achieving *viral growth*. Parker et al (2016) define it as "a pull-based process based on encouraging users to spread the word about the platform to other potential users. When users

themselves encourage others to join the network, the network becomes the driver of its own growth." An important distinction they make is that viral growth is not the same as *word of mouth* growth. Whereas word of mouth growth is based on users spreading the product because they like it, viral growth is based on users spreading the product for their own self gain (Parker et al 2016).

To begin the process of viral growth, four elements are needed: 1) the *sender*, 2) the *value unit*, 3) the *external network* and 4) the *recipient*. Instagram presents a good example of how it works. Instagram allowed users (the sender) to easily design and upload pictures (the value unit), and then share it on Facebook (external network) with all their friends (recipients). Parker et al (2016) underline that for this to work, it is crucial that the value units are designed to be *spreadable*. By this they mean that the value unit needs to be attractive and be suited for the external network it is spread to, as was the case with Instagram photos on Facebook. To achieve this, Parker et al (2016) suggest doing like Instagram, who gave their users editing tools to increase the attractiveness of their value units and encouraged users to include relevant hashtags. If the platform manages to achieve viral growth it could prove to be an invaluable way of accelerating growth to overcome the chicken-or-egg problem (Evans, 2009; Evans and Schmalensee, 2010).

3.4   Facilitating interactions

In addition to acquire users to the platform, an important role of a two-sided platform is to facilitate and enable interactions between the acquired users. This will enable the platform to successfully create and leverage the positive network effects from their users. The main ways for platforms to do so, discussed in the literature, are enabling *frictionless entry, matching, empowering producers,* defining *governance rules*, and building *trust*.

3.4.1 Solving friction

Fundamentally, two-sided platforms create value by making it easier for the two user groups to interact (e.g. Hagiu, 2014; Parker, Van Alstyne & Choudary, 2016b; Evans & Schmalensee, 2007). According to Evans & Schmalensee (2016a) the existence of *friction*, which prohibits users from interacting, is key to understanding whether an entrepreneur even has a hope of starting a viable two-sided platform. Friction is what economists refer to as *transaction costs*; "the costs or other impediments that impede mutually advantageous interactions and exchanges" (Evans & Schmalensee, 2016b, p. 209). In other words, the costs incurred by users when interacting outside the platform. Van Alstyne (2016) goes as far as saying that platforms are "no longer selling products, but reductions in transaction costs".

To explain friction, Rochet & Tirole (2006) pointed at the theory of the *coase theorem* (Coase, 1960). They found that the inapplicability of the coase theorem is a necessary condition for the existence of a two-sided platform. When the coase theorem is applicable, which means that there are no transactions costs, individuals would be able to interact with each other directly (Coase, 1960). However, according to Coase (1960) transactions costs are seldom low enough in the real world, and thus the coase theorem is almost always inapplicable, which opens for new two-sided platforms to solve this friction.

3.4.2 Frictionless entry

Parker et al. (2016) introduce the concept *frictionless entry*, which they define as "the ability of users to quickly and easily join a platform and begin participating in the value-creation that the platform facilitates". They emphasize that frictionless entry is a key factor to achieve liquidity, to leverage indirect network effects and enable the platform to reach critical mass (ibid). Bonchek & Choudary (2013) refer to frictionless entry as *connection* and emphasize it as one of three factors determining the success of a platform. To enable frictionless entry, Parker et al., (2016) highlight the importance of creating some tools and rules on the platform. An example they present is Twitter, who restricted the number of words a user could write to 140, or Instagram who gave users a limited number of filters to employ to their pictures. According to Wan et al. (2017), establishing such *interface rules*, is critical to exhibit positive network effects on the platform. Hagiu (2006b) warns that such standardizations may sometimes lead to discontent among some users, as it could reduce their ability to differentiate themselves.

Another important consideration two-sided platforms need to make in terms of frictionless entry is choice revenue model. The literature find that two-sided platforms usually choose between per-*transaction basis* or *lump-sum* (Caillaud & Jullien, 2003; Armstrong, 2006). Whereas lump-sum is based on having a fixed cost for users to participate on the platform, per-transaction charges is based on taking a cut of transactions. According to Caillaud & Jullien (2003), whether to choose a lump-sum or transaction-based revenue model only matters if there are other competing players in the market. However, Parker et al. (2016, p. 215) believe that choice of revenue model is essential to create frictionless entry for users. "charging a transaction fee is a powerful way of monetizing the value created by the platform without hampering the growth of network effects. Because buyers and sellers are charged only when an actual transaction occurs, they are not discouraged from joining the platform and becoming part of the network.". Parker and Van Alstyne (2017) underline that the most important thing in the startup phase is to focus on the quality of users and reaching critical

mass, and if earning money prevents frictionless entry and hampers network effects, it should not be prioritized.

3.4.3 Matching

Moreover, the literature describes many types of friction potentially disabling user to interact and stop the creation of network effects. Hagiu (2007) divides friction into *shared costs* and *search costs* (Sun & Tse 2007; Evans & Schmalensee, 2007; Evans, 2009). Whereas search costs are the costs incurred by the users before the interaction, shared costs incur during the transaction. Hagiu (2007) emphasize that any feature or functionality of a two-sided platform is designed to reduce either of these two types of transaction costs. Bonchek & Choudary, (2013) refer to this ability of the platform to foster exchanges on the platform as *flow,* and highlights it as one of three factors that are critical to get right for successful platforms.

According to Hagiu (2007), reducing search costs to achieve matching between the two sides generally includes reducing two- sided asymmetric information, which makes "sampling" of candidates for "transactions" easier. Parker et al. (2016) refer to this notion as *matching quality*, and underline the importance of this in the startup phase. They define matching quality as "the accuracy of the search algorithm and the intuitiveness of the navigation tools offered to users as they seek other users with whom they can engage in value-creating interactions". They emphasize matching quality as one of the most important metrics for platforms in the startup phase, and explain that precision in matching will lead to lower search costs for users including less investment in time, energy, effort and other resources in finding the right match.

Gawer & Evans, (2016, p. 6) also stress the importance of matching, and state that "an important feature of platforms is the ability to efficiently match buyers and sellers in the market. While there is always friction associated with transactions between buyers and sellers, by building new software and harnessing the speed and scale of the Internet, platforms help reduce that friction". While Hagiu, Parker et al. and Gawer & Evans put most emphasis on improving the search functionality on the platform, Evans (2012b) also notes that the likelihood of high-quality matches increases with the more participants on both sides. If the platform fails to match the two sides of users this would lead to *interaction failure* (Van Alstyne et al. 2016). E.g. if a traveler opens the Lyft app and sees no cars available, the platform has failed to match an intent to consume with supply. Van Alstyne et al (2016) warn that such interaction failures will diminish network effects.

3.4.4 Empowering producers

In addition to reduce friction and enable matching, Van Alstyne & Schrage (2016) underline that successful platforms go beyond that. They explain that cultivating user capability is as strategically important as reducing friction, and that the successful platforms empower their producers. "Smart platforms invest in capabilities and make users creating value for other users fast, simple and easy. That's the essence of network effects". They explain that in this way, the platform could further enhance the indirect network effects of producers that are already on the platform, to more effectively attract users from the other side.

To execute the strategy, they highlight that some producers will be more important to follow up than others. Similar to the marquee user strategy, they find that *pareto users,* that is the 20% of users who generate 80% of the revenues, as well as the producers that could potentially become 10%, 50% or 100% more valuable with better information, advice and tools, are the ones to focus on. One example they present is how Uber is investing in new drivers to help them buy new cars. These new cars will then create stronger indirect network effects, which will attract more users from the other side. They conclude that: "your strategy can be to attract as many buyers and sellers as there are people on the planet, but a sustainable model can only come from making all those users and partners more valuable" (Van Alstyne & Schrage, 2016).

3.4.5 Governance

Although it is important for platforms to remove potential barriers to entry for users to start the value creation on the platform, it is also important for platforms to assign some governance rules (Van Alstyne et al. 2016a). *Platform governance*, which was first introduced by Rochet & Tirole (2003), is a commonly mentioned topic within the literature of two-sided platforms (e.g. Gawer & Cusumano, 2002; Eisenmann, Parker & Van Alstyne, 2006; Evans & Schmalensee, 2007, Van Alstyne et al. 2016), and can fundamentally be divided into: 1) rules regulating access to the platform, 2) rules regulating interactions on the platform (Evans, 2012b; Parker & Van Alstyne, 2014; Hagiu, 2014, Boudreau & Hagiu, 2009). Access and usage governance rules will in many cases be critical for platforms to avoid unwanted users who possess negative network effects, but Van Alstyne et al (2016a) note that the amount of openness often is a difficult balance to get right. "If platforms are too closed, keeping potentially desirable participants out, network effects stall; if they're too open there can be other value-destroying effects, such as poor quality contributions or misbehavior of some participants that causes others to defect".

Hagiu (2014) presents three potential sources of *market failure* in which governance is needed. The first one appears when low quality suppliers drive out high-quality suppliers. This is often referred to as "lemons market failure" (Strahilevitz, 2006). The second is when the competition on one side becomes so fierce that the most valuable producers lose their incentive to produce high quality products or services. The third potential market failure arises when a user fails to take action due to lack of strict governance. As these market failures will prohibit interactions and lead to negative network effects, it becomes important for the platform to enforce governance rules (Hagiu, 2014; Boudraeu, 2012). The platform can use a combination of technological lock-out mechanisms, quality review, reputation systems, contracts, economic instruments and "bouncer's right" to exclude or regulate users that deliver low quality or conducts bad behavior (e.g. Boudreau & Hagiu, 2009). It has become common for platforms to govern access to the platform itself, but outsource parts of the regulation of interactions to the users, through peer-to-peer rating systems (Evans & Schmalensee, 2016). Parker and Van Alstyne (2014) highlight Airbnb as a great example of a two-sided platform who has successfully managed to outsource their participation governance system to users.

3.4.6 Trust

Another potential source of friction on the platform is the lack of *trust.* In addition to matching quality and liquidity, Parker et al. (2016a) highlight trust as the third critical category of startup metric. They define it as "the degree to which users of a platform feel comfortable with the level of risk associated with engaging in interactions on the platform" (Parker et al. 2016a, p. 192). In this respect, Van Alstyne & Schrage (2016) emphasize the need to "identify risk the platform can absorb better than the individual". They argue that it's important that the platform takes on this risk, as more transactions will occur on platforms where the users are protected (ibid.). They exemplify this by pointing at how Uber and Airbnb have moved toward offering insurances to their drivers and hosts (ibid). Further they emphasize that building trust is achieved through excellent governance systems on the platform. Eisenman & Hagiu (2007, p. 10) also stress the need for trust towards the platform, and state that: "an overarching barrier to network adoption is establishing that platform intermediaries are trustworthy". Parker et al. (2016a) note that building trust is especially important for two-sided platforms where the interactions often carry some level of risk.

3.5 Theoretical framework

A theoretical framework encapsulates what the literature says about how a two-sided platform can reach critical mass. The framework is illustrated in figure 3.3 below, and is an elaborated

version of the figure presented in the introduction of this master thesis. The different parts will be explained in the following.
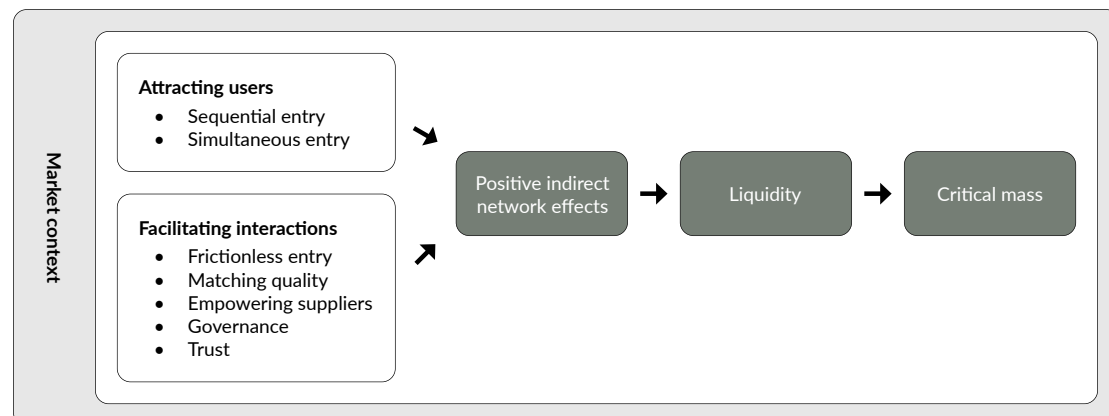

Figure 3-3 Theoretical Framework

3.5.1 Critical mass, liquidity & indirect network effects

When a platform has reached critical mass, the total indirect network effects on the platform have become so large that the value for participants becomes so great that the platform starts growing organically (Evans, 2009). However, in the launch phase, these indirect network effects lead to a chicken-or-egg problem, where the reason for users on one side to join the platform, is determined by the existence of the other side. To overcome this chicken-or-egg problem, the platform needs to find ways to generate sufficient amounts of indirect network on the platform, creating enough value to draw the other side to the platform. Enough valuable users from both sides will lead to liquidity with a high rate of successful interactions on the platform. This will lay the foundation for further growth, eventually enabling the platform to reach critical mass. This is illustrated by the arrows in the theoretical framework above. To generate these indirect network effects, the platform need to both attract users, and making sure they use the platform. However, even before that, the platform needs to determine whether the market is suited for a new platform.

3.5.2 Market context

The literature emphasizes that the existence of a friction, prohibiting users from interacting on their own, is key to understanding whether an entrepreneur even has a hope of starting a viable two-sided platform. So, if there is not enough friction for people within the targeted market for the platform to solve, the market is not suited for a new platform. On the other hand, if there is existing competition solving the same core interaction, the company needs to determine whether there is room for more players in the market, and if so, find a way to differentiate. When the company has identified a market with enough friction and/or a plan to differentiate from competition, it can start finding ways to attract users and facilitate interactions, to generate indirect network effects on the platform.

3.5.3 Attracting users

The literature lists a range of ways a two-sided platform can attract users to its platform, to overcome the chicken or egg problem. Whether the platform follows a sequential or simultaneous entry approach, the general idea behind all the tactics is to generate enough indirect network effects on the platform to attract users from the other side. The seeding, producer evangelism, piggybacking, single side, marquee and subsidizing strategies are all ways to get enough valuable users on one side, and use their presence to attract the other side. The micro-market strategy on the other hand, reduces the number of users required to generate enough indirect network effects. The positive feedback loop is another way of generating indirect network effects on the platform. Here the initial supply on the platform demonstrates activity on the platform for new users coming in, leading to direct network effects where these users also start adding supply. More supply the platform in turn generates stronger indirect network effects, and starts a positive reinforcing cycle of growth. Finally, the viral growth strategy is another strategy platforms can use in combination with the other tactics to attract users to the platform.

3.5.4 Facilitating interactions

In addition to attract users to the platform, these users also need to use the platform to activate their network effects. The literature has presented several "tools" the platform can employ to make users use the platform, or in other words, to facilitate interactions. First, the platform needs to enable a frictionless entry, so that is easy for new users to start using the platform. They also need to make it easy for users to find a match, by securing high matching quality on the platform. They can empower their suppliers, so that the supply holds even higher quality, generating stronger indirect network effects. They can employ governance rules to keep out bad quality users who could worsen indirect and direct network effects. Finally, they need to build trust towards the platform and between the users, so that users dare to interact on the platform.

3.5.5 Employing the theoretical framework

The theoretical framework will be employed to analyze the different cases, in chapter 6. Each case will be evaluated on their market context, as well as how they have attracted users and facilitated interactions, as illustrated by the arrows between the boxes to the left, in the theoretical framework. As explained in 3.5.1, the activities the platforms have done here to generate sufficient amounts of indirect network effects on the platform, will determine whether the platform manages to achieve liquidity and reach critical mass. Consequently, the theoretical framework will help the authors to perform a detailed analysis on how each case

company have proceeded to generate indirect network effects during the launch phase, to reach critical mass.

4 Case Studies

In this chapter, the case studies of the six different companies are presented. Each case is categorized by the same sub topics, making comparison between them easier. The cases are presented in an order where the two companies who have successfully launched; 'Tise and Nabobil.no, are presented first, followed by the two companies who are still working to succeed; Leieting.no and WeClean. Finally, the two companies that failed are presented.

4.1 'Tise

Tise was founded in 2014 by the four students; Axel Franck Næss, Ole-Magnus Røysted Aker, Odd Fredrik Mørch Rogstad and Eirik Frøyland Rime who all were at their fourth year of their studies at NTNU in Trondheim. Eirik Frøyland Rime, the CEO, explains that "Friends of mine found selling second hand items to be boring and uninspiring – and would rather throw it in the garbage than sell it on for example Finn.no". Their idea became to create a social marketplace, inspired by the social media platform Instagram, making it more inspiring to buy and sell second hand items. "The basic concept was to build something more social – more like Instagram –and in way expand the classified ads concept to something new, more social and cool". 'Tise is short for the word "advertise" and the founders hope that eventually people will start using "tise" as a verb for selling second hand items.

4.1.1 Launch

Inspired by other app successes from NTNU, such as WordFued and FunRun, who both experienced viral growth, the founders were convinced the same would happen with 'Tise. Thus, since they launched the first IPhone version of the app in December 2014, the CEO explains that they worked hard to get featured on the global product discovering platform Product Hunt. However, the founders soon realized that their service was not just an app, and it would not work if there was not enough buyers and sellers within a local area. "In hindsight, it was totally waste for a product which needs to be ultra-local to succeed".

Convinced that it would be impossible to get users into an app where there was no content, the CEO explains that they initially branded the app as a tool that made it easier for people to create nicer looking sales posts for Facebook groups where people were already buying and selling second hand items. In the app, you could add different pictures, choose nice filters and relevant information which were all layered nicely on top of the pictures. Finally, you could

easily check off for all the Facebook groups you wanted to put your post out for sale. "With all the advantages of the Facebook groups intact, 'Tise is a win-win situation.", the CTO explained in an interview. In addition to be added for sale on different Facebook groups, all posts were also added to the 'Tise app. "Then we built content in the app on the side, in a way. So that the app eventually could take over" says the CEO.

The CEO thinks this strategy to build initial supply in the app worked out ok. "There were a number of people who posted in Facebook groups with 'Tise ads, so we did manage to build an initial ad base of 100-150 ads." The CEO explains that it is a huge advantage to even have 150 ads in the app, as this in principle makes it worth it for new users to enter the app for the first time. "Then if you manage to get ten new users, there is a large probability that at least one of them puts something more out for sale. And then if you manage to re-engage the other nine after the new person has added a new listing, you can end up with an effective marketplace." He explains that "if you manage to reach this loop, and you keep pushing it, you will gradually manage to build a marketplace". The CEO underlines that if you on the other hand have no content the first time people enter the app, then none of the ten people will put out something, and you will not be able to achieve this effect, and none of them will return. He concludes that "just make sure to have enough content so that it's not obvious that things will stop."

The four founders worked together until June 2015, when the CEO, Eirik Rime and the CTO, Franck Næss, were the only ones who continued. They moved from Trondheim to a new office at StartupLab in Oslo, and started working full time with 'Tise. The CEO admits that the whole app has been created since then, and that until this point they only had a bad prototype. In September 2015, 'Tise went into cooperation with Tony Jansson who had created a Facebook group for buying and selling second hand items for every county in Norway. With a total of 200 000 unique members across Norway, they could reach many potential users who were already buying and selling second hand items within local areas. The Facebook groups were also rebranded and customized with Tise banners and posts. "We have taken many rounds on how effective this has been. Ultimately, this was not a chess move for us. It was OK, but it has not given us a large effect".

In October 2015, the founders went on a five-week program in Silicon Valley with Innovation Norway. In addition to get inspiration, the founders came to the realization that they had to be more focused. In the app so far, they had seen that clothes constituted the highest volume and girls were the by far largest user group. Therefore, they figured they were only going to focus on clothes and girls, and that interior articles should remain on the side. The CEO admits that

this focus also matched well with their idea of a social and cool marketplace. After they had landed on this focus, the CEO describes how every decision from communication, design and app features became a lot easier, and that this made it possible to move a lot faster. During their stay in the States, they also chose to remove the app from all other app stores than the Norwegian one. They were now only going to focus on Norway, and more specifically Oslo. "So then in a way, we got both a narrowed focus on product and target group".

With the new focus, a new version of the app was launched during the fall of 2015. In February 2016, Tise managed to get a cooperation with Unicef where users could donate their earnings to Unicef. According to the CEO, this resulted in some nice publicity and a bunch of new users in the app. Since then the founders set out to get the Norwegian celebrity, Jenny Skavlan to join the 'Tise team. The 29-year old female celebrity was famous around Norway and had more than 200 000 followers on Instagram. She also had a well-known dedication for second hand clothes which matched perfectly with Tise's new focus. Finally, in March 2016, Skavlan joined the 'Tise team. In addition to invest, she used her network to talk with important profiles and stores within vintage and second hand clothes. "We then used the feedback we got to tweak the app, so it became ready for launch. And when we launched for real, as we call it, in September 2016, everything was ready."

The CEO explains that they knew they would get a boost when Skavlan invited her followers to check out the service, and when the app was so attractive, new users continued to spread it to their own friends. Skavlan also exclusively sold a lot of her own clothes on the platform, and shared the posts on her Instagram profile. As a result, from having around 12 000 registered users in August 2016, 'Tise reached 100 000 registered users by the end of September. According to the CEO, this number has reached 170 000 by March 2017, whereof 100 000 of them are monthly active, 60 000 weekly active, and 20 000 daily active. Of the 20 000 daily active users, the average daily use is 17 minutes, and one third of every sales post on the app has been sold.

Also on the new version of the app, Tise added possibility for users to share their sales posts to social media such as Instagram and Facebook. However, the CEO admits that this has not been very effective. "We thought it would be very important, but I don't think it has been." He explains that all the important shares to social media that have lead to a lot of new recruitments, have come by people who actively added it to Instagram without sharing it from the Tise app. "It's a lot more thoroughly thought through when they do it. They are not like 'oh, there is a share button, let me share it to Instagram'. That's not how it works for people with large reach on Instagram". He does however point out that the share button on the Tise

app has a value, as it reminds people that the sales posts could be relevant to share to social media.

Generally, according to the CEO, a large reason for their strong organic growth is that many Instagrammers and bloggers with a large follower base voluntarily share their sales posts on Tise with their followers. "We are lucky that so many have promoted us on Instagram totally voluntarily. There have been several with more than 100 000 followers who have been writing about us. I think we have like 10 blog posts a week by women writing about Tise". The CEO suspects that it has to do with users loving the product and naturally want to spread it. Moreover, Jenny Skavlan has a large network with influential figures in Norway. Having these A-celebrities could potentially in turn have influenced B-celebrities to join. "We have a lot of profiles in the app who have come by themselves."

4.1.2 Pre-conditions

Resources

Tise got their first investment when Angel Investor, Jon Grøholdt, joined during the fall of 2015. According to the CEO he did not invest more than a couple hundred thousand NOK, but it was enough for their situation at that time and was mainly spent on wages. On the other hand, he brought with him much needed experience and network. The CEO explains that he was the reason why they managed to acquire the other investors they got, including their Chairman of the Board, Rolv-Erik Spilling who joined in January 2016. In turn, the Chairman was central in Tise managing to get Jenny Skavlan to join the team. Both Skavlan and the Chairman invested as well. The CEO admits that both the Chairman and Jenny Skavlan, and their experience and network, have been extremely important for where they are today. The CEO underlines the importance of him and the CTO being part of the core team from the beginning. According to the CEO, around 90% of the app has been coded by them, and their backgrounds have allowed them to take on all needed roles themselves in the beginning. Overall, the CEO estimates that only around 400 000 NOK has been spent on marketing since the beginning.

Competition

When Tise started out, the only competitor in the Norwegian market was Finn.no. Since then, the last year has seen both the apps Letgo and Shpock entering the market. Fueled by extreme marketing budgets, both apps have quickly made a large impression in the Norwegian market, and acquired a lot of users. However, the CEO is not worried about them, and says Tise is something different. He explains that "We are a social platform, where the main activity is to

buy and sell. With them, all activity is buying and selling. They lack the social element".
Thus, the CEO admits that they have not really been affected by their appearance.

According to the CEO, both Letgo and Shpock have spent large amounts of money on all
kind of traditional advertising to acquire users. Following the app download charts closely
every day, the CEO has seen that their efforts have resulted in a lot of downloads. However,
during the end of January, Letgo fell straight down the download list, and the CEO suspects
that this came as a result of them stopping their marketing for a few days to check out their
organic growth. He explains that Tise has tried the same, which has lead to far from the same
drop in the lists, confirming that Tise has better organic growth rates than Letgo. "If we turn
off our marketing and test the same, it does not make a big difference, we might fall a few
spots, but we are still quite high".

4.1.3 Facilitating interactions

Frictionless entry

When putting out a sales post on Tise, the only required fields to fill out are title of item,
picture, price, and category. When you write a description of the item, recommended hashtags
are automatically added to your post based on what you write. You can choose whether to
meet the buyer in person or make the item available for shipping. Then Tise comes with
specific advice on how to choose freight, and what prices are suitable for different packages.

When it comes to payments, sellers can choose to activate safe payments which is Tise's
integrated payment solution, added to the service in December 2016. With a service charge of
10%, payments and exchanges go through the app, which makes it easier and quicker to sell.
Safe payments also enable users to buy things instantly and not always have to wait for
bidding wars. However, if they have put in their bid on a sales posts which has not enabled
"buy now", the buyer cannot regret putting in their bid if the seller accepts it. In general, Tise
is very inspired by the design of Instagram. The CEO admits that everything Instagram puts
into their platform likely heavily user tested, and usually if the functionality they add work for
them, it works for Tise. It makes it possible for Tise to easily develop new frictionless
functionality.

Matching

In the beginning, the CEO explains that they intentionally did not add too much filters, to give
the impression that there were more sales posts for new users coming in. In addition, he
explains that it did not make sense to have many filters, as this would give false expectations
about how much supply and variation there was in the app. This would in turn make it more
difficult for users to find a match. "It made no sense to separate things into more categories,

because then people would feel it was empty". They also removed the date on sales posts to give the impression that there were a lot of supply when new users joined. As they have evolved and more users have come in, he says that they have added more filters. "the categories have come gradually. They force themselves on as it becomes needed." For instance, in the wearables section in the app, the CEO explains that they have added a range sub categories, such as clothes sizes. They intentionally left out filters on clothes size until there were around 5-6 available items within each size.

Although having added different categories, the CEO admits that filters to facilitate better matching of buyers and sellers, perhaps is their largest challenge. "It's clear that in the start, it was quite easy to as there were so few, and it was ok to get an overview, but now when several thousand sales posts come out every day, it's impossible to get an overview. And then you (sellers) can easily drown, even though you have cool stuff." He confirms that this is something they are spending a lot of time on, and explains that they have recently introduced something they call "curated content", which allows them to, in a larger degree, add user customized content. "We have added that if you are a man, you will only get up man ads on what we call Editor's pick. Here there's a lot of nice ads for men. And we have "featured sellers" who's good sellers selling man stuff". He also notes that the category "Today's most popular", where the sales posts with the most "likes" during the day come up, is another popular filtering method for users.

Despite the above-mentioned categories, the CEO admits that they have a long way to go to improve their matching. "When it comes to automating a selection of what is good content for you, we have large potential. There are around 460 000 sales posts on the platform and 70% of it has still not been sold. Of course, a lot of it is not attractive content, and thus, have not been sold, but a lot of it could have been sold, had it been presented to the right users."

Empowering producers
The CEO says that they do not specifically offer manual follow up to sellers on the platform. He says that sellers and buyers are similarly important, and that buyers and sellers often are the same person. Out of the 170 000 users, 65 000 of them have put something out for sale. The CEO underlines that the barriers for people to put something out for sale on Tise is a lot lower than for example renting out an apartment. "Here it's almost no problems with putting something out for sale, and almost everybody can do it. Almost everyone has second hand things taking up space, which they happily could be rid of." "The barriers to put your car out for rent is miles higher than putting out your worn-out shoes for sale". He concludes that as a result, they have not had the same need to understand their sellers as in-depth. "But it might

be that I'm wrong. Either way, we should get better at it, because I think it's important for any platform to get a good understanding of their sellers"

Although users not necessarily need help to put something out for sale, the CEO admits that they have spent time trying to teach users how to create nice sales posts. Initially, they created nice looking sales posts themselves to demonstrate for the new users how a good sales post should look. "For us, the appearance of the ad is extremely important, and then you'll need some ads you can look at to understand how well it can be done". Another thing Tise did to empower their producers to create nicer sales posts was to add their own customized photography functionality in the app, where photo tips to become a "featured seller" are easily available. Although they have not specifically followed up or incentivized specific sellers, the CEO reassures that they get natural follow up through the app. "They get natural follow up in the way that the people who are active and add a lot of nice items, get a lot of followers which leads to them selling a lot. Our most active users can almost put out anything and get it sold". Finally, the CEO adds that the gamification element they added to the service where people get "Tise points" and "Tise cash" by being active on the service, also naturally empower and incentivize the best users on the platform.

Governance

Everyone can post items for sale on Tise, and from the start, the CEO admits that they spent a lot of time on governing the platform, removing bad posts and making sure everything was as it should. For instance, they had the option to hide unwanted sales posts, without the seller knowing. For the seller, the sales post looked like it was available. "It made it look like the content had higher average quality than it had. But now we have totally stopped doing this, because it is impossible to spend time on it". The CEO explains that instead of them accepting or actively looking for bad content, they let their users take care of it for them. "We don't have pre-review, but we have post-review, where the users report. We have a dashboard, and when the users report we get a push and then we go in and delete it.". However, the CEO notes that because every user can choose what other users they want to follow, people are usually not exposed to the bad sales posts. To govern bad content, Tise also has a rating system where the users rate each other after a trade, but that this is only for internal use and is not visible on the users' profile. The CEO explains that they did this intentionally, as it would increase the bar for new sellers.

The CEO explains that the most common way people gets scammed is either when a seller convinces the buyer to pay upfront before the item is sent, and then does not send the item. Or in the opposite way, that the buyer convinces the seller to send the item first, and then the

buyer never pays. This was one of the large reasons why they added the safe payments option. If the users choose to not use the Safe Payment when they trade, Tise is not accountable. However, the CEO admits that sometimes it might be difficult to know what actually happened in every situation. "It is difficult to say whether the package was gone in the mail. So, there we have a routine, where we pay both seller and buyer. But then we obviously write down what user ID that user has, so if something happens again we will not do anything, to say it like that".

Trust

Tise require all users on their platform to log in with their Facebook profile. This gives 'Tise both their profile picture and their whole name right away. This cannot be edited by the user. The CEO emphasizes the importance of this to create trust among users. By forcing people to login with Facebook, the CEO says that there will also be less fake profiles on the platform. He explains that he has seen research that people are less likely to make fake profiles if they must first make a Facebook profile, and then a profile on the new platform. "For us it is super important to have few fake profiles, because of the trust users need to trade on the platform. The trust that its minimal of fraud etc.". By being connected to Facebook, Tise can also send notifications to existing users when some of their Facebook friends join the service, and people can see all their mutual Facebook friends with the other person.

The CEO emphasizes that the likes and followers features are important to create trust on the platform, and repeats that the ones with the most followers and likes also are the people who sell the most. Also, after someone has sold an item, it remains on the user's profile with the tag "sold", which indicate to other users that other people have traded with him/her. Further, the introduction of Safe Payment option has been important. If the user chooses to use it, all transactions will be secure and insured, so that if anything happens, Tise is responsible. The CEO admits that this has been important to increase purchases on the platform, and reduce barriers for users to trade.

Generally, the whole design of the Tise app is heavily inspired by Instagram, which is a widely adopted social platform among Tise's target group. Taking advantage of these similarities and associations help to build trust towards the platform, and makes it easier to use. In addition, the CEO thinks that the fact that the whole service is a social platform, builds trust. Overall, the CEO feels that Norway is especially trusting country, and he is not sure if the measures Tise has taken to build trust on the platform would be enough in all other countries in Europe.

4.2 Nabobil.no

Nabobil.no (Hereafter Nabobil) was founded by the seven founders: Christoffer Moen, Christian Hager, Jenny Sjøgren, Theodor Tonum, Thomas Grøndahl, Karl Munthe-Kaas and Jacob Tveraabak. Knowing that private cars in average stand still 96% of the time, the founders saw the possibility to make a service where people could rent out their private cars to other people in their neighborhood. Nabobil was launched in Norway, 8th of September 2015. Just a few months after launch, former Airbnb Country Manager of the Nordics & UK, Even Tangen Heggernes, joined Nabobil as their new CEO. By March 2017, Nabobil has reached over 70 000 registered users with 4000 cars available for rent, and more than 25 000 successful car rentals.

4.2.1 Launch & user acquisition tactics

It all started back in March 2015. Then the founders started working with developing Nabobil during nights and weekends, beside their other work positions. After about half a year of "blood, sweat and tears" as the former CMO puts it, they were ready to launch, 8th of September 2015 in Oslo. At launch, the former CMO expresses that the service was far from perfect and both lacked important functionalities and professional design. However, "the most important thing worked; it was possible to rent a car".

To have a successful launch, the founders knew that they needed to have a lot of cars on the platform from the onset. To do so, the former CMO describes how they used a plugin called toutapp.com to let all seven founders send out emails to everyone in their LinkedIn network. With a personalized message explaining how the service worked and why they had created it, the founders asked their friends to rent out their car on the platform. In addition, the former CMO posted on all relevant Facebook groups, and asked people for their support. The founders also made sure to have relevant newspapers in Norway cover their launch, including Aftenposten, Nettavisen, E24 and Dagens Næringsliv. Their initial goal was getting 1000 registered cars within the year, but already within two weeks 1000 cars were put out for rent on the platform, and 3000 people had registered for their service.

The initial focus for the launch was Oslo and Akershus, but the former CMO explains that the service naturally spread around the country instantly. In an article in November 2015, two months after launch, the CEO underlines that "it would be madness to drive a lot of traffic to our site now. We don't need a lot of new customers if we cannot take care of our existing ones. We need to make sure that the majority happens organically". On the other hand, according to the former CMO, a lot of money was invested in Facebook & Google ads from the beginning, targeted at relevant segments within Oslo and Akershus. After a few months

they also targeted Bergen, Stavanger and Trondheim. The CEO emphasizes the importance of advertising on Facebook and Google for Nabobil. "We started in a time where Facebook and Google were on speed. Now it's like a sniper that shoots for us, whereas before you used shotgun in all channels." In addition to digital marketing, they also went out in the city promoting the service, but the former CMO states that this was far from as effective to acquire new users to the platform.

Quite soon after launch, Nabobil added a referral program to their service, enabling people to invite other people and get rental discounts. According to the former CMO, they never spent enough time on the referral program, and that it might well be an effective means of acquiring new users. When it comes to discount coupons, the CEO says that they have been trying it out, but claims that this has not been a very effective means of acquiring users. He explains that these things work for services such as Uber where it makes sense to give out coupons of $20 as this often constitute a ride. On Nabobil however, where an average rental is at around 600NOK, he's not sure giving out a 200NOK discount will be what convinces people to rent. Moreover, the CEO confirms that there have been some renters and car owners who's been especially active on their service. "I don't think it matters much who's renting out these cars. The most important thing is that the quality is good, and that they are located near neighborhoods in Norway. We have not had any problems with the car owners with 100 cars." Finally, he confirms that they have not incentivized these users in any way.

According to the CEO, the number one priority for any platform is to make sure that there is enough supply from the beginning. "In my opinion, in the beginning it is a one sided marketplace, where the only thing that matters is to build up supply". There are more than 4000 cars on the platform now, and not all the cars have been rented, but according to the CEO, these cars have a tremendous value anyway. "Every time I'm around talking about Nabobil, people in the audience checks out if there's any cars in their neighborhood. And if there is nothing there, they lose belief in the service. Then you have broken that trust instantly." He confirms that they have managed to build up enough cars in Oslo, and in most neighborhoods, they have enough supply so that it looks impressing. The CEO says that giving the impression that there is a lot of supply on the app for new users coming in is so important that it could even make sense for platforms to fake it if they cannot manage to get it in other ways. He confirms that Nabobil did not to do this.

26th of March 2016, Nabobil announced the launch of "Nabobåt", which was the exact same concept just for renting private boats. In terms of growth, the CEO thinks that they have reached critical mass in the Oslo and Akershus area, but he's not quite sure if the growth is

exponential yet. "I recently saw a definition of exponential growth, and I'm not sure we're 100 percent there yet, but the growth is not linear. We are in the breaking point now. We have been testing it out, by turning off the Facebook tap, and we see that the growth continues, but just in a bit slower tempo. So that's a really good sign for us".

4.2.2 Pre-conditions

Competence

Nabobil had all needed competence in-house, and all the seven founders and the CEO had strong backgrounds, ranging from top positions in Kolonial.no, Rema1000, Xeneta, Microsoft, Airbnb, Finn, McKinsey, and Xeneta. From the beginning, the former CMO, Christoffer Moen was the only one who worked full-time with Nabobil, in addition to the CEO. By January 2016, the designer, Jenny Sjögren, and the CTO, Christian Hager, and the developer, Theodor Tonum, had also started working full-time with Nabobil. The other co-founders Karl Munthe-Kaas, CEO of Kolonial.no, and Jacob Tveraabak, director of business development in Rema1000, functioned as rotating chairmen of the board.

The CEO says that it's been vital that they have had all needed core competence in-house, especially developers. "They have been there from the beginning, have built ownership, and know what's been done before and what works and what does not." He also adds that as all platforms are different, making it especially important to have developers in-house. Further, the CEO claims that their team and their track record was the sole reason why they managed to capture an insurance deal with the renowned insurance company IF. Finally, the founders' wide network in Oslo was a large reason why they had managed to attract so many cars to the platform in the beginning.

Timing

When it comes to timing, it could not have been better for Nabobil, according to the former CMO and the CEO. Since the new year of 2016, the "sharing economy" was the talk of the town in the media, and Nabobil, who was the most successful Norwegian example, was widely covered. The CEO says that he appeared on NRK a total of five times during 2016, including public debates about the sharing economy. He admits that this has been a highly strategic move for Nabobil. "I don't attend these things because I love to be in the press, I do it because every time I do, Nabobil's numbers are skyrocketing". However, he underlines that all this media exposure would have been for nothing if the product wasn't ready, and if they could not convert all the attention to the service. Further, due to the interest of the sharing economy, the CEO has been able to travel around the country holding presentations about the sharing economy and Nabobil, which he says has been an important contributor to their growth.

Competition

According to the former CMO, just four hours after their launch, a Danish competitor launched a similar service called GoMore in the Norwegian market. By being the first in the market, the CEO believes that they got a first mover advantage as they harvested all the media attention. In January, four months after launch, an article in Dagens Næringsliv reported that GoMore had 800 registered cars on the platform. In April 2016, a French competitor, Drivy, who had 850 000 registered members and 36 000 cars on their platform in Europe, reported that they were going to launch in Norway by the end of 2016 or the start of 2017. Since then there has been no news about their arrival. The CEO admits that the existence of similar services across Europe allowed Nabobil to copy best practices and have a rapid product development. "We have been a little spoiled by coming in after people have tried it in other countries, and when Airbnb had carved the way already".

Investments

When it comes to investments, the former CMO explains that the board invested several hundred thousand NOK to be used for paid advertising on Facebook and Google, during the first months. By January 2016, the founders had used all the funds they had available, and were dependent on an investment. Having proved rapid growth rates up until this point, they managed to get an investment of five million NOK. The former CMO admits that this investment was crucial, and that Nabobil would not have existed without it. Since January, Nabobil acquired five million NOK in June as well as five million in November. In addition to help maintain the high levels of marketing expenditures, the funds were used to pay minimum wages to the founders who had started working full-time. The CEO underlines the importance of being able to pay wages, especially to keep their team of in-house developers.

Geographic conditions

According to the CEO, he thinks the economic situation in Norway, our social norms and entrepreneurial spirit, are the three main reasons why Norway is far behind other the Scandinavian countries, Denmark and Sweden, when it comes to adopting sharing economy services. He says that Airbnb was four times larger in Denmark than in Norway, when he quit in 2015. "Norway has better economy, the need to rent car/houses not been as large as in Denmark. Most of the people who can own a car in the Norway, can own a car." In general, the CEO believes that they are lucky to be operating in Norway, which he says has the second highest degree of trust toward other people in the world, behind Sweden.

4.2.3 Facilitating interactions

Friction

When posting a car for rent, the car owner must assign price per hour, day, week and month, the car's location and when it is available. The minimum time to rent is 3 hours. The car owner can also write a description of the car, and list potential extra equipment that comes with it. The car owner gets 80% of the rental price, while the remaining 20% goes to Nabobil to cover administration and insurance. As a renter, all the cars in your neighborhood will come up, and you can choose whether you want to browse through a list or a map. When a renter finds an interesting car, and chooses it from the list or map, the renter gets access to more information about the car and the car owner. This includes more detailed pricing, the car's position, a description of the car, more pictures, other people's reviews as well as the car owner's response rate, average response time, and profile picture. If the car owner has verified his/her ID this will also show. If the renter is interested, he/she can contact the car owner. Then he/she has to assign the wanted time period for rental, and optionally add a message to the request. The car owner has 24 hours to accept the request.

If the rental request is accepted, the renter and car owner meet up at the assigned place and time to deliver the car. Before the renter gets access to the car, he/she must show the car owner his/her driver's license. Also, the renter needs to fill out how many kilometers have been driven, and how much gas there is on the tank, and send this to Nabobil. To make this and the whole process more frictionless for users, Nabobil launched an IPhone & android app 30th of March 2016. When the assigned rental period has come to an end, the renter delivers the car back to where it was picked up.

Moreover, the CEO emphasizes that it has been important to choose an industry that is suited for it. To explain this, he points at two factors. First, "The transaction value must be large enough to have an impact on your wallet". In this respect, he explains that both car owners and renters are mainly driven by economic incentives. Whereas car owners see the potential to earn money on their investment, renters see a way to rent a car at a lower cost. The second factor he points out is to not choose a field where you are dependent on large change of customer behavior. He explains that Nabobil both includes large transaction values and is not dependent on changes in customer behavior, as there is already a large market for renting cars. "we didn't have to educate Norwegians that it is possible to rent a car. That is something everyone knows exists. It's a much larger challenge to educate someone to start thinking in a totally new way".

Matching

The CEO explains that after focusing on acquiring a large number of car owners to the platform, they have constantly been working to maintain a balance between supply and demand. In addition to retention, the CEO emphasizes that the amount of bookings is their main metric. According to the CEO, the number of car rentals did not really grow until January 2016, but since then the amount of bookings grew 10% every week. The CEO explains that they are constantly looking at a matching index to uncover where they need more cars. In terms of filters, already six days after launch, Nabobil found that they needed to add more filtering options to the service. For car owners this included the possibility to mark which days the car was unavailable for rental, and for renters it included filters that could be applied to narrow down the search. In general, the filters renters can apply to their search include price per day, car brand, specific extra equipment, type of car, manual or automatic gearing, available for long-term rentals, and more than five seats.

Nabobil has copied a lot of the well-established functionality of Airbnb, but one large finding the CEO has found is that the calendar functionality works very differently for Nabobil than it does with Airbnb. Just like hosts on Airbnb, car owners can mark which days, weeks and months the car is available for rental. However, according to the CEO, this is not as straight forward as with rental of apartments and homes. With houses it is much easier for people to plan in advance when they are going to use it themselves, and thus when others can rent it. With cars on the other hand, as the CEO explains, it's often difficult to even know if the car will be used the next day. Consequently, in order to improve matching and increase the rate of rental requests being accepted, the CEO reveals that Nabobil currently is looking into how to improve the calendar functionality.

From his time in Airbnb, the CEO explains that they intentionally removed the possibility to filter on price, as they had found that this filter reduced the number of accepted rental requests. By removing it, renters no longer only sent requests to people with the cheapest houses, which increased the rate of accepted rental requests. Currently Nabobil has filtering on price, but the CEO confirms that they are testing it out to see if it has an effect on the number of successful interactions. Overall, the CEO says that creating a smarter search is something they work with every day: "The smarter your search, the better matching you'll have".

On September 9th 2016, one year after launch, Nabobil for the first time revealed how many of rental transactions had taken place on the platform. Out of the 50 000 registered users, 13 000 rental transactions had been conducted. Half of the transactions were conducted within

the last 70 days, and 60 percent had been in Oslo and Akershus, meaning that a large number of registered members had not rented a car on Nabobil. Since September, the number of successful rentals have almost doubled within the next six months and reached 25 000 rentals in March 2017, based on the total of 70 000 users. Based on the assumption that in average one user rents one car, the percentage of active users have increased from 26% in September 2016, to 35% in March 2017. However, the rate is likely lower, as the CEO says that they have both had some very active renters and car owners, standing for a large part of transactions.

Empowering producers

Since the beginning, Nabobil has spent a lot of time connecting with and reactivating existing car owners on the platform. The CEO alleges that even how much time they spend to make the design of the service and the functionality work well, in the end it is the car owners who are the product. And they are the people who determine whether people come back. Thus, Nabobil spends a lot of time on helping their car owners making attractive sales posts. According to the CEO, they regularly call them and express the importance of good descriptions and pictures. He adds that it for instance is smart to mention what use the car is suited for and the size of the trunk. "So, this is a bit of the challenge here. As we own nothing ourselves, we try to educate thousands of people to make smart decisions, which again reflect back at us". Some Sundays, they have also offered car owners to come to them between 12:00 and 16:00 to take pictures of their cars. In Airbnb, he says that he had a whole team under him, helping hosts to improve their sales posts, taking pictures for them etc.

The CEO also says that they often invite their most active car owners for dinner, coffee and beer, to hear their thoughts, and include them in the product development. In addition to enable Nabobil to develop the product according to user needs, the CEO admits that this is a powerful way to build ambassadors for Nabobil. He understates that we live in a world where there is no loyalty to brands, which makes it especially important to build strong relationships with users. In an article from October 2015, the CEO says that "the marketing channel of the future is the customer center. I think that by handling the users in a serious, professional and friendly way, it will give businesses so much goodwill that they will become champions". Although the CEO emphasizes the approach to close relationships with their users to build ambassadors and enable organic growth, the former CMO reassures that until now, the majority of Nabobil's growth has been paid.

Governance

Everyone who wants to rent a car on Nabobil needs to be at least 23 years old and have had a driver's license for at least three years. Hence, before it's possible to perform in rental

transactions, both the car owner and the renter must be accepted by Nabobil by verifying their driver's license. Further, the renter cannot have had more than two crashes leading to insurance payouts within the last three years. Cars cannot be more than 15 years old, and the maximum driven kilometers are 200 000. Finally, you have to be at least 30 years old to rent cars with more than 200 horse power. Nabobil is now considering increasing the age limit of cars to 16 years, and the kilometer limit to 300 000. The CEO explains that whether the car is 15 or 16 years old does not make a big difference, and cars are often well preserved, and can easily run for 300 000km. On the other hand, the CEO explains that there is a huge difference whether the renter is 23 years old or 60, and the chance that people with a low credit score has a significantly higher chance of crashing. Thus, they are evaluating to implement credit checks of their renters, and remove the ones with the highest risk.

If the renter has not paid for costs related to gas and toll after having delivered the car, this will be drawn from the deposit of 1000NOK in which every renter must add to their account upon rentals. If accidents should occur, the renter must pay 12 000NOK, similar to other rental companies. After the rental, both the renter and the car owner can rate and review the other person based on the experience. Only the review will come up on the user's profile, and the rating will be added to a general rating of the car owner.

Trust

The CEO highlights trust as the whole foundation services such as Nabobil are built on. "if you don't trust the service – if you do not trust that it will work out – you will not use it". Thus, one thing Nabobil knew they needed to stand a chance, was to get an insurance deal. The CEO explains that after having talked to every existing insurance company in Norway, the largest and most renown company, IF, finally agreed on a deal. The deal includes an insurance of up to 1 million NOK, without loss of any bonuses, and where the renter pays the fee. With the insurance, the CEO explains that the economic risk for people to rent out their car practically becomes zero, and that they are dependent on that. He admits that they probably would have been able to complete a lot of rentals without the insurance, but then most of the cars would be old, and cars people were not afraid to rent out. "Now we have several Teslas and other brand new high tech cars, because people know they are insured if something should go wrong."

To further demonstrate the importance of the insurance deal, the former CEO explains how they A/B tested both the website and Facebook ads with differing emphasis put on the insurance deal. Finally, the insurance deal was put all the way on the top of the website, as this proved to generate the most conversions. In the Facebook ads directed toward car owners,

Nabobil now lists three value propositions in the top header: 1) 1 000 000 NOK insurance from IF, 2) 0 NOK in personal fee, 3) 0% in loss of bonuses. Hence, removing barriers to entry in the form of risk, has been and continues to be a major focus area for Nabobil.

Both on the website and in their communication, a lot of emphasis is put on their insurance partner IF. The CEO thinks that having such a large, safe and renown partner was vital in the beginning. On the website, even further above the insurance deal, the logos of the most famous newspapers in Norway are listed. This includes Aftenposten, NRK, DN and E24, which are some of the national media Nabobil has been covered in. This is also highlighted as important to create trust toward the service. Finally, together with IF, the CEO explains how they have integrated the payment verification method; BankID in their service to make the whole experience safer: "BankID is so widely adopted in Norway, and is the safest verification method we have. Thus, this is a simple and very nice way to create trust on the platform".

Moreover, the service is based on "mutual trust", which is also emphasized on the main page of the website. This is enabled by the two-way rating system, where both party rate and review each other after an ended rental. However, the CEO explains that due to Nabobil's rapid growth rates, most renters now are first time renters who do not have any reviews or rating to show for. To solve this, Nabobil let users connect to the platform with their mobile number, their Twitter, Facebook and Google account, as well as BankID. This enables verification of their identity, which makes it easier for the car owner to trust the renter, and the renter to trust the car owner. As Nabobil only shows the first name of the person on their profile, verifying identities become even more important.

Furthermore, by being exposed a lot in the media, and having the former Country Manager of the Nordics & UK in Airbnb, a company which is perhaps the most famous sharing economy platform in the world, it naturally helps to build trust towards Nabobil. Nabobil also builds trust towards the concept by showing how many people are already using it, and has always been transparent on how many users have registered on the platform in the media. The founders spent a lot of time on finding a good and suitable name for the service. They landed on the name Nabobil, which is a connection of the two Norwegian words "neighbor" and "car". As they explain on one of their earlier presentations, the name is trustful, safe and good. In an article in Dagens Næringsliv, scientist Dag Slettemeås stated that "They have a Norwegian, dull name playing on the neighbor concept, which has a special social sound to it, and in itself creates trust".

Moreover, in an article in E24, one of the founders, Karl Munthe-Kaas, also emphasized another things which creates trust towards Nabobil. "If you rent a car from a rental company then it is a faceless company. If you rent a car from your neighbors, the last thing you want to do is to get scratches on the car". The former CMO echoes that people treat these cars better than rental cars, as they are other people's personal items, by showing to research done by several similar American services.

4.3 Leieting.no

Leieting.no was founded by the four founders Christer Hansen Eriksen, Bjørn Reidar Ur, Kim Frostad Røen and Thomas Sunde Nielsen. Inspired by sharing economy services such as Airbnb, they wanted to create a marketplace where people could rent things from each other. The idea was that anytime you needed to use anything such as a drill, tent or car, you could rent it from your neighbor instead of buying it. Leieting.no was launched in Norway, 13th of November 2015. By March 2017, the service has reached 7500 registered users.

4.3.1 Launch

After getting the idea, the founders set out to start testing the concept in March 2015. To do so, they contacted people who already were renting things from each other through Facebook groups, as well as on the Norwegian platform Finn. "We were met by such large interest that we had to continue developing the service". Thereafter, the CEO explains that they created a simple website with basic functionality, where people could register and post things for rent. "We had found the name Leieting, but everything else looked totally different. But we got a really good response on it".

In the months to come, the founders continued testing and developing the service, until 13th of November. Then Bergen Næringsråd's annual conference was being held in Bergen, and this year's theme was the sharing economy. On the event, many important people in Norway would be present, including the Pri-minister Erna Solberg. To make sure they made an impact, they created a commercial. "We had made a commercial for the conference, with Torstein Selvik, who's a networking figure here in Bergen. He knows everyone, and everyone knows him." According to the CEO, the film could not have made a better impact and was met with loud applause among everyone in the audience. "It was just the effect we wanted. Jonas Gahr Støre even mentioned our example in his speech, and we got to take selfie with Erna afterwards". The CEO concludes that it was the perfect way to launch, and get publicity. "It definitely gave an effect, the same day rental ads started coming in from Oslo, and that had nothing to do with our network."

In order to make sure there was something on the platform from launch, they asked people in their office space whether they had something they could rent out. This resulted in around 50 rental posts being added to the platform. In addition to show the film on the conference, the CEO notes that they also put some money into boosting it to relevant users around the country. "already the first day, the service spread around the country." The CEO admits that the plan was always to be a national service. "Of course we thought nationally, not only Bergen. Because we are not dependent on distribution or anything. We don't own any of the things that are rented. However, naturally, it's easier to find something to rent if you are in a city, than far out on the village side.". The CEO explains that in terms of what type of things could be rented there were few restrictions. "No limitations, you can rent anything, as long as it is legal".

Just after a few months, in February 2016, the platform had acquired 2500 registered users, and was represented in all of Norway's 19 counties. Although many people registered, the CEO admits that their focus from the beginning was never the number of registered users, but the amount of rental posts on the platform. "It controls how many rental agreements you'll see. You can have as many users as you wish, but if you focus on the user mass before the listings, then you will have a lot of users who can't find what they're looking for". Also their communication towards users has been directed towards getting people to rent out their things. "The communication has always been 'rent out your things' and not 'find something to rent'. Because if you say that, then people expect that they will find something they can rent". In the respect, the CEO emphasizes that they do have critical mass within some categories in some areas, but that there still is a long way to go.

Moreover, the CEO explains that all the founders are active users of their own service, and that everyone have frequently rented and rented out things on the platform. In addition to the founders, there have also been some very active users. In March 2016, the 28 most active users became shareholders and invested in total 1.1 million NOK in the company. "Several of the investors are coming close to the number of times I have been on the service. They have been more on the service than some of the other guys on the office.":

The CEO explains that during the testing phase before they launched, they contacted people who rented out things on Finn, and asked them to check out their platform. However, they did not use this strategy to acquire users during the launch phase. "After a while we kept away from it. It wasn't like what Airbnb did with Craigslist. Finn is not that open". Another way they have been acquiring users, is through referral programs, where people could invite their friends to the platform. "There you can invite your friends, give them 200 NOK to rent for,

and if they use it, then you'll get 200 NOK as well. It is perhaps not so visible on the website, but we send out automatic communication on it to registered users as well.". The CEO concludes that it has been working out O, but that they should make it more visible for users on the platform.

In the beginning, the CEO acknowledges that the focus in their advertising typically surrounded drills, and how much of its lifetime a drill goes unused. In hindsight, the CEO thinks this wasn't smart. "We often became the 'drill place', the place where you could rent a drill. And people think. 'What does actually a drill cost?' 200kr on Clas Ohlson?". Thus, as the months went by, and as the service developed, the CEO explains that they moved towards more focus on things of more value. "It should be something that shows a clear saving – something that people don't necessarily want to buy themselves.". Further, although people mostly rent things that are of higher value, the CEO notes that there have been examples of people renting other things as well. "In Oslo, there were someone who rented Ikea folding chairs from each other, which would have costed 3-400kr to buy, and they rented it for like 200kr. Then it isn't about it being cheaper, but what are you going do with the chairs after the party? You don't want them there.".

Geographically, the CEO notes that they have moved towards mainly focusing on Oslo and Bergen. "That's where we get the most back on our marketing, because it is a larger concentrated group of people". In terms of what type of marketing they have focused on, it has primarily been Facebook, Google and Instagram. He also adds PR as one of their more important marketing activities. "That's something we have spent both a lot of time and money on. It's not a coincidence that someone writes about your company".

In March 2017, about one and a half years since launch, Leieting has reached 7 500 registered users on the platform, but the CEO does not wish to reveal how many of the users have been renting or rented out something. "That's not numbers we want to reveal, but a lot of them have been active". The CEO explains that he is happy with their situation, considering their marketing expenditure, but that they could have spent even more. "Then we could maybe have been where we are today, a few months ago". Moreover, he explains that new things are being posted on the platform every day. "If you go onto Leieting today, you immediately see that there is activity. And if you go in from day to day, you'll see many new posts. On the other hand, if you enter a site where there are only like 10 posts from the same person, then people don't believe in it. I think many platforms have taken this too lightly".

4.3.2 Pre-conditions

Competence

Out of the team of four, two focused on the technical development of the service, and two focused mainly on business development. The CEO believes that having in-house developers is essential. "You must have it. It's our core product. We own nothing. We must make the service so good that people want to use it. If it doesn't work we will lose everything.". The CEO has some experience from earlier startups, but no education. The other three founders have backgrounds within IT, design and marketing, but no former experience from two-sided platforms. The CEO underlines that the team has been important for where they are today. "The team has been key to what we have accomplished compared to others". Although, they can do most of the technical development within the team, the CEO admits that in some cases they have had to outsource it to people with special competence in the field.

Investments

In March 2016, in addition to the investment of 1.1 million from investors, Leieting received 1 million NOK in funding from the Norwegian government's pre seed funds through Bergen Teknologioverføring. The CEO emphasizes the importance of these funds to pay wages, software development and marketing. "The growth have been a mixture of organic and paid. We need to pay to be in front of people's faces. We would have existed without the capital, but not in the way we do today.". The CEO admits that the investors haven't added any needed competence, but are important ambassadors and have brought with them a lot of enthusiasm in addition to money. The CEO confirms that they now are seeking more investments to be spent on marketing.

Competition & timing

In terms of competition, Leieting launched ahead of their rival Plendit.no in the Norwegian market. "They developed their whole service from scratch, and started out in January 2015, and did not launch before January 2016." The CEO explains that that they started developing their service six months later, and because they launched two months earlier, they got all the media attention. "Two weeks after we had launched we were in meetings with Abelia, the minister of Finance as well as the Datatilsynet discussing the sharing economy. We became the 'go to guys' for our category." The CEO concludes that that the timing was crucial. "It was first to market. No one are interested in writing about 'now they have also done it'. That is no news story. While we built user mass, they (Plendit) ended up having to quit.". Although Plendit had insurance from IF in place from launch, in contrast to Leieting, it did not make a difference.

Moreover, it also possible to rent things on Finn.no, but the CEO believes it isn't as suited for it as they do not have the same insurance deals as Leieting has. "We have heard stories about people who has used Finn to rent and have been stolen from. That is sign that it doesn't work in that way, there is no safety there. Therefore, everything we have from insurance to BankID verifications are essential." As Leieting also allows people to put their cars out for rental on the service, the CEO says that they are also competing with Nabobil in the Norwegian market. "Absolutely, but I think it is better that we both exist, because we build awareness about each other." Further, according to CEO, there has not yet been any competitors internationally who have got established. "We have been talking with several, and it's often us that have come the furthest. So that's nice".

4.3.3 Facilitating interactions

Friction

On the website, anyone can browse through all the things that are out for rent on the platform, without having to create an account. Only when the user finds out he/she wants to rent or rent out something themselves, the user has to register. The CEO explains that one thing they have spent a lot of time on is simplifying the user experience down to a few clicks to register and putting out a listing. The 21th of December, they also launched an app for IOS making it even easier for users on both sides.

The service is built on the template based marketplace service called Sharetribe, which enabled the release of the first version so quickly, ahead of competition. However, the CEO reassures that since then, millions of NOK worth of development have gone into the functionalities of the platform. For instance, the CEO explains how they are using the payment solution Stripe Connect, and that they customized it so that the only thing a user needs to register their seller account is their credit card information. The rest is taken care of by Leieting. "We have put quite a lot of resources into developing it, including an algorithm to find your IBAN-number based on your account number." The CEO believes this has been important to make it easy for people to start posting things for rent on the platform. "Absolutely, it's just your credit card, no Paypal or other hassle. There is not much hurdle in the way of putting something out for rent." In addition to make payments as frictionless as possible for users, they are also 100% safe. Leieting charges 20% of the rental amount from the producers.

Empowering producers

The CEO confirms that Leieting has not spent time following up specific producers to create better listings on the platform. They do however, send out emails with tips and tricks to their producers. "We give tips when you register and put out your first listing, then you get five

58

tips about how you can improve. This incudes the importance of good pictures, writing good descriptions, sharing etc". They also adds that they come with tips and tricks underway. "If you have created a listing without picture, you will receive an email with tips about adding a picture. So we have optimized a lot of our communication to catch all these things". "So then it's up to people if you care to add pictures or not. We cannot force people to add picture of their things."

With the chat service Intercom they were able to always stay close to their users and answer any requests at once. The CEO believes this has been important to build a stronger relationship with their users and build trust towards the platform. They also created a Slack channel for their 29 investors, where people could come with feedback and questions. The CEO admits that they did get a lot of questions about if they had thought it through, when accepting all the 29 investors. "That is the wrong approach I believe. Here it is open for everyone. If you have a question or are critical, then they will be answered so that everyone can see." The CEO believes this has been important to give them ownership and create ambassadors for Leieting.

Matching

In terms of matching, the CEO admits that filters and the search hasn't been their biggest concern. "Of course we have developed that it's possible to filter on locations etc. We haven't spent so much time on it, but we have done some optimizing of the search throughout". In general, the CEO thinks the issue hasn't been the search, but getting more listing on the platform. "If you search for 'pulk, Bergen' you'll find all the pulks in Bergen if there are any. But if you search for a lawn roller in Trondheim, it might be that you won't find it, because it is a strange thing." The concludes that as long as the product the user is looking for actually is on the platform, the user will find it. The CEO notes that they have been contacted by several people asking why they can't find what they're looking for on the platform. "Then we have to say to them that Leieting is a marketplace, and that you just have to search to see if you can find what you're looking for".

Governance

The age limit for users on the platform is 18, but there is a 23 year age limit to rent cars, boats and MC. The service has a peer to peer review system where users can write reviews and give thumbs up or down on their experience. The CEO explains that they generally let most listings remain on the platform, but that they have had to delete a few. "There was a listing where someone rented out their son. It's ok to rent out services, we have a category for that as well. But the way it was written was a bit of a joke, so we deleted it. But a part from that, I

believe I can count on one hand, listings that haven't been accepted on our platform." The CEO believes that reason why there haven't been more incidents of people putting out bad content, is that you have to register and add posts in your full name. "So you choose if you want to look like an idiot".

Very seldom something that has been rented has been broken, according to the CEO. "I can't remember exactly how many times, but I believe it is more of a felt uncertainty – that you think you that something will go wrong. But we see that in a rental agreement, people treat the items better than if it was their own". In case something should be broken, it is the renter's responsibility and he/she has to pay the deductible, and the rates differ based on the type of items.

Trust

The CEO believes that trust is foundational for people to use Leieting. "It is your own items, so people wonder if it's safe. Therefore, we need to play on everything that can make it safe." First of all, the CEO explains that they intentionally chose a Norwegian brand name Norwegian profile and communication. "Everyone prefer communication in their mother tongue. That is the safest". They also force all users to commit their entire name, which is visible the other users on the platform. "We made an active choice to have the full name, because of the trust it creates." "I can count on one hand after one and half years, people who have actively told us that they don't wish to do so, and that is not enough for us to make a decision based on it." Further, the CEO believes that having the support chat so easily available in the service as well as communicating in Norwegian, have been important to create trust.

Initially, Leieting ensured their users that if anything went wrong they would be insured, which was essential to remove risk for users. However, not until June 2016, the insurance deal with IF came into place. One condition for the insurance deal was that users on Leieting verified their ID with BankID. "For us we always wanted it, because it builds trust and safety. And it is easy for people to log in with BankID. People are used to do it." Until BankID came into place, the CEO explains that people could verify their ID through their payment solution, where the user had to scan either their driver's license or passport. The CEO also notes that the review system helps building trust between the users on the platform. "Of course it's smart to have 12 thumbs up on your profile, and people writing "cool guy, this went well. That makes it easier to rent out things again.

Generally, the CEO has an impression that the trust in Norway is stronger than in other countries, and that it has made it easier for them. "We are a small country. People trust each other faster. We do not have the formalities that are typical in England and Spain and other countries." At the same time, he believes people also are more demanding. "People set larger demands in terms of the technical aspects. People are used to things working, and don't have time for things that don't work". The CEO also thinks that being in the media is very important for people to trust the service. "PR has been essential for what we do. To establish a brand creates trust. IF you have been on television or the newspaper, then it suddenly becomes the truth. It is strange how this works for people. So, when you advertise yourself digitally, you just build up under what's been shown in the media.". This comes to show clearly, as Leieting frequently showcases the brand logos of IF Skadeforsikring and BankID from everything from their login screen in the app till their external marketing material.

4.4 WeClean

WeClean was founded by Kim Haagensen, Sindre Løfstad and Emil Sebastian Pete during the summer of 2015. Seeing how the home cleaning industry was full of black labor, the founders wanted to make a service that made it easier for people to both offer and order white labor. In contrast to existing cleaning services, WeClean would offer "home-cleaning on demand", so that any time you needed cleaning you could just open the app, order in a few clicks and get your home cleaned the same day. By March 2017, the service has reached 8000 registered users.

4.4.1 Launch

After some months spent on development, the first minimum viable product version of the service was launched 1st of December 2015. "Then it was a simple website. You could order on the page. I sat and did everything. In the beginning, I was the who cleaned more or less everything as well". After the cleaning was done, WeClean sent an email to the customer with the possibility to rate the experience. "We had it like this until January. Then a CTO started working for us. He worked for us half a year before he went to Tidal. But in that time, he built a frontend app – with a slider for square meters that indicated hours – which we launched in April. We had that version until September, when we got what we have today." Despite having launched several versions of the app since 2015, the CEO still does not think that they have launched for real.

Inspired by sharing economy services such as Uber and Airbnb, WeClean wanted to take this space for home cleaning services. Just like Airbnb and Uber the initial service was based on the cleaners being independent contractors, and the CEO usually described WeClean as "Uber

for home cleaning". However, according to the CMO, after around six months they came to the realization that it would not be that easy. "This was our biggest mistake. Short term it was nice to scale, but when it comes to the quality, ownership is very important. The problem with not having them employed, is that legally it's not allowed to demand specific work instructions. The cleaner who has taken the work task, can give it to someone they know. All procedures and instructions are lost when they are independent contractors." Hence, they needed to take more control of their cleaners, and moved away from the two-sided peer to peer platform approach and rather employed their cleaners.

In order to get users on the platform, WeClean targeted cleaners who were performing in black labor. The CEO explains that, in addition to have good work ethic and having pre-knowledge about cleaning, they would also have an existing customer base they could bring onto the platform. The CEO admits that they hope that to make the service so good that cleaners would continue to go out recruiting even more customers to the platform. "We wish that they go out recruiting customers for themselves, and build their portfolio inside WeClean. That's the big idea going forward".

The CEO confirms that they did have a pre-sign-up list before launch but most of new customers have come through social media advertising. "We've seen how users have heard about us; 25% says media, and the rest is social media." The CEO is very politically active and has been a lot in the media on debates related to the sharing economy. In addition, they have also been at Gründerløkka giving out flyers and talking with people. The CEO underlines that they do not give out rebate vouchers to people, as that was one of the American cleaning service Homejoy's largest mistake. "they gave out rebated codes which attracted customers who do not use it normally, and who would not use it again." The CEO explains that if the voucher does not lead to recurring users, it becomes a waste. "So, we have consciously not done so. It's a harder way, but it's the better way."

From the beginning, the CEO admits that the founders have been cleaning a lot themselves. "when there's a lot to do. We need to roll up our sleeves. It's in such situations you are pressed to make the best solutions". According to the CEO, the value of him cleaning is significant. "The more there is about me or WeClean in the media – the more valuable it becomes for WeClean that I'm out there cleaning. Me going to Holmlia and clean can constitute a value of 50 000NOK… Who they tell, I don't know. The signal effect is tremendous." The CEO admits that many of their friends have also cleaned on the service. "We have got a lot of friends to clean. They go through the same training and get normal cleaning salary". There have also been some cleaners who have been very active on the

service, but the CEO reassures that they have not incentivized any users to on the platform. Generally, they have never had any problems getting cleaners on the platform. "I use to say: there's a lot of things I thought would be easy. The only thing that has been easy is cleaners. People want to work".

In the summer of 2016, WeClean had 15 active cleaners, while 50-60 were in the database ready to start. In March 2017, the CEO reveals that they have 900 cleaners who have applied, where 30 are active on the service. "There is really large demand, a lot of people want to work for us." Some of the cleaners are Norwegians in their thirties, in creative professions who want to finance their primary professions." The CEO says that they are attracted to the service because of the convenience of being able to work when they want, and not have to commit to permanent assignments. "We often call this 'freedom', and that's what we sell to people who wants to work in WeCLean.".

The geographical focus for the service has been Oslo, according to the CMO. "We limited it by post numbers. We are working on finding the best operating procedure for scaling". In terms of what type of cleaning, the initial focus was on home-cleaning, but they have now also added company cleaning and what the CEO refers to as 'flyttevask'. Although diversifying into different services, the CEO reassures that there is still one single focus; cleaning. The CEO also reveals that they are working on adding the peer to peer marketplace element back to the service as an extra service in addition to employed cleaning services. Here the cleaning will be cheaper, and badges and good ratings will differentiate the cleaners. The CEO compares it to Uber who has different types of Uber cars for customers to choose from.

4.4.2 Pre-conditions

Investments

In terms of capital, WeClean have acquired around 3 million NOK. The CMO, Emil Pete invested 300 000 when he joined during the fall of 2015, and his father have also invested 1 million NOK. 1.3 million NOK came from winning Angel Challenge, and 100 000 from Telenor and a few hundred thousand from other connections. Back when they started out in the summer of 2015, they also declined an investment of 1.5 million. "There was still a lot of things we needed to do before we needed capital. We have soon been going two years without salary now, and we have a full team who have quit their jobs, and work full-time with WeClean.". Instead of salaries, the capital has been invested in marketing and product development.

Competence

The team currently consist of four people working full time with WeClean. Haagensen has ten years experience with startups, but no formal education. They have in-house developers, but have up until this point not had their own backend, which have been limiting, according to the CEO. They are however changing backend supplier now. "Until then, we can't set up a lot of things that we want to have in the app as soon as possible.". In terms of marketing, the CEO says that the reason why they have focused mainly on social media, is because that's where they have the most knowhow and competence.

Competition

There was no direct competitors in the Norwegian market when WeClean launched, until a company called Wipe started up in Bergen. Wipe is currently based on independent contractors, but is also changing to WeClean's model, according to the CEO. In contrast to WeClean, Wipe only offers the service through a website. Overall, the CEO is not afraid of competition. "I believe the market position we have got with WeClean is impossible to take from us. It will only grow stronger and stronger, because we do things the way we do – by getting loved and not liked.".

In terms of other competition, the traditional home cleaning company Citimaid existed when they launched, but the CEO believes that the industry is asleep. "It shocks me that traditional companies don't understand that in ten years they cannot deliver the way they do today. The question is not if the market changes, when it does". "The industry has been terrible at taking care of their cleaners. That's why the government has had to go in and regulate. All this has to be taken into account about why it's so important for us to be structured and do this thoroughly."

He says that he mainly fears companies abroad. "At the same time, if someone with the same values as us, comes around, I will do nothing but cheer them on. It is the black market and the bad culture among the established companies we want to compete against". He underlines that the way the current players in the industry operates is not sustainable. "We need WeClean to break with a cleaning industry that don't take care of their cleaners". According to the CEO, a reason why traditional cleaning companies usually stay away from the home cleaning market is because it requires so much logistics and operation resources. Here the technology allows WeClean to cut these costs. "With new technology, WeClean reduce administration costs related to home cleaning, so that we can offer cheap cleaning services on demand. You don't have to pay for inspection and you don't bind yourself to long fixed cleaning agreements. "The way we distribute the value gives a larger freedom for the

cleaners than is the case for larger cleaning companies, who operate with fixed cleaning agreement. The way these companies earn money is by pushing the cleaners to clean as many hours as possible." The result of this freedom is better executed cleaning, according to the CEO.

The CEO explains that they were inspired by the American cleaning service Homejoy who started out in 2013 as well as Helpling who started in Germany in 2014. They have spent time learning from them. Moreover, the CEO believes by not going after the traditional market there is a lot more potential. "we don't have to create our own market, like many other entrepreneurs need to. We take a position in a home cleaning market of 3.2 billion NOK, where 40 to 60 percent of it is black labor." In terms of timing, the CEO believes they it's been perfect, and he has often been asked to attend TV-broadcasted political debates discussing the new sharing economy.

4.4.3 Facilitating interactions

Frictionless entry

There is substantial friction related to getting cleaning services legally today. Admistrative director of NHO Service, Anne-Cecilie Kaltenborn, says that "16% of Norwegian households say that they have home cleaning, and we know that there's a large amount of black labor there. One of the reasons is that people experience it to be a lot of work to get cleaning, white". She believes WeClean can make a difference. "When a player such as WeClean then comes with an app that makes it so easy, and at the same time so transparent that you can see what goes to salaries and what goes to social expenses, then the transactions costs, in other words, the barriers to get the service, down, and it becomes easier to access white labor".

The CEO explains that moving from the two-sided platform model also allowed them to reduce friction for new cleaners. "Registering an independent business is not difficult, but with that customer group a lot become difficult.". In addition to simplify the process for new cleaners, the employment model also gave more control of the supply, giving customers a better experience. The CEO also points at how their on-demand model removes friction for customers, as they do not have to register for long term contracts, and can try out the service without any ties. To buy cleaning they first need to create a profile on WeClean. Then the user assigns address and chooses between the three categories: "down & dirty", "neat & clean" as well as "tailored", all at different prices. After having chosen a category the user can specify how much time should be spent on the different areas of the apartment, including the living area, kitchen, bathroom and bedroom. Then the user can choose to add cleaning of the oven, bathtub etc. for an extra fee. Finally, the user has to assign date and time as well as add

their payment info. Optionally, the customer can also add a note giving some specific instructions about how they would like it to be cleaned.

After the order is registered, it appears on a list on the cleaners' WeClean app. Cleaners will get a push notification about the new order, with information about where it is, potential salary as well as expected time expenditure. On a first come first served basis, the fastest cleaner to take it will get it. The cleaner shows up at the assigned time, dressed in a WeClean t-shirt and have all the tools herself/himself, except a vacuum cleaner. The customer has the option to add it by paying 300 NOK extra. The price per hour is 369, and the cleaners earn 175 NOK with tariff determined salary. After taxes and social expenses are paid, WeClean is left with 14% percent of the total price.

Matching

The model which WeClean is based on, where customers just add their order and don't have to find a suitable cleaner themselves, reduces search costs. However, the CEO emphasizes that people often have a lot of expectations about how the cleaning should be. "We are working on a logic which makes it possible for the customer to make a work instruction for the cleaner. Because it's about expectation management. A lot of people expect that you always take out the sofa when cleaning, and some don't. So, if the customer adds what should be done, it will become simple". Moreover, to make it simpler for cleaners to know what to do, the CEO explains that they are working on standardizing procedures. "We are creating a SOP, a 'standard operating procedure', with what you're supposed to do when you come into a home. If you are unsure, you know exactly where you can find instructions about what to do".

Moreover, the CEO explains that the demand has been shifting from month to month. "In December, we had insane demand. We worked day and night. The 22th of December I had 5 cleanings. The first at 07:00 and the last at 23:00.". Generally, the CEO admits that there is a lot more cleaners than there is demand. He demonstrates by showing the app, where there is only one cleaning request and says "my point is, this list use to be empty all the time, because the cleaners are so active. Therefore, there have been a lot of complaints from the cleaners because the requests disappear instantly". Since the beginning, only two cleaning orders have not been taken.

Empowering producers

In general, the CEO is not so worried about the number of users or transactions, but rather the quality of each interaction. "I believe in the Airbnb founder who says that it's more important to get loved by thousands than being liked by a million. That's what we're striving for.

What's important for us is to have a good LTV, life time value for customer". To achieve a high LTV he explains that they are working on increasing their retention rate. The retention rate is currently 40%, but they are still working to improve it. "If we get more than 50%, then it is unheard of, and I believe we can do it". He adds that they currently don't have functionality making it possible for users to easily make repeat purchases in the app, and that adding it would potentially improve retention.

To keep track of successful interactions, the CEO says that their main metric is what they refer to as "success rate": "it shows how many of the cleanings have happened without deviations. If there are no deviations there is nothing to follow up. We want to keep it at 100%." Any time the interactions were not successful, leading to complaints, the CEO says that they worked hard to identify the problem. "The mindset in the team is like 'what have we not done during training?' And then we take that person and ask why he/she hasn't done as instructed." The CEO emphasizes that if the cleaner cannot follow the instructions, they cannot continue to work there. "That's how you create the culture, all the time".

In addition to lower friction for new cleaners, the CEO emphasizes that the employment approach has been vital. "Independent businesses were not sustainable, the way I look at it. I wanted to be best with our cleaners. Just hands down, best on salaries, best on benefits etc." The CEO also emphasizes their focus on making a community around WeClean. "WeClean has core values that are 'peace love and good times', and then we need to make everything fit with that. Now I have a core team with super skilled people, because they believe in this. We needed to get this mindset out to our cleaners." The CEO rather refer to their cleaners as partners. "if you always put your employees first, and not the customers, then you build something sustainable, and then they will take care of the customers in the best way possible. Therefore, in our shareholder agreement, 10% of future profits go to the cleaners based on the hours they have put in. And then we believe we will get the best cleaning".

"We had to employ cleaners in-house so that we could give them a sense belonging, and demand things from them." The CEO also underlines that everyone in WeClean are cleaning on a regular basis to create this atmosphere and community. He points to their slogan "if you are too cool to clean, then you are too cool for us". All the cleaners go through thorough training with WeClean's partner Lilleborg Profesjonell. According to the CEO, this makes the cleaning more thorough, more effective and better for the environment. The CEO believes that although the future will be digitalized and robotized, the human service provider cannot be replaced. "Things such as service, good mood, getting things done and being flexible, I believe is hands down priceless."

Governance

In addition to thorough training, all cleaners go through a multistage selection process, before the best cleaners are employed by the company and can get access to the customers on the platform. Out of the 900 cleaners that have applied only 30 are active on the service. When there's a lot of demand, The CEO admits that if they only have inexperienced cleaners available, he would rather take it himself. "If we send out someone new and then they haven't got training, then we get complaints. And then I have to go out myself and take it".

After each cleaning the customer can rate and give feedback on their experience. The CMO says that they are also going to add so that every cleaner has to make a pre-report before they start cleaning. "The first 5-10 minutes of the time that has been ordered, the cleaner makes an assessment of the 'dirtiness degree'. There will be three different degrees of rating. If it's red, there is no way in hell you can take the whole place, so then the cleaner needs to choose what to focus on. Then there's also orange and green ratings.". The CMO explains that the cleaners take pictures to substantiate the ratings they have given, which they send to customer service so that they get full picture. The CMO emphasizes the importance of doing it before they have started cleaning. "It's difficult to tell the customer afterwards, when everything has been cleaned and the cleaner has spent thirty minutes more than ordered.".

Trust

The CEO believes establishing trust has been among the most important things for WeClean. "When we started out in 2015, I said there was two things we needed to fix: it must be convenient and we need to have trust. Those are the most important things. Convenience can be achieved through a good digital solution, but when it comes to trust it was imperative to get IF onboard." Although he thinks it didn't matter which insurance company they landed a deal with, he was pleased to get IF Skadeforsikring, as he believes they have strongest brand name in Scandinavia. With the insurance from IF, people's homes are insured with 10 million NOK in case something should happen, which removes risk for potential customers. Generally, the CEO thinks trust is achieved by following up the cleaners. "We believe it's about focusing on the cleaners – the employees. So that if a customer asks about anything, then a cleaner can answer – even if it's a question about payments.". The CEO also adds that the rating system on the platform, where customers give feedback about their experience, has been important to build trust. Finally, the CEO is focused on keeping things transparent, and clearly communicating what their cut is, and how the costs are divided.

4.5 Codenudge

Codgenudge was founded by the three NTNU students Jonas Neraal Jakobsen, Martin Røed and Øyvind Hellenes, the winter of 2015. They wanted to make a platform where people could get on-demand help with programming related questions. The idea was that, every time you were stuck while programming and did not know what was wrong, you could turn to Codenudge and find the answer. After one year trying to get it to work, the founders gave up their efforts in December 2016. The platform then had 280 registered users.

4.5.1 Launch

According to the CEO, the initial thought was to make Codenudge into a universal platform where people could ask about everything and instantly get help. "Everything from math, physics, to programming, so mainly school subjects which made sense for such a platform". However, the founders realized that it would be easier and more efficient to start out focusing on only one subject. As there already existed some similar platforms on programming internationally and two of the founders had expertise within the field, programming became the natural choice. "If we were going start making a platform for math or something, we would need to think in totally new ways. For example, should we draw or write formulas? With programming, we basically only needed a code terminal". In addition to being easy to create, the CEO emphasizes that there was already a community within programming. "It made a lot of sense. The programming community is already quite open, and people are keen to share".

After landing on a focus area, the two developers went together on a cabin trip, and when they returned the service was almost finished. "People could post a question, and someone could jump into a live chat room with a code editor, where they could code together. So, when I wrote code, you immediately saw what happened on your screen." Within the next week, they also added live video, and by February 2016 the service was ready for launch. The focus for the launch was on Trondheim and the student community at NTNU. "We started with NTNU as a testing rabbit, but the goal was to hit the whole world, sooner or later".

In order to secure a kick-start, the CEO explains that they invited students taking relevant programming classes at NTNU to a pizza party at the day of the launch. "There we got 10 guys from the IDI institute to sit and be ready and help answering questions. There were like 100 people signing up the day we launched, and the guys were answering questions continuously." The CEO explains that the CTO also were answering a lot of questions since launch, to maintain on-demand help on the platform. Although the CEO emphasize the importance of the founders helping out with questions themselves in the beginning, it soon

started to be enough independent users helping out. "I think there were some champs who thought it was fun to help. You saw quite a large difference. There were someone who helped one or two times, and then there were someone who helped a lot. Someone were almost getting close to Øyvind (the CTO)". Further, to acquire new users, the CEO explains that they posted in all relevant Facebook groups, went around campus and tried to inform people about the new service by talking to people and hanging up posters. However, the CEO admits that it was not very effective.

The founders continued to test new ways of acquiring users, and went to professors and asked to present Codenudge to students during lectures. According to the CEO, this proved effective. "Then a lot of people signed up. But the conversion rate was bad. Out of like 50 people who signed up, only 4-5 people dared to use it". The CEO suspects that the low usage was because people did not trust the service, and did not find it natural to go there to get help. Therefore, they figured that they had to get the professors of relevant classes to adopt the service and tell their students to use it. "Our approach became to try and sell it to the professor, and then he would sell the platform for us in a way. He could say 'use this, it's really nice, here you'll get help'. Then it would be legitimized". The CEO was certain that by managing to get one professor onboard, it would be a lot easier to get more, as the professor could validate that it worked.

With the new plan in hand, the founders set out to contact professors in relevant data subjects at universities around Norway. The founders soon realized that it was very hard to get in contact with them and out of the ten professors they managed to arrange a meeting with, none of them were convinced. "A lot of them thought it sounded smart, and liked the thought of it, but none of them went for it. They were like: "maybe next semester, we have to look at it and test it etc.". The CEO admits that this was the last straw, as their entire business model, including revenue model and marketing approach, had been based on selling it to professors. "We never managed to sell the platform to professors, and in a way, that's where everything failed".

In hindsight, the CEO admits that they should have been talking with professors and trying to get paid for the platform much sooner to validate their business model. "We talked to professors the whole time. The problem was that we did not sell it. We rather wanted to test it out than potentially lose them because they did not dare to pay for it". In addition to validate the business model, the CEO underlines the importance of getting paid early to get real feedback from users. "people don't care to give you real feedback when it's free". Although emphasizing the need to get paid early, the CEO admits that if they had managed to create a

service with a lot of active users on both sides, they would have eventually managed to find a way to earn money on it.

Throughout the launch period, the founders were actively answering questions on the platform, but they did not ask questions themselves. The CEO admits that this was a mistake. "I was learning to code myself at the time, and I never asked one question on the site. I did not use my own platform for what it was meant for. That's quite ironic. That is probably because I was one of the people who were afraid to ask questions. The Law of Jante is so strong.". Having in mind that their main struggle throughout was to get people to ask questions, the CEO concludes that they should have focused more on this. "I should have forced myself to use the platform".

4.5.2 Pre-conditions

Competence

The team initially consisted of three students Martin Røed, Øyvind Hellenes and Jonas Neraal Jakobsen. All were attending the School of Entrepreneurship, and whereas Røed and Hellenes focused on developing the service, Jakobsen was the CEO, and in charge of business development. Already within the first month, Røed chose to leave, but Jakobsen and Hellenes continued working toward accomplishing their vision. The team did not acquire considerable funding, and did not spend much on marketing throughout the period.

Competition

When they started out, the CEO says that there were several similar platforms internationally, but they all had different business models. "There were solutions that were basically the same solution as ours, but where you paid for each minute you got help". Codenudge's business model, on the other hand, was based on getting paid from institutions, and let users ask questions without any cost. The CEO admits that he is unsure whether the act of paying for the service would have made it more credible and would perceived as more valuable for people asking for help. Instead, the CEO concludes that they rather focused on removing all barriers to usage.

Although similar platforms existed internationally, they were not present in Norway. The CEO explains that students in their target market used a platform called Piazza. "Piazza is a platform where you can ask questions, and then someone comes to answer with text when it suites them. Either a professor, a teaching assistant or a co-student can answer." The CEO explains that this was the tool the professors had actively chosen to use for their classes, and

asked their students to use. "So, we would have had to fight against, been a supplement or replacement for Piazza".

Moreover, the CEO also notes that the global programming forum Stack Overflow was another substitute to Codenudge. "Stack Overflow is a very famous forum. Piazza is kind of a more intimate version of Stack Overflow." However, according to the CEO, a large difference between Codenudge and forums such as Stack Overflow is that you didn't need to have any pre-knowledge to ask questions on Codenudge. "Forums are based on that you know what you're asking for. But, new programmers taking C+++, java etc., don't have a clue of what they're doing, and don't know what they're asking for". Thus, the CEO highlights that being a place where people could ask anything was one Codenudge's strengths, and most of the time people were able to help. This was also due to the ability to communicate in real time, in contrast to forums where you wrote a question and could get written answers in a few days.

4.5.3 Facilitating interactions

Frictionless entry

Before being able to start using the platform people had to create a user. This was done quite easily, and according to the CEO the only thing you had to write was your username. "We thought that it wasn't very important. I don't think people care so much whether you have your name or address there. They are more interested in getting help with their questions. If you get the help you need, it doesn't make a difference". After having created a user profile you could post a question. The question then appeared in a list on the other side of the platform where people could choose to jump in and help. When a new question was added, a notification email was sent to existing members. The first person to jump in, got to help with the question, and the question was removed from the list. The CEO recalls that sometimes the questions were poorly formulated, so that people who tried to take the questions did not manage to answer them. Then the question went back into the list so that others could help.

Matching

In terms of matching, the CEO explains that from the beginning they focused on communicating in channels toward students taking specific subjects, and made sure to be able to answer questions on those subjects. For instance, the CEO was taking the same courses as them, and finished the tests a week in advance so that he could answer questions. The CEO also explains that after a while they added sub categories to the platform, so that people could choose where to post the question. "So, you could ask a question in your class, your university, in Norway or the whole world."

During the launch period, they had been sending out emails to everyone who had signed up when new questions appeared on the platform, but the CEO admits that they would have needed to add much better filtering if they had more people asking questions. In this respect, the CEO explains that they had been discussing that people could choose what they were specialized in when creating a profile, so that they would only get emails about questions related to those subjects. In this way, they could turn the model around, and people could request help from specific people. "When people needed help with something they could scroll through a list of relevant people they could send a request to. That would in a way have made it more direct, and perhaps more engaging."

Further, to try to improve the matching between people needing help and people who could help, the CEO explains that they also discussed adding the possibility for people to assign when they needed help with a question. "We talked a lot about adding the possibility to write "I need help at 16:00, and it will take around 10 minutes." But we never added it, because our focus all the way was to be on-demand.". In general, the CEO concludes that their matching was poor, and that the way they did it only worked because there were only around 200 registered users.

Empowering producers

When it comes to following up specific users, the CEO confirms that they did not do it. He emphasizes that getting people to help and the quality of their help was never a problem. To their surprise, even though they did not get any rewards for helping, people were very eager to help. "It was astonishing. Throughout the whole period, there was never a reward to the people who helped, but people helped anyway". The CEO notes that they did add a simple reward system to the platform. "We created a very simple gamification system, where people got points for helping. And then they went up in ranks when they reached a specific number of points." The CEO admits that he isn't sure how effective it was. "I don't know how much it mattered, we never got to test it for real".

Governance

In terms of governance, the CEO admits that they did not have any restrictions on who could participate. "We only wanted as many people to help as possible. For us it didn't matter who helped, as long as someone did". The CEO believes it was not necessary to restrict access. "With a platform like ours, no one are bothered to answer questions if they don't know the answer, or if they don't think they know it. So that's screening in itself. What's the point of jumping into a question if you don't know the answer? That only gets awkward.". To make sure people got the help they needed, the CEO notes that they had a rating system on the platform. It was in the form of a question asking, "Did you get the help you were looking

for?", where you could either press yes or no. "We wanted to have it as simple as possible, so that actually people did it".

Trust

In general, Codenduge's largest challenge was to get people to ask questions on the platform. "It is difficult when it is not a platform people are familiar with, and don't really trust. They don't know that they can get help there, so they don't come here to get help." The CEO explains that this trust issue, which prevented usage, became a huge reason for their large focus on professors. "We bet everything into the professors, and that they would make sure that it became safe." The CEO explains that the idea behind adding the sub categories, was to enable people to ask questions to people in the same class or university. "If you are in a class environment, you would feel less exposed than if you were among total strangers. It wouldn't be as intimidating then". However, the CEO did not really know if the sub categories made a big difference. In addition to add sub categories, the CEO informs that they changed their name from "Thxbro" to Codenudge to be taken more seriously by the professors: "we needed a more professional name that was easier to swallow for institutions".

4.6 Jobbr

Jobbr was founded by the four students Amalie Egeberg, Erik Sandsmark, Jakob Palmers, Tord Overå the fall of 2014. The idea came from Palmers who were used to doing small work tasks for his grandmother, while growing up. He remembered how his friends also were looking for jobs but could not find any, so got the vision to make it easier for younger people to get in contact with people who needed help with something. To develop the service, Valdemar Rolfsen and Ruben Schimidt Mälllberg joined as CTO and Lead Developer. After one year trying to realize the vision, the team gave up their efforts in January 2016. At the time the service had 500 registered users.

4.6.1 Launch

Since starting out in January 2015, the team spent a lot of time talking to people and learning how the service should be. One of the first things they did was to print out loads of job listings and put them in thousands of different mailboxes around Trondheim. According to the CEO, Amalie Egeberg, this resulted in several phone calls from people who had jobs they wanted to get done. After thorough testing, as well as different questionnaires, they found that their main "employees" were students, as they could use the service to get some extra income. According to the CEO they would also be interested in more flexible work tasks, than would be the case with potential full-time jobs. On the other hand, they had found that their typical "employer" would be women aged 30-39 who needed help with chores. Whereas the employers were thought to prefer using a web version of service, the CEO explains that the

students would use their phone. However, to test the concept as quickly as possible and get market validation, the CEO explains that they first focused on making a website version of the service, as the app would require more time to be developed.

After several months of hard work. they were finally ready to release their first alpha version of the service in May 2015. "It did not have all the functionality we wanted, but it was possible to post a job and take a job, but nothing more than that". The CEO also admits that although it was possible to use the service on a telephone it was far from optimal, and worked best on PC. The CEO thought that they would need to start in a small area where they had a network, and chose to launch the alpha version at Nesodden, where the former CEO had a lot of connections.

During the summer, the founders were going to Boston to attend a three-month entrepreneurship program at the Boston University, making them largely dependent on their network. They called people they knew and asked them to post jobs on the platform. They were also featured in the local newspaper, and paid people to hang up posters around the city. When new jobs were added to the service, the CEO explains that they were quick to ask other friends to do them. "Basically, we had to use everyone we knew to take the jobs, so we had to pull all levers". In this respect, the CEO admits that it was a weakness that the team was situated in Boston during the alpha launch period, as they could not take on or post any jobs themselves. "We never expected that as soon as we had a service it would suddenly start growing organically, so we knew we had to do a lot of manual work to get people to both post and take jobs. It was super difficult, because we sat in Boston and had to handle all this."

During their stay in Boston, they figured that they had to change the name of the service from "Helping Hands" to "Jobbr". According to the CEO, this was because there were already different organizations and companies with the same name which had taken the domain name, and a unique name would also make it easier for them to increase their visibility on Google. In August, when the team came back from Boston, they continued working on a new version of the service. After another several months of hard work, they finally launched the new version in November 2015. This time their focus area was Trondheim, and the CEO thought that it would be perfect to launch during the same time as the festival UKA, as students likely would need to earn a little extra.

In order to make sure there were job listings on the platform from launch, they asked all their student friends and other people in their network to post jobs. Students weren't necessarily their target group for "employers", but the CEO admits that several students posted jobs.

Although several jobs were posted, few students were taking the jobs, which required the founders to take on jobs themselves. There was one foreign couple who took a lot of jobs, and the CEO recalls that the woman in the couple called several times asking whether more jobs would be posted on the platform. According to the CEO there was also one person who were very active putting out job listings on the platform, but that he unfortunately was in Oslo. "We had a tough time finding people who could do the jobs he posted, because we did not have a student network in Oslo". Overall, the CEO thinks these power users are valuable. "If you get a few of these powers users, and they are willing to take on many jobs, you could manage to get by only with them in the beginning."

In addition to talk to people in their network, the CEO explains that they had their friends share posts about Jobbr on Facebook. They also hung up a lot of posters and flyers around the university trying to acquire users. They did not spend anything on paid advertising, but were regularly mentioned in newspapers as one of the new aspiring Norwegian sharing economy services. In January 2016, Jobbr was also featured on the 21:00 News on the national TV channel TV2. "This was the first time we really saw several jobs being posted on the platform. Then we suddenly got – I wouldn't say a lot – but then it went from so to say zero jobs to ten or something within 24 hours. I remember the website shutting down." Despite generating several listings on the platform, the CEO admits it was not necessarily a smart move for them. "it created a large gap, because we had our network in Trondheim. So, when people started posting jobs all around Norway, we did not know anyone who could take on the jobs."

When it comes to what jobs were posted on the platform, the CEO explains that they had many discussions. "We were a lot back and forth, but every time we launched something, it included all small jobs – jobs where you did not need a specific profession to do it". In hindsight, the CEO thinks that their lack of focus on some types of jobs was a mistake. "By opening for all small jobs, people might not associate us with anything, and we just become a big potato".

The team continued working to try and solve the chicken or egg problem, but finally in January 2016 they gave up. At this point, the CEO recalls that they had around 500 registered users. The number of users had functioned as their main metric. The CEO generally thinks that it was very difficult to get either of the sides on board. "First you get someone who can do a job, and then you get someone to post a job. But then that job might not be the job that was planned, and then perhaps the time didn't suit – so you are constantly pulling from both sides. It might be that one side was more difficult than the other, but in my head, they both

were very challenging". The CEO explains that if she was to do it again, she would have had a narrower focus. "Then it would have been easier to recruit users on both sides, when you know exactly what is supposed to be done." However, in this respect the CEO notes that focusing on such a small market as Norway, might make it difficult to get narrow enough. "In Norway where we are a lot fewer people than for example the US, it might be a challenge to make a narrowly focused service because we are not so many, and there will be less supply and demand on each side".

Moreover, the CEO believes that either heavy marketing or a lot of manual work is key to be able to build a marketplace. "I think marketing is gold worth when building such a platform, because things will not happen organically, at least that was not our experience." "I understand that building such a platform is an incredible sacrifice and that you have to do all jobs yourself in the beginning. Also, it takes a lot more time to build a critical mass of users if you don't have marketing funds to build your rennomé."

4.6.2 Pre-conditions

Resources

The team behind Jobbr initially consisted of six students at NTNU. Whereas four studied at the school of Entrepreneurship and focused on the business development, the other two took technical specializations and focused on programming the service. By the summer of 2015, three of the team members, Tord Overå, Erik Sandsmark and Jakob Palmers went out. They were replaced by Malin Husefest from the School of Entrepreneurship, who joined Amalie Egeberg on the business development side. Through the School of Entrepreneurship, the team had their own mentor, Tronn Skjerstad, who had valuable experience from different large companies in Norway, including Schibstedt. In total, the team acquired 75 000 NOK from Innovation Norway, Venture Cup and Spark. The funds were mainly earmarked to market validating activities, and could not be spent on marketing.

Competition

Just before Jobbr launched, the largest Norwegian marketplace company, FINN, had launched their own platform for small jobs, called "FINN småjobber". The CEO explains that they contacted users on FINN to understand why people would post and take small jobs, and if they were happy with FINN's platform. The CEO explains that they found different weaknesses with FINN's product. "When we started out, we looked at FINN and thought their solution was bad, and we did not agree with their business model." The CEO explains that in contrast to Finn who required users to pay a fee of 15 NOK just to see job listings on the platform, it was free for both "employees" and "employers" to post and take jobs on

Jobbr. Only when a job was completed, a service charge of 10% was added. The CEO thinks this removed a potential entry barrier for users.

The CEO notes that FINN also had other weaknesses. "The solution was quite identical to how listings were presented on FINN's main platform. For us it didn't seem user friendly, and the design was not appealing". The CEO also adds that they were going to have geo-locations in their service, so that jobs nearby would nicely pop up on a map, making it easy for employees to access relevant jobs in their neighborhood. "So, we were going to make a much more user-friendly service, because we felt that posting a job on Finn took way too long. It almost became a job in itself to take a job or create a job listing." Despite FINN's lack of service features, the CEO admits that FINN's existing user base in Norway as well as marketing budget make a huge difference. "How can you take up the competition with someone who has already surpassed critical mass by far, and already have a platform? It made marketing even more important for us. So, I think when you have such a player, then you really need to have a significantly better solution to stand a chance". In addition, the CEO admits that lacking a narrower focus made everything even more difficult. "It was also really difficult as we did not have a limited user mass we could focus our efforts on".

4.6.3 Facilitating interactions

Friction

Jobbr was a web platform where people could post and take smaller jobs such as cleaning, painting the fence and babysitting. According to the CEO the idea was connect people who didn't have time or ability to get these kinds of jobs done with people who had time and needed extra money.

In order to either post or take jobs on Jobbr, you first had to create a user. Here you had to add some basic information about yourself, including a profile photo. If you were going to receive wages or if you were going to pay for a job you also had to add your bank account number. "We focused a lot on having as few steps as possible when creating a user, so that we didn't lose any people on the way". When you had created a user, you could either choose to post a job or check out jobs that were on the platform. When you were posting a job, you had to 1) describe the job, 2) where it was, 3) how much it should cost, 4) estimation of how long time it would take to complete it, and 5) when you wanted to get the job done. You could optionally add a picture of the job. When it comes to the pricing, the CEO explains that the people posting the jobs could choose this themselves, but that they had set a minimum hourly wage of 150NOK.

If you were interested in taking a job, all potential jobs came up on a map, and you could send a request on jobs you wanted to take. If several people sent requests on the same job, the employer could choose who could take the job. There was no time limit for the employer to accept the requests. After a job was finished, both the employee and the employer had to confirm that the job had been finished. According to the CEO, this was to make sure that everything had worked out, and that it was safe to transfer the money. Thereafter, the employer could rate the employee on the experience. This would then come up on the employee's profile, so that further employers could evaluate employees on their rating in upcoming job requests. To make sure you did not miss anything, users also had the possibility to enable the option to get immediate email notifications if new jobs were posted on the platform.

Generally, the CEO explains that they had a large focus on building the service as quick to use as possible. What they refer to as "Smartposting" and "SmartApply" allowed users to apply and post jobs with as few as few actions as possible. The CEO also explains how she spent a lot of time finding the perfect payment solution, and ended up with Stripe Connect, as the first Norwegian company to do so. At a service charge of 10% added on top of the price for the employer, the payment on the platform became both secure and easy. The CEO emphasizes that if the price for a job was 150NOK, then it was important that the employee got exactly that. She believes that the employers would be less price sensitive and see the service charge as less of a barrier. The service also had a chat, where the users could chat with each other during a job agreement. In addition, the CEO notes that they had the support service Intercom added to the service, which allowed users to easily get in contact if they had any questions.

Matching

In terms of matching, the CEO emphasizes that their lack of focus made it very difficult to match people who wanted to do a job with people who wanted to get a job done. "Not only was it a challenge to find people to put out jobs and get people to do jobs, but you also had to make sure that there was a match. Even though we would have managed to get a lot of job listings on the platform, it wouldn't mean that there would be someone who wanted to the jobs. So, I think it would be easier to make a service which focused on one thing in the beginning, because then everyone knows what the service is about".

Governance

Anyone could post or take jobs on the service, and the rating system was meant to govern users. "We had a rating system, so that's how the filtering of users was conducted. But that is dependent on someone doing a job, and posting a job, to start the whole process". The CEO

adds that they also were planning to add the possibility for employees to rate the employers. At one time, the CEO explains that they had to remove a job from the service. As she explains, the job was too large and did not fall under their focus on "small jobs where you did not need a profession". In addition to avoid harmful content, the CEO explains that they thought it was important to govern what's on the platform to teach users how to use the platform. "people tend to check out what others are posting to find inspiration of what type of work people are posting".

Trust

The CEO believes that trust is central for a two-sided peer to peer platform to succeed. "I remember we discussed it a lot, because you are going to have people in your home cleaning your house, watching your kids… When it comes to garden work the person is perhaps not as important – then you are outside –but when the person is in your home, trust is critical". In addition to the rating system, the CEO explains that they had large plans to add different kinds of verification elements to the service, including integration with Facebook profile and BankID. However, the CEO admits that this was not in place when they launched.

4.7 Case studies summarized

Themes	Nabobil	Tise	Leieting	WeClean	Codenudge	Jobbr
Statistics (March, 2017**)**	**Launched:** September 2015 **Registered users:** 70 000 **Transactions:** 25 000 **Growth:** Exponential & organic in Oslo, steady in other cities	**Launched:** December 2014 **Registered users:** 170 000 **Transactions:** 135 000 **Growth:** Strong organic linear growth	**Launched:** October 2015 **Registered users:** 7 500 **Transactions:** N/A **Growth:** Slow	**Launched:** December 2015 **Registered users:** 8 000 **Transactions:** N/A **Growth:** Slow	**Launched:** January 2016 **Registered users:** 280 **Transactions:** N/A **Not active**	**Launched:** May 2015 **Registered users:** 500 **Transactions:** N/A **Not active**
Pre-conditions	Experienced founders. Enabled insurance deal with IF. All competence in-house. A lot of capital for marketing – including 15 million NOK in investments. Leveraged large network in Oslo during launch. Great timing. Sharing economy	In-house developers. Celebrity with tremendous marketing value in core team. Competitor Finn.no already existed. Letgo & Shpock also launched. No specific funds for marketing. No significant investments. Good timing with focus on	Perfect timing with sharing economy boom in Norway. Launched just before competition. Harvested all media attention. Business model not proven abroad. 1.8 million in investments for	Perfect timing with sharing economy boom in Norway. First of competition to launch in Norway. Got all media attention. 3 million in investments. Backend not in-	2 team members. 1 in-house developer with expertise in the domain of the platform. No significant funds for marketing. No direct competition in Norway.	2 in-house developers. Launched after Finn Småjobber, who already had a large network. No investments or significant funds for marketing. Sharing economy

	boom & launched first in Norway, got all the media exposure. Copied proven business model abroad.	environmentally friendly services.	wages & marketing. In-house developers. Got insurance deal with IF.	house has caused restrictions. Got insurance deal with IF.	Concept proven, but business model not proven abroad.	in Norway. Good timing. A lot of free media attention.
Focus	**Category focus** on cars **Geography focus** initially on Oslo and Akershus, as well as Bergen, Trondheim Stavanger	**Category focus** on second hand women clothes as well as interior. (Initially broad focus on becoming Instagram for second hand items). **Geography focus** on Oslo, but expanded to other parts of Norway (Initially global).	**No category focus,** but shifted towards focusing on items of more value. **Geography focus** on Norway, but gradually more focus towards Oslo and Bergen.	**Category focus** on cleaning for both homes and businesses and flyttevask. **Geography focus** on the Oslo region.	**Category focus** on programming in universities **Geography focus** initially on Trondheim, but also targeted other parts of Norway	**No category focus** other than jobs which you do not need a profession to do. **Geography focus** on Trondheim, but allowed focus to shift to other cities
Attracting users	Sent customized emails to everyone's LinkedIn networks in Oslo. Media coverage in biggest newspapers, and paid to boost these through Facebook. Posted on all relevant Facebook pages. Resulted in 1000 cars on	Tried several strategies: Tool to create sales posts for Facebook groups. Cooperation with Facebook groups with 200 000 members. Not very effective. Got Norwegian celebrity, Jenny Skavlan to spread it to her network &	Friends posted 40 things for rent on the platform. Launched at large sharing economy event. Attracted interest around the country. Rented and rented out things	Started out as a two-sided platform. Wanted more control of the quality of cleaners. Turned into a one-sided platform. Invited cleaners to bring on their	Invited to a pizza party. Got 10 students to answer questions. Resulted in 100 new users. Spread the service through student Facebook groups,	Both took a lot of jobs themselves and posted jobs on the platform. Media attention from TV2. Posters around campus. Encouraged friends to patriciate. Free

	the platform within 2 weeks. Millions invested in Facebook and Google ads targeted at people within the geography focus. Attending events and TV debates, holding presentations and getting media coverage.	and followers on social media. Also, exclusively sold clothes and shared it to Instagram. From 12 000 users to 100 000 within 2 months. Attracted a lot of bloggers, promoting Tise to their followers. In total only 400 000NOK spent on paid advertising through Facebook, Instagram ads	themselves. Spent average amounts on Facebook and Google ads toward people in Norway who were interested in the sharing economy.	customer base. Mostly marketing through social media such as Facebook. Also active in the media.	and posters on campus. Founders also answered questions. Presented it to university classes. Resulted in 50 new users, but only 3-4 became active. Helpers gained ranks.	for people to add listings.
Removing friction & matching	**Producers:** Quick, easy & intuitive to post car for rent. Can decline potential rental requests. Insurance removing all risk for car owners. No fee to add sales post. **Users:** No instant rental. Need to send rental requests. Intuitive design. Easy to find & send rental requests. Good filtering	**Producers:** Quick, easy & intuitive to post sales posts. Tips & tricks for photos, delivery, and hash tags etc. Safe payments, removing risk. Did not make ratings of seller visible, to avoid it becoming a barrier for new sellers. No fee to add sales posts. **Users:** Safe payments allow instant purchasing. Search,	**Producers:** Easy & intuitive to post things for rent. Can decline potential rental requests. Insurance removing all risk for owners. No fee to add sales posts. **Users:** No instant rental. Need to send rental requests. Easy	**Producers:** Need to be employed to get access to users' cleaning requests. 900 cleaners on wait list. **Users:** Easy to request cleaning, but could be more intuitive. No Subscriptions etc. needed. --> No	**Producers:** Simple & convenient for helpers to help. Gets email about new requests. Would need more filtering if scaled. **Users:** Easy to ask a question. No need for pre knowledge. Video	**Producers:** Focus on making it as easy as possible to register & add listings on the platform. Difficult to know what jobs to post. **Users:** Focused on making it as easy as possible to take jobs: SmartApply,

	options	expanded filtering options for clothes category. Intentionally left out extended filtering options to give impression of more content.	to send rental requests. A lot of filtering options but lacks intuitiveness. Filters customized nationally by default.	commitments. Instant purchase not available, but, cleaners quickly answer requests. Free to request cleaning.	chat is optional. Users can use usernames & choose to be anonymous. Free to request and receive help.	3 clicks. Wanted to create an app, making it even easier, but quit before it was finished. Free to add help requests.
Empowering producers	Large focus on following up car owners. Calling them. Inviting them for a coffee. Arranged free photography sessions. Helps them create attractive rental listings & become ambassadors for Nabobil.	Includes tips & tricks in the app on taking great photos, delivery options, relevant hash tags, safe payments etc. No dates on listings. Created sales posts to demonstrate. As 1/3 of all users are sellers, no point following up specific users.	No specific follow up of producers. But support chat easily available. Tips & tricks sent on email. Slack channel for their investors, who are also their most active users.	Tight follow-up of cleaners. Strict requirements, tricks & tips to offer the best possible cleaning. Feels this is imperative to build a foundation for growth.	No specific follow-up of producers	Support chat easily available. Spent much time on facilitating interactions between helpers and users.
Governance	**Openness:** Requires driver's license scan & age limit for both renters and car owners. Considering to begin governing renters on	**Openness:** Requires Facebook login. CEO thinks the platform is self-governing as the best sellers get followers and likes. Initially hid bad posts.	**Openness:** Requires BankID and ID scan. 18 year age limit, and 23 on cars, boats & MC **Usage:** two-way	**Openness:** Strict for cleaners, need training and needs to be employed to use the service. Open for buyers.	**Openness:** Open to everyone. CEO thinks social norms will prevent people who don't know	**Openness:** Open to everyone. **Usage:** peer to peer rating system. People who needs help rate the helper

	credit score. **Usage:** Two-way rating & review system govern both renters and car owners. 1-5 stars.	Stopped after a while. **Usage:** Rating system, but hidden from other users, to prevent barriers to entry for new sellers. Followers & likes. Only exposed to content you follow.	peer to peer evaluation system: "helpful" vs no "helpful" and reviews	**Usage:** peer to peer rating systems, customers rate cleaners. Hidden for users, but help the platform manager with governance.	the answers from helping. **Usage:** peer to peer evaluation system: help is rated as "helpful" vs "not helpful".	from 1-5 stars.
Trust	Insurance deal. Driver license scan required. Age limit. Both parties can rate & review each other. Optional to accept rental requests. Focus on being in the news & authoritarian voice in the sharing economy. Professional design. ID verification with BankID, Facebook, Google and mobile number. Chose a Norwegian and trustful brand name.	Forces login with Facebook profile. Receives Facebook picture, name which cannot be changed. Mutual friends, followers & likes. Safe payments. Promoted publicly as celebrity Jenny Skavlan's app, who has a well-known love for second hand clothes and a large social following. App design based on Instagram.	Support chat easily available. Chose a Norwegian and trustful name. Focus on getting publicity in newspapers. Keeping brand identity Norwegian. ID verification through BankID and Stripe. Insurance deal with IF. Expose newspapers' and insurance partners' brand logos.	Rating system. No exposure of insurance partner's logo on app nor website. Cleaners report the status of the place up against what the customer has purchased, before starting to clean. Insurance deal with IF, removing risk.	Users lack trust toward the platform, and do not dare to ask questions. Entire business model based on getting professors to adopt the service and advise students to use it, but failed.	Rating system; helpers rated from 1-5 stars. Conscious about the large need for trust, and had plans to add more functionalities creating trust, to the service, but stopped before they got there.

5 Analysis

5.1 Within-case analyses

In the following, each case will be analyzed based on the theoretical framework presented in chapter 3.5. First the market context will be analyzed, followed by the different ways the platform attracted users and facilitated interactions to generate positive indirect network effects. Each within-case analysis will be ended by a conclusion on whether they reached critical mass.

5.1.1 Tise

Tise has successfully reached critical mass, as illustrated in figure 6 below. In the following, the different parts of the figure will be explained.
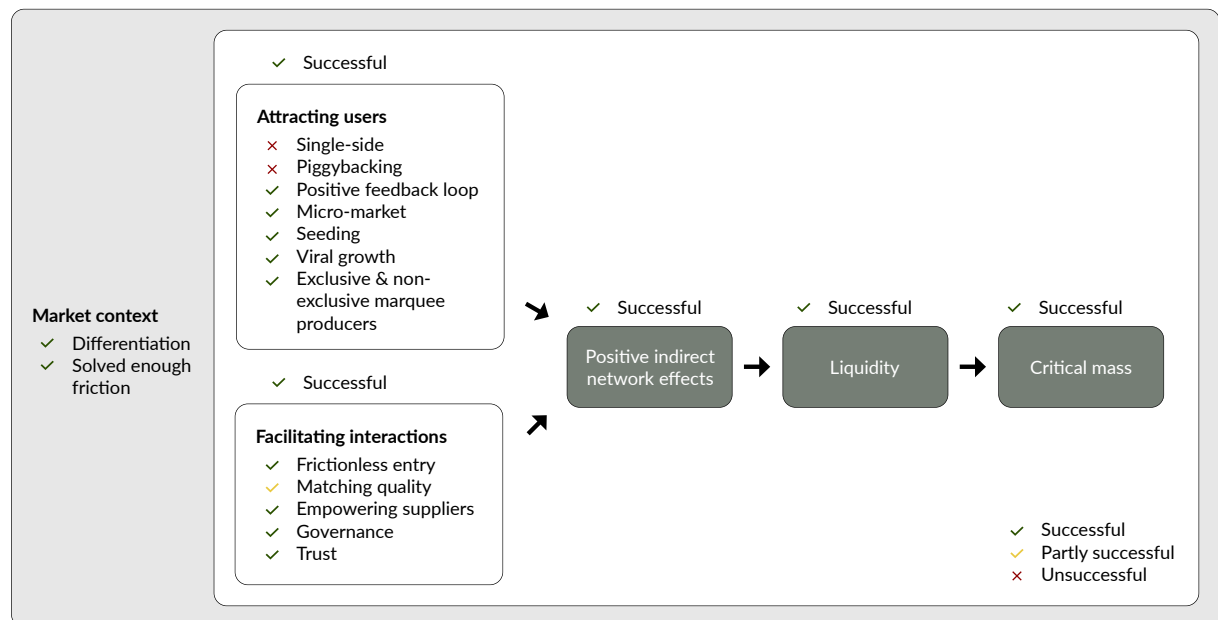

Figure 4 Tise

Market context

It seems Tise's focus on becoming a more "cool and social marketplace for second hand items" did not effectively offer enough differentiation from Finn.no, but when they narrowed down to focus on second hand clothes for girls, they got a clearer differentiation (Hagiu, 2006). As Tise saw that people rather would throw their things in the trash than go through the trouble of selling it on Finn, it seemed evident that there was enough friction for Tise to solve (Rochet & Tirole, 2006).

Attracting users

Tise's sole focus on clothes for girls in Norway, and more specifically Oslo, show that they followed the micro-market strategy with a category and geography focus. Before they landed on this focus, their efforts to create a tool where people could make nicer looking posts for Facebook groups, was a way of following the single-side strategy. This did not work out very effectively, but the CEO said that the initial supply it created on the app was important to convince new users joining the platform to put something out themselves. This shows that Tise leveraged the power of the positive feedback loop (Parker et al., 2016). Further, Tise's strategy to steal some of the 200 000 users from the Facebook groups for buying and selling across Norway, represented a piggybacking strategy (Parker & Van Alstyne, 2014). Neither this worked effectively to attract users to the platform.

With the category focus of second hand clothes for girls and having got the new chairman of the board, Tise managed to get Jenny Skavlan to join the team. When she put out her own clothes for sale on the platform, and shared it with her followers, Tise effectively employed several of the user acquisition tactics listed in the literature. First, as she was selling her clothes exclusively on the platform, this constituted the exclusive marquee strategy. She then shared these value units with her followers on the external network, Instagram, following the viral growth strategy. As Skavlan was in charge of marketing at Tise, it meant that they also followed the seeding strategy with self-supply (Evans, 2009). Finally, being famous around the country for her dedication for second hand clothes, the recipients of the viral growth strategy were within Tise's category focus. After having followed different user acquisition tactics separately in the past without large success, this bundled strategy had massive impact and grew the number of users from 12 000 to 100 000 within a month.

In addition to generate indirect network effects, Skavlan's introduction also caused positive direct network effects, where more attractive users on the same side wanted to join (Evans & Schmalensee (2016). As Skavlan attracted a lot of other influential figures, who also started selling their clothes and shared it with their follower base, this further enabled the viral growth strategy. The importance of such users is highlighted by Evans (2009) who says that it's important to get such influential users on board the platform in the beginning as they will generate strong direct and indirect network effects. As the best sellers on the platform got a lot of followers, likes and Tise points, it seems these incentives enabled Tise to follow the exclusive marquee producer strategy, encouraging them to single-home on the platform. While Eisenmann et al. (2006) emphasize that it might often be too expensive for startups to follow the exclusive marquee strategy, Tise was able to do it because Skavlan was part of the

core team and by incentivizing users with different types of non-monetary currencies (Parker et al., 2016)

Facilitating interactions

By basing the functionality and design of the app on Instagram, this helped to create a frictionless entry for users on the platform. For producers, the minimal steps required to put something out for sale as well as tips on hashtags, categories, prices and freight enabled a frictionless entry to sell on the platform. On the other hand, the matching quality on the platform was not optimal, and the CEO explained that a lot of good sales posts drowned because of the large amount of supply. The CEO also noted that they intentionally left out too much filters in the beginning to give people the impression of more content, reinforcing the positive feedback loop. When it comes to empowering producers, Tise did not manually follow up specific sellers, but all the tips, tricks and standardizations provided to sellers when posting an item, effectively helped to empower suppliers. They also seeded the platform with posts to demonstrate how good sales posts should look, which was another way of empowering producers. Another trick the CEO highlighted to maintain high quality of the supply, was removing dates on the sales posts. In this way, they both empowered their producers and staged value creation as new users would not know how old the existing posts on the platform were (Parker et al., 2016). Apart from the required Facebook login they did not have any access governance, but the usage governance system effectively governed the platform. Finally, in addition to the Facebook login, functionality such as safe payments and transaction history for sellers were added to successfully enable trust between users.

Indirect network effects, liquidity and critical mass

Despite not having optimized matching quality on the platform, the total positive indirect network effects Tise created through the other tactics to attract users and facilitate interactions, enabled the platform to reach liquidity and critical mass. This is shown by their strong linear organic growth, 170 000 registered users, and 1/3 of all items being sold (Evans 2009).

5.1.2 Nabobil

Nabobil has successfully reached critical mass, as illustrated in figure 7 below. In the following, the different parts of the figure will be explained.
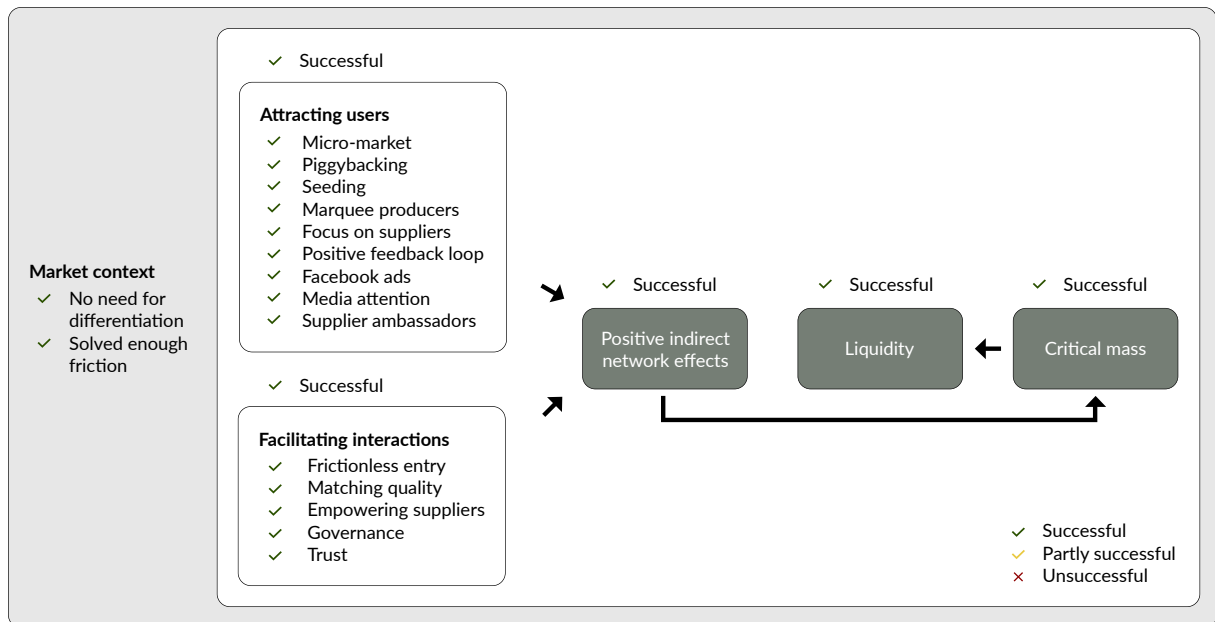
Figure 5 Nabobil

Market context

As Nabobil launched just before their direct competitor GoMore in the Norwegian market, they did not focus on differentiating (Eisenmann et al., 2006). The CEO explained that they intentionally chose to focus on cars, as this is one of the people's most valuable assets and constitute large investments.

Thus, by allowing people who had already bought a car to save money on their investment, and enable other people to not own a car themselves, Nabobil would solve a large friction (Rochet & Tirole, 2006; Evans & Schmalensee, 2016).

Attracting users

By starting out in Oslo with a sole focus on cars, Nabobil followed a micro-market strategy with a category and geography focus (Parker & Van Alstyne, 2014). Further, by using a plugin to send customized emails to all the seven founders' personal LinkedIn networks in Oslo, they effectively combined several of the user acquisition tactics listed in the literature. First, they only contacted people in their network who were in Oslo and clearly explained that the service was about cars, in line with the micro-market strategy with a geography and category focus (Parker et al., 2016). Further, as the people who were contacted were within the founders' personal networks, their supply would constitute seeding (Parker & Van Alstyne, 2014). Finally, by piggybacking on the user base from the external platform, LinkedIn, it meant they also followed the piggybacking strategy (ibid).

This bundled strategy enabled Nabobil to get a considerable initial supply base of cars on the platform in Oslo, before launch 8th of September. This in turn, was important to start a

positive feedback loop, where new users joining would see that there was a lot of cars on the platform, convincing them to post their own car (Parker et al., 2016). Thus, when Nabobil officially launched the next day, and got media coverage in all the largest newspapers in Norway, it resulted in 500 cars and 1000 registered users within three days. When Nabobil then also paid to boost these news articles on Facebook towards people within their micro-market in Oslo, they reached their 1 year goal of getting 1000 cars on the platform within 2 weeks. Nabobil had some car owners on the platform who had an entire car park for rent, and would be classified as marquee producers (Eisenmann et al., 2006). Nabobil did not incentivize these users in any way to single-home on their platform, meaning they did not follow an exclusive marquee strategy (ibid).

Moreover, when the CEO was around attending events, he emphasized that people in the audience would check the service to see if there were any cars available in their neighborhoods, and if there weren't, they would lose interest. Thus, the CEO explained that they treated Nabobil as a one-sided platform initially, to generate enough supply on the platform so that it looked impressive when new users came in. This presents another example of the importance of initial supply within a geography focus area to start this positive feedback loop, to attract these users. Nabobil's micro-market focus was also important to demonstrate their growth-potential to investors, enabling them to acquire in total 15 million NOK in 2016. A large amount of these funds has since been spent on Facebook and Google advertising. The CEO explained that paid Facebook and Google advertising gave so much freedom to narrow their targeting and were very effective means of attracting users to the platform. Hence, these tactics seem to be effective as they allowed the platform to attract users specifically within their micro-market.

Facilitating interactions

Overall, the platform is both intuitive and professional, which help to create frictionless entry for both renters and car owners. Nabobil has a transaction based revenue model where neither renters or car owners must pay anything to board the platform. Only when a transaction is finished, the car owner is charged with an administration fee of 25%. This helps to create frictionless entry for users (Parker et al., 2016). The ability for car owners to post their car on the platform with the option to decline potential rental requests helps to create frictionless entry for them. However, for the renters this increases friction, as they must wait for the car owner to accept their request and cannot get instant rentals, like they can with other car rental services. Overall, Nabobil has a frictionless entry for both car owners and renters. In terms of matching quality. Nabobil launched advanced filtering options on the platform, only a few weeks after launch. As they had acquired 1000 cars on the platform at that time, this was

needed to increase matching quality for renters, so that it became easier to find a match. Overall the matching quality is good.

Moreover, Nabobil effectively governed usage on the platform with the peer-to-peer review system and by access governance, specifically driver license scan, age limit and ID verification. This, as well as the insurance deal with IF was imperative to create trust on the platform, by removing risk so that people with expensive cars posted them on the platform. This also helped empower their users and improve the quality of the supply on the platform (Van Alstyne & Schrage, 2017). Nabobil effectively empowered their suppliers by manually following them up. In addition to spend time on manually training the car owners, Nabobil invited them to be part of the product development. Parker et al (2016) note that currency on the platform does not necessarily have to be in the form of money, but can also take other non-monetary forms. Hence, spending so much time to train car owners to make them into marquee producers and include them in the development could potentially be perceived as a source of value for suppliers. Thus, this could be seen as a way of following the exclusive marquee producer strategy, where valuable producers are incentivized to single-home on the platform (Eisenmann et al., 2006).

Positive indirect network effects, liquidity and critical mass

As illustrated by figure 2 above, Nabobil has managed to reach critical mass within their micro-market, Oslo and Akershus. They have done so by choosing a market context where there was enough friction to solve, as well as by effectively finding ways to attract users and facilitate interactions. Eventually, this created sufficient amounts of indirect network effects on the platform for the platform to reach critical mass. However, the literature emphasizes that reaching liquidity is the most important milestone in the life cycle of the platform (Parker et al., 2016), as this lead to word of mouth growth, which eventually drives the platform across the critical mass frontier (Evans & Schmalensee, 2010). Despite having attracted tens of thousands of registered users as well as thousands of cars on the platform, Nabobil did not have a large number of successful interactions on the platform. Instead, their large expenditures in paid advertising seems to have upheld high growth levels despite the lack of liquidity. Eventually, when the platform had attracted enough suppliers and empowered them to add valuable supply in Oslo and Akershus, the value of the service became so great that it reached critical mass regardless.

5.1.3 Leieting

Leieting is still working to reach critical mass, as illustrated by figure 8 below.
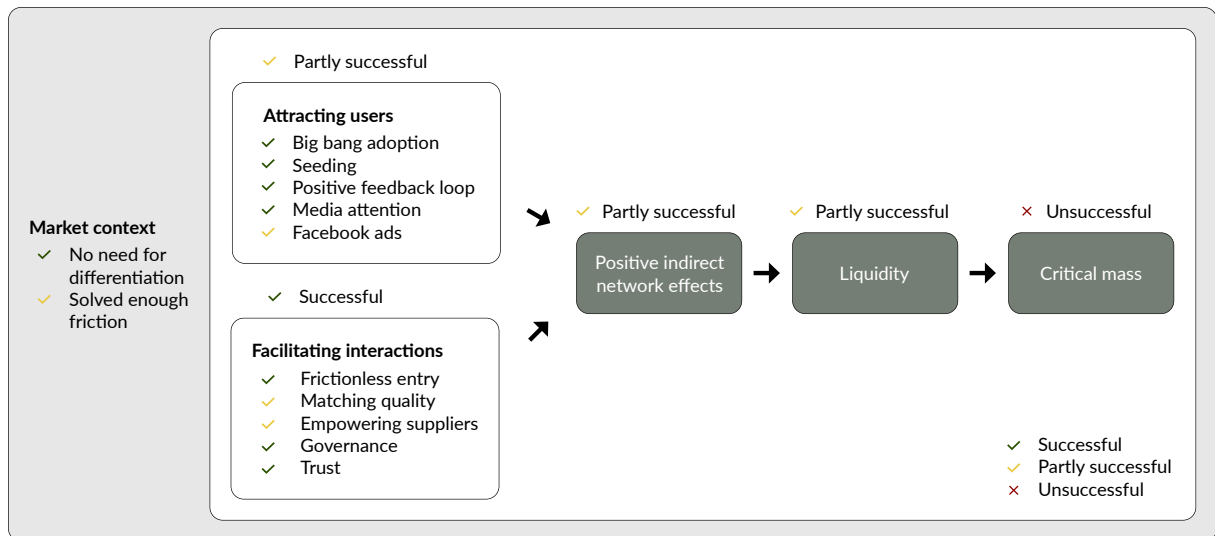
Figure 6 Leieting

Market context

As Leieting launched ahead of their competitor Plendit in the Norwegian market, they did not
differentiate. Their initial focus on drills was not associated with enough friction, so they
gradually shifted their focus towards items of more value. As a result, the authors feel that
Leieting has moved from *unsuccessful* to *partly successful* when it comes to solving enough
friction, as illustrated in figure 3 above. They are not *successful* yet as the "drill stamp" seem
to be quite imprinted, and it will likely require more time and marketing to shift it entirely.

Attracting users

Leieting's launch at an annual conference, could be considered as the big bang adoption
strategy (Parker et al., 2016). According to the CEO, this strategy was effective to attract
users all over Norway. Before launch they had also asked their friends to post some things for
rent on the platform. According to the CEO, this seeding strategy resulted in 40 items being
added to the platform. In general, the founders and their investors were also frequently using
their own service to rent and rent out, which would also represent the seeding strategy (Evans,
2009). The initial supply was important to start the positive feedback loop, when new users
came in at launch. By launching ahead of competition, Leieting got all the media attention
which attracted a lot of users around the country, and due to the positive feedback loop, a lot
of them also posted items for rent on the platform. Finally, although they have spent some
money on Facebook advertising, the CEO regrets that they haven't spent more. Also, the
Facebook ads were initially loosely targeted at segments around the country, and not directed
at specific micro-markets that could potentially have generated stronger indirect network
effects.

Facilitating interactions

While the options for people to add things for rent and then be able to decline potential rental requests enables frictionless entry for suppliers, it increases friction for renters. However, overall, both renting and posting things to rent on the platform is frictionless. When it comes to matching quality, Leieting has been partly successful. Due to the broad category and geography focus, it is difficult for people to know what is possible to rent and where it is available. The search filters work, but they are not intuitive (Parker et al., 2016). Also, the filters are by default set nationally even for people looking for something to rent in for example Oslo. This decreases matching quality, but it helps the positive feedback loop, as users from places where there are few rental posts not will be exposed to an empty marketplace. Instead they will be exposed to all the supply on the platform, which increases the chance that they will add supply themselves.

When it comes to empowering producers, Leieting has been partly successful. Although they do not offer manual training to their suppliers, their support chat is easily available and tips and tricks are sent on email. They also intentionally remove the date on rental posts, making the supply more attractive. Further, Leieting has successfully governed access by for instance setting an age limit, requiring full name of users and requiring them to verify their ID. The peer-to-peer review system successfully governed usage. These governance mechanisms, the insurance deal and more, have enabled Leieting to successfully build trust on the platform.

Indirect network effects, liquidity and critical mass

Leieting has done a lot of things right to generate indirect network effects on the platform. However, by communicating things on the platform which people do not associate with enough friction, the supply did not create strong indirect network effects. At the same time, Leieting's choice to focus on everything from drills to services, and have a broad geography focus on Norway, required Leieting to fill up with tremendous amounts of supply to be able generate enough indirect network effects to attract the other side (Parker & Van Alstyne, 2014). Therefore, the authors find Leieting to be partly successful in generating indirect network effects and liquidity on the platform, hence unsuccessful in reaching critical mass. However, it seems that their model, where the supply has no date and are left on the platform until suppliers manually remove it, gives Leieting time to grow steadily towards the critical mass frontier. This is not consistent with Evans & Schmalensee (2010), who find that two-sided platforms following a simultaneous entry approach have limited time to reach critical mass. This in combination with Leieting's move towards communicating items of more value, as well as narrowing down their geography focus to Oslo and Bergen, could be important

steps towards generating enough indirect effects on the platform to eventually reach critical mass.

5.1.4 WeClean

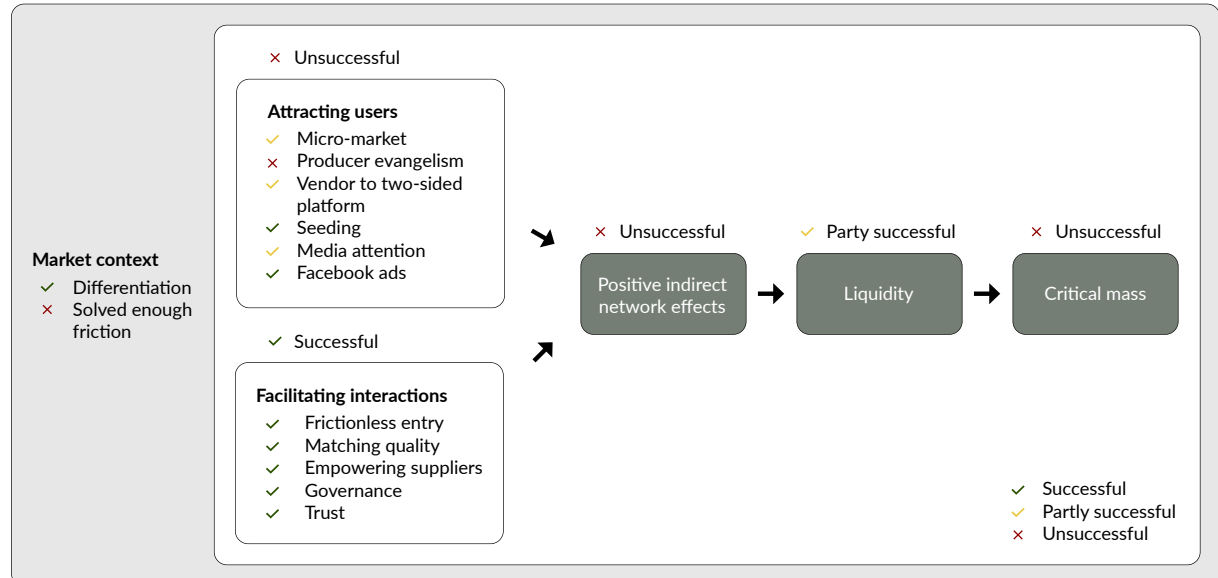WeClean is still working to reach critical mass, as illustrated by figure 9 below.

Figure 7 WeClean

Market context

When WeClean launched, no similar two-sided platforms existed. However, when WeClean changed to a sequential approach by turning into one-sided platform, other cleaning companies became direct competitors. They differentiated from them by delivering cleaning on-demand through an app, and by having more focus on corporate social responsibility. As documented in the case study, there is friction related to getting and delivering home cleaning services legally, and WeClean's goal was to solve this friction. However, lacking control of their own backend has restricted which functionalities WeClean could develop to remove friction for their users. Therefore, the authors find that WeClean has been unsuccessful in solving enough friction. This will be elaborated in the end of this section.

Attracting users

WeClean's intentional choice to focus on Oslo, is in line with a micro-market strategy with geography focus. On the other hand, by focusing on both home-cleaning and business cleaning in the app, WeClean did not employ a narrow category focus. This means that WeClean has been partly successful in employing the micro-market strategy (Parker & Van Alstyne, 2014). Further, WeClean's goal of getting their cleaners to get their current customer base to join the platform represent the producer evangelism strategy (Parker et al., 2016). However, it did not work, as they lacked the ability to optimize the platform catered to the producers' needs (ibid.). WeCLean's large focus on cleaning themselves, represented by the

mantra "if you're too cool to clean, you are too cool for us", shows the seeding strategy with self-supply was heavily utilized (Evans, 2009). This strategy successfully allowed WeClean to always offer high quality cleaning services on-demand and maintain high customer liquidity (Parker et al., 2016). According to the CEO, this customer liquidity was important to get happy customers who would spread the word about WeClean, to attract more users.

Moreover, WeClean's move towards employing their cleaners constitute the vendor to two-sided platform strategy (Hagiu & Eisenmann, 2007). Due to the poor producer liquidity where cleaners are complaining about few cleaning requests on the platform, this strategy is deemed as only partly successful. Further, WeClean's launch allowed them to get a lot of media attention which has been important to attract users. However, WeClean's sequential approach where only new customers were needed as well as their geography focus on only Oslo, did not leverage the full potential of the media attention. Finally, the CEO reports that Facebook ads towards segments in their geography focus, has been their most effective way of attracting users.

Facilitating interactions

Both cleaners and customers can join the platform without any commitments, as cleaners can clean when they want and customers can request cleaning without having to sign any subscriptions. This creates a frictionless entry. Moreover, apart from having to define the time the cleaner should spend on each room in house themselves, it is frictionless for customers to request cleaning. Further, there is good matching quality on the service where customers easily finds a match. By employing and training their cleaners, WeClean also effectively empower their producers. Further, by starting out as a two-sided platform with little access governance, lead to the lemon's market failure, where low quality cleaners drove out high quality cleaners (Strahilevitz, 2006). It also seems that it lead to a second market failure, where the competition to take the cleaning jobs became so fierce that the high quality cleaners lost their incentive to use the service, as there was never any cleaning jobs available (Hagiu, 2014). WeClean's choice of following the sequential approach included tight access governance for cleaners, and dealt with this problem. Finally, the insurance deal with IF, the transparency and the strict follow-up of cleaners create trust.

Indirect network effects, liquidity and critical mass

Despite having attracted 8000 users to the platform, the number of customers who have used the platform is still low. This shows that WeClean has been unsuccessful in generating enough indirect network effects to convince enough customers to interact, leading to poor producer liquidity. However, the seeding strategy has enabled WeClean to maintain high customer liquidity, which they believe has been important to generate positive word of

mouth. Hence, WeClean has been partly successful in achieving liquidity, but has not reached critical mass.

The main reason why WeClean has not managed to generate enough indirect network effects to entice buyers to interact, seems to be their failure to solve a large enough friction. This is emphasized by Evans & Schmalensee (2016) as foundational to be able to create a viable two-sided platform. For cleaners, the inability to have exclusive rights to the customers they bring on (Parker et al., 2016) as well as not being able to have subscriptions with recurring customers, seemingly are some of the friction WeClean has not solved with the current version of the app. However, as WeClean get control over their backend, and are free to implement this functionality, they might be able effectively employ the producer evangelism strategy. Customers who already have black labor cleaning services, which likely are cheaper and more convenient than using the app, might not feel that WeClean solves enough friction for them. WeClean also targets younger generation customers who don't currently buy cleaning services. They might not perceive the need for cleaning services to be pressing enough, and, the perceived friction does not become large enough. Over time, and with more advertising towards these segments, their perceived need for paid cleaning services might grow, enabling WeClean to solve this friction.

5.1.5 Jobbr

Jobbr failed to reach critical mass, as illustrated by figure 10 below.
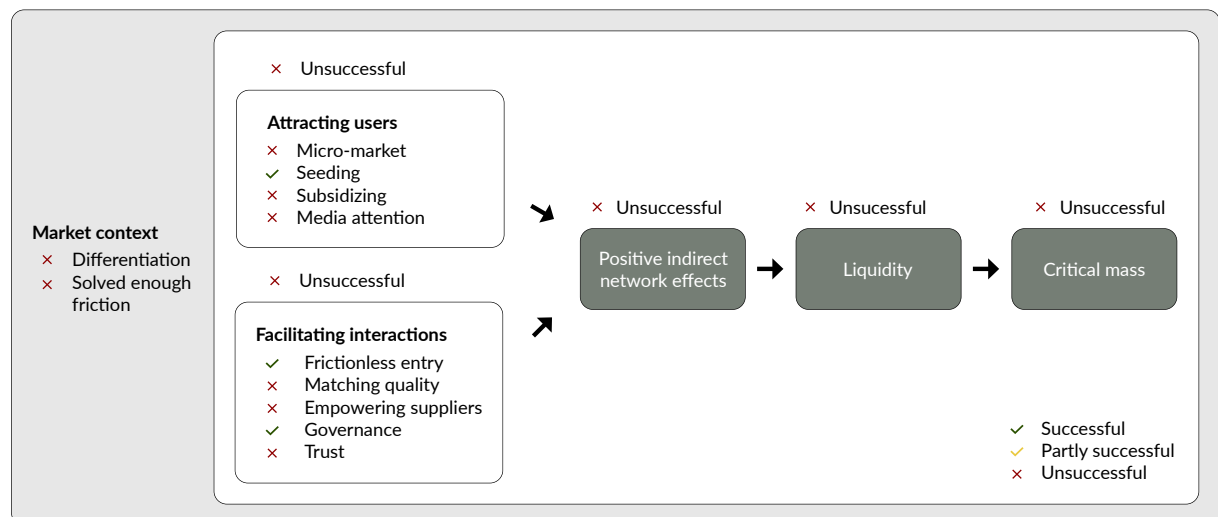

Figure 8 Jobbr

Market context

As Jobbr launched after Finn Småjobber, who already had a large network effects in the Norwegian market and marketing funds, Jobbr tried to differentiate. To do so, the CEO explained that they had plans to create an app with customized features, including geo-

locations enabling better matching quality, and making it very easy and quick to post and take jobs to enable frictionless entry. In line with Parker et al (2016) who state that "in markets where multi-homing and switching costs are low, late entrants can gain market share more easily" Jobbr also removed any costs for users to post listings on the platform. As Finn Småjobber had a registration fee for users to view listings on their platform, having no registration fee, allowed Jobbr to differentiate on revenue model and adopt a *mirror pricing strategy,* as explained by Calliaud and Jullien (2003). However, after one year they still did not have an app, which they thought would be so important to reduce friction for students, who were their target market. As a result, Jobbr ended up not having all the differentiating factors they envisioned, making them only partly successful in solving enough friction.

Attracting users

Although Jobbr initially started with a narrow geography focus on Nesodden and Trondheim, they allowed it to shift to all parts of Norway. In combination with their lack of category focus, this means they did not successfully employ the micro-market strategy. From the beginning, the founders and their friends spent a lot of time taking and posting jobs themselves, in line with the seeding strategy. Their revenue model, where they removed costs for people to see jobs on the platform in contrast to Finn Småjobber, mean they also followed the subsidizing strategy. However, it did not attract many users. Finally, their timing with the sharing economy boom in Norway allowed them to get a lot of media attention. Although their appearance on the TV2 news generated some listings on the platform, they were spread all over the country, prohibiting Jobbr to take them on themselves. Thus, the media attention is deemed as unsuccessful.

Facilitating interactions

Jobbr had focused on letting both sides of the platform have a frictionless entry, by reducing the steps to register, as well as post and take jobs. However, due to their lack of category focus and low supply, their matching quality was missing. They did not spend much resources on empowering their suppliers. The peer-to-peer rating system seemingly was enough to govern the platform. However, other than the rating system, they did not manage to add any of the trust building functionalities they had envisioned. The lacking access governance and missing trust, restricted what kind of jobs people dared to put on the platform. As the CEO explained, some jobs require the helper to come into peoples' homes, which requires large amounts of trust.

Indirect network effects, liquidity and critical mass

After one year, Jobbr gave up their efforts. They did not manage to offer enough differentiation, nor attract enough users or facilitate interactions to generate enough indirect

network effects on the platform. In turn, they did not manage to achieve liquidity on the platform, and did not reach critical mass.

5.1.6 Codenudge

Codenudge failed to reach critical mass, as illustrated by figure 11 below. In the following, the different parts of the figure will be explained.
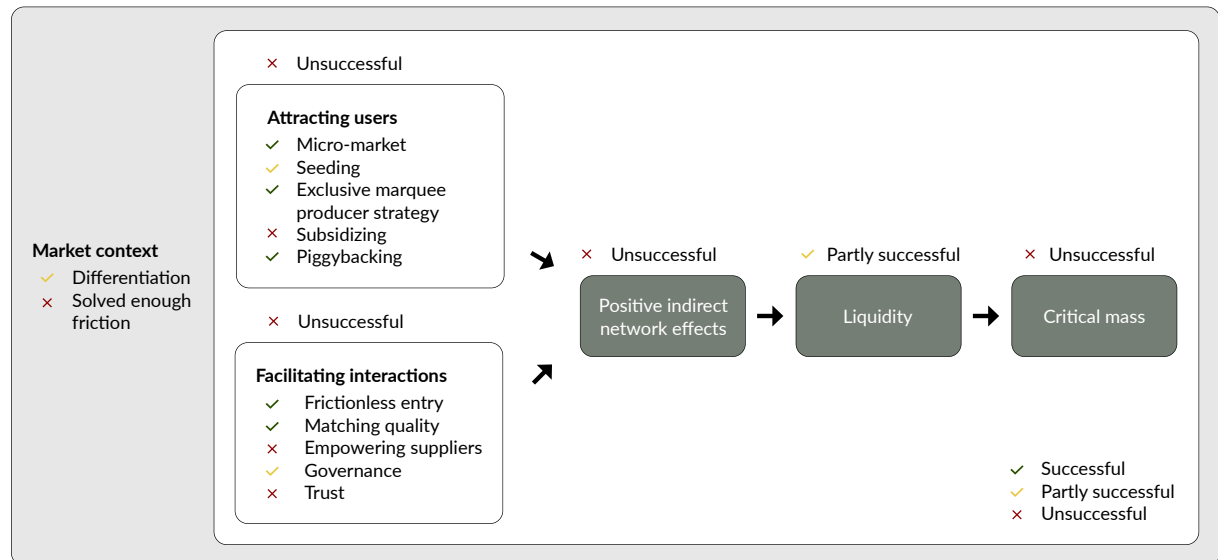

Figure 9 Codenudge

Market context

There were similar platforms as Codenudge globally, but by having another revenue model (Caillaud and Jullien, 2003), and by only focusing on Norway, they thought they would be able to differentiate. As the students they targeted were already using another service called Piazza, which their professors had specifically chosen, Codenudge did not manage to convince the professors to try their service. Seemingly, the professors did not experience Codenudge's' differentiation value to be high enough, nor that they solved enough friction. At the same time, the switching or multi-homing costs to start using a new platform were likely perceived to be high, especially when Codenudge was a new player in the field without any credentials to build trust.

Attracting users

From launch, Codenudge had both a category focus on programming and a geography focus on Trondheim. They launched with a seeding strategy where helpers were incentivized with pizza in return for answering questions on the platform. Codenudge also seeded the platform with self-supply, to maintain on-demand help on the platform. Further, that the best helpers achieved higher ranks when they helped people, was a way Codenudge used virtual currency to incentivize their best helpers, to enable an exclusive marquee producer strategy. As the CEO explained, the most active helpers used the platform close to as much as the CTO. On

the other hand, the CEO regrets that they didn't seed the platform by asking questions themselves to stage the value creation. This could have started the positive feedback loop where new users coming in would see that there were a lot of other people asking questions on the platform (Parker et al., 2016), encouraging them to ask one themselves.

Further, by enabling people to get help on the platform without any costs, Codenudge oollowed the subsidizing strategy. However, this did not effectively attract users, and the CEO suspects that because it was free people could think that the help would be of lower quality, meaning the indirect network effects would be weaker. Finally, by presenting the service to large university classes, Codenudge used the piggybacking strategy. This was the most effective way of attracting users to the service, according to the CEO.

Facilitating interactions

Both asking and answering questions on the platform was frictionless. People asking for help did not need any pre-knowledge, and they were only required to create a profile with username. The matching quality was also good, as there were still only few people on the platform. With more people on the platform, more advanced filtering would be needed. Codenudge did not spend any time on empowering producers on the platform. There was minimal governance on the platform, but seemingly it was not needed as the CEO did not experience any of the market failures listed by Hagiu (2014). The main problem was the quality of the answers to questions, but building trust so that people actually would ask questions on the platform.

Indirect network effects, liquidity and critical mass

It seems that a combination of not being able to differentiate successfully from competition, not solving enough friction and not having a trusted service, prohibited Codenudge from being able to attract users and get them to interact. As a result, they failed to generate enough indirect network effects on the platform, to reach critical mass. The figure shows that Codenudge was partly successful in achieving liquidity. This was due to the low number of people asking questions on the platform, which enabled Codenudge to answer most questions, leading to high customer liquidity. On the other hand, the low number of questions on the platform lead to poor producer liquidity.

5.2 Cross-case analysis

In the following, the findings that have been identified across the cases will be presented. First, findings specifically related to the market context will be presented, followed by findings related to attracting users, and facilitating interactions. Finally, the findings that have impact on several factors will be presented. Table 1 below presents a summary of the within-

case analyses, comparing the six cases on their performance on each key factor in the theoretical framework. This will work as the foundation for the cross-case analysis.

	Tise	Nabobil	Leieting	WeClean	Codenudge	Jobbr
Differentiation	✓	✓	✓	✓	✓	✗
Solving enough friction	✓	✓	✓	✗	✗	✗
Attracting users	✓	✓	✓	✓	✗	✗
Facilitating interactions	✓	✓	✓	✓	✗	✗
Indirect network effects	✓	✓	✓	✗	✗	✗
Liquidity	✓	✓	✓	✓	✓	✗
Critical mass	✓	✓	✗	✗	✗	✗

Table 2 Within-case analyses compared
Green check marks indicate successful, yellow check marks indicate partly successful and cross indicates unsuccessful

In line with the theoretical framework, findings across all six cases indicate that it is not possible to create sufficient amounts of indirect network effects to reach critical mass, unless you do all the following:

- Achieve sufficient differentiation from incumbent firms
- Solve enough friction for the users
- Attract enough users
- Facilitate interactions between them

Findings do not support that platforms are required to achieve liquidity to reach critical mass, as shown with Nabobil. This is contrary to the theoretical framework, which set liquidity as a milestone for two-platforms to reach critical mass. This finding will be elaborated in chapter 6.1.

5.2.1 Findings related to market context

Solving a large enough friction is central to generate enough indirect network effects

While Nabobil and Tise successfully solved enough friction, WeClean, Leieting, Codenudge and Jobbr did not. Nabobil intentionally focuses on cars because of their large value, while Leieting has moved towards focusing on items of more value to be able to solve more friction for users. WeClean's app does not yet solve enough of the friction related to getting white

labor, Codenudge were not able convince professors about the friction of using their current service, and Jobbr did not make a convenient app for their users.

Differentiation imperative if incumbent firms exist

Both Tise and Jobbr went head to head with the large incumbent platform Finn.no. While Tise successfully reached critical mass, Jobbr did not. Although the within case analyses show that it was a combination of several factors that contributed in Tise's success and Jobbr's failure, one vital reason seems to be that Tise effectively differentiated from Finn, while Jobbr failed to build the differentiating factors they had envisioned. Hence, this finding supports the need for differentiation if an incumbent platform already exists in the market.

5.2.2 Findings related to attracting users

Positive feedback loop is advantageous

Nabobil, Tise, and Leieting harvested the benefits of the positive feedback loop, while Jobbr, Codenudge and WeClean, did not. For Nabobil, Tise and Leieting, showcasing the supply on the platform to demonstrate the value of the platform for new users coming in, was important to attract more users as well as encourage them to interact. Jobbr on the other hand, did make job listings visible for all users on the platform, but failed to get enough job listings to demonstrate enough value creation for new users coming in, and consequently failed to start the positive feedback loop (Parker et al., 2016). WeClean's and Codenudge's choice of only making job listings visible to their cleaners/helpers, prohibited the potential benefits of the positive feedback loop. Thus, whether showcasing the supply on the platform is possible depend on the type of platform, but it seems that if showcasing is possible, it is beneficial, as it starts the positive feedback loop.

Media attention can be effective if the platform has a positive feedback loop

The within-case analyses show that media attention could be effective to attract users, but not for all of the cases. Nabobil and Leieting had a positive feedback loop in place when media attention drove a lot of users to the platform, generating a lot of new listings on the platform. WeClean and Jobbr on the other hand did not have a positive feedback loop, and were not as successful to convert the attention. In fact, the media attention without enough initial listings in place might have had a negative impact on Jobbr. Although the TV2 news broadcast resulted in 10 new job listings, there were likely a lot more people visiting the site who did not find any value. The large activity is shown by their server shutting down. With an initial base of job listings on the platform demonstrating for new users what types of jobs could be posted, more listings likely would have been generated. For WeClean, their strict governance for new cleaners, as well as exclusive geography focus on Oslo, likely also prohibited them from getting the full effect of the media attention.

Seeding strategy effective to start the positive feedback loop

Findings indicate that the seeding strategy presents an effective way to start the positive feedback loop. Both the successful companies Nabobil and Tise as well as Leieting all seeded their platform from launch to enable the positive feedback loop, so that new users coming in would be more likely to post something themselves.

Seeding strategy effective to achieve customer liquidity in the startup phase

As seen by WeClean and Codenudge, the seeding strategy could offer an effective way to maintain high levels of customer liquidity on the platform, at least initially. High customer liquidity, could in turn be effective to enable further word of mouth growth (Parker et al., 2016).

Exclusive marquee producer strategy possible without monetary resources

Eisenmann et al. (2006) emphasize that the exclusive marquee strategy might be expensive for companies in the startup phase. However, several of the companies used other means than money to incentivize their best suppliers (Parker et al., 2016). On Tise, the most attractive sellers got the most followers, likes, Tise cash and sold the most. On Codenudge the helpers who helped the most were rewarded with higher ranks. On Nabobil, by both empowering their producers and creating a sense of ownership by involving them in the product development, they both created marquee producers, and incentivized them to single-home on the platform.

Platforms following simultaneous entry can lead to critical mass by focusing solely on supply

For platforms based on a business model where it's possible to stack supply, it seems that following a simultaneous approach with a tunnel vision on suppliers could work. This is shown by Nabobil who solely focused on getting enough supply on the platform, and eventually reached critical mass. Leieting has also exclusively focused all their marketing activities on building supply on the platform, and seems to be steadily growing towards the critical mass frontier. For other platforms on the other hand, it seems to not be possible. For instance, for WeClean, who launched with a simultaneous entry approach with little access governance, it was not possible. Instead they had to restrict access to suppliers.

Removing date on posts can help the positive feedback loop

Neither Nabobil, Leieting nor Tise have dates on the supply of their suppliers. The CEO of Tise said that they intentionally removed it to make the supply on the platform appear more attractive for new users coming in. Hence, removing dates on the supply could be a way to simulate activity on the platform, enabling the positive feedback loop. However, findings show that not all platforms will be able to do this. For platforms based on the reverse model

where supply on the platform is not showcased, such as for Jobbr, WeClean and Codenudge it would not be possible. Here helpers have a certain time limit to answer help requests, and removing the date on the requests would just create confusion. For example for Codenudge, the idea is to get help on-demand, and if not, people would not use it.

Business model based on showcasing supply makes it easier to generate indirect network effects

Nabobil, Tise and Leieting have all chosen a business model where the supply is visible for all users on the platform. WeClean, Jobbr and Codenudge on the other hand, have not. While Nabobil, Tise and Leieting seeded the platform to start the positive feedback loop, WeClean, Codenudge and Jobbr tried to seed the platform to maintain customer liquidity. As noted, for Nabobil, Tise and Leieting it seems customer liquidity is not required initially as long as new users keep adding supply on the platform. Given good access governance, each new supplier who joins will strengthen the total indirect network effects of the supply on the platform. Eventually indirect network effects become strong enough and the platform will reach critical mass.

For Jobbr, WeClean and Codenudge, generating indirect network effects become more difficult as new suppliers on the platform don't have the same impact on the value for customers on the other side.
In contrast to Nabobil, Tise and Leieting, WeClean needs to set cleaning wages above a minimal level, and offers a rather homogenous service. As this restrict the differentiation value generated by new cleaners, a business model showcasing supply might not have the same impact to create indirect network effects for WeClean. For Codenudge and Jobbr, reversing the model and let helpers specify which fields they have expertise in, could potentially have helped to leverage indirect network effects from new helpers joining the platform. This is because as new helpers joined it would be visible for people needing help that more fields of expertise would be covered by the platform. It could also improve the matching quality on the platform, as it would be easier to match users with helpers with relevant expertise. It could also help reduce perceived risk, as people would not have to post questions/help requests in plenary, but could rather just communicate with specific people. Knowing whom you asked questions, could potentially have generated more trust.

Bundling user acquisition tactics effective to attract users

Jenny Skavlan's introduction allowed Tise to combine the exclusive marquee producer strategy with the viral growth strategy, micro-market and seeding strategy. Nabobil's strategy to piggyback on LinkedIn, employed the seeding strategy, micro-market as well as the piggybacking strategy. These bundled strategies were very powerful for Tise and Nabobil to

attract users. Both of the bundled strategies consisted of the seeding strategy and the micro-market strategy, while the other strategies were not similar. Hence, although bundling user acquisition tactics seems to be a powerful way of attracting users, which tactics to choose might differ for different platforms, available resources, and the market.

Micro-market strategy important to attract users

Nabobil started with both a geography focus and a category focus, enabling them to reduce the number of users needed generate indirect network effects on the platform (Parker et al., 2016). For the same reasons, Tise also realized the need to narrow down their category and geography focus. Leieting and Jobbr on the other hand, did not have any clear category or geography focus, which made it difficult to both attract users and achieve matching quality to generate enough indirect network effects on the platform. WeClean had a geography focus, but their lack of clear category focus and inability to solve enough friction for users, seems to have made it difficult to generate enough indirect network effects. Despite having a clear category and geography focus, Codenudge failed to solve enough friction and build trust on the platform.

In addition to reduce the number of users needed to generate indirect network effects, the micro-market strategy seemingly was important for Nabobil and Tise to attract users. Nabobil got their first investment of 5 million after managing to demonstrate the value of the platform by exclusive focus on cars in Oslo. For Tise, their category focus on second hand clothes for girls, was important to attract Jenny Skavlan to become part of the company. In turn, these investments gave Nabobil and Tise large marketing values, which were important to attract users. Moreover, as seen by the bundled strategies, the micro-market strategy seems to be important in combination with other user acquisition strategies. This also seems to be the case for Facebook advertising. As emphasized by the CEO of Nabobil, the Facebook ads was such a powerful tool to attract users as it gave the possibility to target users within both the geography and category focus. For Leieting on the other hand, who did not have a narrow geography nor category focus, the Facebook ads were less effective. However, as the CEO explained, when focused more towards the cities, the Facebook ads became more effective.

Investments in marketing effective to attract users

Overall, it seems that expenditure in marketing is an effective way to attract users to the platform. Both Tise and Nabobil gave away parts of their company to generate marketing value to attract users. WeClean and Leieting also acquired investments, but they did not spend the same amounts in marketing. At the same time, Leieting's expenditures in advertising were likely not as effective as Nabobil and Tise, due to their lack category and geography focus. For WeClean, their inability to solve enough friction, might have made it difficult to attract

users despite large marketing expenditures. Finally, Codenudge and Jobbr barely spent anything on paid advertising, and only managed to attract 280 and 500 users to the platform.

The viral growth strategy requires spreadable value units & relevant external network

Parker et al. (2016) show that the viral growth strategy is effective to attract users, but that it requires that the value units are spreadable and that there is a relevant external network to spread them to. While Codenudge, Nabobil, Jobbr and WeClean did not use the strategy, Leieting, urge users to share their rental posts to either Facebook or Twitter. However, the value units look like regular advertisements more than valuable value units suited for the external network. Hence, they are not spreadable (Parker et al., 2016), and the viral growth strategy has not been exploited. Tise on the other hand, shows that the viral growth strategy can be very effective if the value units are spreadable, and relevant external networks exist (Parker et al., 2016).

5.2.3 Findings related to facilitating interactions

Trust is fundamental to succeed

The within-case analyses indicate that building trust is essential for two-sided platforms to succeed. This was also emphasized by all the interviewed cases. For Nabobil, Tise and Leieting, specifically the insurance deals with IF were important for people to dare to use the platform. For Tise, being a social platform and having Facebook as required login seems to have enabled enough trust. Jobbr and Codenudge on the other hand, did not manage to build enough trust on the platform, which was one of the reasons why they failed to facilitate interactions. Findings show that trust can be generated in a combination of ways:

- ID verification
- Peer-to-peer review systems
- Access governance
- Required Facebook login
- Followers, mutual friends and showcasing bought items
- Media attention
- Norwegian brand profile: communication and name
- Celebrity associated with the brand
- Exposure of newspaper and partners' logos on different channels
- Professional design

The transaction based revenue model effective to create frictionless entry

Apart from Codenudge, all the other five cases chose a transaction based revenue model. Like the subsidizing strategy, where the most important side is given free access to attract the other

side, it seems the transaction based revenue model could give similar effects. As there are no costs related to joining the platform and people only pay when transactions occur, it seems this revenue model successfully contributes to frictionless entry (Parker et al, 2016).

Micro-market strategy important to facilitate interactions

In addition to be important to attract users, the micro-market strategy seems to be important to facilitate interactions. As shown with Jobbr and Leieting, their lack of category and geography focus made it difficult to enable matching quality on the platform. It was difficult for people coming in to the platform to know what they could expect to find there. Further, as shown with Tise and Nabobil, by narrowing down category and geography focus, producers' supply automatically become more attractive to customers. Hence, the micro-market strategy could also be important to empower producers on the platform.

5.2.4 Findings impacting several of the factors

Personal networks can be crucial to attract users and facilitate interactions

Nabobil's personal network was vital both to get insurance deal with IF, which their entire business model relayed on, as well as successfully pulling off the piggybacking strategy on the founders' LinkedIn network. Tise's personal network was also an important reason how they managed to convince Jenny Skavlan to join, as Skavlan had been approached by many in the past, but had kindly rejected.

Weak matching quality could benefit the positive feedback loop

Although weak matching quality can prohibit indirect network effects, because it becomes difficult for users to find relevant supply, weak matching quality can also be beneficial in some cases. This is seen by Leieting and Tise, where the less filtering makes it look like there is more supply on the platform for new users coming in. As a result, they manage to leverage the positive feedback loop, even in places where there are no current supply. If this lack of matching quality helps Leieting build supply on the platform, the importance of matching quality for platforms following this business model could be questioned. For such platform, it might even be more beneficial to have weaker matching quality until the platform reaches critical mass.

In-house developers important to customize the platform according user needs

All the case companies emphasized the importance of them having developers in their core team, so that they could continually develop the platform according to user needs. WeClean did not have full control over their backend and thus was not able to create the functionality they needed to follow the producer evangelism strategy nor solve enough friction for their users. Jobbr had in-house developers, but they were students and did not have the capacity to

create the needed functionality fast enough, which prohibited Jobbr from making the functionality they needed to differentiate and create trust.

5.3 Answers to research questions

In the following sub chapter, the two research questions will be answered based on the findings.

5.3.1 How can two-sided platforms attract users during the launch phase?

Findings in this study show that two-sided platforms in the launch phase who are restricted by the chicken-or-egg problem, can attract users by either choosing a sequential or simultaneous entry approach. The sequential entry approach allows the platform to start out focusing on one side of users and rather turn into a two-sided platform later. However, often the platform needs follow the simultaneous approach and get both sides on board from the beginning. The literature presents a range of tactics that can be employed to attract users, but findings indicate that some are more important than others. First, the platform should choose the micro-market strategy with clear category and geography focus, as this reduces the number of users needed to generate enough indirect network effects on the platform to reach critical mass. Having a focus also seems to make the other user acquisition tactics more powerful. Specifically, investing in Facebook advertising targeted at the micro-market, has been identified to be an effective way of attracting users to the platform.

Findings further indicate that media attention is another powerful way to attract users, but is most effective if the platform can demonstrate some value creation on the platform when new users come in. If so, new users will be more likely to join the value creation, which will start a positive feedback loop, attracting even more users. To demonstrate activity for new users to start the feedback loop, seeding the platform seems like an effective strategy. The platform can either seed the platform themselves, or incentivize others to seed it for them. Further, the exclusive marquee user strategy, where valuable users are incentivized to single-home on the platform, is another effective strategy. This can be an expensive approach for startups, but findings suggest that these marquee users can be provided with other non-monetary incentives. Finally, it seems that combining several of the user acquisition tactics into one large bundle, may prove especially effective to attract users.

5.3.2 How can a two-sided platform facilitate interactions?

To facilitate interactions on the platform, the study finds trust to be fundamental. The case studies demonstrated that platform can create trust in variable ways, and which way work best will depend on the platform. Further, findings indicate that enabling frictionless entry for

users is essential, so that it easy to become part of the value creation on the platform. To do so, removing uncertainties that might prohibit users from interacting on the platform, seems to be important. Frictionless entry also improved by following a transaction-based revenue model, and by putting constraints on what people can do on the platform. Findings further indicate that matching quality is important to enable users on the platform to find valuable matches. Having a clear focus also seem to be important to achieve matching quality, as it will be easier for people coming in to know what can be found on the platform. In this way, having a focus also empowers producers, as their supply within the micro-market automatically becomes more attractive for users on the other side of the platform. Finally, findings show that governance can be important to maintain high quality users on the platform, but generally it seems that as long as people verify their identity in some way, people will behave. Together with a peer-to-peer review system governing usage, these mechanisms seem to provide sufficient governance to facilitate interactions on the platform.

5.4 Answer to the purpose

The purpose of this thesis is to find out how two-sided platforms can reach critical mass. Reaching critical mass is dependent on generating sufficient amounts of indirect network effects on the platform. The study indicates that this is achieved by attracting enough users and facilitating interactions between them. In addition, the platform needs to differentiate from incumbent firms in the market and solve enough friction. In the following, the importance of focus to reach critical mass will be explained, followed by how platforms can reach critical mass. The chapter will be based on figure 12 below.
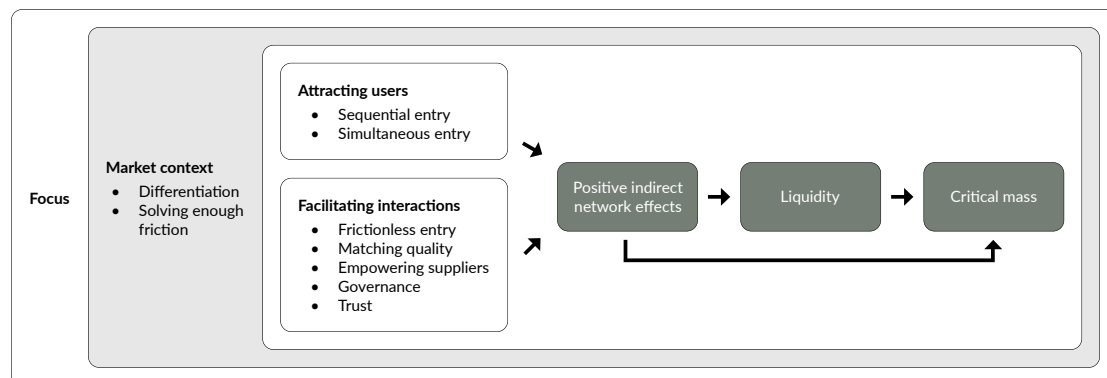

Figure 10 The importance of focus

5.4.1 The importance of focus to reach critical mass

Focus is a fundamental factor affecting platforms' ability to reach critical mass. In addition to be important to attract users, this study has found that focus also has an impact on differentiation, solving enough friction and facilitating interactions.

Market context: differentiation & solving enough friction

The study shows, that by choosing a category focus, in which enough users have strong preferences for, the platform can be able to successfully differentiate from potential incumbent platforms in the market. Further, findings indicate that the category focus also needs to solve a large enough friction for users, and the company needs to successfully develop a service which eliminates that friction.

Attracting users

Choosing a category and geography focus will reduce the number of users need to generate enough indirect network effects on the platform. Findings also indicate that having a clear focus will make other user acquisition tactics, more targeted and effective.

Facilitating interactions

Findings further indicate that focus platforms' ability to facilitate interactions on the platform. It seems it will improve matching quality as it is easier for people to know what they can expect to find on the platform and where it will be available. In this way, focus also helps to empower producers as their supply posted within the micro-market automatically becomes more relevant to customers on the other side of the platform.

Critical mass

Finally, the smaller the micro-market the company chooses to focus on, the less users and indirect network effects are needed to achieve liquidity and reach critical mass.

5.4.2 Reaching critical mass

As the example of Nabobil presents, it seems it is possible to reach critical mass without first achieving liquidity. Nabobil seemingly did not have liquidity on the platform, but by solely focusing on attracting supply, they eventually managed to generate enough indirect network effects to attract the other side and reach critical mass. Tise on the other hand, achieved liquidity, and then, as more people joined and saw the value of the platform to buy and sell their clothes, it generated further growth, leading Tise to reach critical mass. A discussion of the findings related to how two-sided platforms can reach critical mass, will be presented in the next chapter.

6 Discussion

This chapter will present a discussion of contribution of key findings to previous literature.

6.1 Reaching critical mass

This study has found that it is possible for two-sided platforms to have an imbalanced growth towards critical mass. This contradicts previous literature, which find that platforms needs to have a balanced growth towards critical mass, if not it will implode (Evans & Schmalensee, 2010). Evans (2009, p. 7) explains that "the optimal growth path to critical mass and to long-run equilibrium is well away from the horizontal and vertical axes in most plausible cases. Relatively balanced growth is necessary (…) Having too many of one side and too few of another side will lead to quick failure". Hence, based on Evans & Schmalensee's critical mass frontier model, Nabobil's sole focus on building supply would take them out in the implosion zone, eventually leading them to implode.

Further, Evans (2009, p. 21) emphasizes that two-sided platforms have limited time to reach critical mass. "In practice, it appears that platforms have some limited time to get to critical mass (…) If the platform does not grow quickly enough to critical mass early adopters lose interest, fewer later adopters come, and word-of-mouth referrals stop or turn negative". This is interesting, considering the example of Leieting. Leieting has also had a tunnel vision on building supply on the platform, following an imbalanced growth path towards critical mass. They have now spent one and half years since they launched, and is seemingly not imploding any time soon. Quite the opposite, shown by new rental posts being added every day. This might indicate that Evans' (2009) findings don't fit all types of platforms, and that some types of platforms have more time to reach critical mass than others.

Previous literature, including Evans (2009) broadly define platforms e.g. as transaction platforms, and has not considered how different characteristics of platforms influence a platform's launch phase. Both Nabobil and Leieting are based on a similar business model where new rental posts added to the platform are being accumulated, e.g. a car that has been rented will reappear on the platform after a rental agreement has been finished. This seem to make it easier to stack supply, which eventually generates enough indirect network effects to attract the other side. For a transaction platform such as Tise on the other hand, clothes are bought, and the platform needs to continuously add new supply to maintain and strengthen indirect network effects. This could perhaps make it harder to generate enough indirect network effects to reach critical mass.

When it comes to Leieting and Nabobil, Leieting's broader category focus allows for several value units per user, in contrast to Nabobil where people usually have a limited number of cars. It is likely not a straight answer to what is more effective to generate indirect network effects: having some suppliers stand for few but valuable items, or having a lot of suppliers being able to add a range of different items. However, this study has shown that having a too broad category focus will reduce matching quality, as it becomes difficult for the other side of users to know what they can find on the platform. Hence, the benefits of getting more rental posts on the platform can become negated by the reduction of matching quality. At the same time, the category focus will reduce the number of items needed to generate indirect network effects (Parker & Van Alstyne, 2014), which indicates that a category focus overall becomes more effective to generate indirect network effects.

Moreover, Evans (2009) highlights that users should find value on the platform from the beginning for it to be able to reach critical mass. He explains that "early adopters use a platform. If they come back and if later adopters also find value then it is possible to reach critical mass" (Evans, 2009, p. 21). This is in line with Parker et al. (2016) who find liquidity to be central in the launch phase of a platform. "Achieving liquidity is the first and most important milestone in the life cycle of a platform" (Parker et al., 2016, p. 188). As the study of Nabobil shows however, it is possible to reach critical mass without achieving liquidity. Instead, when Nabobil reached critical mass, the overall indirect network effects on the platform became so large that renters were attracted and successful transactions escalated, leading to liquidity.

Overall, it seems that for two-sided platforms based on the business model of Nabobil and Leieting, imbalanced growth might in fact be possible. They might also have more time to reach critical mass, than warned by Evans (2009). Finally, it does not seem that liquidity is required to reach critical mass. As long as the platform manages to attract enough suppliers to eventually build enough supply on the platform, the other side will be attracted, and liquidity will be achieved. As seen with the examples of WeClean, Jobbr and Codenudge, just adding more cleaners and helpers would not have had the same influence on the other side. Here the indirect network effects of more suppliers aren't as strong as with Nabobil, Leieting and Tise. This is because even though more suppliers join they will not be visible for the users on the other side, and the customers will only get a homogenous service anyway. At the same time, by not making the supply visible on the platform, they did not get the benefits of a positive feedback loop either, which would have reinforced growth, and attracted even more supply. Thus, it seems that as long as they follow this model, a balanced growth becomes necessary to reach critical mass (Evans, 2009).

6.2 Discussion of factors related to attracting users and facilitating interactions

6.2.1 Weak matching quality could benefit the positive feedback loop

Previous literature has had emphasis on a platform's role of reducing search costs and increasing matching quality to generate indirect network effects (Parker et al., 2016; Hagiu, 2007; Gawer & Evans, 2016). However, this study has found that *sub-optimal matching quality can be beneficial, as it can start a positive feedback loop in places where there is no activity.* This seem to be the case with Leieting, where lacking matching quality made it possible to leverage the positive feedback loop in places where there was no former activity. Although lack of automatic geographic location based filtering made it less intuitive for users trying to find a match, it made it look like there was activity on the platform for all users coming in, regardless of where in the country they were situated. This is an interesting finding, as it shows that the different factors two-sided platforms can influence, such as matching quality and positive feedback loop, are more interrelated and possess more nuances than previously discussed in the literature. In fact, based on this finding, it seems that it sometimes might be beneficial to weaken one to increase the other, as the total indirect network effects generated becomes larger.

6.2.2 The importance of non-monetary resources in the launch phase

Previous literature on two-sided platforms have mainly been concerned with established resourceful firms, and have not considered two-sided platforms in the launch phase with limited resources. This study finds that for two-sided platforms, both monetary and non-monetary resources can influence platforms' ability to reach critical mass.

Exclusive marquee strategy can utilize non-monetary incentives

Findings indicate that it is possible for platforms to *utilize non-monetary incentives to achieve the exclusive marquee strategy.* This is shown by Nabobil and Tise who provided their users with non-monetary incentives such as time, fame and virtual points to exclusively use their platform. Although Parker et al. (2016) note that platforms can offer participants other types of currency in general, previous literature have only mentioned monetary incentives to enable the exclusive marquee user strategy. Eisenmann et al., (2006) highlight that it is often expensive for startups to follow an exclusive marquee strategy, but this finding shows that it is possible to employ the strategy even for startups with limited monetary resources. Further, Tise's strategy to get famous Jenny Skavlan to join their core team to sell her clothes on the platform, seems to be another way for startups with limited monetary resources to employ the exclusive marquee strategy.

Personal network could be an invaluable resource

This study finds that p*ersonal networks can be an invaluable force to attract users and facilitate interactions to generate indirect network effects on the platform.* This is shown with both Nabobil and Tise. Having been rejected by 9 out of 10 insurance companies in the past, Nabobil's personal network enabled the vital insurance deal which was so important to remove risk and build trust on the platform, so that people offered their valuable cars for rent to strangers. Their network also enabled the effective piggybacking strategy on the founders' personal LinkedIn networks, which laid the foundation for a positive feedback loop in Oslo, and helped them overcome the chicken-or-egg problem. Tise's personal network, was an important factor to get Jenny Skavlan to join the team, who had been approached by many people in the past, but kindly rejected. Seeing the influence on how both Nabobil and Tise managed to attract users and facilitate interactions, personal networks could be an invaluable resource for two-sided platforms in the launch phase.

Media attention most important with a positive feedback loop

The impact of media attention is another field which has not been given any attention by previous literature on two-sided platforms. This study has shown that media attention both can be important to attract users and facilitate interactions. Four of the six cases emphasized the importance of media attention to attract users to the platform. In addition, media attention seems to be important to build trust towards the platform, and several of the case companies had large emphasis on showcasing the brand logos of the newspapers they had been covered in.

Moreover, the study shows that media attention seems to be especially effective if there is some activity on the platform when new users are attracted, to get them to join the value creation and enable a positive feedback loop. This is demonstrated by Nabobil who had seeded the platform ahead of launch, and when newspapers covered their launch, numerous new users were attracted and a large number of them put their car out for rent on the platform. Jobbr on the other hand, as mentioned in chapter 5, did not have activity in the app and did not manage to convert the attention. The importance of a positive feedback loop has generally been emphasized in the literature (Gawer & Henderson, 2007; Parker et al., 2016), but this study has specifically shown its importance related to converting media attention.

Timing

Previous literature has discussed the possibility for two-sided platforms to achieve first mover advantages, if they are the first one to reach critical mass, as this creates moats for competition which is difficult to overcome. However, this study gives indications that timing can also give first mover advantage before a two-sided platform have reached critical mass as

well. Nabobil and Leieting both launched just ahead of their competition in the Norwegian market and reaped substantial amounts of media attention, due to the focus on the sharing economy in Norway. While Nabobil and Leieting attracted numerous users to the platform from launch and were contacted by the media any time the sharing economy was mentioned, their competitors, Plendit and GoMore have gone mostly unnoticed. Given the uncertainty surrounded sharing economy services and the importance of media attention to build trust, timing seems to have been essential. This is interesting, as it illustrates the numerous factors potentially impacting two-sided platforms' ability to successfully to reach critical mass.

In-house developers essential

This study finds that having *in-house developers is essential to be able build functionality to solve enough friction.* This is emphasized by all the six case studies, whereof the lack of success for WeClean and Jobbr seem to have been influenced by their inability to create functionality on the platform which solves enough friction and offers differentiation from incumbent firms. Previous literature has emphasized two-sided platform's role to reduce friction for users, and differentiate. Parker et al. (2016, p. 86) also state that launch strategies that work for one two-sided platform usually is different for other two-sided platforms. "It's tempting to assume that the launch strategy that works for Platform A will work for Platform B. But history shows it isn't so. In fact, even platforms that are direct competitors may need to adopt different launch strategies". Thus, the importance of having in-house developers who can rapidly develop new frictionless and differentiating functionality seems to be very important. This becomes especially important for startups with limited resources.

6.2.3 Facebook advertising effective combined with micro-market strategy

This study has found that *Facebook advertising combined with the micro-market strategy proves an effective way to attract users.* This is specifically shown with Nabobil, who spent millions in Facebook advertising targeted at people within their geography and category focus, which effectively built up a concentrated supply base in their micro-market, Oslo. Previous literature has stressed the importance of the micro-market strategy (Parker & Van Alstyne, 2014; Parker et al., 2016), but has not specifically studied its importance in relation to other user acquisition tactics. Parker et al (2016 p. 84) emphasize the need for pull marketing ahead of push marketing for two-sided platforms: "in the world of platform marketing, pull strategies rather than push strategies are most effective and important". However, this study indicates that push marketing in the form of Facebook advertising combined with the micro-market strategy, can be a very effective to attract users to the platform during the launch phase. It also seems that combing Facebook ads with a clear focus

presents a more cost-effective way for startups with limited resources to attract users, as the users that are acquired will be more relevant to the existing users on the platform.

6.2.4 Trust

This study supports the literature's focus on the importance of reducing risk and building trust to facilitate interactions on the platform. While the literature mentions insurance deals and peer-to-peer review systems as ways a two-sided platform can generate trust, this study finds that *trust can be built in several other ways* as well:

- Required ID verification
- Followers, mutual friends and showcasing bought items
- Media attention
- National brand profile: communication and brand name
- Celebrity associated with the brand
- Exposure of newspaper and partners' logos on different channels
- Professional design

6.2.5 Focus essential to generate enough indirect network effects

This study has found focus to be essential for a two-sided platform to generate enough indirect network effects on the platform. Previous literature on two-sided platforms has discussed the importance of focus in the launch phase of a two-sided platform. Parker & Van Alstyne (2014, p. 4) find that platforms can follow a micro-market strategy, and explain that "one effective strategy restricts launch to a small community in order to generate strong, albeit bounded, network effects". In their book, Parker et al. (2016) also explain that platforms often "create conditions such that value units can be created that are relevant to users even when the overall size of the network is small.". Thus, although previous literature acknowledges focus as an effective way to generate indirect network effects on the platform, this study finds *focus to be fundamental for all two-sided platforms with limited resources in the launch phase,* as explained in chapter 5.4.1. This study has intentionally not focused on large companies with existing network or unlimited resources, as those platforms would be able to overcome the chicken-or-egg problem in other ways than platforms without these resources, including a reduced need for focus.

Further, the study indicates that the degree of how narrow the category and geography focus need to be, will vary based on the type of platform. Since clothes sold on Tise effectively could be sent by post, this reduced the need for geography focus to Norway. However, their category focus on clothes was necessary to differentiate from competition. For Nabobil, cars

cannot be sent by post, so choosing a geography focus as well as category focus seems to have been necessary to enable indirect network effects from the supply on the platform.

6.2.6 Bundling user acquisition tactics effective to attract users

As demonstrated by both Nabobil and Tise, bundling user acquisition can present a powerful way of attracting users to the platform. While Nabobil bundled the seeding strategy with micro-market and piggybacking, Tise bundled together seeding, micro-market, exclusive marquee with viral growth strategy. Parker et al (2016) do acknowledge that combining different user acquisitions is possible, but do not discuss whether it is more effective than employing them in isolation. Witnessing these bundled strategies' significant importance for both Tise's and Nabobil to overcome the chicken-or-egg problem, it seems that employing a combination of several acquisition tactics might prove particularly effective.

7 Conclusion

The purpose of this master was to investigate how two-sided peer-to-peer transaction platforms can reach critical mass. Reaching the point of critical mass, where two-sided platforms starts growing organically, is a result of having generated enough indirect effects on the platform. To generate indirect network effects, the platform needs to both attract users and make sure they interact on the platform. Hence, the authors set out to answer the following two research questions: 1) *how can a two-sided platform attract users in the launch phase,* and 2) *how can a two-sided platform facilitate interactions?*

The study has found that defining a category and geography focus is important both to attract users and facilitate interactions. It allows the platform to create the same characteristics of a large market, in the launch phase, which reduces the amount of indirect network effects that is required to reach critical mass. Having a clear focus which solves enough friction for users, also becomes important to differentiate from potential incumbent platforms in the market.

In terms of RQ1, how two-sided platforms can attract users and overcome the-chicken-or-egg problem in the launch phase, they can generally choose between a sequential or simultaneous entry approach. While the sequential entry approach allows the platform to avoid the chicken-or-egg problem by starting out as a one-sided platform, platforms often need to follow the simultaneous approach and get both sides on board from the beginning. The literature presents a range of user acquisition tactics that can be employed, but findings indicate that some can be more important than others. The seeding strategy has been employed by all the case companies, and has proven to be effective way of starting positive feedback loop, which increases the chance of new users on the platform to join in on the value creation. Investing in Facebook advertising also seems to be powerful, as it enables narrow targeting towards the platform's focus. Media attention also effectively attracts people to the platform, but is most effective if there are existing value units on the platform when new people come in. Moreover, the study shows that combining different user acquisition tactics might be very powerful, demonstrated by the success of both Nabobil and Tise.

When it comes to RQ2, how two-sided platforms can facilitate interactions between users on the platform, the study has shown that it's important to create frictionless entry for users so that it's easy to become part of the value creation on the platform. High matching quality is necessary to make it easy for the users to find each other, but too much filtering can give the impression of less activity, and hence prohibit the positive feedback loop. To maintain quality of users so that users on the other side want to interact, the study has shown that it often

makes sense to take measures to empower producers. To deal with bad quality users or misconduct which could prohibit interactions, the study shows that having a peer-to-peer review system and requiring users to verify their identity in many cases is sufficient. Finally, building trust is found to be fundamental for two-sided platforms with a hope of making users interact on the platform.

In contrast to previous literature which states that platforms following the simultaneous entry approach are required to have a rather balanced growth towards critical mass, this study finds that it is possible to have an imbalanced growth. It seems that some platforms can focus solely on building supply on the platform, and that this eventually will generate enough indirect network effects, convincing the other side to interact. Further, it seems that platforms' ability to stack supply will differ. While some platforms can accumulate supply, others are dependent on a continuous stream of new supply to maintain indirect network effects. This indicates that some platforms might have an easier time building supply on the platform, which in turn has an impact on the ability to reach critical mass. Moreover, despite previous literature's focus on two-sided platforms' need to reach critical mass within some time period, findings in this study indicate that these time constraints don't necessarily apply to all types of platforms. Finally, previous literature finds the marquee user strategy, where some valuable "marquee" users single-home on the platform to be as an expensive approach for startups, but the authors have found that platforms may use other non-monetary incentives to enable this strategy. It is also possible to get such marquee users to become part of the team.

The findings above shows that the authors have helped to bridge the gap in the literature on how to reach critical mass, specifically related to two-sided peer-to-peer transaction platforms without existing network effects or substantial resources. There is still a lot more work to be done on this field, and the authors recommend further research to look at whether reaching critical mass will be easier for some platforms with certain characteristics, as have been suggested in this study. Due to the fundamental need for trust to be able to facilitate interactions on the platform, the authors also believe it would be interesting to investigate how two build trust on a two-sided platform. This master thesis has been based on the Norwegian market, and as Norway is a country with high trust, it could be that two-sided platforms in other countries need to approach trust differently than this thesis has proposed. Finally, this study has suggested that weaker matching quality in some cases might beneficial as it positively affects the positive feedback loop. Hence, it would be interesting to look into the interrelation of the different factors two-sided platforms can influence to generate indirect network effects, to successfully reach critical mass.

8 Managerial implications

If you're an entrepreneur inspired by the enormous success stories of two-sided platforms such as Airbnb and Uber, and thinking of starting your own two-sided platform, it is important to remember that two-sided platforms need to reach critical mass to become valuable. Only when the platform has reached critical mass, the network effects on the platform become so strong that the platform starts growing organically and sustainably. Before reaching this point, these network effects create a chicken-or-egg problem for platforms, where it's difficult to attract buyers if there are no sellers and vice versa. To avoid having to deal with this problem, it is sometimes possible to start out as a one-sided platform and rather turn into a two-sided platform after having acquired a critical mass of users on one side. However, many times you need to get both user groups onboard the platform simultaneously, and must find ways to attract enough users and make sure they interact on the platform.

To do so, the study shows that you first need to find a focus area which offers enough differentiation from potential incumbent platforms in the market, as well as solves enough friction for users. Having a geography and category focus will also let you reduce the number of users needed to generate enough network effects on the platform to reach critical mass. Marketing strategies are also most effective combined with a clear category and geography focus, so that the users that are acquired have large value for the rest of the users on the platform. Investments in Facebook advertising seem to be especially effective, due to its possibility to narrowly target people within the platform's geography and category focus. Media attention also seems to be effective to attract users to the platform, but is particularly effective if there is already activity on the platform, e.g. an initial base of sales posts, when new users join. With an initial base of supply on the platform demonstrating the potential benefits of participating on the platform, the new user joining will have a larger chance of posting something himself/herself. With more supply on the platform new users will be attracted, which in turn starts a positive feedback loop, leading to continuing growth. One important way to create activity on the platform initially is using what's referred to as the seeding strategy, where the platform or potential partners add supply themselves.

Furthermore, there is a range of other strategies you can employ to attract users, but findings show that combining them might prove especially powerful. This is shown with Nabobil who combined the seeding strategy with a micro-market and a piggyback strategy, when they sent a customized email to all their founders' personal LinkedIn networks' when they launched in Oslo. This resulted in numerous cars being added to the platform, which effectively dealt with

their initial chicken-or-egg problem. Another way of attracting users in the launch phase is to get some valuable "marquee" users to join the platform, whom other people want to interact with. Although getting these users to join your platform can be expensive for startups, this study shows that you can also use non-monetary incentives. One of the case companies, Tise, also showed that it is possible to get such users to become part of the core team.

In addition to attract users, it is essential that you get these users to interact on the platform. To do so, it is important to make it easy for new users to join the value creation. The study shows that a transaction based revenue model, where users don't have to pay to become part of the platform, is advantageous. It also seems to be important to set some restrictions for what people can do on the platform, to reduce uncertainty and make it easier for users to interact. Good matching is also essential to enable interactions on the platform, so that it becomes easy for the two user groups on the platform to find each other. At the same time, it seems important to not add too much filtering if there is not enough supply within the filters. In the worst case, this can counteract the positive feedback loop, and prohibit increased value creation from new users joining the platform.

Further it can sometimes be wise to follow up and provide training for the suppliers to increase the value of their supply, so that users on the other side want to interact with them. Hence, in addition to have many users, their quality might be just as important to attract the other users on the other side of the platform. The study shows that you can empower suppliers in different ways, including calling or meeting them in person to provide tips, or by making tips and tricks easy accessible inside the platform. Moreover, findings show that building trust and removing risk for users to interact on the platform is imperative. This can be accomplished in a number of ways, e.g. through rating systems, identity verification, and insurance deals. A professional looking service and media attention also seem to be important in building trust towards the platform. Finally, having a rating system and requiring users to verify their identity to be able to partake on the platform in many cases seems to be sufficient, to deal with bad quality users or misconduct.

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