Intermediary Crowdsourcing Platforms – Digital Suggestion Boxes or the Key to Future Innovation?

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Acknowledgments

Abstract

Numerous studies have been undertaken about crowdsourcing, but a gap exists in the literature about what factors contribute to successful crowdsourcing ventures, especially concerning crowdsourcing intermediaries. This study aims to cover this gap by identifying critical success factors for intermediary crowdsourcing platforms. Furthermore, it seeks to investigate the business model implications of such platforms. These goals are achieved by studying Kairos Future's collaborative web-based platform Co:tunity, which can be used for crowdsourcing projects with external crowds. The company wishes to investigate what factors are important to succeed with such projects, and if any modifications of the Co:tunity business model are required.

The study uses a qualitative, exploratory and abductive research strategy, and a case study design. Qualitative interviews with individuals considered to be experts in crowdsourcing are conducted to develop the critical success factors. The business model implications are derived from qualitative interviews with the administrators of Co:tunity and previous customers to the platform. The findings are subsequently compared with previous research.

This thesis identifies seven critical success factors for intermediary crowdsourcing platforms: *User-friendly platform, Recognizing the crowd's contributions, Crowd commitment, Clear crowd communication, Crowd size and diversity, Value-adding contributions* and *Clear customer value.* Some implications that are derived for crowdsourcing intermediary business models are adding a *Crowd* building block to the business model canvas, and the need to direct special attention to the *Value Proposition* and *Channels* building blocks. These findings are intended to be used as guidance for organizations hosting or considering hosting an intermediary crowdsourcing platform.

Keywords: Crowdsourcing, Critical Success Factors, Intermediary Platforms, Business Model Canvas, Collaborative Innovation

Sammanfattning

Ett stort antal studier har gjorts om crowdsourcing, men det finns ett gap i litteraturen när det gäller vilka faktorer som bidrar till framgångsrik crowdsourcing, speciellt gällande tredjepartsplattformar. Den här studien syftar till att fylla detta gap genom att identifiera kritiska framgångsfaktorer för tredjepartsplattformar för crowdsourcing. Vidare ämnar den undersöka vilka konsekvenser som sådana plattformar innebär för affärsmodellen. Dessa syften uppfylls genom att studera Kairos Futures kollaborativa webb-baserade plattform Co:tunity, som kan användas för crowdsourcingprojekt med externa crowder. Företaget vill nu utreda vilka faktorer som är viktiga för att lyckas med sådana projekt, och om de kräver några förändringar i affärsmodellen för Co:tunity.

Studien använder en kvalitativ, explorativ och abduktiv forskningsansats och är utformad som en fallstudie. Kvalitativa intervjuer med personer som anses vara experter inom crowdsourcingområdet genomförs för att ta fram de kritiska framgångsfaktorerna. Konsekvenserna för affärsmodeller för crowd-baserade tredjepartsplattformar härleds genom kvalitativa intervjuer med administratörerna för Co:tunity och tidigare kunder till plattformen. Resultaten jämförs sedan med tidigare forskningsresultat.

Den här masteruppsatsen identifierar sju kritiska framgångsfaktorer för tredjepartsplattformar för crowdsourcing: *användarvänlig plattform, värdesättande av crowdens bidrag, crowdengagemang, tydlig crowdkommunikation, crowdens storlek och mångfald, värdeskapande bidrag* och *tydligt kundvärde*. Några konsekvenser för affärsmodellen för sådana plattformar är att business model canvasens nio delar bör kompletteras med en *Crowd*-del, och att *Value Proposition*- och *Channels*-delarna bör betänkas särskilt noggrant. Dessa resultat är tänkta att användas som vägledning för organisationer som arbetar med eller funderar på att arbeta med en tredjepartsplattform för crowdsourcing.

Nyckelord: Crowdsourcing, kritiska framgångsfaktorer, tredjepartsplattformar, business model canvas, kollaborativ innovation

Acronyms

Crowd	An undefined and generally large group of people
Crowd member	A member of the crowd. Contributor, creator, participant and solver are used synonymously
Crowdsourcing	The outsourcing of a function or task to a crowd in the form of an open call
CSF	Critical Success Factor
Intermediary platform	Crowdsourcing platform provided by a third party, connecting seeker companies with a crowd
Open call	A request for information from anyone who wants to contribute
Platform provider	Organization hosting a crowdsourcing platform
Seeker company	Company seeking information from a crowd to use for their own benefit

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1 Introduction

This chapter gives the reader an introduction to the report by providing some background to the research field and this master's thesis. Further, the issue of study, the purpose and some delimitations are discussed, and the outline of the report is presented.

1.1 Background

1.1.1 Background to research field

In June 2006, the term crowdsourcing was coined by Jeff Howe and Mark Robinson in *Wired* magazine. They explained crowdsourcing as a new web-based business model where creative solutions are sought from an outside crowd by means of an open call for information (Brabham, 2008). Since then, crowdsourcing has gained more and more attention, both in business and in the academic world (Hossain & Kauranen, 2015). From the beginning, the expectations were high, with many organizations and entrepreneurs rushing to implement crowdsourcing communities (Bayus, 2013). After a few years, the initial interest was dampened as crowdsourcing platforms failed to achieve their goals and the difficulties with crowdsourcing became apparent (Kohler, 2015). Regardless, most organizations and innovation researchers still see great potential in crowdsourcing, and expect it to play an increasingly important role for business practitioners for many years to come (Caron-Fasan & Chanal, 2010; Malhotra & Majchrzak, 2014; Hossain & Kauranen, 2015).

Most organizations that have used crowdsourcing have done so through web-based platforms, since the Internet makes it possible to engage individuals who are separated by large geographical distances in collaborative work (Brabham, 2008; Hossain & Kauranen, 2015). A crowd-based platform may be implemented by the organization itself, seeking information from its own customers or consumers. It can also be provided by a third party, acting as an intermediary. Intermediaries adopt different business models depending on how they create and capture value from the crowd (Kohler, 2015).

Much of the research that has been carried out in the area of crowdsourcing and crowd-based business models has focused on possible applications and what motivates individuals to participate in crowdsourcing initiatives (Kohler, 2015; Mack & Landau, 2015). A gap exists in the literature, however, about what factors

contribute to successful crowdsourcing ventures (Brabham, 2008; Marjanovic, Fry, & Chataway, 2012; Hossain & Kauranen, 2015). Further, the influence of intermediaries on the feasibility and desirability of crowdsourcing has gained limited attention (Afuah & Tucci, 2012). In order to gain a better understanding of what determines if a crowdsourcing platform succeeds or fails, and how crowdsourcing intermediaries impact this performance, more research is needed.

1.1.2 Background to master's thesis

Kairos Future has since its start worked with different types of collaborative methods in future analysis and conceptual work. Initially, this was done mostly in the form of workshops. During the last few years, the company has also developed digital platforms to support more crowd-based work forms, mainly the collaborative platform Co:tunity. In trend spotting as well as in innovation, different types of crowd-based solutions have been established, in which broader groups are engaged in scouting or ideation work, e.g. Trendhunter and InnoCentive. Initially, the technology platform Co:tunity was mostly used for crowdsourcing with internal crowds, such as customers' employees. However, Co:tunity may also be used to co-create ideas, trends or products with external crowds. Customers can gain access to these crowds through the platform, which functions as an intermediary between the customer and the crowd. Kairos Future now wants to evaluate this business model.

1.2 Issue of study

Originally, most crowdsourcing platforms were set up by the organization or individual seeking input from a crowd. Now, a large number of intermediary platforms exist, meaning that the platform host does not seek input from the crowd for themselves but for their clients. Kairos Future's collaborative platform Co:tunity is an example of this type of intermediary platform. It offers organizations the possibility to engage in challenges, trend spotting and ideation work with their co-workers, customers or other consumers. Seeing as this is another type of crowd-based solution, Kairos Future wants to gain insight into what factors are important to make this type of intermediary platform successful, and how it should be designed. The company also wishes to investigate if the possibility to engage external crowds on the platform has any implications for the Co:tunity business model.

Although numerous research studies have been undertaken concerning crowdsourcing and its benefits and challenges, the majority of these concern platforms where the company behind the platform is the organization wanting to crowdsource a certain skill or solution. Furthermore, most of the studies deal

exclusively with crowdsourcing platforms where the crowd is quite homogeneous and does not change depending on the project. Hence, there is a gap in the literature concerning crowdsourcing intermediaries that involve different types of crowds on the same platform. In addition, more research is needed concerning what aspects are important to succeed with an intermediary crowdsourcing platform, and how to build a successful business model based on a crowdsourcing intermediary. This master's thesis intends to cover these gaps, by identifying critical success factors for intermediary crowdsourcing platforms, and reviewing the business model implications of such platforms.

1.3 Purpose

The purpose of this master's thesis is to create a better understanding of what aspects are important in order for intermediary crowdsourcing platforms to be successful. Furthermore, it seeks to investigate the business model implications of intermediary crowdsourcing platforms. The findings will provide a basis for decision-making in the case organization.

1.3.1 Research questions

Two research questions have been established for this report. By answering these questions, the purpose of this master's thesis will be achieved.

- RQ 1: What are critical success factors for intermediary crowdsourcing platforms?
- RQ 2: What are the business model implications of an intermediary crowdsourcing platform?

In order to answer the first research question, qualitative interviews with persons with extensive knowledge and experience from crowdsourcing work are conducted and subsequently analyzed. In regard to the second research question, qualitative interviews with the administrators of Co:tunity and previous customers to the platform are performed. A comparison of the findings from the different interview types is then made to answer the question. Existing literature is considered in answering both questions to compare and explain differing conclusions.

1.4 Delimitations

This project is carried out as a master's thesis, which entails that there is a time limitation of 20 weeks. This has several implications for the content and work

process. Firstly, the literature study will not give a complete overview of the crowd-based solutions that exist today. Instead, it will cover the concept of crowd-sourcing in general, some common applications, various aspects of the crowd and different types of crowdsourcing platforms. Secondly, this thesis will concentrate on the application of Co:tunity that involves crowdsourcing with external crowds. The platform can also be used internally in organizations as a digital tool for ideation work and trend spotting, but this application will not be investigated further in this thesis. Thirdly, the list of critical success factors developed during the project will not be an exclusive list but rather an initial attempt to identify a number of important factors related to the implementation of intermediary crowdsourcing solutions.

Other aspects that will not be covered in the report are the legal aspects related to crowdsourcing. Naturally, there are intellectual property issues related to the input generated by a crowd, but since the topic is not the focus of this study, it has been left out. Further, some authors argue that crowdfunding, a term that refers to turning to a crowd to raise capital, is a part of the crowdsourcing concept (Palacios et al., 2015). In this thesis, however, crowdfunding has been excluded and will not be discussed.

1.5 Outline of report

Chapter 1 Introduction

This chapter gives the reader an introduction to the report by providing some background to the research field and this master's thesis. Further, the issue of study, the purpose and some delimitations are discussed, and the outline of the report is presented.

Chapter 2 Methodology

This chapter introduces the reader to the methodology used for the study. It consists of an overview of the research strategy and research design, as well as descriptions of the methods used for data collection and data analysis. The chapter also describes the work process for the project, and discusses the credibility of the study.

Chapter 3 Theoretical Framework

In this chapter, earlier research related to the field of study is presented. An introduction to crowdsourcing and crowdsourcing platforms is given, based on the literature review that was conducted in the beginning of the project. In addition, the business model canvas and related suggestions for adjustments are introduced. The results of the study will be compared to the theoretical framework during the analysis phase.

Chapter 4 Understanding Crowdsourcing Platforms

In this chapter, the results of the case study are presented. The collaborative platform Co:tunity is introduced and a detailed description of the business model is provided, based on the interviews performed with the platform administrators. The results from the expert interviews are presented, leading to the identification of seven critical success factors. Finally, the views of the interviewed customers are presented.

Chapter 5 Analysis

This chapter presents the analysis that was performed as part of the project. First, the critical success factors identified in the previous chapter are linked to the business model for Co:tunity and the views of former customers. The critical success factors are also compared to the findings from prior research in the field. Second, some general business model implications for intermediary crowdsourcing platforms are discussed. The chapter ends with an examination of some specific implications that arise for the Co:tunity business model.

Chapter 6 Conclusions and Final Remarks

This chapter provides the conclusions that were drawn from the study. First, the research questions are answered, followed by recommendations to the case organization. Some implications of the findings are discussed, as are the limitations of the study. Finally, some suggestions for future research are presented, as well as concluding reflections.

2 Methodology

This chapter introduces the reader to the methodology used for the study. It consists of an overview of the research strategy and research design, as well as descriptions of the methods used for data collection and data analysis. The chapter also describes the work process for the project, and discusses the credibility of the study.

2.1 Research strategy

The research strategy for this master's thesis will take a qualitative approach. When limited research has been performed in the field of study, the goal tends to be to generate theory in the unexplored research area, and in such cases a qualitative approach is appropriate (Bryman, 2011; Hennink et al., 2011). This holds true for the topic of intermediary crowdsourcing platforms. A qualitative approach also offers opportunities to ask more open questions than in quantitative research, which is useful when the studied phenomenon is not well understood (Edmondson & McManus, 2007).

On the contrary, when extensive research has been conducted on the subject, the aim of additional research tends to be to test already developed theory. For such studies, a quantitative approach is often more suitable (Edmondson & McManus, 2007; Bryman, 2011). In addition, quantitative research is more concerned with measuring and quantifying collected data, while qualitative research aims to gain a deeper understanding of the studied area and find patterns of behavior (Trost, 2005; Hennink et al., 2011). Similarly, quantitative research uses numbers or numerical data while qualitative research uses words (Bryman, 2011; Hennink et al., 2011). This study focuses solely on interpreting data formulated with words, offering additional support for the choice of a qualitative research strategy.

This study will be based on an abductive reasoning approach. This approach aims to explain the results shown in the collected data by consulting existing literature in the field (Wallén, 1996). In this way, it combines elements from both induction and deduction, which are the two most commonly used reasoning approaches (Bell, 2006). Induction seeks to develop theory from data alone, while deduction aims to test theoretically generated hypotheses empirically (Bryman, 2011). An abductive reasoning approach gives the researcher increased flexibility, by offering the possibility to iterate between inductive theory development and deductive theory evaluation. Therefore, it generally results in a deeper understanding of the studied topic (Edmondson and McManus, 2007).

Moreover, the study will take an exploratory approach, which entails seeking basic knowledge about a certain phenomena and answering questions like what, when, when and in what context in order to generate new theory (Wallén, 1996). An exploratory approach is suitable since it is commonly used for areas where the level of knowledge is low due to limited previous research. To succeed with such an approach, it is crucial that researchers maintain openness towards the collected input, as they do not know at the outset of the study what concepts will emerge from the data (Edmondson & McManus, 2007).

Lastly, it should be noted that the goal of this research strategy is not to develop a formal theory regarding intermediary crowdsourcing platforms. It is rather to generate some suggestive theory that could be the basis for future research in the field. Commonly, this is the contribution offered by studies in unexplored research areas (Edmondson & McManus, 2007).

2.2 Research design

For this project, the case study was deemed the most appropriate choice for the research design. Reasons included that this thesis aims to provide a close and thorough study of a specific case, and to study that case under its actual circumstances (Wallén, 1996; Bryman, 2011). The goal of a case study can be to provide description, test theory or to generate theory (Eisenhardt, 1989). For this study, the primary aim is to generate elementary theory with which it is possible to answer the two research questions. Case studies that aim to test theory, usually through hypotheses, are more common when extensive research has been conducted in the field, and should be avoided in the case of novel research (Edmondson & McManus, 2007).

In case studies that aim to generate theory, data analysis often overlaps data collection, which gives researchers the advantage of flexible data collection (Eisenhardt, 1989). In this study, some interview questions were substituted for new questions that had surfaced during the first interviews, to incorporate interesting ideas emerging in the data collection process into the research (Trost, 2005; Edmondson & McManus, 2007).

Researchers who choose a case study approach commonly wish to shed light on certain unique aspects of the specific case (Bell, 2006; Bryman, 2011). This holds true for this project, since the goal is to point to the special characteristics of crowdsourcing platforms hosted by intermediaries. A gap exists in the literature regarding such platforms, and the case study approach was deemed most appropriate to fill it since it is suitable for research in new topic areas (Eisenhardt, 1989). This study will focus on Kairos Future's collaborative platform Co:tunity, which is an intermediary crowdsourcing platform. By exploring Co:tunity, it will be possible to answer the two research questions for the study. For case studies

that aim to build theory, it is essential to compare the emergent concepts with existing literature, both conflicting findings and similar results. While this comparison is important in most research, it is especially important for case studies, since the findings are often based on one or a limited number of cases (Eisenhardt, 1989).

2.3 Data collection

Data collection can be either qualitative or quantitative. For this study, qualitative data collection was deemed the most appropriate choice since the chosen research strategy for the study is qualitative. Furthermore, the data collection will focus on words rather than numbers, on the participants' opinions rather than the author's opinions and on the micro perspective of a limited subject rather than a macro perspective. Bryman (2011) presents all of these characteristics as being typical for qualitative data collection.

2.3.1. Qualitative interviews

For this project, qualitative interviews were considered the most suitable choice as the primary method for data collection. Most often, this method involves an interviewer and an interviewee having a one-on-one discussion about a certain topic (Bryman, 2011). Qualitative interviews offer a large amount of flexibility and can be performed in a relatively short period of time, making them an attractive choice for shorter studies like this master's thesis (Bell, 2006; Bryman, 2011; Ahrne & Eriksson-Zetterquist, 2015). The literature suggests several names for this type of interview. As an example, Hennink et al. (2011) call them in-depth interviews, emphasizing the goal to seek in-depth information about a specific topic from people through their individual, personal experiences.

Apart from the time efficiency gained by using qualitative interviews, advantages include the possibility to obtain a broad spectrum of resulting material (Trost, 2005; Ahrne & Eriksson-Zetterquist, 2015). Since the topic of the study is novel, the need for rich and detailed information is particularly important, and interviews provide an opportunity to collect this type of data with an open mind (Edmondson & McManus, 2007). Furthermore, qualitative interviews offer the possibility to alternate between interviews and analysis (Ahrne & Eriksson-Zetterquist, 2015). Disadvantages stem from the fact that interviews are the result of specific exchanges of information where the interviewee's subjective views are presented (Bell, 2006). In this study, qualitative interviews were complemented with observations to obtain a more comprehensive view of the studied subject.

Several types of interviews exist, including structured, semi-structured and unstructured interviews. Structured interviews are standardized, do not allow any variances to the pre-established questions and are common in quantitative research. On the contrary, unstructured interviews are focused on following the direction that the interviewee's answers take, because in this case, the interviewer is more concerned with the interviewee's view of what is important. Hence, an unstructured interview is more similar to a normal conversation. In a semi-structured interview, the interviewer has a number of areas to cover in the interview, but the questions can be asked in any order, the interviewee is free to give the answers in any way he or she sees fit and additional questions may be asked depending on the answers provided (Bryman, 2011). Semi-structured interviews were considered most suitable for the purpose of this study, since they enable easier analysis than unstructured interviews, without the limitations related to strictly structured interviews.

The number of qualitative interviews performed should be guided by a principle called saturation, which means that when the information provided by the interviewees begins to repeat itself, enough interviews have been conducted (Bell, 2006). The underlying logic is that the purpose of qualitative interviews is to gain a varied and diverse understanding of the subject of the study, not to find a large amount of participants who share the same view (Hennink et al., 2011). For standardized survey-based interviews, the number of respondents must be considerably larger to obtain credible results. The difficulties connected to ensuring a large enough base of survey respondents was another reason why semi-structured, qualitative interviews was considered the most suitable method of data collection for this study.

2.3.2 Observations

To ensure a comprehensive understanding of the Co:tunity platform and its opportunities for successful crowdsourcing projects, observations of the platform were made. A second reason was to complement other methods of data collection, as suggested by Hennink et al. (2011). The participant observation type was chosen, because the observations were aimed at understanding the behaviors and interactions of users on the platform, and experiencing the platform as a user was regarded the most effective way of doing that (Bell, 2006). Moreover, participant observations give "insider" knowledge that appears in concrete situations but is inaccessible in interviews (Wallén, 1996). The actual activities carried out were taking part in challenges posted on the platform, rating and commenting on others' posts and analyzing the gathered input.

2.4 Data analysis

The data analysis conducted during this project loosely follows the principles of grounded theory, where a rigorous and scientific approach is combined with more interpretive, qualitative reasoning (Hennink et al., 2011). This analysis framework was chosen mainly because it combines a systematic approach with creative thinking, which was deemed appropriate for this study. Further, a grounded theory approach is often suitable for novel research areas (Edmondson & McManus, 2007). Some of the principles of grounded theory that guided the data analysis were (Hennink et al., 2011):

- Analysis is a circular process – Activities can be repeated, overlap or happen simultaneously, which enables greater depth in the analysis.
- Data collection and analysis are linked to each other – Some analysis activities begin during the data collection phase.
- Constant comparison is used – In order to identify patterns and define and redefine concepts.

2.5 Work process

2.5.1 The qualitative research cycle

The work process used for this study is similar to the qualitative research cycle presented by Hennink et al. (2011). This qualitative research cycle emphasizes the cyclical nature of qualitative research, and how different tasks are interlinked, performed simultaneously and adjusted repeatedly throughout the research process. During the process of conducting this project, data collection and analysis were interlinked, and conclusions were drawn during the data analysis process and adjusted as new analysis was completed. Further, the interview questions were modified repeatedly during the course of the first interviews to ensure that they added value to the data collection.

The first part of the qualitative research cycle is the design cycle, which was performed in accordance with Hennink et al. (2011). The research questions were formulated, a literature review was performed, a conceptual framework was developed for the project and a fieldwork approach was chosen. Since limited knowledge exists about the topic of the study, open-ended research questions were chosen (Edmondson & McManus, 2007). Even after moving on to the next cycle, the research questions and literature review were revisited several times as the need for adjustments or new information arose.

The ethnographic cycle proposed by Hennink et al. (2011) was considered too complex and time-consuming for the purpose of this project. Therefore, it was reduced to only include the proposed activities of selecting participants and data collection. When selecting interviewees for the interviews, purposive sampling was used. The objective of purposive sampling is selecting those data collection units, in this case interviewees, that are able to provide the most relevant data for the purpose of the study (Yin, 2013). It is also important that the sampling aims to gather the broadest possible scope of information and opinions regarding the topic of the study (Trost, 2005). The data collection was mainly constituted by qualitative interviews, complemented by observations of the Co:tunity platform. The suggested task of designing the research instrument was incorporated into the earlier task of selecting a fieldwork approach, and making interferences was skipped since no hypotheses would be formulated during the project.

Finally, a simpler version of the analytic cycle proposed by Hennink et al. (2011) was performed. It was adapted by focusing on categorizing and conceptualizing data and description and comparison, and not devoting as much effort to developing codes and theory because of the restricted time available for the project. Emerging concepts were noted and continuously developed as more data was analyzed. Concepts derived from different interviews were subsequently compared to data from other interview types, existing literature and the performed observations.

An overview of the work process for this master's thesis can be found in Figure 2.1, which demonstrates that previous phases were revisited repeatedly during the process and that activities were performed in an iterative manner. A more detailed description of the main elements in the work process follows below.
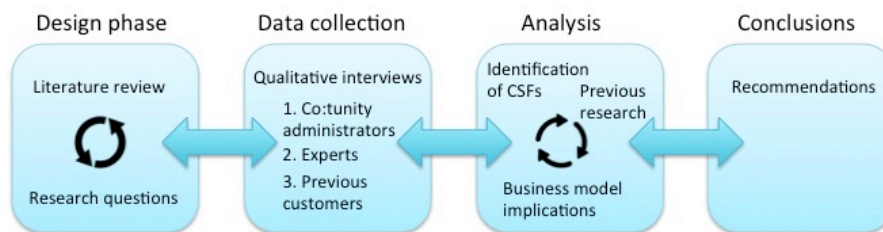
Figure 2.1: Illustration of the work process and its different phases

2.5.2 Literature review

A selective approach was chosen for the literature review, because the objective was to deepen the preliminary understanding of the topic chosen for the study, rather than compile all the information available in the area. Yin (2013) argues

that in such cases, a selective literature review is the most appropriate choice. By reviewing a specific collection of previous studies directly related to the topic of the project, it is also possible to gain insights into what methods other researchers in the area have used (Yin, 2013). A third reason for choosing a selective literature review was the time constraints of the project.

During the work with the literature review, previous articles on the topics of crowdsourcing and crowd-based platforms were identified through keyword searches on LUBSearch, a database hosted by Lund University with access to a large number of academic journals and databases. Additional articles were subsequently identified by looking through the reference lists and cited by-lists of previously found articles. Suitable methodology literature was mainly found through the reference lists of completed master's theses, and through tips from supervisors at the Faculty of Engineering at Lund University.

2.5.3 Qualitative interviews

The persons that were asked to participate in interviews for the purpose of this study belonged to three different groups. First, interviews were conducted with the two administrators of Co:tunity. These interviews focused on describing the Co:tunity business model and its strengths and challenges. Second, four people were chosen because they were considered to be experts in the crowdsourcing field. They have broad experience from working with crowdsourcing models and extensive knowledge in the area. These interviews centered on how to make an intermediary crowdsourcing platform successful. One of the administrators of Co:tunity was also considered to be an expert in crowdsourcing, so this person was interviewed twice in both the administrator and expert group. Third, four people were selected because they were previous Co:tunity customers. These interviews centered on their experiences with Co:tunity and improvement opportunities for crowdsourcing projects.

Before the interviews began, questionnaires were developed for the administrator interviews, the expert interviews and the previous customer interviews, respectively. First, the main themes to be discussed were decided, and then questions were developed related to each theme. This procedure is suggested by Bell (2006), who also emphasizes documenting the interviews by recording them or taking careful notes. During this project, the interviews that were performed in person or on Skype were recorded, while the one interview that was conducted on the phone was documented by taking extensive notes.

2.5.4 Analysis and identification of critical success factors

During the analysis of the qualitative interviews, verbatim transcripts were used. This entails making a written record of the interviews for analysis purposes, in order to understand the views of interviewees in their own words. For the interviews that were recorded, a word-by-word transcript was made directly following each interview, while the telephone interview was documented as carefully as possible in writing during and directly after the interview. Verbatim transcripts enable the researcher to interpret the answers in a credible manner and draw conclusions that are well rooted in the data (Hennink et al., 2011).

2.6 Credibility of the study

It is important to consider the credibility of any research study, no matter what method is used for the data collection (Wallén, 1996; Bell, 2006). The reliability, validity and transferability of this project will be discussed below.

Validity relates to whether or not the conclusions that have been drawn from a certain study are correct, or in other words if they can be derived from the data or not (Kirk & Miller, 1985; Bryman, 2011). A valid study has collected data and interpreted it in such a way that the conclusions drawn correctly reflect the object of the study (Yin, 2011). Some researchers claim that it is impossible to measure the validity of qualitative studies. Others argue that as long as less weight is put on aspects that concern the validity of measurements and more focus is put on how data is collected and how results are derived from that data, it is possible to talk about the validity of qualitative studies (Bryman, 2011). The author will assume the view of Yin (2011) and others, who argue that it is meaningful to discuss the validity of both qualitative and quantitative studies.

To ensure the validity of this study, the author has compared the findings with previous research results. Whether by providing supporting findings from other researchers or contradicting findings and looking for possible explanations to the discrepancy, a literature comparison enhances the study's validity (Eisenhardt, 1989). Furthermore, the data collection process has been carefully planned and the analysis performed has been clearly described in the report to ensure a clear account of the process and thereby increase the validity of the study (Wallén, 1996).

The reliability of a study concerns the extent to which the same results would be obtained if the study were performed again and the circumstances were the same. If a new examination would lead to other results, the study might have been impacted by random or temporary conditions, in which case the reliability is low (Bryman, 2011). Considering that the results from this study mainly were derived from interviews, a number of risks related to its reliability arise (Bell, 2006). One

is that the sample of interviewees might have influenced the data and that other results would have been obtained had other interviewees been chosen. To mitigate this risk, all the interviewees were chosen at the outset of the study with the goal of providing the widest range of opinions and perspectives possible. Further, interviewees were not asked to suggest other persons to interview to avoid interviewing several people with similar views or experiences.

Another risk is that the findings from the study are based to a too large extent on the subjective opinions of the interviewees. Their view of what is important and what is not might have had a large impact on the results. To address this risk, the interviews were complemented with participant observations of the Co:tunity platform (Hennink et al., 2011). Moreover, the concepts derived from the collected data were compared with previous research in the field (Eisenhardt, 1989). In addition, the author has taken care to explain the choices that were made during the project and why those specific decisions were made. This was done to help readers understand the author's interpretations and conclusions, in order to enhance the reliability of the report (Trost, 2005).

The transferability of a qualitative study concerns the extent to which the results can be generalized to other contexts. In order to make a result transferable, "thick descriptions" should be provided (Lincoln and Guba, 1985). This expression entails detailed and comprehensive accounts that describe not only the subject of the study but also its context (Hennink et al., 2011). Thick descriptions thus allow the reader to understand the implications and assess the transferability of the results (Lincoln and Guba, 1985).

According to Bryman (2011), several researchers have pointed out the difficulties that arise when it comes to the transferability of case studies. Since the object of the study is singular, it is complicated to extend the results of a case study to other entities, and this should be kept in mind when reading on. Bryman (2011) argues that qualitative research results should be generalized to theory, not to populations. In regard to this study, the issue of transferability also concerns the small number of interviews that were performed. To address these issues, extensive contextual information about the case organization and the crowdsourcing platform Co:tunity has been included in the report, as suggested by Lincoln and Guba (1985). Thereby, readers should be able to evaluate how transferable the results of the study are to other contexts.

3 Theoretical Framework

In this chapter, earlier research related to the field of study is presented. An introduction to crowdsourcing and crowdsourcing platforms is given, based on the literature review that was conducted in the beginning of the project. In addition, the business model canvas and related suggestions for adjustments are introduced. The results of the study will be compared to the theoretical framework during the analysis phase.

First, the concept of crowdsourcing will be discussed, followed by common applications in organizations. The idea generation and public participation applications will be reviewed more in detail since these are the applications that will be explored further in this study. Subsequently, various aspects of the crowd will be examined, including types of crowds and possible motivations for crowd members. This discussion will be followed by an overview of different types of crowdsourcing platforms, with special attention given to crowdsourcing intermediaries. Lastly, the business model canvas will be discussed, as well as some of the adjustments that have been suggested for crowd-based business models by previous research.

3.1 Crowdsourcing

The term crowdsourcing appeared for the first time in 2006, in the June issue of *Wired* magazine (Brabham, 2008). Jeff Howe, one of the term's originators, described crowdsourcing in the following way:

> Simply defined, crowdsourcing represents the act of a company or institution taking a function once performed by employees and outsourcing it to an undefined (and generally large) network of people in the form of an open call. This can take the form of peer-production (when the job is performed collaboratively), but is also often undertaken by sole individuals. The crucial prerequisite is the use of the open call format and the large network of potential laborers (2006).

Since then, organizations have increasingly used crowdsourcing to generate ideas, solve problems and engage individuals in collaborative innovation (Palacios et al., 2015). By spreading the task formulation as widely as possible, and allowing unknown individuals outside the organization to contribute to its solution, organizations get access to knowledge that does not exist internally (Lüttgens et al., 2014). One of the advantages with crowdsourcing is the possibility to engage

not only current customers but also large numbers of non-customers in innovation activities (Mack & Landau, 2015). Moreover, for problems that carry uncertainty regarding whether or not a solution exists, or that are considered to be too high-risk to be pursued in-house, crowdsourcing is often seen as a more flexible and lower-risk strategy (Marjanovic, Fry & Chataway, 2012). In short, crowdsourcing offers organizations a way to reach diverse, external resources that normally would not be available to them, and hopefully benefit from this external knowledge (Boudreau & Lakhani, 2013; Kohler, 2015).

Afuah & Tucci (2012) found that under certain circumstances, crowdsourcing transforms distant search into local search, enabling organizations to enjoy many of the benefits of distant search without having to pay all if its costs. These circumstances appear when the problem to be solved is easily formulated, the knowledge required to solve it does not exist locally, the crowd is large, the final solution is easily evaluated and information technologies are low cost and pervasive. In these cases, crowdsourcing may be a better method for problem solving than internal sourcing or designated contracting (Afuah & Tucci, 2012).

The emergence of crowdsourcing over the last ten years has several explanations. First, it is driven by technology. The Internet has made it possible to connect a large number of contributors spread over a wide geographical area and let them engage in joint information generation (Brabham, 2008; Boudreau & Lakhani, 2013; Kohler, 2015). Second, it has been enabled by active users. The emergence of social media and other platforms where users communicate on a peer-to-peer basis or directly with organizations has created a new mindset where user activity is expected and encouraged. Third, it is a consequence of open innovation. By opening up and sharing certain information and processes with external creators, organizations can gain access to resources that previously were not available to them, and turn a product into an interactive platform (Brabham, 2008; Kohler, 2015).

It is important to note that crowdsourcing is still a new and relatively immature model for conducting business, despite many organizations having implemented crowd-based platforms and projects (Bayus, 2013). A Gartner Hype Cycle may be used to illustrate the development stage of crowdsourcing, as shown in Figure 3.1. Even though much attention has been directed to it, crowdsourcing can be said to be in the trough of disillusionment. In this stage, interest for the new phenomena starts to decrease as implementations fail and challenges are discovered (Malhotra & Majchrzak, 2014). In order for the phenomena to pass into the next stage, called the slope of enlightenment, strategies for successfully implementing crowdsourcing must become clearer and better understood (Gartner, 2016). Nevertheless, several authors present crowdsourcing as a new paradigm with much unused potential that will disrupt the current way of conducting business in multiple industries (Malhotra & Majchrzak, 2014; Hossain & Kauranen, 2015; Palacios et al., 2015).
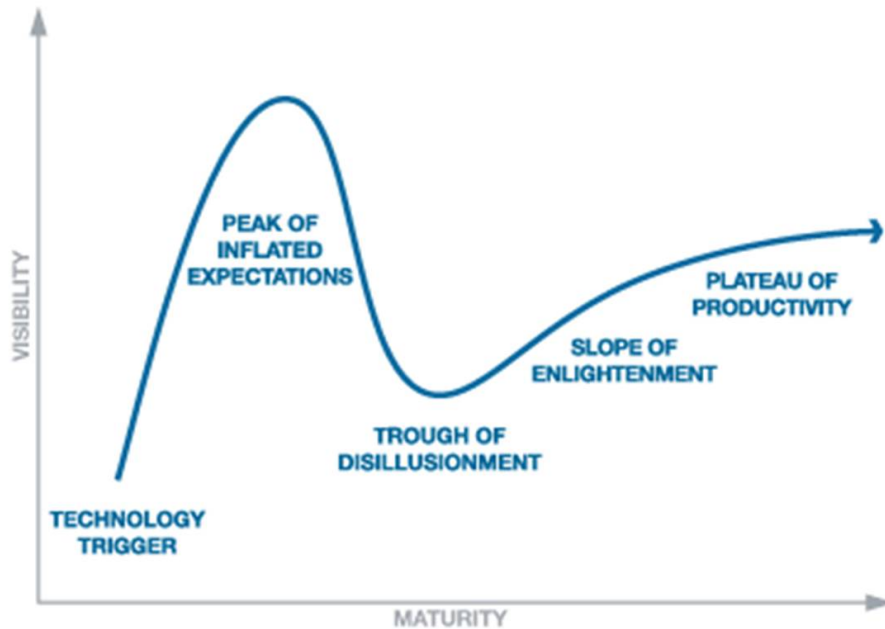
Figure 3.1: The Gartner Hype Cycle (Gartner, 2016)

3.2 Common applications

From an organizational perspective, it is possible to apply crowdsourcing in several parts of an organization's operations. According to Figure 3.2, an organization can be seen as having two cerebral hemispheres – one exploring hemisphere and one exploiting hemisphere. Crowdsourcing can be used in both processes. On the exploration side, it can be used for ideation and concept development, often engaging crowds of non-experts. Organizations increasingly turn to crowds of consumers for ideas for new products and services, and trust them to have specialized knowledge about problems with existing products from their own experiences from using them (Bayus, 2013). On the exploitation side, crowdsourcing can be used in any stage of the new product development process (Palacios et al., 2015). One example is turning to a crowd of industry experts to solve a production problem. In this hemisphere, expert crowds are more commonly used than in the exploration hemisphere.

Figure 3.2: Illustration of the two constantly ongoing processes in organizations (adapted from Normann, 1993)

More specifically, the following seven crowdsourcing applications have been identified by previous research (Hossain and Kauranen, 2015):

- Idea generation
- Microtasking
- Open source software
- Public participation
- Citizen science
- Citizen journalism
- Wikies

Idea generation and public participation are discussed more in detail below.

3.2.1 Idea generation

Idea generation applications usually take the form of either idea competitions or ideation with collective intelligence. These can be applied in new product development or other innovative work. A common form of idea competition is an ideation contest, in which an organization or individual, commonly known as the "seeker", asks a crowd to submit ideas concerning a pre-defined task. After a pre-decided amount of time, the seeker selects the best ideas and commonly awards the contributors of these ideas with cash prizes (Hossain & Kauranen, 2015). The invitation to submit ideas is publically announced in the form of an open call, where crowd members themselves decide if they want to submit an idea or not. This is called self-selection (Lakhani & Jeppesen, 2010; Mack & Landau, 2015).

Ideation contests can be organized by the firm that wants to collect new ideas, or by intermediaries who solicit ideas from crowds for other organizations and individuals (Hossain & Kauranen, 2015).

It should be noted that the ideation contests described above differ from what is known as broadcast search, or synonymously tournament-based crowdsourcing. Tournament-based crowdsourcing refers to an open call for solutions from a large network of experts, where the task is to solve a technical problem. Hence, the seeker often needs to disclose sensitive information in the problem statement. Broadcast search is primarily used in the later stages of the innovation process and requires the participation of other internal units such as R&D. Ideation contests, on the other hand, are mainly used in the early stages of the innovation process and aim to gather information about customer needs and preferences. Consequently, they only require the seeker to disclose limited sensitive information. In both types of idea competitions, potential participants self-select to submit a solution to the challenge and the seeker awards the contributor who provides the winning solution. Tournament-based crowdsourcing tends to be facilitated by intermediaries to a larger extent than ideation contests (Lüttgens et al., 2014).

Boudreau & Lakhani (2013) found that idea competitions work best when it is unclear what combination of skills or knowledge is required to come up with a solution. Many times, seekers do not know in advance what a good solution might look like. In these situations, experiments and multiple solutions are beneficial, which is what idea contests deliver. In other words, idea competitions are most effective when the problem is complex, novel or lacks best practice approaches.

In collective ideation efforts, organizations seek out the combined expertise, skills and creativity of a large number of individuals (Mack & Landau, 2015). Commonly, this ideation takes place in communities, where crowd members can interact by commenting and voting on each other's ideas. By encouraging participants to aggregate separate ideas and build on each other's contributions, the diversity of the crowd can be leveraged to create the best possible solution to the pre-defined task (Boudreau & Lakhani, 2013). Crowds have been found to outperform professionals when it comes to many types of new product ideation. This statement is strengthened by research that shows that the collective effort of a large number of individuals often leads to better results than relying on a few experts (Lakhani, Jeppesen, Lohse & Panetta, 2007; Hossain & Kauranen, 2015).

Successful examples of crowdsourced solutions to challenging problems has led many authors to acknowledge that crowdsourcing is a viable model for organizational problem solving (Brabham, 2008; Boudreau & Lakhani, 2013). It can be applied to a variety of industries and used to solve both simple and complex tasks. In fruitful cases, the model attracts a crowd of capable and motivated individuals who can provide a large quantity of solutions cheaper and faster than traditional forms of business can, while also outperforming them in quality (Brabham, 2008; Lakhani & Jeppesen, 2010).

Naturally, implementing a crowdsourcing model for idea generation comes with several challenges. One of them is ensuring the quality and accuracy of the crowdsourced information, which has been raised as an important concern (Hossain & Kauranen, 2015). Another is handling the notion that the aggregated work the crowd members perform is worth significantly more than the value of the rewards they receive. This may be seen as labor exploitation on the Internet (Brabham, 2008; Hossain & Kauranen, 2015).

A third challenge is managing the evaluation and selection of submitted ideas. Firstly, organizations might fail to successfully filter among the generated input, thereby wasting resources on separating the good ideas from the bad. This risk is especially prominent if too many submissions are received (Mack & Landau, 2015; Piezunka & Dahlander, 2015). Secondly, increased rivalry from other contributors may prevent potential preferable participants from joining a crowd effort (Mack & Landau, 2015). Thirdly, organizations might think that the ideas expressed most often are the best. Adjusting organizational processes to allow for successful filtering of the contributed suggestions is crucial to benefit from crowdsourcing. One potential way of accomplishing this is to kindly reject contributions that do not meet the requirements for the task and therefore cannot be paid any attention (Piezunka & Dahlander, 2015). Regardless of the actions taken to facilitate the screening process, it has been found that organizations must invest a significant amount of internal resources to successfully implement crowdsourcing projects (Lüttgens et al., 2014).

3.2.2 Public participation

Crowdsourcing can be a useful tool to enable public participation in public planning and other community activities. Creating a dialogue between citizens and decision-makers is often much desired but hard to realize. Traditional methods for public participation such as physical dialogues are common, but do not enable a substantial number of citizens to share their views. Using crowdsourcing, it is possible to engage a large crowd of people in dialogue or other projects, and tap into their collective genius. Moreover, this public participation can be achieved at a lower cost than using traditional methods, since most often, people contribute with their input without any monetary compensation. However, it has been noted that crowdsourcing cannot replace conventional types of public participation, but serve as a useful complement (Hossain & Kauranen, 2015).

3.3 The crowd

3.3.1 Different types of crowds

As crowdsourcing can be used in different applications, crowds can have very different characteristics depending on the task to be completed. A common type of crowd consists of consumers. This type of crowd tends to be sought after in ideation contests or collective ideation when looking for ideas for new products and services (Bayus, 2013). The crowd members could be customers of the seeker organization or they could be non-customers.

Another type of crowd consists of lead users of a certain product or service. Lead users have been found to be particularly helpful in creating disruptive products, since they tend to be ahead of the market in terms of needs and benefit significantly from better solutions. These characteristics make them more apt to boost innovation activities (Brem & Bilgram, 2015; Mack & Landau, 2015). It may, however, be challenging to identify lead users, even though they tend to engage heavily in social media activities. Netnography and crowdsourcing have been suggested as two effective methods for overcoming these search challenges (Brem & Bilgram, 2015).

A third type of crowd involves experts, either focused on one particular area or in various fields. Expert crowds are often sought in broadcast search because of the complexity or technicality of the problems. Research has showed that crowds with a diverse range of scientific experts may find a solution to problems that experts in the field of the problem have failed to resolve, as long as sufficient information is disclosed (Lakhani, Jeppesen, Lohse & Panetta, 2007).

3.3.2 Motivations for participating in crowdsourcing

Most researchers agree that knowing what motivates crowd members to participate in crowdsourcing is a key factor to achieve success (Caron-Fasan & Chanal, 2010; Afuah & Tucci, 2012; Hossain & Kauranen, 2015). Crowdsourcing business models should recognize the community as its most important resource, and thus treat it as a fundamental part of the business (Kohler, 2015). The two main types of motivation for participating in crowd-based activities are intrinsic motivation and extrinsic motivation. Intrinsic motivation comes from personal desires, such as a wish to learn new things or challenge oneself. Extrinsic motivation comes from external rewards, which can be either social, as in reputation or recognition from peers, or financial (Mack & Landau, 2015). Crowds differ when it comes to what motivates its members (Afuah & Tucci, 2012). Moreover, individual crowd members' engagement depends on their specific personality characteristics and the

feedback and rewards offered by the particular crowdsourcing application (Caron-Fasan & Chanal, 2010; Bayus, 2013).

Because of the crowd's diverse expectations, it has been suggested that platform providers should concentrate on smaller groups of identified and qualified crowd members instead of trying to cater to the whole crowd's wishes regarding incentives (Caron-Fasan & Chanal, 2010). In order to be successful with this strategy, seeker organizations must adjust their communication and task design to attract these groups of knowledgeable individuals for more value-adding contributions (Mack & Landau, 2015).

3.3.3 Explanations to crowd success

Several authors have studied which factors contribute to crowd success. It may be difficult to generalize among their findings because of the special characteristics of different crowds, but in this section, the results of different studies are presented to offer some possible explanations.

Three success factors that most authors emphasize are the size, diversity and know-how of the crowd. For example, Kohler (2015) highlights the importance of attracting a large enough pool of contributors. Further, crowds that incorporate diverse interests, skills and experience increase the success rate of innovation challenges and other crowd-powered efforts (Lakhani, Jeppesen, Lohse & Panetta, 2007). In addition, the more pervasive relevant knowledge is in the crowd, the more likely it is that a successful solution is obtained (Afuah & Tucci, 2012).

Mack & Landau (2015) investigated what distinguishes non-participants, unsuccessful participants and successful participants in crowd innovation contests. They found that successful participants showed higher levels of extrinsic motivation than other participants, which implies that external rewards are important to attract individuals driven by extrinsic motivation to crowd-based contests. In tournament-based crowdsourcing in particular, participants seem to be driven by extrinsic motivation (Afuah & Tucci, 2012). Notably, individuals with high levels of intrinsic motivation have been observed to be more likely to participate in crowd-based activities at all (Bayus, 2013; Mack & Landau, 2015).

Interaction between crowd members has also been highlighted as an explanation to crowd success. Bayus (2013) found that past commenting activity on others' ideas was connected to experiencing higher perceived benefits, including feeling a greater sense of community membership. This connection was presumed to lead to a better understanding of customer needs and ultimately ideas that were more likely to be implemented. Similarly, Malhotra and Majchrzak (2014) concluded that in order to achieve the full potential of innovation challenges, participants must integrate their knowledge with the knowledge of other crowd members. This aggregation can be encouraged by implementing dual incentives, meaning that

incentives are offered both for crowd members who contribute to the winning solutions and for top collaborators, who take actions to highlight, develop and combine the knowledge contributed by others. Furthermore, the hosts of innovation challenges should provide clear instructions to participants regarding what type of knowledge to share and also how the knowledge integration should occur. Such instructions were found to generate higher-rated solutions than conventional instructions (Malhotra & Majchrzak, 2014).

Concerning the behavior of members of non-expert crowds, research shows that serial contributors are more likely to come up with ideas valuable enough to implement than individuals who submit only one idea (Bayus, 2013). However, after submitting an idea that is eventually implemented, these serial contributors tend to become less diverse and submit ideas similar to the ones they were successful with in the past. To moderate this behavior, one possibility could be to instruct participants not to focus on previous submissions and implemented ideas. Another strategy is to strive to continuously attract new members to the platform and turn them into serial contributors, thereby eliminating the risk that they are influenced by past successes (Bayus, 2013).

Lakhani & Jeppesen (2010) have investigated if successful solvers of scientific crowd-based challenges share any common characteristics. They found that these solvers tend to come from knowledge fields distant to the field of the problem. This enables them to come up with novel solutions since they use their own "local" knowledge to solve the problem at hand. These findings imply that in order to increase the chance that the crowd will come up with a qualified solution to a given problem, experts from a wide range of fields should be engaged in the problem solving process. This result further emphasizes the earlier discussion concerning the importance of diverse crowds.

3.4 Crowdsourcing platforms

Three main types of crowdsourcing platforms can be distinguished. These are integrator platforms, product platforms and two-sided platforms (Kohler, 2015). The first two platform types can be hosted either by the organization or individual seeking input from a crowd, or by a third party, often referred to as an intermediary. Intermediaries will be considered in the following section.

Integrator platforms solicit submissions from the crowd and sell them to clients or consumers. This means that the platform host has a significant amount of control and is able to steer the development of the platform by managing the relationships with customers. On product platforms, crowd members are creators who build on a technology or basic product. The resulting products are then sold to customers through direct transactions with creators. Product platforms are common in open software development. Two-sided platforms often work as marketplaces, where

creators and customers interact directly. The main activity for the hosts of two-sided platforms is enabling creators and customers to find each other (Kohler, 2015).

3.4.1 Intermediaries

Innovation intermediaries are web platforms that connect innovative firms with innovation communities or crowds. They appeal for contributions to various pre-defined tasks on behalf of their clients (Caron-Fasan & Chanal, 2010). Innovation intermediaries can be divided into four categories depending on how they access sources of information and how they deliver solutions (Colombo, Dell'Era & Frattini, 2015). These categories are called collectors, brokers, mediators and connectors. Collectors ask the members of their innovation network to propose solutions to the problems faced by their clients, and then transfer these solutions to the client, who can select the solution they view as the best. Contrarily, mediators identify which solvers in their network are best suited to fulfill their clients' needs, and then provide their clients with these contacts, thus favoring a potential relationship between them. Brokers similarly identify which members in their network are best suited to satisfy the needs of their clients, but instead of delivering contacts, they ask these members to propose solutions to be delivered to the client. Lastly, connectors ask the solvers in their network to propose themselves as potential partners for the customer, and subsequently deliver these contacts to the customer, who can choose the partner that best meets their needs (Colombo, Dell'Era & Frattini, 2015).

Collector-type intermediaries are most commonly used in crowdsourcing, and will therefore be the focus of the rest of this section. The success of collector intermediaries is strongly related to their ability to connect seekers and solvers on their own web platform (Lüttgens et al., 2014; Kohler, 2015). Research shows that these innovation intermediaries focus heavily on enabling this connection (Hallerstede, 2013). Moreover, intermediaries might support their clients with specialized knowledge on how to formulate a good problem statement and help with the pre-selection of fitting solutions. They also ensure fair play on the platform and legitimate treatment of all solvers (Lüttgens et al., 2014). Collectors are especially suited to support clients in the early stages of the innovation process, through the identification of ideas for new products and services or new technologies. In such cases, it is beneficial to gather a large number of novel proposals from various fields of knowledge, and thus collectors help their clients think in new ways (Colombo, Dell'Era & Frattini, 2015).

Some intermediaries function as marketplaces, where contributions are made individually, whereas others call for collectively developed solutions (Caron-Fasan & Chanal, 2010). However, it is uncommon for innovation intermediaries to have developed additional functions such as support, technological services and

information processing, even though such functions could help them broaden their portfolio and build stronger relationships with their clients (Hallerstede, 2013). In addition, research has shown that Internet marketplaces for technology could benefit from offering active support of the technology transfer to the recipient organization, since technological knowledge is an idiosyncratic good and thus needs to be supported by the technology source (Lichtenthaler, 2008). Further, this research shows that rather than to passively offer technologies on Internet marketplaces, firms should strive to use other, more proactive commercialization channels. This conclusion stems from the fact that Internet marketplaces do not address specific customers for the offered technologies and therefore tend to experience problems with partner identification. Particularly in cases where the possible applications of a technology can be described in relative detail, firms should seek out potential licensees by using their existing business relationships with suppliers, buyers, competitors and contacts in other industries (Lichtenthaler, 2008).

3.4.2 Organizing for platform success

Regardless of the type of crowdsourcing platform and platform provider, Kohler (2015) suggests some activities that all platform providers must engage in to maximize the chances of business model success. These activities are enabling creation, curation and consumption on the platform. Helping crowd members create involves making sure they have the necessary skills and resources to be successful creators on the platform. Forums and workshops may assist in offering the right crowd support (Kohler, 2015).

Curation means separating high quality contributions from less qualitative ones, which is important to ensure that the platform remains useful and engaging. Many leading crowdsourcing platforms have implemented systems where users contribute to the curation process by voting or rating other crowd member's contributions. Building trust among community members is critical to successfully implement this strategy, and the platform provider may support this process by communicating openly and facilitating conversations on the platform. To ensure honest and reliable crowd members, user profiles might be a useful feature (Kohler, 2015).

In order to attract customers and drive activity on the platform, it is imperative to attract and engage crowd members. The ability to attract the crowd is one of the prerequisites to platform success. Kohler suggests attracting the crowd through a three-step process. The first step is building an initial user base, which often poses as a problem for new crowdsourcing platforms. In this step, running competitions, hackathons and corporate accelerators can be useful strategies to attract new crowd members. Step two entails engaging and growing the crowd. Strategies that might be used in this step include simplifying the creation process, allowing for more

people to participate, and empowering top creators by inviting them to take on more responsibilities on the platform and teaching them to support new crowd members. The last step suggests highlighting favorable behaviors to encourage other crowd members to emulate them and to create stronger bonds between top creators and the platform provider. This might be achieved by recognizing top performers and their work on the platform (Kohler, 2015).

3.5 The business model canvas

According to Osterwalder and Pigneur (2010), a business model describes the way in which an organization creates, delivers and captures value. They argue that a business model can be best described through nine building blocks, which together form a business model canvas. Taken together, the building blocks illustrate how an organization intends to make money.
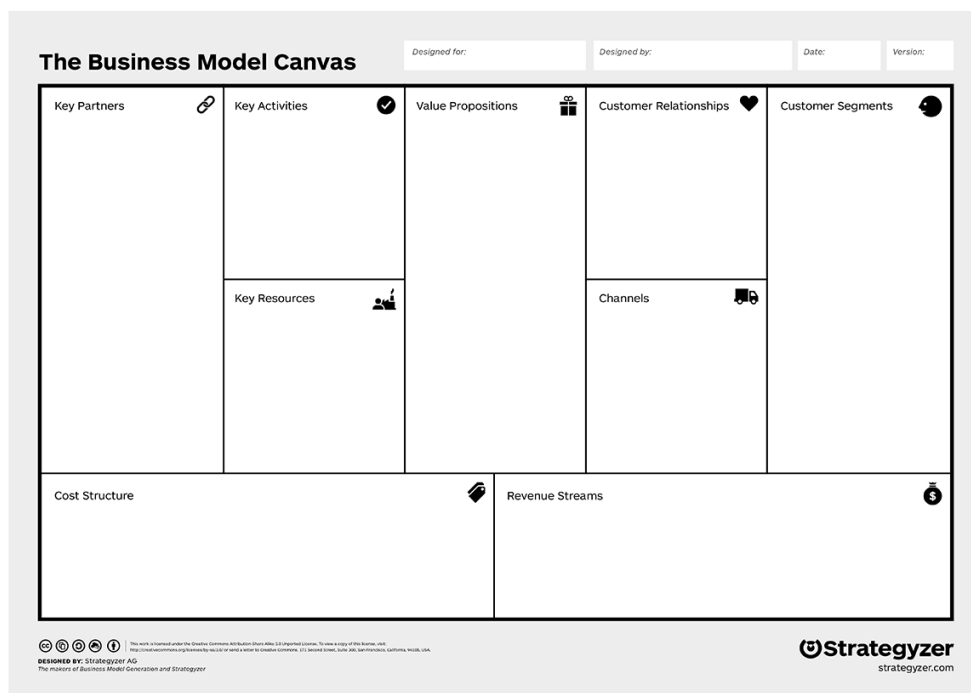
Figure 3.3: The business model canvas (Strategyzer, 2016)

Three of the building blocks concern an organization's customers. These are customer segments, customer relationships and channels. A customer segment has common needs, behaviors or other attributes, and once a company decides to serve a certain customer segment, the business model should be carefully designed to satisfy those specific needs. Customer relationships concern the type of

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relationships that an organization forms with specific customer segments, and have a large impact on the overall customer experience. Channels are the means a company uses to communicate with and reach its customer segments. Channels raise awareness for, sell and distribute a company's products and services (Osterwalder and Pigneur, 2010).

Three other building blocks concern what an organization offers their customers, and how it makes sure to profit from these offerings. These building blocks are value propositions, revenue streams and cost structure. A value proposition is a bundle of products and services that cater to and create value for a specific customer segment. Revenue streams describe the ways that a company makes money from its customer segments. Two common types of revenue streams are transaction revenues and recurring revenues. A cost structure includes all costs associated with operating a business model, including the costs of creating and delivering value, maintaining customer relationships and generating revenue (Osterwalder and Pigneur, 2010).

The three last building blocks describe important aspects of a business model that an organization must have or do. These are key resources, key activities and key partnerships. Key resources are the most important assets required to make a business model work. Key activities describe the most important activities that a company must perform, and key partnerships are the network of suppliers and partners that a company must have to make a business model work.

Of course, all the building blocks are highly dependent on the type of business model that a company operates. In order to decide what each building block looks like for a specific business model, there are several questions that may be asked (Osterwalder and Pigneur, 2010). These questions are presented in Table 3.1.

Table 3.1: Questions to determine what the building blocks look like for a given business model

Building block	Examples of questions to be asked
Customer Segments	1. For whom are we creating value? 2. Who are our most important customers?
Value Propositions	1. What value do we deliver to the customer? 2. Which one of our customers' problems are we helping to solve? 3. What bundles of products and services are we offering to each Customer Segment?
Channels	1. Through which channels do our Customer Segments want to be reached? 2. How are we reaching them now? 3. How are our Channels integrated? 4. Which Channels work best?

Customer Relationships	1. What type of relationship does each of our Customer Segments expect us to establish and maintain with them? 2. Which ones have we established? 3. How costly are they?
Revenue Streams	1. For what value are our customers really willing to pay? 2. For what do they currently pay? 3. How are they currently paying?
Key Resources	1. What Key Resources do our Value Propositions require? 2. What Key Resources do our Distribution Channels, Customer Relationships and Revenue Streams require?
Key Activities	1. What Key Activities do our Value Propositions require? 2. What Key Activities do our Distribution Channels, Customer Relationships and Revenue Streams require?
Key Partnerships	1. Who are our Key Partners and suppliers? 2. Which Key Resources are we acquiring from partners? 3. Which Key Activities do partners perform?
Cost Structure	1. What are the most important costs inherent in our business model? 2. Which Key Resources and Key Activities are most expensive?

For crowdsourcing-based business models, Kohler (2015) advocates adding several questions that are specific for business models involving crowds. Some of these questions are presented in Table 3.2.

Table 3.2: Questions to determine what the building blocks look like for a given crowdsourcing business model

Building block	Examples of specific crowd questions to be asked
Customer Segments	Who are the primary creators on the platform?
Value Propositions	What value does the platform create for the crowd?
Channels	Through which channels is the company reaching the crowd?

Customer Relationships	How does the company attract and engage crowd members?
Revenue Streams	Which rewards are offered to the crowd for participating?
Key Resources	Which resources does the crowd provide that the company requires for creating value?
Key Activities	Which activities does the crowd perform to create value?
Key Partnerships	Which partners are required for the business model to work?
Cost Structure	What are the costs for the crowd to participate?

3.6 Summary of theoretical framework

The theoretical framework has introduced the concept of crowdsourcing as the outsourcing of a certain function or task to an undefined, generally large group of individuals by an open call for contributions (Howe, 2006). Crowdsourcing can be applied to a variety of industries and used to solve both simple and complex tasks, such as generating ideas for new products and services or solving innovation challenges. It can be a viable model for organizational problem solving, which successful examples of crowdsourced solutions have shown (Brabham, 2008; Boudreau & Lakhani, 2013). However, implementing a crowdsourcing model brings with it several challenges, such as ensuring the quality and accuracy of the crowdsourced information (Hossain & Kauranen, 2015), and managing the evaluation and selection of submitted ideas (Mack & Landau, 2015).

Another challenge lies in attracting and engaging the crowd, as described by Kohler (2015). Different motivations for participating in crowdsourcing exist, and numerous authors have stressed the importance of knowing what motivates a particular crowd (Caron-Fasan & Chanal, 2010; Afuah & Tucci, 2012). Some people are mostly driven by extrinsic motivation and thus external rewards, such as money, reputation or recognition from peers, while others are driven by intrinsic motivation and personal desires, such as a wish to learn new things or to challenge oneself (Mack & Landau, 2015).

In previous research, critical success factors for intermediary crowdsourcing platforms do not emerge clearly. Based on the theoretical framework presented here, the following factors could be considered to be critical success factors for crowdsourcing-based business models:

- Crowd size (Afuah & Tucci, 2012; Kohler, 2015)

- Crowd diversity (Lakhani, Jeppesen, Lohse & Panetta, 2007; Lakhani & Jeppesen, 2010)
- The prevalence of relevant know-how in the crowd (Afuah & Tucci, 2012)
- Engaged crowd members (Caron-Fasan & Chanal, 2010; Kohler, 2015)
- Crowds driven by extrinsic motivation (Afuah & Tucci, 2012; Mack & Landau, 2015)
- Crowd member interaction (Bayus, 2013; Boudreau & Lakhani, 2013; Malhotra & Majchrzak, 2014; Hossain & Kauranen, 2015)

4 Understanding Crowdsourcing Platforms

In this chapter, the results of the case study are presented. The collaborative platform Co:tunity is introduced and a detailed description of the business model is provided, based on the interviews performed with the platform administrators. The results from the expert interviews are presented, leading to the identification of seven critical success factors. Finally, the views of the interviewed customers are presented.

4.1 The case of Co:tunity

4.1.1 Introducing the case organization

Kairos Future is an international consulting and research company that was founded in Stockholm in 1993. The company specializes in trend analysis and scenario planning, and works to help clients better understand and shape their futures. Apart from consultancy services, the company offers courses and training programs in business intelligence, trend analysis, scenario planning and innovation, and conducts research in a broad range of areas related to contemporary business and society. In recent years, Kairos Future has developed digital tools to help their clients with innovation work and data analysis. The company has around 35 employees who work at offices in Stockholm, Gothenburg, Malmö, Shanghai and Barcelona (Kairos Future, n,d.).

4.1.2 Background to Co:tunity

In the early 2000's, Kairos Future experimented with ways to digitize the methods the company used in their trend spotting and ideation work. These experiments did not lead anywhere until around ten years later, when the idea for Co:tunity was born during a future strategist course at Kairos Future. In particular, it came from a desire to enable workshops where all the participants did not have to be physically present in a room. At the time, other important factors were the rapid pace of digitalization, the growing crowdsourcing trend and that most things in business were happening faster than ever before. The development of Co:tunity started in January 2013 (Trond Bugge 2016, pers.comm., March 6th).

The initial purpose of Co:tunity was two-folded: One goal was to digitize the toolkit and some of the methods used for future studies, trend analysis and ideation work at Kairos Future, to simplify for companies that wanted to engage their employees in this type of work. The other purpose was to enable companies to invite a crowd, including external crowds, to participate in these efforts in crowdsourcing projects. Both purposes are still valid, even though it has proved difficult to achieve both (Trond Bugge 2016, pers.comm., March 6th).

The administrators of Co:tunity recognize that one of the platform's challenges is this two-sided purpose. Because Co:tunity is a tool with several possible usages, it requires numerous functions that may decrease its user-friendliness. The notion that it might have been easier to focus on either digitizing the idea development and trend analysis methods, or offering a crowdsourcing service, has surfaced from time to time. Further, it has proved difficult to achieve widespread use of the Co:tunity platform in client organizations. In order to be successful, employee behaviors and even part of the company culture in these organizations might have to change, and achieving this is a great challenge (Trond Bugge 2016, pers.comm., March 6th). This project does not primarily aim to cover the use of Co:tunity internally in organizations. Instead, it focuses on the crowdsourcing aspect of the platform, and aims to investigate how this application can be enhanced.

4.1.3 Describing Co:tunity

Co:tunity is a multifunctional web-based platform and smartphone application for collaborative trend spotting and innovation. The platform offers organizations the possibility to post challenges, gather, share and develop trends and ideas with a crowd of colleagues, customers or consumers and then analyze the results (Kairos Future, n.d.). It aims to promote collaboration rather than competition, by enabling participants to like and comment on other's posts, and by allowing posts with photos and videos in addition to textual posts (Trond Bugge 2016, pers.comm., March 6th). The tool is based on Kairos Future's well-proven analytical methods for idea development, innovation, trend spotting and analysis. These methods have been used by several hundreds of organizations since the company was founded in 1993 (Viggo Ljungqvist 2016, pers.comm., March 11th).

The Co:tunity business model

In this section, a description of the Co:tunity business model will be provided. All the information given in this section comes from interviews with the two administrators of Co:tunity.

Customer segments

The Co:tunity business model creates value for two main customer segments. The first is large organizations, mainly those offering consumer products and services. More specifically, Co:tunity targets the companies in this segment that are

particularly interested in innovation and ideation work, or face significant future challenges. The second customer segment is municipalities. The Co:tunity platform has a special user interface designed for crowdsourcing projects with local inhabitants. Since the crowdsourcing application of Co:tunity has only been used for shorter, time-restricted projects thus far, it is difficult to define who the most important customers are.

Value propositions

The value that Co:tunity delivers to customers is a higher capacity for innovation or better insights about the surrounding world. This is achieved by enabling the customer to gather and develop a large amount of new ideas, concepts or trends with a crowd, and then efficiently organizing and clustering this data into accessible information so that the results can be easily presented. Digital agents, that automatically scan certain publications and websites for pre-selected keywords, can also be used to generate posts on the platform. The value created can come from new ideas or concepts, new or improved products or from the identified trends. This value hopefully generates larger revenues for the client. Moreover, Co:tunity offers customers a digital tool that is intuitive, easy-to-use, fun and social, and enables them to tap into the collective competence of the crowd, by bringing in more and broader ideas than they would be able to find otherwise. Figure 4.1 shows a screenshot of a number of posts on Co:tunity.

Co:tunity also delivers value to the crowd. Crowd members get a chance to engage with the customer organizations and contribute with their own ideas, which many people enjoy. Further, the crowd members that contribute with the best ideas and are most active on the platform by posting, liking and commenting on other's posts receive recognition by figuring on the platform's leaderboard and receiving special attention in the report that can be made after the project. These features exist particularly to make participating more fun and to motivate and engage crowd members to be active on the platform. In some projects, all or selected crowd members receive a small gift for participating. In these cases, the gifts are provided by the client organization.
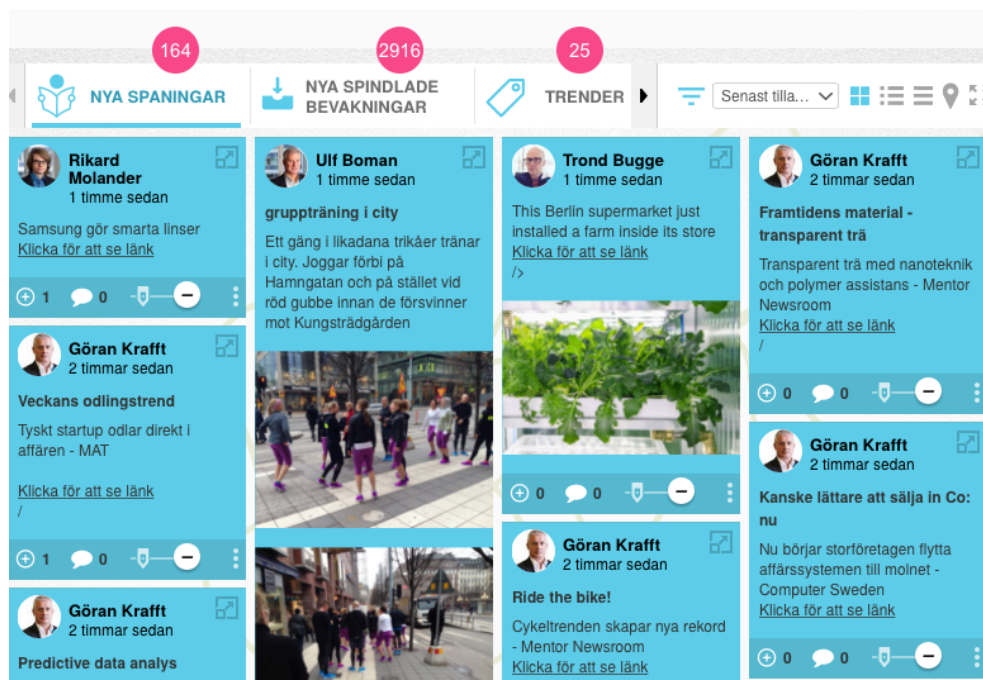
Figure 4.1: Posts on Co:tunity (Co:tunity, 2016)

Channels

The most important channel for the Co:tunity business model is the web-based platform, since that is where the interaction between the crowd and the customer organization takes place. Mainly, customers are attained through ongoing projects and existing contacts within Kairos Future. This means that most Co:tunity customers are existing or previous customers to Kairos Future but in other business areas. This is partly due to a small marketing budget. These customers are reached through the Kairos Future and Co:tunity websites, newsletters sent out to existing and potential customers and personal contacts within the organization. Through the Co:tunity website, potential customers are offered a free 14-day trial period that can be initiated instantly.

Customer relationships

Because most of the crowdsourcing projects that have been carried out with Co:tunity so far have been time-restricted and relatively short, few long-lasting customer relationships have been established. However, a long process of demonstrations and discussions precedes most projects, and each project ends with a feedback session regarding aspects that could be improved, so customer relationships are formed during the course of each project through personal interactions.

Revenue streams

Customers pay licensing fees in order to use the Co:tunity platform after the first fourteen days of use. The size of the fee depends on the size of the client organization. Previously, the fee was based on how many analysts the client wanted to involve in analyzing the gathered information. Customers who want additional functions are required to pay extra. These additional functions include producing a final report of the results or making newsletters where the results are presented. For large projects, customers pay a pre-agreed price, where the implementation of the tool and consultant support also are included.

Key resources

The key resources that are required for the Co:tunity business model to work are the technical platform, which enables customers to invite a large crowd to contribute with their ideas and suggestions, the know-how about the methods underlying the platform and the continuous maintenance and development of the platform. In addition, the crowd provides a key resource in the form of the "collective competence", since the Co:tunity value proposition is based on developing new ideas, and these ideas come from the crowd.

Key activities

The Co:tunity business model requires key activities in the form of packaging the offer in an appealing way to customers, demonstrating the platform and teaching clients how to use it, making sure the platform functions properly, performing maintenance and cross-selling the tool to existing customers in other business areas. Another key activity is attracting and engaging the crowd on the platform. The crowd performs key activities by contributing with new perspectives, ideas, thoughts and trend spottings, and by commenting and liking other's contributions, thereby creating activity on the platform.

Key partnerships

The main partnership for Co:tunity is the partnership with customers. Without it, the business model does not work. In projects involving consumer crowds, the crowd is provided by the product-testing company Smartson, which has a network of 400 000 Scandinavians connected to them. Hence, Smartson is a key partner for Co:tunity. In other projects, the client organization might provide the crowd, by ways of their employees, customers or other stakeholders.

Cost structure

The most important costs that are inherent in the Co:tunity business model are the salary costs for the Co:tunity administrators, the marketing costs and the costs for maintenance and development of the technical platform. The crowd can also be said to have costs, since crowd members volunteer their time by participating.

Business model evolution

The Co:tunity business model has developed over time, since its administrators have learned important lessons from working with the tool with customers in different projects. As an example, the platform did not target any specific customer segments initially, but by introducing it to organizations in different industries and with different sizes, the administrators understood that it appealed most strongly to larger consumer companies and municipalities. In addition, many of the functions that have been added along the way have been developed after requests from customers (Viggo Ljungqvist 2016, pers.comm., March 11th). Looking ahead, the administrators hope that Co:tunity will attract crowd members who participate in several challenges on the platform, and consequently turn into loyal crowd members. Hopefully, these crowd members will take on additional responsibilities on the platform, such as analyzing and clustering the generated input (Trond Bugge 2016, pers.comm., March 6th).

4.2 Identifying critical success factors

4.2.1 Introducing the interviewed experts

Four persons regarded to be experts in crowdsourcing were interviewed. They have all worked extensively with crowdsourcing-based business models in different forms and companies. Each expert was given a code name, as presented in Table 4.1.

Table 4.1: Code names and current roles for the interviewed crowdsourcing experts

Code name	Current role
Expert 1	Director Collaborative Innovation
Expert 2	Founder and Key Account Manager
Expert 3	Open Innovation Manager
Expert 4	Program Manager for Open Innovation

4.2.2 Interviews with experts

This section presents the data that was collected during the expert interviews. The questions that were asked were divided into a number of themes, namely *Advantages and challenges with crowdsourcing*, *Building attractive crowdsourcing platforms*, *Rewards*, *Creating long-term crowd commitment*,

Crowd contributions and *Customer and crowd relationships*. This section presents the data organized into these themes. During the data collection and analysis processes, a number of critical success factors emerged. They will be presented in the following section.

Advantages and challenges with crowdsourcing

Working with crowdsourcing brings with it several potential advantages. Crowdsourcing can be a smart way to work, as it tends to be economically efficient and make it possible for crowd members to participate anytime and anywhere. Furthermore, it can lead to qualitative, high-level contributions from the crowd, as noted by Expert 4:

> It would be hard for an organization itself to achieve the same momentum and the same pool of talent that a crowd can produce. It's like the classic Bill Joy quote: 'No matter who you are, most of the smartest people work for someone else'. It applies to Google and Apple and everyone. If you're smart, you can use that insight to your advantage.

When crowdsourcing for innovation, it is possible to find solutions to industry-specific challenges in other industries, and hence avoid reinventing the wheel over and over. Expert 3 brought up that engaging a crowd can lead to many advantages in itself, for example by creating an interest in your products and strengthening your brand.

Crowdsourcing also brings with it several challenges. One is that it might be difficult and complex to bring in a crowd to contribute with their ideas and suggestions, and therefore, companies may choose not to do it. It is often a challenge to engage a crowd, regardless of how good the platform is. Moreover, by letting a crowd contribute with their thoughts freely, companies lose control of what is written about their products. These challenges are all related to the novelty of crowdsourcing and the notion that few companies, at least in Sweden, have the insights and competence needed to successfully implement crowd-based business models. Expert 4 suggested hiring external help to overcome these knowledge gaps initially, and stressed that companies must achieve some credibility in their crowdsourcing efforts and keep trying to gain the required know-how.

Another challenge lies in ensuring value-adding contributions, which was noted by Experts 1 and 3. Sometimes, consumers do not know what they want, or only know what the seeker company already is aware of. In these cases, crowdsourcing initiatives asking consumers for input seldom create any real value.

Building attractive crowdsourcing platforms

In order to be successful with an intermediary crowdsourcing platform, Experts 1 and 4 stressed that it is crucial to reach a critical crowd size. If the crowd is too small, the chances that one or a few crowd members will contribute with a brilliant idea that the company behind the project has not already thought of are low. The larger the crowd, the more companies are interested in interacting with the crowd

on the platform and the more attractive is the platform to potential new crowd members. These network effects lead to the importance of establishing oneself as the trusted platform for a specific type of problem or challenge. It tends to be easier for companies that have a loyal crowd of followers to achieve a critical crowd size than for new or smaller companies. The resources and time available are also critical factors. Expert 4 argued that in the case of intermediary platforms, it is beneficial to have a specific niche and make sure to build credibility in that niche, in order to build a reputation for being particularly good in that special area. Expert 1 contrasted this view by commenting that a broad appeal is favorable:

> Intermediary platforms must be based on questions and challenges that many companies are faced with and that are engaging for a crowd, so that you get the effect of a fast and broad crowd commitment in a short amount of time.

Experts 3 and 4 suggested that looking for commitment in crowds that are already engaged in a certain matter is a good strategy to ensure an interested and active crowd.

Companies who do not wish or know how to build their own crowdsourcing platform can potentially gain access to a crowd of engaged contributors by using an already established intermediary platform. Many times, this is a faster and cheaper way to realizing crowdsourcing projects. Expert 4 explained:

> Maybe you can somewhat adjust your problem so that it fits an already existing intermediary platform, in order to gain some experience and get a feel for how crowdsourcing works. There is something very compelling in being able to tap into an already established crowd of several hundreds or thousands of people. It generates pretty instant feedback and some sort of result is guaranteed. Then you can always wonder if it's what you're really looking for but at least you don't have to wait.

The user-friendliness of the platform is another important driver of success, as indicated by Experts 1 and 2. It must be perceived as extremely simple to post challenges to the crowd, and for the crowd to contribute with their ideas. It is crucial that crowd members quickly understand what they are expected to do and contribute with, because even if only a small problem arises, chances are it will lead to misunderstandings and less activity on the platform.

Moreover, platform providers must make sure that it is meaningful for the crowd to participate, so that they feel rewarded for their contributions. This was brought up by Experts 2 and 3. Most successful crowdsourcing platforms create great benefits for the crowd and not only for the platform host. Expert 2 viewed platforms where crowds engage and feel rewarded by something other than money as particularly successful, and stressed the need to make crowd members feel that their contributions matter:

> Let's say you take part in an idea generation effort and post a lot of ideas and comments. You don't receive any response or feedback on your ideas, so you don't feel recognized, and nobody tells you what happened afterwards

and what the result of the idea generation was. In these cases, there is probably a risk that you lose interest in participating after a while.

Expert 3 agreed and emphasized the need to focus on what value is created for the crowd and not presuppose that people want to participate in crowdsourcing efforts:

> You have to be user-focused. Not self-absorbed and emphasize what you think is cool. You have to be extremely focused on the crowd. The platforms that are successful have done that, and many times they have built on an existing commitment from a crowd. However, the crowd's commitment must be earned. To earn it, platform providers must understand what drives people to put their time into crowdsourcing and what contributes to their choice to participate.

Rewards

In most crowdsourcing projects, the crowd is offered some type of reward for their participation. Opinions differed as to what kind of reward structure is ideal. Expert 1 viewed financial rewards as most effective, and also promoted acknowledging superior contributions and offering competence-increasing rewards such as online courses as a way to boost crowd members' interest and skills. Expert 2 noted that it is hard to find a reward structure that fits all projects and crowds, but warned against crowdsourcing projects where financial rewards are the only driver of participation, recognizing the risk of not engaging the right crowd members with this strategy. In such cases, participants start to relate everything to money and compare time spent with potential reward instead of thinking of the enjoyable aspect of participating.

> We try to operate based on the principle that it should be so easy to participate that you're prepared to do it even if the value you receive doesn't compare to what you actually do, and not that you should get money for participating. It feels important that the crowd feels a higher meaning with what the end result will be. There must be an underlying value for the people who contribute, which they feel that they receive (Expert 2).

Expert 3 argued that the rewards offered should vary depending on the time that crowd members are expected to spend on their contributions. More time-consuming contributions call for larger financial rewards while shorter engagements should be rewarded by non-financial means. Gamification can be an effective reward for certain crowds and challenges, and may contribute to the creation of a long-term commitment from the crowd.

> Both Twitter and Facebook have built their translation services from crowdsourcing. The people who perform the best translations are "rewarded" by knowing that their translation is used on the websites of these large, well-known companies. In these cases, contributors don't receive money but rather gamification rewards (Expert 3).

Similarly, Expert 4 recognized the existence of drivers other than money, such as honor, the challenge in itself or the fun involved, and stressed the importance of

understanding these drivers and the fact that they can vary from project to project. For innovation challenges, where financial rewards are commonly used, the reward offered should be proportionate to the value of a successful solution.

Creating long-term crowd commitment

Many crowdsourcing platforms struggle with engaging crowds in a long-term perspective. In order to be successful, platform providers must focus on the value created for the crowd and be transparent by showing what the crowdsourcing leads to. "Many times, the reason crowd members want to participate in crowdsourcing is to be part of a change or to get to see what the result is" (Expert 3).

Seeker companies must be open and make crowd members feel that their opinions matter, because people want to be seen and feel that others listen to them. Hence, companies must communicate back to the crowd why their opinions matter. Expert 2 exemplified:

> Tripadvisor sends out monthly emails to everyone who has posted a rating on their website with information about how many people has read the post and from where in the world the post has been read. This is a strategy that Tripadvisor uses to sustain the interest from the crowd. If I see that 800 people have read my complaint and maybe chosen not to go there because of it, I feel that my post has had a real impact.

Another way of making sure all crowd members feel recognized is to offer points to all contributors. More active crowd members are awarded with more points, as are members that post contributions with high ratings, but all contributors receive some points. The points signal to crowd members that their contributions matter and that they are valued. Ideally, contributors should be able to use their points to receive additional benefits.

To maintain the crowd's commitment over time, another crucial factor is that the questions or problems posted on the platform require some continuity, or that new questions constantly arise. If not, it is natural that crowd commitment ceases after the question has been answered or the problem has been solved. Moreover, creating a long-term commitment from a crowd often requires a culture change in the seeker company. It must build its credibility towards the crowd so that crowd members believe in the company's commitment to crowdsourcing in the short and long term. This entails setting a strategy for the organization and seeing it through.

Some crowdsourcing platforms emphasize co-creation and collaboration, while others emphasize competition. Experts 1 and 4 noted that encouraging collaboration could potentially bring with it several advantages, such as giving interested crowd members a chance to improve their skills by learning from others, and improving the ideas developed by enabling crowd members to take inspiration from others' ideas and build on them. In order to make this happen, collaborative work among crowd members should be rewarded. Expert 1 commented:

> I think it would be good to have a system that could pick up if several people
> have thought of the same idea and thus let them share the reward in some
> way, or at least give them positive feedback and some sort of reward if they
> have worked together to develop a really good idea.

However, expert 3 noted that in innovation challenges and other crowdsourcing competitions, encouraging contributors to collaborate could turn out to be extremely challenging. If several people have come up with the winning idea together, the seeker company must decide who created the most value for the final solution, potentially giving rise to conflicts and other problems. If no financial rewards are offered, the challenges with encouraging collaboration among crowd members are smaller.

Crowd contributions

The quality of the crowd's contributions is an important aspect for all crowdsourcing models. Expert 4 exemplified with a platform aimed at solving programming challenges, where one important factor is that the crowd consists of talented programmers. This crowd quality is hard to build but nevertheless an important factor for potential customers to the platform. One way to improve the quality of contributions could be that the seeker company posts some good ideas as inspiration for the crowd. Another strategy might be to send out emails to all contributors with the posts that are rated the highest every week. By doing so, a learning aspect is added to the crowdsourcing process, hopefully increasing the quality of contributions.

Expert 3 pointed out that platforms asking current customers for feedback about a certain company's products or services tend not to generate much qualitative content, because a large part of the posted ideas and improvements are already known by the seeker company. In these cases, it is often recommendable to try to engage potential customers and consumers that do not usually buy the company's products in the crowdsourcing effort, to access novel ideas and gain better insights. This broadening of the crowd is another way of increasing the quality of crowd contributions. Expert 2 partly disagreed by noting that in some cases, current customers can bring value by verifying what the seeker company already suspects but is not sure of, adding clarity to their customer insights.

Expert 4 commented that it is often key to activate the "right" crowd members, and to do so, platform providers must extend their reach. Oftentimes, searching for crowd members on one's home market is not enough and must be expanded to opening up for members from all over the world. In order to succeed with this endeavor, marketing skills are imperative.

Platform providers and seeker companies are commonly faced with the task of screening all contributions and selecting the best ideas. If possible, contributors should immediately receive an indication of how well their idea or solution solves the task at hand. This works well with programming challenges and in other cases where it is possible to set up clear requirements for acceptable solutions.

Typically, the level of performance is indicated using a number that is calculated by an algorithm.

In cases where this is not possible and contributions must be evaluated in a more qualitative manner, the screening process can be very challenging. Experts 1, 2 and 4 suggested outsourcing parts or all of the screening to the crowd, by enabling them to like or rate the contributions that they view as the best. Expert 4 commented: "A screening by the crowd itself could work, because then you might get 100 ratings per contribution and that gives good statistical data that can guide you and help you perform the screening."

By looking at what the crowd likes the most or which posts have the most views, the top content can be extracted and analyzed. Nevertheless, the screening process tends to take a considerable amount of time and effort. The same idea might be posted numerous times, and other ideas may be impossible to realize, which calls for future automated platform features that quickly and efficiently remove these ideas from the screening process. These features will be particularly useful when a large amount of contributions exist. Today, most intermediary platform providers offer customers some support and facilitation of the screening process, albeit with varying results. In some cases, the seeker company wishes to aggregate all the crowdsourced contributions into one or a few main ideas, as brought up by Expert 2: "What I think is the most interesting is putting together the crowd's opinions and ideas and clustering them into something that represents the crowd. In these cases, the result is very true since so many people have contributed to it."

Whether or not value-adding contributions are generated in crowdsourcing projects depend in part on the problem or question asked. Ideally, there is a crowd prepared to solve the problem that is driven by various factors, not only by financial rewards. However, this is not always the case. To maximize the chances that a crowdsourcing project succeeds, Experts 3 and 4 suggest avoiding open questions. More specific questions are more engaging and attract crowd members that really care about the topic. In addition, specific questions tend to generate more useful results. Many companies fail to reformulate their problems so that they are interesting for people outside the company as well, and thereby fail to create the required crowd commitment. Clearly, problems that require complete secrecy are not suitable for crowdsourcing, but in many cases, the questions can be adjusted and formulated in a way that allows for bringing in external ideas.

Customer and crowd relationships

It is critical for any intermediary crowdsourcing platform to attract customers and crowd members. Both groups are crucial in order to be successful. Experts 2, 3 and 4 agreed that delivering customer value is essential to attract customers. Expert 2 commented:

> I think it's very important to have a final goal with what the crowd should accomplish. You have to deliver a clear customer value. What can I gain? A

recommendation for my product. We had quite many values earlier and then we had some problems.

Expert 4 noted that the delivered value does not have to be anything extraordinary:

It doesn't always have to be so dramatic; it can be some kind of customer insights, or searching for bugs in a product. It doesn't have to be something complicated technically or financially but it can be very important regardless.

Moreover, the platform must deliver as expected and perform well. Many times, good-looking platforms attract more customers, making this a significant factor to consider as well.

To attract crowd members, several factors are important. One is that it is easy for crowd members to understand what they are supposed to do to participate. Another is that crowd members feel rewarded for their participation, which is especially important for new or smaller platforms. In these cases, physical rewards, cash prizes or a notable advertising campaign might be needed to attract an initial group of users. When a brand has been established, crowd members tend to be attracted by other values than physical rewards. A third factor is that enough people are already using the platform so that it gains some legitimacy, making it easier for new crowd members to join. However, this is a paradox since this critical crowd size must first be achieved.

Building strong customer relationships may be difficult for platform providers. Expert 2 noted:

I think it can be quite the challenge for many crowdsourcing platforms to create a continuity with customers so that they crowdsource continually, because there aren't many crowdsourcing services that are back bone in a company. It's not that common to crowdsource IT solutions, for example. It's more the surrounding things. You can live without it for a while, and you're not as willing to dedicate yourself to things you can live without for a while as you are to things you can't.

Expert 3 contrasted this view by arguing that if an intermediary platform has managed to create value for the people involved in a crowdsourcing effort one time, it can do it again. As mentioned earlier, not all customer relationships allow for continual crowdsourcing projects, but the ones that do can become strong, with loyal crowd members. In order to succeed, companies must have a long-term strategy in place and find a working methodology and credibility in their crowdsourcing efforts. Another fundamental aspect is being honest toward the crowd. If people feel tricked, the chances of successfully crowdsourcing again decrease rapidly. The communication with the crowd must be clear and trustworthy so crowd members feel engaged and fairly treated.

Experts 1, 2 and 4 brought up that few companies today are organized in a way that favors working with crowdsourcing.

> In my experience, many organizations are not organized in a way that enables working with crowdsourcing. It feels like an organizational change is needed in the way organizations look upon involving people from the outside in what they're doing and trying to find economies of scale in it, both for the people involved and for themselves (Expert 2).

Many companies still think that new products or ideas have to be kept secret, without considering other advantages that could come from being more open. Expert 4 commented:

> This innovation landscape that we're seeing now uses a lot of digital tools and is very globalized, there are no borders. Looking ahead, maybe working in other ways is required to survive and be successful. I tend to think that many organizations' toolboxes contain very few tools. They have a hammer and a saw maybe, but if that's all you've got to work with, you risk having trouble working on in this new, smart world. I think open innovation or crowds, and especially innovation contests, could be a smart way for companies to work.

4.2.3 Critical success factors identified

Based on the expert interviews, seven critical success factors for intermediary crowdsourcing platforms were identified. Four of them are required to attract the crowd, and are hence crucial for all types of crowdsourcing platforms. These critical success factors are:

- User-friendly platform
- Recognizing the crowd's contributions
- Crowd commitment (e.g. engaging problem formulation)
- Clear crowd communication

The other three success factors concern the customers and what they gain from engaging in crowdsourcing projects, and are thus specifically important for intermediary crowdsourcing platforms. These critical success factors are:

- Crowd size and diversity
- Value-adding contributions
- Clear customer value

4.3 Customer views on Co:tunity

4.3.1 Introducing the interviewed customers

Four previous customers were interviewed. Two of the customers have worked with Co:tunity in different projects at their companies and two have worked with Co:tunity in a municipality. As Co:tunity includes much of the same content regardless of what type of organization the customer represents, it was deemed possible to compare the four customers' experiences with the tool. Two of the customers currently work for the same organization and were involved in the same project. Each customer has been given a code name, as presented in Table 4.2.

Table 4.2: Code names and current roles for the interviewed previous customers

Code name	Current Role
Customer 1	Director of Future Business
Customer 2	Digital Communicator
Customer 3	Communicator
Customer 4	Concept Manager

4.3.2 Interviews with customers

This section presents the data that was collected during the customer interviews. The questions that were asked during the interviews were divided into a number of themes, namely *Choices and expectations*, *Working with Co:tunity*, *Evaluation*, *Improving crowdsourcing projects* and *Success factors for crowdsourcing platforms*. This section presents the data organized into these themes.

Choices and expectations

The customers mentioned several reasons for wanting to work with a crowd-based platform. The reasons included wanting a digital tool where ideas, suggestions and solutions could be gathered and administered in one place, collecting more quantitative data than it is possible to extract from a focus group and wishing to initiate and gain insights from discussions among crowd members.

The reasons that customers chose to work with Co:tunity in particular differed. What all of the customers had in common was that they or their organizations knew of Kairos Future from before, most often from working with them in other projects.

> We already had a dialogue with Kairos Future, they showed us Co:tunity and we saw that it was an easy way to go. There were a lot of different services

on the market. But we also saw that Kairos Future were interested and that they were in a starting phase, and we were also in a starting phase. They have their office nearby so it was that too (Customer 1).

Customer 2 explained the choice of Co:tunity with the fact that it was Swedish and that it seemed like a versatile tool with useful functions. Moreover, the price model was attractive since it was based on how many analysts were needed, so the customer had a chance to influence the price. Customer 1 mentioned that Co:tunity had a mobile application as one reason for choosing it, and the possibility to comment and like others' posts, which enabled building a community on the platform. The platform looked good and it was possible to make adjustments and develop features in Co:tunity according to the customer's wishes, which were other advantages. Customer 4 was introduced to Co:tunity by a partner organization, but was nevertheless attracted by the opportunity to test a new innovation management tool: "We chose Co:tunity because it was what we saw but there were no other alternatives at the time. We thought it would be very interesting to try it so it was something we did on purpose and not randomly."

The customers had expectations on the platform on various levels, ranging from hardly any expectations at all to wanting to use the tool both internally with the organization's own employees and externally with outside crowds. This variation was mainly due to varying levels of previous knowledge about crowdsourcing. All the customers brought up the desire to test a digital crowd-based tool and learn about the opportunities and limitations associated with it. More specifically, Customers 1 and 2 were attracted by the analysis functions, where one mentioned example was the feature that produces a final report based on the posts in Co:tunity in a relatively automated way. For customer 2, the most important expectation was being able to digitize a dialogue process that up until then had been performed analogically.

Working with Co:tunity

Obviously, the customers used Co:tunity in different ways. One significant difference was that Customers 1 and 4 collected input from external crowds that Kairos Future provided through their partnerships, while Customers 2 and 3 gathered information from external crowds that they had connections with themselves. Another difference was the size of the crowd, ranging from 20 people in one case up to 3000 people in another. Similarities included that all the customers wanted the crowd to answer questions or give their input about a certain matter, and all the projects had a pre-defined time period during which it would be carried out.

None of the customers was completely satisfied with working with Co:tunity. Customer 4 commented:

> I don't think it worked optimally. We got people who posted and we received brilliant results from that part, which we have really used and benefited from. But we didn't get any real discussion between the

consumers, which we were disappointed with. There was a moderator from Kairos Future who was responsible for managing the discussion, and it didn't work optimally. Unfortunately, we didn't get so much out of that part.

Customer 3 experienced that it was hard to explain to crowd members how to use the platform:

It's hard to give clear instructions, as always when using something new. People aren't accustomed to using platforms like this. I thought that was hard because we weren't very familiar with the tool and didn't have time to test it beforehand. We weren't really prepared to know which areas in the tool needed text and which text should be where. The idea was to go through the tool a few days before, but since we had to change some of our questions to fit the platform we didn't have the time.

All of the customers noted that Co:tunity was a relatively new tool that had not been used extensively before, so there were some bugs and platform development left to do. Customers 1 and 2 thought it was too hard to navigate the platform as administrators and had hoped for more features that would help them use Co:tunity independently, without needing so much support from the Co:tunity administrators at Kairos Future. The difficulties with managing the posted challenges and the screening process autonomously led to more time-consuming work than expected.

All of the customers had the impression that people in general enjoy sharing their experiences and offering their opinions on different things through crowdsourcing. Other positive feedback received from crowd members included the possibility to participate at any time while using a computer. However, most of the user feedback the customers received was negative, with complaints that it was complicated to log in and use the tool, and that the platform threw out users who tried to use it on mobile phones and tablets. Customer 1 commented:

The threshold for a completely new person to use it is a bit too high. Too much information is needed about what to do and why. People thought it was very interesting but it was hard to understand what to do.

Especially the customers that used the tool with crowds that were not used to crowdsourcing concluded that the user-friendliness ought to be improved. The customers that used Co:tunity with crowds provided by Kairos Future mentioned the possibility to access a crowd that is used to tools like Co:tunity as one of the reasons they wanted Kairos Future to deliver the crowd. They tried to recruit crowd members through their own channels as well, but did not manage to gather a sufficient crowd that way.

Overall, the experiences of the customers who used Co:tunity in a municipality were similar to the customers who used the tool in a company, except regarding the discussions that took place during and following the project. Community members who participated on the platform raised questions about anonymity, the registration of views and questioned the need to include your first and last name in

posts on the platform. Neither of the customers had expected this discussion, even though they realized that it was a politically sensitive area. Local politicians took part in the discussion, and the opposing parties in the municipality directed an interpellation to the ruling parties about the registration of views' aspect of the project. Local media also followed the discussions and wrote intensively about the project and the opinions that were expressed. The discussion made it difficult to continue using Co:tunity without first reviewing the political implications of initiating digital dialogues with citizens, which is what the municipality decided to do.

Evaluation

The customers were relatively unanimous in what the advantages of working with Co:tunity were. Customers 2, 3 and 4 valued the reach of the digital tool, making it possible to work with a larger and hopefully broader crowd than when working with physical groups such as focus groups. This allowed for gathering more quantitative data.

> In this case, it was a completely digital tool which meant that we could reach more people than in a normal dialogue situation. Some people who have time on that particular day might come, but here we were able to reach people who normally wouldn't have the opportunity to share their thoughts (Customer 2).

Likewise, Customer 4 appreciated enabling people to participate when they had time and when they were closer to the real situation, possibly leading to more truthful answers than when surrounded by other people in a focus group. Customers 2 and 3 mentioned the possibility for anyone interested to quickly get an overview of the collected input, as all the posts are freely accessible. Customer 1 appreciated the possibility to meet and have a dialogue with the Co:tunity administrators, and the fact that they were open to thoughts and changes in the tool.

Various challenges associated with using Co:tunity were mentioned by the customers. Customers 1 and 3 considered the main challenge to be understanding everything Co:tunity could do, how to do it and how to explain to crowd members what they were expected to do. Customers 2 and 3 mentioned the time aspect as being an important challenge, especially since they were not well acquainted with the platform beforehand, so they did not know what changes would require extensive work and which would not. Customer 2 commented: "If we had been more familiar with the tool from the beginning, we might have somewhat adjusted our questions according to the opportunities and limitations of the tool, and then the work would have been a bit easier."

Customer 4 noted that only people who are interested in and comfortable with this type of digital platform choose to participate in crowdsourcing projects. This makes it difficult to reach certain target groups, such as older consumers.

Most of the customers concluded that the outcome of the projects had both positive and negative aspects.

> I think it has been successful since we have been able to test it and use it, and we have created an internal buzz that we do these kinds of things which is good. I think it is important that we communicate to our organization that we use tools like this and learn more and collect input from others. It doesn't only have to be new things, it can be more of a confirmation of what we already thought, and this way we get a crowd that does that for us (Customer 1).

> The Co:tunity project was part of a larger project which has been greatly successful. It gave us quantitative data that confirmed what we already sensed, but we failed with the consumer dialogue, which disappointed us since it was a large part of the expectation. Above all, what we missed was that to get people to start discussing, you need a catalyst (Customer 4).

The customers who used Co:tunity in a municipality were pleased with the suggestions that came in, and also with the initiated political discussion about issues such as anonymity. However, both of them commented on the platform's lacking user-friendliness. As an example, they attempted to embed the Co:tunity platform on their own website so that crowd members would not have to go to a new, unknown website to participate, but that did not work. Other technical problems also arose, causing more work and further delays.

In some cases, external factors such as a short time frame contributed to the outcome of the project. Customer 3 commented: "We had too little knowledge about the tool because we hadn't sat down with it enough so we didn't know how it really worked." Further, Customers 2 and 4 noted that some of the problems they experienced with Co:tunity probably would have surfaced regardless of which digital tool they had chosen to work with.

Despite the issues that arose, all of the customers thought that their organizations would work with digital crowdsourcing tools again in the future. Customer 1 mentioned demands to collect input from end users to a larger extent than before, while Customer 3 stressed the need to work more digitally. Two out of the four customers thought it likely that their organizations would choose to work with Co:tunity again. Customer 1 remarked that the condition would be that Kairos Future found a partner that could provide an interesting external crowd:

> The important thing is really that the community contributing with input is active and posts comments and likes on others' posts, because otherwise it's only a suggestion box and then the whole crowd aspect disappears. Then it's 40 pieces of paper in a mailbox and nobody thinks anything about them and then a lot of administrative work is on us. That's why it has to be people who really live and understand crowd and can do something with this platform, otherwise it's hard.

Notably, all of the customers thought that Co:tunity could be greatly improved with small modifications. "There are little things and adjustments that would make

a big difference", Customer 2 commented. Customer 3 agreed: "I think the digital platform can become very good when you get to develop it and work on the parts that didn't work today."

Improving crowdsourcing projects

The customers all indicated that their organizations learned useful lessons during their work with Co:tunity. Customer 4 has continued to work with other types of digital platforms for crowdsourcing and open innovation after the Co:tunity project, and commented on an important learning:

> Working with these types of tools requires a very active moderator who spends time on the platform, takes control and asks questions and who is engaging and catches the committed clique in a big group and engages them and gets them to pull others along. You have to activate people. And if a consumer posts a question or critique, you have to catch that thread and give feedback. You need someone who manages the conversation. According to our experience, this is completely decisive of what results you're going to get.

The need for a moderator depends on the desired type of results. If the goal is solely to gather input from a crowd, a moderator might not be critical, but it brings other challenges. Customer 1 mentioned that his organization learned that it is better to ask specific questions or give crowd members alternatives than to ask open questions or simply ask for thoughts and ideas: "Otherwise we get twenty answers that are the same and that we've already thought of, so it doesn't lead anywhere to ask an open question."

All of the customers were interested in working with both project-based crowdsourcing and continual crowdsourcing in the future. Customer 4 commented: "In the long term, I predict that we'll have a continuous dialogue with a consumer panel, where we can test different ideas and discuss what they think of different things. But we're not there yet." Customers 2 and 4 agreed that more work and resources would be needed to put a continual crowdsourcing platform in place, with an organization prepared to manage all the gathered input.

Success factors for crowdsourcing platforms

All of the customers agreed that what characterizes a successful crowdsourcing platform depends on what the goal of the platform is. However, some factors were mentioned several times, such as a simple, user-friendly platform and a committed crowd.

> The most important thing is to get quite a lot of activity and that the activity is not only due to a few users who do everything, but instead that there is some volume in the number of users who participate. It depends on what you want to achieve. It's reasonable to think that the platform should be easy to use. The barriers to get people to engage on the platform shouldn't be too high. Then the questions you ask determine quite a lot. If the questions are

> engaging, people will contribute with suggestions and ideas. But it has to be easy to share your thoughts (Customer 2).

> A dedicated crowd is crucial. Crowd members who have some sort of feeling for being there and feel that they get something out of participating and commenting and posting, and that they get feedback on it so it doesn't only become a black hole that they put everything in. It's like a little boost that when you do something, others will think something about it and comment on it. It's like the classic Facebook or Instagram feeling (Customer 1).

Customer 1 also stressed the advantage of choosing a platform where the crowd is already active, such as company websites, membership pages or Facebook, to avoid forcing crowd members to use additional apps or websites.

Customer 4 was inspired by IBM and Lego and their crowdsourcing platforms, where committed consumers contribute with ideas and suggestions of their own accord. The continuous communication on these platforms enable the companies hosting them to have a dialogue with engaged crowd members, and ask for the consumers' opinions and input on different things.

4.4 Summary of the case study results

In this chapter, the Co:tunity business model has been introduced based on the interviews with the platform administrators. Furthermore, the views of the interviewed experts and customers have been presented. The expert interviews centered on factors that contribute to successful intermediary crowdsourcing platforms, while the customer interviews focused on the customers' experiences of working with Co:tunity.

The interviewed experts were quite unanimous about the characteristics of successful crowdsourcing platforms. They stressed the importance of a sufficient crowd size, the user-friendliness of the platform and making it meaningful for the crowd to participate. One of the few areas where they had conflicting opinions was in regard to the reward structure. One of the experts saw monetary incentives as most effective, while others warned against crowdsourcing projects based on financial rewards due to the risk of not attracting the desired crowd members. Nevertheless, the experts agreed that it is difficult to find a reward structure that fits all projects. Finally, several of the experts commented that few organizations today are organized in a way that supports crowdsourcing work.

In the customer interviews, all of the customers agreed that their experiences of working with Co:tunity had both positive and negative aspects. They were all pleased that they had been able to try a digital crowdsourcing platform, but they discovered various problems while working with the tool. In regard to the issues

they experienced, a difference emerged between customers who used Co:tunity with crowds that were not used to crowdsourcing and those who used the platform with more experienced crowds. The customers who engaged inexperienced crowds commented on the lacking user-friendliness of the platform, while those engaging experienced crowds noted difficulties with creating a dialogue between crowd members. Most of the other differences that appeared between different customers' views stemmed from the differing types of projects that they carried out with Co:tunity.

5 Analysis

This chapter presents the analysis that was performed as part of the project. First, the critical success factors identified in the previous chapter are linked to the business model for Co:tunity and the views of former customers. The critical success factors are also compared to the findings from prior research in the field. Second, some general business model implications for intermediary crowdsourcing platforms are discussed. The chapter ends with an examination of some specific implications that arise for the Co:tunity business model.

The analysis in this chapter is performed to fulfill the purpose of this thesis, which is to create a better understanding of what aspects are important in order for intermediary crowdsourcing platforms to be successful, and to investigate the business model implications of intermediary crowdsourcing platforms. The analysis will be used to answer the two research questions:

- RQ 1: What are critical success factors for intermediary crowdsourcing platforms?
- RQ 2: What are the business model implications of an intermediary crowdsourcing platform?

5.1 Critical success factors

In this section, the critical success factors that were identified in the empirical investigation in the previous chapter will be analyzed and compared to the Co:tunity business model, as well as existing literature on crowdsourcing. In previous research, it is not clear which factors are considered to be critical success factors, but some of the potential factors derived from the theoretical framework will be discussed connected to the identified critical success factors in this section. Customer views will be considered as a complement to assess the experience of working with Co:tunity.

The identified critical success factors have been assessed from the customer's point of view, and hence are factors that create value for the customer. This choice was made based on the logic that if Co:tunity does not deliver value to customers, Kairos Future will not have any customers, and thus will not be successful with the Co:tunity business model. As mentioned in the previous chapter, the first four success factors are needed to attract a crowd on any crowdsourcing platform,

whereas the last three are specific for intermediary platforms to create customer value.

5.1.1 User-friendly platform

Having a user-friendly platform was recognized as a critical success factor by the interviewed experts, both from the crowd members' and customer's point of view. Previous customers also viewed user-friendliness as an important characteristic of successful platforms. However, based on the customer interviews and the observations made, Co:tunity's user-friendliness ought to be improved. Customers mentioned several problems from a user perspective, including problems with logging in and using the tool on mobile phones and tablets, and difficulties understanding what to do on the platform. From a customer perspective, expectations of being able to manage the platform quite independently were not satisfied, and it should be made clearer how to set up a challenge on the platform. The interviewed experts and customers stressed that it must be very easy to participate on the platform, especially for crowd members. If the threshold is merely slightly too high, the motivation to participate quickly fades with small crowds as a result. The strong link with the crowd size makes this success factor even more critical.

Despite the emphasis that the interviewed experts placed on platforms' user-friendliness, this critical success factor is not clearly recognized by previous research. One possible explanation might be that researchers presuppose that platforms are user-friendly and investigate other aspects of crowdsourcing models. Kohler (2015) mentions that it is recommendable to simplify the creation process on crowdsourcing platforms for crowd members, but seems to mean dividing the task into several subtasks so that more people are able to contribute, rather than improving platforms' user-friendliness.

5.1.2 Recognizing the crowd's contributions

Recognizing the crowd's contributions, by offering some form of reward or other recognition, was identified as a critical success factor by all of the interviewed experts. However, they acknowledged that it is difficult to find a reward structure that fits all crowds and projects, since different crowds are motivated by different types of rewards. Regardless of the motivation driving a specific crowd, however, most people want to feel that their contributions have an impact. Therefore, in all crowd projects, it is important to communicate to the crowd members what the outcome of the project was and what it led to, as mentioned by one of the experts. It is a simple way to make sure that all participants feel somewhat recognized. At present, Co:tunity does not include this function. In general, however, it is hard to analyze how well Co:tunity delivers on this critical success factor, since it tends to

be the customer who decides if any rewards should be offered to the crowd. Customers emphasized other issues with building crowd commitment, indicating that this is not the most significant factor.

The importance of recognizing the crowd's contributions is strongly supported by existing literature. Caron-Fasan & Chanal (2010) claim that in order to create value from a crowdsourcing model, it is crucial to have a good understanding of how to motivate crowd members to ensure their active participation. Kohler (2015) notes that crowdsourcing business models must recognize the crowd as their most valuable resource, and treat it as an integral part of the business. Similar to the interviewed experts, existing literature acknowledges that a key challenge is that crowd members differ concerning the type of recognition that motivates them. Some people are mainly motivated by financial or physical rewards, while others are more motivated by learning opportunities or the chance to earn a reputation among peers (Mack & Landau, 2015). The differences make it hard to ensure that a given crowd will feel recognized by a certain type of reward. One strategy that might overcome part of the problem, mentioned by both the interviewed experts and previous research, is pointing rewards to certain particularly sought after groups, rather than trying to satisfy all crowd members. In cases where such groups are known to exist, this might be an efficient way of making sure to attract the "right" crowd members (Caron-Fasan & Chanal, 2010).

5.1.3 Crowd commitment, e.g. engaging problem formulation

Crowd commitment was identified as a critical success factor by all of the experts, as well as by former customers. The experts claimed that lacking commitment from the crowd over time is a common problem among crowdsourcing platforms, and hard to address in practice. As an example, they mentioned that organizations tend to have difficulties reformulating their internal problems into problems that are engaging for an external crowd to solve. Hence, there is a need for more engaging problem formulations to create interest and commitment from the crowd. So far, Co:tunity has been used on a project basis with different crowds involved in each project, which makes it hard to build a loyal crowd on the platform. Nevertheless, the tool offers some features aimed at building a long-term crowd commitment. These features are leaned toward gamification and include offering points to all contributors and having a leaderboard where the most active participants are displayed. Looking ahead, if customers would like to use Co:tunity on a more continual basis in the future, the process of building crowd commitment on the platform should be improved. This proposal is based on the experts' argument that physical rewards, which have been common in previous Co:tunity projects, are not sufficient to maintain crowd members' commitment over time.

The crowd commitment success factor seems to be supported by previous research in the field. Engaging the crowd is one of the key activities that platform providers

must perform to effectively host crowdsourcing projects (Kohler, 2015). According to Bayus (2013), past commenting activity on others' ideas is connected to experiencing higher perceived benefits from crowdsourcing activities. Thus, by encouraging crowd members to interact with each other, it might be possible to build a stronger commitment from the crowd.

5.1.4 Clear crowd communication

The interviewed experts identified clear crowd communication as being a critical success factor for intermediary crowdsourcing platforms. Communication clarity and transparency is important both to ensure that crowd members know what to do and what is expected of them, and to avoid that participants feel tricked by the seeker organization or the intermediary. This could lead to unwanted negative publicity and reduced credibility.

Based on the customer interviews, clearer crowd communication seems to be required in Co:tunity. Accounts from previous projects describe crowd members having difficulties understanding what to do on the platform and how to participate. According to the administrators of Co:tunity, the platform seeks to be collaborative rather than competitive, but this is not clear for the crowd since no instructions or rewards are offered for collaboration or commenting activities. Clearly, much of the crowd communication in Co:tunity is decided by the customer organization, but nevertheless, the administrators of Co:tunity can have an indirect impact by recommending customers to clarify the communication with the crowd.

Existing literature offers support for this critical success factor. In a study performed by Malhotra & Majchrzak (2014), they found that when crowd members were explicitly instructed about what type of knowledge to share and how to integrate their knowledge with others, more qualitative solutions were generated than when conventional instructions were given. This implies that crowds follow the instructions offered by the platform provider, making clear crowd communication significant. Moreover, Bayus (2013) suggested instructing non-expert crowds not to focus on previous submissions and implemented ideas to avoid ideas becoming less diverse after participants experience some success with their contributions. This further strengthens the notion that crowds tend to follow instructions. In addition, existing literature points out the risk that crowd members feel exploited in crowdsourcing projects. In most crowdsourcing models, winning crowd members earn a far smaller reward than if the work would have been directly outsourced to them, which might be viewed as labor exploitation (Brabham, 2008). This calls for crowd communication that clearly states the premises for the project and the rewards that successful crowd members can expect, if any, so that participants know this going in.

5.1.5 Crowd size and diversity

Crowd size and diversity was identified as another critical success factor by the interviewed experts. Clearly, it is difficult to define what a large enough crowd size is, since it depends on the project and the task at hand. Likewise, it is difficult to evaluate Co:tunity based on this critical success factor, because different crowds are involved in each project on the platform. In at least one previous project, the crowd consisted of less than 25 members, which is arguably not a sufficient crowd size. In another project, however, more than 3000 crowd members were involved, proving that it is possible to engage large crowds in challenges on Co:tunity. Notably, the project that involved the largest crowd was the only project where the customer considered the crowdsourced information to have contributed to creating real value for the organization. This indicates that the crowd size does have a significant impact on customers' experience with Co:tunity, and is therefore a critical success factor for the platform. Likewise, the interviewed experts mentioned crowd diversity as an important aspect to increase the chances of generating value-adding contributions from crowdsourcing, and as a way to avoid only gathering ideas that are already known to the seeker organization.

Previous research in the field seems to confirm that crowd size and diversity is a critical success factor. Kohler (2015) claims that attracting a large enough crowd is crucial for the success of crowd-based business models, because more crowd members attract more customers and vice versa. Afuah & Tucci (2012) behold that one of the factors that increases the likelihood of solving a certain problem using crowdsourcing is a large crowd. Similarly, Lakhani, Jeppesen, Lohse & Panetta (2007) found that crowd diversity increases the success rate of innovation challenges and other crowd-powered efforts, making crowd size and diversity an important consideration for platform providers.

5.1.6 Value-adding contributions

The interviewed experts identified the generation of value-adding contributions as another critical success factor. Value-adding contributions entail that the gathered input has sufficient quality to create some form of value for the seeker organization. Since Co:tunity has multiple application possibilities, the definition of value-adding contributions differ for different projects. According to former customers, the platform is useful to gather input from a crowd, but only one customer withheld that the input had created any real value for their organization. In that case, the crowdsourced information was used to develop the company's product portfolio. If value-adding contributions entail co-created ideas and discussion among crowd members, Co:tunity has not been able to deliver that so far. Moreover, customers raised concerns about the screening process, which appears to be hard to perform in a time-efficient way, resulting in difficulties to

distinguish superior contributions from the rest. These insights suggest that Co:tunity needs to improve on this critical success factor.

Existing literature seems to support the importance of value-adding contributions, and confirms that the quality of crowdsourced information has been a major concern among researchers (Hossain & Kauranen, 2015). Several methods for enhancing the quality of crowd contributions have been suggested. Lakhani, Jeppesen, Lohse & Panetta (2007) argue that the diversity of the crowd is an essential factor in order to generate more qualitative contributions, while Afuah & Tucci (2012) emphasize the prevalence of relevant know-how in the crowd as a critical factor. Malhotra & Majchrzak (2014) stress that knowledge integration among participants is crucial to achieve the full potential of the crowd in innovation challenges, and Hossain & Kauranen (2015) found that the collective effort of a large crowd often leads to better results than relying on a few experts.

Another issue related to ensuring value-adding contributions is the process of evaluating the generated input. Several researchers emphasize the need for an adequate screening method, to ensure that the best contributions are recognized and awarded (Kohler, 2015; Mack & Landau, 2015; Piezunka & Dahlander, 2015). Having an effective screening process contributes to the fulfillment of this critical success factor because without it, all the input generated on the platform is mixed and it is hard to filter out the value-adding contributions.

5.1.7 Clear customer value

Offering a clear customer value was recognized as a critical success factor by the interviewed experts. Customers tend to be attracted by clear and simple statements that can explain the value offered by the service. Based on the interviews with the administrators of Co:tunity, it appears that Co:tunity does not deliver one clear customer value, but attempts to offer several values depending on the type of project. It is also hard to define the value that Co:tunity creates. The administrators concluded that the multiple application possibilities might have made the platform more complicated than necessary, and thereby a contributing factor to the challenges experienced by previous Co:tunity customers.

It is possible that customers who have never worked with crowdsourcing before are unprepared for the amount of work that is required to successfully conduct crowdsourcing projects. Several of the customers mentioned that they had to spend more time with Co:tunity than they had expected beforehand. This indicates that customers may be unaware of the effort that they have to make to succeed with implementing crowdsourcing in their organizations. Consequently, to create customer value, customers must be prepared to do the required work, regardless of which crowdsourcing platform is used. This notion is supported by previous research, which claims that organizations must invest a significant amount of

internal resources to successfully implement crowdsourcing projects (Lüttgens et al., 2014).

It is difficult to compare the clear customer value success factor to existing literature, because most of the reviewed research is conducted from the perspective of the seeker company, when no intermediary organization is involved. Thus, the notion of delivering a clear customer value is not applicable in these cases. Previous research that does consider crowdsourcing intermediaries determines that these intermediaries must enable the connection between customers and crowd members on their web platform in order to be successful (Lüttgens et al., 2014; Kohler, 2015). While this can be considered to be one type of customer value, it is not enough to attract and maintain customers, since most intermediary platforms focus on enabling this connection (Hallerstede, 2013). In order to broaden their portfolio and offer customers a greater value, crowdsourcing intermediaries might add extra services such as information processing and support, which so far have been untapped (Hallerstede, 2013). However, this finding does not support the clear customer value success factor, but rather emphasizes the need to offer customers a greater value than competing services.

5.1.8 Other factors derived from the theoretical framework

Two critical success factors that appeared in previous research were not included in the set of factors identified by the interviewed experts. These factors were the prevalence of relevant know-how in the crowd and crowds driven by extrinsic motivation. One potential reason as to why these factors were not emphasized by the interviewed experts is that the interviews centered mostly on crowdsourcing used for idea generation early in the innovation process. Contrarily, these two factors were both mentioned in connection to tournament-based crowdsourcing in existing literature. Hence, these factors might not be as significant in ideation-based crowdsourcing as in tournament-based crowdsourcing. Moreover, what relevant know-how is may be hard to define when looking to gather ideas from consumers, while it is easily defined and a crowd necessity when looking to crowdsource solutions to advanced technical challenges.

5.2 Business model implications

In this section, some business model implications for intermediary crowdsourcing platforms will be discussed, related to the theoretical framework and empirical investigation performed in this project. Based on these general implications and the analysis of the critical success factors in the previous section, some specific business model implications for Co:tunity will be examined.

5.2.1 Business model implications for intermediary crowdsourcing platforms

The business model canvas is a useful tool for business model analysis and development. It describes the way in which an organization creates, delivers and captures value based on nine building blocks (Osterwalder and Pigneur, 2010). However, when attempting to describe a crowdsourcing intermediary business model with the business model canvas, it becomes evident that the canvas works best for generic business models. It is unclear where the crowd belongs in the canvas. It could be argued that the crowd is a key resource, and that a key activity is attracting and engaging the crowd. This is in line with Kohler (2015), and has been the proposed perspective in this report. It is also possible, however, to view the crowd as a customer segment. Even though the crowd does not create any direct revenues, it is required for the business model to function and generate revenues from customers. Either way, it is clear that the crowd does not have a natural place in the business model canvas. Hence, in order to sufficiently cover all aspects of business models for crowdsourcing intermediaries, the canvas should be adjusted. Kohler (2015) appears to share this view by emphasizing the need to engage the crowd, and suggests adding a set of crowd-related questions under each building block, as presented in Table 3.2.

The author proposes going further and adding a crowd building block to the business model canvas. This measure gives the crowd a natural place in the canvas, and ensures that the questions presented by Kohler (2015) are included in the model. It is crucial that these questions are asked for crowdsourcing intermediary business models, because without an engaged and motivated crowd, no crowdsourcing takes place and it is irrelevant how good the business model is in other aspects. The expert interviews confirmed this view, by stressing the need to focus on the crowd perspective in order to reach success. Thus, in order to build a strong business model for crowdsourcing intermediaries based on the business model canvas, a crowd building block is required.

It could be argued that the crowd questions could be incorporated in the business model canvas even without an additional building block. This is possible for some questions, such as "Which resources does the crowd provide that the company requires for creating value?" and "Which activities does the crowd perform to create value?" These questions are strongly connected to existing building blocks. Other questions, however, are not clearly connected to any of the original building blocks, calling for an additional building block that integrates these questions into the canvas. Examples of such questions are "What value does the platform create for the crowd?", "How does the company attract and engage crowd members?" and "Which rewards are offered to the crowd for participating?" These questions must be addressed in order to build a successful crowdsourcing intermediary business model, and therefore, they ought to be included in the proposed crowd

building block. Figure 5.1 shows an example of what the crowdsourcing business model canvas might look like.

Crowd	Key Resources	Value Proposition	Customer Relationships	Customer Segments
Key Partners	Key Activities		Channels	
Cost Structure			Revenue Streams	
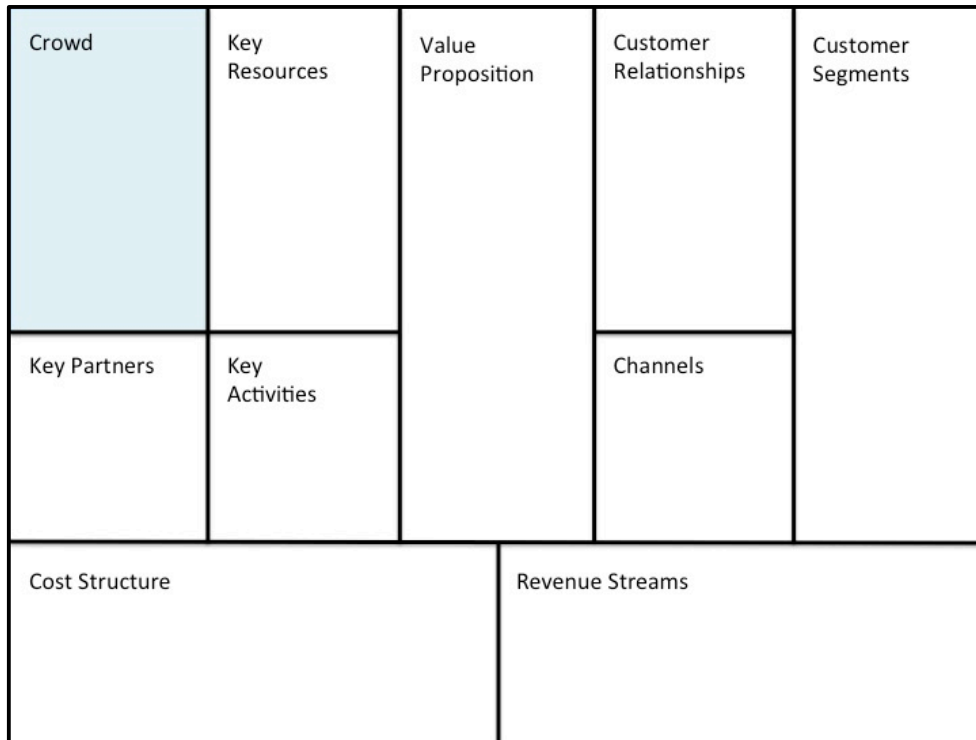
Figure 5.1: Proposal for a crowdsourcing business model canvas (Adapted from Strategyzer, 2016)

Apart from adding a crowd building block to the business model canvas, other general business model implications for crowdsourcing intermediary platforms have been derived from the empirical investigation performed in this project. These implications concern *Value Proposition* and *Channels*, and will be presented linked to the associated building blocks.

Value Proposition

Since delivering a clear customer value has been identified as a critical success factor for intermediary crowdsourcing platforms, intermediary platform providers ought to consider if their value proposition to customers is sufficiently clear. If not, it should be revised and preferably simplified in order to attract customers with a distinct and tangible value. Furthermore, most crowdsourcing intermediaries have been found to focus heavily on connecting crowd members and customers on their platform, leaving other functions relatively unexploited. Therefore, it may be advisable for platform providers to consider offering additional services, as a way to differentiate their value proposition from others'.

These services may include information processing, support and technological services.

Channels

Two of the critical success factors that were most strongly emphasized by the interviewed experts were the demand for user-friendly crowdsourcing platforms and the importance of recognizing the crowd's contributions. Existing literature also stresses the need to acknowledge the crowd's work, offering additional support for this critical success factor. Both of these factors concern the crowdsourcing platform, which is arguably the most important channel for crowdsourcing intermediary business models, since it connects customers with the crowd. The implication for platform providers is that the channel building block must be carefully considered. Special attention should be given to assuring that the platform is simple to use both for crowd members and customers, and that mechanisms are in place that offer recognition to participants for their contributions. Moreover, the communication with the crowd taking place on the platform should be as clear and precise as possible, to increase the transparency toward the crowd. If the platform is aimed at collaboration between crowd members, commenting and knowledge integration activities should be encouraged, preferably by explicit instructions and rewards for collectively developed ideas.

5.2.2 Business model implications for Co:tunity

Based on the general implications for crowdsourcing intermediary business models that were derived in the previous section, and the interviews with the administrators of Co:tunity and previous customers, a number of more specific business model implications can be determined for Co:tunity.

Crowd

The proposed "crowd" building block has several implications for Co:tunity. According to accounts from former customers, the Co:tunity business model currently does not offer satisfactory answers to the questions "What value does the platform create for the crowd?" and "How does the company engage crowd members?" Customers mentioned problems with creating a dialogue between crowd members and difficulties recruiting participants through their own channels, which demonstrates the existing issues with fostering engaged and motivated crowds on the platform. Hence, the incentive structure in the Co:tunity business model must be clarified and developed. This includes adding features that recognize the crowd's contributions.

A relatively simple improvement measure would be to communicate to all crowd members who contributed to a certain project what the result of that project was, as suggested by one of the experts. This message would hopefully make crowd members feel that their contributions had an impact, and create an interest in

participating in other projects on the platform in the future. This feature could be implemented as automatic emails that are sent out to all participants after a Co:tunity project is over, thanking the participants for their input and informing them about the outcome of the project. In addition, crowd members should receive notifications when one of their posts receives a pre-defined number of likes or when another member comments on it, to make sure that participants are given feedback on their contributions.

Notably, the business model for Co:tunity infers that the crowd is seldom the same in different projects. This notion complicates the path to reaching a stage where crowd members are loyal and participate in numerous challenges on the platform. The business model is trapped in the stage of attracting an initial user base, as described by Kohler (2015). In this stage, physical, "easy" rewards are often needed to attract new crowd members according to the interviewed experts. In the Co:tunity projects that have been conducted so far, such rewards have been offered to crowd members by the customer organizations. Hence, one possibility is to keep rewarding crowd members in this way. If, however, the administrators would like to develop Co:tunity into a platform with a more constant crowd as was indicated in the interviews, other measures must be taken to ensure that crowd members are motivated by more sustainable features than physical rewards.

Value Proposition

At present, Co:tunity does not offer customers a clear and distinct value proposition. The administrators of the platform explained the existing problems as being the result of Co:tunity's two-sided purpose. On the one hand it aims to digitize the tools used for trend analysis and idea development for internal use in customer organizations, and on the other it strives to enable companies to invite external crowds to participate in crowdsourcing projects. The consequence is that the tool is unnecessarily complex to use and its value proposition unclear, making it hard to attract customers.

Based on the expert interviews, it might be advisable to modify Co:tunity to focus more on a specific niche, such as trend spotting. This would be a suitable choice since trend spotting is one of Kairos Future's core competences, and would allow for establishing Co:tunity as the crowdsourcing platform of choice for collaborative trend spotting. In this case, a loyal crowd of trend spotters could be attracted to the platform and engaged in the long term, simultaneously building credibility and a strong brand for Co:tunity. Customers would most likely be attracted by this clear value proposition, well aligned with Kairos Future's other business areas. However, this measure would narrow down the possible applications for the platform, which might not be desirable.

Another, less radical proposal is to divide the crowdsourcing application of Co:tunity into at least two new offerings. One offering should be directed at crowds that are not used to crowdsourcing and platforms of this type, and the other should be directed at crowds that are used to crowdsourcing. This division would

probably mean one value proposition for customers seeking to use Co:tunity internally with their own employees, and one value proposition for clients wanting to engage external crowds in crowdsourcing on the platform. During the customer interviews, it became clear that the customers that had used the platform internally or with inexperienced crowds faced different problems than those who used it with more experienced external crowds, why this division is appropriate. With inexperienced crowds, the user-friendliness of the platform was considered the most prominent problem, while creating a discussion between crowd members was the most significant issue for customers engaging experienced crowds. These problems must be addressed in the new versions.

The two offerings should be modified versions of Co:tunity, each with a clarified value proposition. They must be simpler to use than the current version of the platform, and cater to the needs of different types of crowds and customers. For customers wishing to use Co:tunity with internal crowds, the value proposition should focus on the possibility to very easily gather input from a non-experienced crowd. For customers wishing to gather input from external crowds, the value proposition should be the possibility to engage in and capitalize on the dialogue between crowd members on the platform. These offerings should thus each deliver a clear customer value, as discussed in Section 5.1.7.

As a further development of the value propositions, it might be advisable to offer more services connected to the Co:tunity offering. Hallerstede (2013) found that intermediaries tend to focus mostly on enabling the connection between customers and crowd members on their platform, but that additional services, such as support, information processing and technological services are unexploited. The Co:tunity administrators have learnt several lessons during previous projects with Co:tunity, which they could use to better help new customers. As an example, they have learnt that specific questions tend to yield more than open questions, and that problem formulations must be engaging to encourage participation. Hence, they could offer new clients guides on how to formulate good task descriptions and how to effectively engage the crowd. Moreover, reference guides and additional support would hopefully make it possible for clients to manage Co:tunity more independently, which was requested by previous customers in the interviews. Clearly, there is a risk that by offering more services, Co:tunity will be become more expensive to buy, hence leading to additional costs that customers are unwilling to pay. However, by using pre-made guides and smart forms of support, it should be possible to increase the service level without having to add considerably more consultant time, thereby keeping the price down. If this is not feasible, optional services could be offered to customers at an additional cost.

Channels

Building on the previous discussion about offering two separate Co:tunity value propositions, the channels, and thus platform, must be adapted accordingly.

For inexperienced crowds, the platform must become more user-friendly than it is today. The threshold to participate must be made as low as possible by ensuring that it is smooth and easy to contribute with ideas or comments, as this was something that the interviewed experts and customers mentioned as being a barrier for participation. To achieve a clean and simple-looking interface, the platform must be stripped of all its current functions that are not necessary to satisfy the needs of inexperienced crowds. Clear and specific instructions must be given to crowd members regarding what to do, how to do it, and why, in line with the clear crowd communication success factor. In addition, investments should be made to enable embedding the Co:tunity platform on customers' websites or member pages. As noted by several of the previous customers, it is easier to attract crowd members if they can find the platform on a website or app that they are familiar with, instead of having to go to a site that is new to them. In cases where the sought after crowd members are current customers or other consumers affiliated with the client organization, this should be an appropriate measure.

For experienced crowds, efforts should instead be focused on creating a discussion between crowd members on the platform. Gaining access to this discussion was anticipated by previous customers, especially by those using Co:tunity with external crowds where members were used to crowdsourcing platforms. Furthermore, previous research has shown that in crowdsourcing projects where participants integrate their knowledge with others' and develop ideas together, better results are achieved (Malhotra & Majchrzak, 2014). This notion offers additional support for encouraging discussion between crowd members, particularly since Co:tunity is aimed at collaboration rather than competition. In order to create a dialogue among participants, the platform must be adjusted. Clear instructions that encourage commenting and discussion should be given to crowd members, since existing literature indicates that crowd members tend to follow instructions (Bayus, 2013). If the customer requests a moderator, Kairos Future should offer support and a reference guide instructing an employee in the customer organization on how to be the moderator on the platform. In projects rewarding the crowd members that earn the most points, dual incentives should be implemented so that points are awarded for contributing with highly-rated ideas as well as for commenting and liking others' posts. If the client wants to encourage collaboration between crowd members, this should also be communicated clearly on the platform and rewarded accordingly.

5.3 Summary of the analysis

In the first part of this chapter, the identified critical success factors were evaluated and compared to the Co:tunity business model, the views of former customers and to existing literature. When compared to previous customers' views of Co:tunity, it appeared that *User-friendly platform*, *Clear crowd communication*

and *Clear customer value* are critical success factors where Co:tunity needs to improve. One part of the problem with performing well on these factors stems from the multiple application possibilities for the platform. Overall, it was difficult to evaluate Co:tunity based on the identified critical success factors, because the crowd and the purpose of the projects carried out on the platform vary from customer to customer.

Out of the seven factors, all but *User-friendly platform* and *Clear customer value* seemed to be supported by previous research. Possible reasons that these factors are not emphasized in existing literature include the more practical perspective of the interviews as compared with earlier research, and the notion that most previous studies have concerned platforms that are not hosted by an intermediary. The prevalence of relevant know-how in the crowd and crowds driven by extrinsic motivation appeared to be critical success factors in existing literature, but did not emerge as such in the expert interviews. This might be explained by the lack of focus on tournament-based crowdsourcing in the interviews.

In the second part of the chapter, some business model implications were discussed, first for intermediary crowdsourcing platforms in general and subsequently for Co:tunity. A *Crowd* building block was proposed as an addition to Osterwalder and Pigneur's business model canvas for intermediary crowdsourcing platforms. This suggestion was made to ensure that the canvas addresses questions such as "What value does the platform create for the crowd?", "How does the company attract and engage crowd members?" and "Which rewards are offered to the crowd for participating?" Furthermore, the analysis showed that the *Value Proposition* and *Channels* building blocks should be given special attention for business models based on intermediary crowdsourcing platforms. The value proposition must be sufficiently clear and simple, and the platform, which is arguably the most important channel for this type of business model, must be user-friendly and incorporate functions that recognize the crowd's contributions.

Several specific business model implications emerged for Co:tunity. One was that the platform's reward structure should be developed. Crowd members must receive some feedback on their contributions, or else they will lose interest in participating on the platform. Another implication was that more services should be offered connected to Co:tunity, as a way to increase the service level and make it easier for customers to work independently with Co:tunity. A third implication was that the crowdsourcing application of Co:tunity should be divided into two value propositions: one directed at inexperienced crowds and the other targeting experienced crowds. Lastly, two separate versions of the Co:tunity platform should be developed, in accordance with the previous implication. One version should focus on improving the user-friendliness of the platform, while the other should seek to encourage discussion between crowd members.

6 Conclusions and Final Remarks

This chapter provides the conclusions that were drawn from the study. First, the research questions are answered, followed by recommendations to the case organization. Some implications of the findings are discussed, as are the limitations of the study. Finally, some suggestions for future research are presented, as well as concluding reflections.

6.1 Answers to the research questions

In this section, the answers to the research questions for this master's thesis are given.

RQ 1: What are critical success factors for intermediary crowdsourcing platforms?

The critical success factors for intermediary crowdsourcing platforms that were identified in this study are:

- User-friendly platform
- Recognizing the crowd's contributions
- Crowd commitment (e.g. engaging problem formulation)
- Clear crowd communication
- Crowd size and diversity
- Value-adding contributions
- Clear customer value

RQ 2: What are the business model implications of an intermediary crowdsourcing platform?

The business model implications for intermediary crowdsourcing platforms that were derived from this study are:

- For crowdsourcing intermediary business models, an additional, "crowd" building block is needed to complement the nine original building blocks in Osterwalder and Pigneur's business model canvas. The new building block should consider questions such as: "How does the company attract and engage crowd members?", "What value does the platform create for the crowd?" and "Which rewards are offered to the crowd for participating?"

- To be successful, platform providers must ensure that their value proposition to customers is sufficiently clear and simple, and they should consider broadening their portfolio by offering additional services.
- The platform is the most important channel for crowdsourcing intermediaries, and must be user-friendly and incorporate functions that recognize the crowd's contributions.

6.2 Recommendations to the case organization

In this section, a number of recommendations to Kairos Future will be presented, based on the findings in this study.

Divide the offering into two value propositions

The crowdsourcing application of Co:tunity should be divided into two separate offerings that cater to the needs of different types of crowds and customers. The current design of the platform attempts to fulfill multiple purposes, but ends up being complicated to understand and use. Hence, the value proposition needs to be clarified and simplified. One of the value propositions should target customers that wish to use Co:tunity with internal or inexperienced crowds, while the other should target customers that wish to engage external crowds that are familiar with crowd-based platforms in crowdsourcing projects. The platform should be revised according to each value proposition, so that two different versions of the platform are developed.

Increase the user-friendliness of the platform

In the offering directed at crowds that are not used to crowdsourcing, the platform ought to be more user-friendly than it is at present. In both the expert and customer interviews, it became clear that the practical importance of enabling easy participation in crowdsourcing projects cannot be overstated. To achieve this, the Co:tunity platform should be simplified, and functionality that can appear confusing or complex to crowd members should be removed. Clear instructions should be offered to participants on what, how and why to contribute. Furthermore, the possibility to embed the platform on customers' own websites and applications should be explored. If realized, it would allow users to participate in crowdsourcing projects in a place that they are already familiar with, further facilitating the adoption and participation process.

Create incentives that promote discussion between crowd members

In the offering targeting customers who want to engage external crowds in Co:tunity projects, the platform should be modified to incentivize discussion between crowd members. This recommendation is supported both by existing literature and by accounts from the customer interviews. Explicit instructions to

comment on and develop others' ideas should be given to crowd members, and dual incentives should be implemented that reward both superior contributions and interaction with other participants. If customers want to employ a moderator to facilitate the discussion on the platform, this should be arranged, preferably by coaching an employee in the customer organization on how to take that role.

Develop the reward structure

The reward structure in Co:tunity should be clarified and improved. More features are needed that make participating on the platform feel meaningful to crowd members. One measure that should be taken is sending out emails to all contributors after a project is over, informing them about the outcome of the project and thanking them for their participation. Another suggested feature is notifying crowd members when one of their contributions receive a pre-defined number of likes or when another crowd member comments on their post. Feedback like this is needed to engage crowd members and let them know that their contributions matter.

Explore the possibility of offering additional services connected to Co:tunity

Finally, Kairos Future should consider offering additional services to Co:tunity customers. Through their experience with the platform, the administrators have gained extensive knowledge that they could use to more strongly support new customers, for example by offering reference guides on how to formulate good crowdsourcing questions or how to act as a moderator on the platform. These services should aim to enable customers to work more independently with Co:tunity projects. If possible, these services should be included in the price of using the platform, and if not, they should be offered to customers at an additional cost.

6.3 Discussion of the results

In this section, some implications of the findings will be presented, as well as the limitations of the study.

6.3.1 Implications of the findings

In this master's thesis, seven critical success factors for intermediary crowdsourcing platforms have been identified, as well as some business model implications for such platforms. Companies hosting an intermediary crowdsourcing platform or planning to implement one should take these findings into account, as failure to do so may result in an unsuccessful platform.

Furthermore, the results of the study have implications for companies considering hosting a crowdsourcing platform themselves or using an intermediary platform.

During the work with this project, it has become clear that crowdsourcing platforms must be easy for the crowd to use. The interviewed experts stressed that in practice, even a minor user issue tends to lead crowd members to not participate in crowdsourcing projects. The implication for companies considering implementing crowdsourcing in some form is that they must take care to select an intermediary with a user-friendly platform, or make sure that their own platform is easy to use. Especially in cases where the desired crowd is inexperienced with web-based platforms and crowdsourcing projects, it is crucial that the platform is self-explanatory and offers clear instructions to participants. This restriction came across much stronger in the interviews than in previous research, possibly resulting from the more practical approach of the interviews as compared with existing literature.

It is important to keep in mind that even if addressing the seven identified critical success factors, intermediary crowdsourcing platforms can have remarkably different designs and still all be successful. The appropriate design depends largely on the purpose of the platform. A platform aimed at enabling the gathering of input from a large, inexperienced crowd may be simple and straight-forward, while a platform designed to create dialogue and collaboration between crowd members may appear disordered due to participants' comments and idea development discussions. In order to be successful with a crowdsourcing platform, it is crucial to have a clear purpose and make sure to design the platform to fulfill that purpose.

6.3.2 Limitations

Because of the case study design of this master's thesis, the results cannot be directly generalized to other organizations. However, since detailed background information about the case has been included in the report as suggested by Lincoln and Guba (1985), it should be possible to transfer the findings to similar contexts. Such contexts include other intermediary crowdsourcing platforms with comparable goals and scale. Before generalizing the results to a new situation, readers should carefully assess the other context and compare it to the case of Co:tunity. To be able to transfer the results to other situations with added security, complementing empirical analysis on a large, representative sample of organizations should be performed.

When selecting the expert interviewees for this project, more focus could have been placed on finding interviewees with experience from hosting intermediary crowdsourcing platforms. Two of the interviewed experts did have that experience, and one additional platform provider was contacted who did not answer. Still, other providers could have been contacted in order to provide a more

general description of the experience of hosting an intermediary crowdsourcing platform. The interviewed experts did have extensive experience from working with crowdsourcing in different forms, and were hence able to portray the practical implications of crowdsourcing in a reliable manner. By interviewing more platform providers, however, a better understanding of the specific implications of hosting an intermediary crowdsourcing platform could have been achieved.

It is important to note that the findings in this study are based on the data that the administrators of Co:tunity, the experts and the previous customers provided during the interviews. This means that the customers shared their experiences from working with Co:tunity, work that in some cases took place a couple of years ago. Hence, some of the recommendations presented in this thesis have been partly or fully implemented at Kairos Future since these projects were carried out. Such implementations include simplifications and functionality that better recognizes crowd members' contributions. Nevertheless, these features might need further development and the recommendations are still valid overall.

6.4 Suggestions for future research

In order to confirm that the results of this study are applicable for other intermediary crowdsourcing platforms, quantitative research should be conducted on a large number of similar platforms where the generated critical success factors and business model implications can be tested. This is particularly important considering the case study design of this project. It would also be motivated to conduct a study comparing crowdsourcing platforms that are hosted by intermediaries with platforms hosted by the seeker companies, to see if there are any differences stemming from the type of platform provider, or if one type of host is more suitable in certain situations. This might have implications for companies considering whether to implement their own crowdsourcing platform or buy the service from an intermediary. Finally, it would be interesting to conduct a quantitative study on the monetary value created by crowdsourcing. This is difficult to do at present, since most crowdsourcing platforms have not been in existence for very long. However, in time, it will be possible to evaluate crowdsourcing results on a financial basis, which will complement the current academic and practical view of crowdsourcing.

6.5 Concluding reflection

During the work with this master's thesis, existing literature on crowdsourcing has been reviewed and a number of interviews have been conducted. Apart from the

identified critical success factors and business model implications, three important insights have been reached during this process. These insights have implications for companies considering hosting a crowdsourcing platform themselves or using an existing intermediary platform.

Firstly, it has been noted that it is not always advisable for organizations to host their own crowdsourcing platforms. It does tend to be easier to establish a platform with a committed crowd if the organization already has a group of loyal followers who can be pioneers on the platform, but there may be other restrictions that make using an intermediary platform preferable. The size of the organization, the purpose, the time frame and the level of existing commitment in the anticipated crowd should be taken into account before deciding whether to host a company-specific platform or use an intermediary. For companies that operate far from the end users, or for those willing to engage other consumers than their own customers in crowdsourcing work, an intermediary platform might offer superior value to a company-specific platform. An intermediary can give seeker companies access to the end users or other companies' customers; groups that they normally would not be able to address. Furthermore, for organizations that want to engage their own customers but have never worked with crowdsourcing before, it might be appropriate to first host a challenge on an intermediary platform to see what the results are. If the results are satisfactory and the organization wishes to continue with crowdsourcing projects, creating a new platform can be considered. Even if the intermediary does not allow for asking exactly the right questions or target the precise sought after crowd, hosting a challenge on an intermediary platform can be an easy and quick way to try crowdsourcing without having to invest as much as when building a platform. This strategy seems suitable in an era of fast prototyping and agile processes.

Secondly, it was mentioned repeatedly during the interviews with experts that companies overestimate the willingness of people to contribute with their time in crowdsourcing efforts for free. As crowdsourcing models become increasingly common, the question of when consumers start demanding compensation for their work gains relevance. It is therefore imperative that companies striving to successfully implement crowdsourcing projects on a long-term basis ensure that crowd members feel rewarded for their participation. The rewards can be physical or monetary, or come in the form of recognition or reputation. Companies should attempt to determine what motivates the crowd members that they are hoping to attract. Organizations must also take into account the costs for attracting and rewarding the crowd when deciding whether to implement crowdsourcing or not. Thus, companies considering creating a crowdsourcing platform or using an intermediary to organize crowdsourcing projects should focus on the crowd and make sure that it is meaningful for crowd members to participate. Only then will they be successful with crowdsourcing projects in the long term.

Thirdly, despite the attention that has been directed to crowdsourcing during the last few years, it is still a new phenomenon that needs time to develop. On the one

hand, existing literature as well as the interviewed experts and customers confirmed that crowdsourcing has much unexplored potential and could be used to a considerably larger extent by organizations than it is today. On the other hand, it became clear during the interviews with experts, customers and the administrators of Co:tunity that most companies today are not organized in a way that supports crowdsourcing. In order to create maximum value from crowdsourcing projects, companies must build an organizational structure that supports and facilitates working with crowds. The next few years will show if crowdsourcing will have an actual impact on the way in which companies innovate, or if crowdsourcing platforms will simply be remembered as digital suggestion boxes. Until the crowdsourcing model has reached its full potential, it will remain difficult to truly evaluate its effectiveness. Hopefully, the critical success factors and business model implications that have been identified in this study can offer some guidance to companies that want to implement crowdsourcing in their organizations in the meantime.

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Appendix

Appendix A – Interview Guide for the Administrators of Co:tunity

Appendix B – Interview Guide for Crowdsourcing Experts

Appendix C – Interview Guide for Previous Co:tunity Customers

Appendix D – Project plan and outcome

Appendix A – Interview Guide for the Administrators of Co:tunity

Opening questions

1. What is your role at Kairos Future?
2. How long have you worked at the company?
   a. Did Co:tunity exist when you started?

Specific Co:tunity questions

3. What was the initial purpose of Co:tunity?
   a. What is the purpose now?
4. How has Co:tunity developed over time?
   a. Have all the development steps been on purpose and strategic or have some things just happened?
5. What are the problems with Co:tunity today?

Business model canvas questions – customer segments, channels and customer relationships

6. Which customer segments does the platform target?
   a. Why?
7. Through which channels are you reaching the customer segments?
8. What type of relationships have been established with the customers of Co:tunity?
9. What value does the platform create for:
   a. Customers?
   b. Crowd members?
10. How does the company attract and engage crowd members?

Business model canvas questions – key resources, activities and partners

11. Which key resources does the Co:tunity business model require?
12. Which resources does the crowd provide that the company requires for creating value?
13. Which key activities does the company perform to create value?
14. Which activities does the crowd perform to create value?
15. Which key partners are required for the business model to work?

Business model canvas questions – value proposition, revenue streams and cost structure

16. What is Co:tunity's value proposition to customers?
17. Which rewards are offered to the crowd for participating?
18. How does Co:tunity generate revenues for:
    a. Kairos Future?
    b. Customers?

19. What are the costs for the company to create and deliver value through Co:tunity?
20. Is there anything that you would like to add or that I have forgotten to ask you about?

Appendix B – Interview Guide for Crowdsourcing Experts

Opening questions

1. Can you shortly describe your organization and what you work with?
2. What is your current role in the organization?
3. In what ways have you come into contact with or worked with crowdsourcing?

Advantages and challenges with crowdsourcing

4. What are the advantages of crowdsourcing?
5. What are the main challenges with crowdsourcing?
6. What do you believe is the most common reason that crowdsourcing-based business models fail?

Building attractive crowdsourcing platforms

7. What are the major differences between designing a company-specific crowdsourcing platform and an intermediary platform?
8. What do you think characterizes a successful crowdsourcing platform?
9. What do you consider to be the most important factors for a crowdsourcing platform to be successful?
   a. Why?

Rewards

10. How should providers of crowdsourcing platforms think when it comes to rewards and creating incentives for the crowd to participate?
11. Is there any type of reward structure that you perceive as more successful?

Creating long-term crowd commitment

12. How do you engage a crowd on a more continual basis, i.e. what strategies exist for creating a long-term commitment from a crowd?
13. Should platform providers strive to encourage crowd members to collaborate?
   a. If yes, how?

Crowd contributions

14. How should the screening of the gathered input be managed?
15. Are there any methods or strategies that can be used to raise the contributions' quality and/or quantity?
16. What types of questions/challenges are most appropriate for crowdsourcing projects?
   a. How should they be formulated?

Customer and crowd relationships

17. What is required of an intermediary crowdsourcing platform to attract:
    a. Customers?
    b. Crowd members?
18. How can providers of intermediary crowdsourcing platforms create strong relationships with their customers so that they want to use the platform again?
19. Is there anything that you would like to add or that I have forgotten to ask you about?

Appendix C – Interview Guide for Previous Co:tunity Customers

Opening questions

1. Can you shortly describe your organization and what you work with?
2. What is your current role in the organization?
3. How familiar are you with the concept of crowdsourcing?
4. How familiar are you with the Co:tunity platform?

Choices and expectations

5. Why did your organization want to use a crowdsourcing platform?
    a. Why Co:tunity in particular?
6. What did you expect from the platform?

Working with Co:tunity

7. How did your organization use Co:tunity?
8. How did you experience working with Co:tunity?
9. Why did you stop using Co:tunity?
10. What type of feedback have you received from crowd members who used Co:tunity?

Evaluation

11. What were the advantages of working with Co:tunity?
12. What were the main challenges of working with Co:tunity?
13. Did the work with Co:tunity contribute with value to your organization?
    a. If yes, what kind of value?
14. Did the work with Co:tunity trigger any consequences or affect your offering in any way?
15. Was the work with Co:tunity successful?
    a. Have you measured the results in any way?
    b. Do you think that your organization will work with crowdsourcing again?

Improving crowdsourcing projects

16. If your organization would work with crowdsourcing again, what type of crowd would you prefer to gather input from?
    Probes: consumers, tech crowds that can find problems in e.g. software, engineers that can find new solutions, a general network of trend spotters, experts in different areas
17. How often would you like to be able to use the crowd?
    a. Would a more continual solution be interesting to you?
    Probes: Panel with consumers/experts, dialogue, idea reporting, answering questions

Success factors for crowdsourcing platforms

18. What do you think characterizes a successful crowdsourcing platform?
19. Is there anything that you would like to add or that I have forgotten to ask you about?

Appendix D – Project plan and outcome

Activity	Start date	End date
Methodology course	19-jan	27-jan
Document defining the goals	18-jan	05-feb
Project plan	08-feb	12-feb
Literature review	08-feb	08-mar
Define research questions	22-feb	26-feb
Prepare and conduct interviews	09-mar	23-mar
Analysis and conclusions	24-mar	08-apr
Write report	09-mar	26-maj
Hand in first draft of report	15-apr	
Hand in second draft of report	26-maj	
Write popular science summary	27-maj	02-jun
Prepare for oral presentation	30-maj	02-jun
Presentation - LTH	03-jun	
Presentation - Kairos Future	08-jun	
Opposition of thesis project	27-maj	
Hand in final report	10-jun	

Figure A.1: Project plan

Activity	Start date	End date
Methodology course	19-jan	27-jan
Document defining the goals	18-jan	05-feb
Project plan	08-feb	12-feb
Literature review	08-feb	08-mar
Define research questions	15-feb	19-feb
Prepare and conduct interviews	09-mar	05-apr
Analysis and conclusions	06-apr	04-maj
Write report	22-feb	26-maj
Hand in first draft of report	04-maj	
Hand in second draft of report	26-maj	
Write popular science summary	30-maj	08-jun
Prepare for oral presentation	30-maj	08-jun
Presentation - LTH	09-jun	
Presentation - Kairos Future	03-jun	
Opposition of thesis project	09-jun	
Hand in final report	16-jun	

Figure A.2: Performed activities

The project was performed almost in accordance with the project plan. The writing of the report began earlier than anticipated, but the analysis and conclusions work took longer than expected. The first draft of the whole report was handed in later than projected, but several part drafts were handed in before that. The final report was handed in one week later than predicted due to the oral presentation at Lund University being scheduled one week later than expected.