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GQCCM: An evaluation strategy for collaborative social innovation platforms

Growth, Quality, Collaboration, Creativity &
Motivation

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*I would like to dedicate this piece of work to my grandfather whom recently passed away.
Additionally, I would like to thank my family for supporting me regardless of my stupid
choices.*

Abstract

English

Social innovation is on the rise and this thesis aims to learn from practice to better facilitate further development and contribute to theory. Collaborative social innovation platforms are not well understood although several are being created. The goal is to provide a greater understanding of those platforms and how they can facilitate the social innovation process. The thesis shows the process of planning, designing and creating an evaluation strategy for those platforms. This was done through three steps, first by doing a preliminary analysis of existing literature and platforms. Secondly social innovation experts were interviewed and a questionnaire about collaborative platform were disseminated to validate and build on the analysis. Finally everything was tested by running an experiment on three different platforms. The process resulted in GQCCM an evaluation strategy containing 50 different criteria for collaborative social innovation platforms. Additionally eight goals were identified, these goals were aimed towards attracting people and enabling them to become successful social entrepreneurs. GQCCM shall be able to provide an indication about how platforms can expand and evolve to become greater tools for social innovation.

Norwegian

Sosial innovasjon blir mer og mer populært blant forskere og entreprenører. Denne oppgaven ser på hvordan ting utføres i praksis for å bedre legge til rette for videreutvikling innenfor feltet. I dag mangler vi fortsatt forståelse for hva som kreves av samarbeidsplattformer for sosial innovasjon, selv om det allerede eksisterer flere. Målet er å forstå hvordan slike plattformer kan hjelpe med den sosiale innovasjonsprosessen. Oppgaven beskriver prosessen som ble fulgt for å lage en evalueringsmetode for slike plattformer. Dette ble gjort gjennom tre steg, først ble eksisterende litteratur og plattformer analysert. Videre ble eksperter innenfor sosial innovasjon intervjuet, i tillegg ble data fra spørreundersøkelser om samarbeidsplattformer samlet inn. Dette var for å validere resultatene fra analysen og for å bygge videre på den. Til slutt ble funnene testet ved å kjøre et eksperiment på tre forskjellige plattformer. Alle disse stegene resulterte i GQCCM en evalueringsmetode med 50 forskjellige kriterier som samarbeidsplattformer for sosial innovasjon burde støtte. I tillegg ble åtte mål identifisert, disse målene handler om hvordan man kan tiltrekke mennesker og hvordan man kan hjelpe dem til å bli suksessfulle sosiale entreprenører. Målet med GQCCM er å gi en indikasjon om hvordan plattformer kan ekspandere og utvikle seg videre til å bli et bedre verktøy for sosial innovasjon.

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Abbreviations

3C	=	Communication, Collaboration, Coordination
5R	=	Readiness, Receptivity, Resources, Risks, Returns
BPMN	=	Business Process Model and Notation
EU	=	European Union
GORE	=	Goal-Oriented Requirements Engineering
GQCCM	=	Growth, Quality, Collaboration, Creativity, Motivation
IT	=	Information Technology
MBA	=	Master of Business Administration
NAV	=	Ny Arbeids- og Velferdsforvaltning (Norwegian Labour and Welfare Administration)
NGO	=	Non-Governmental Organization
NSD	=	Norsk Senter for Forskningsdata (Norwegian Center for Research Data)
NTNU	=	Norges Teknisk-Naturvitenskapelige Universitet (Norwegian University of Science and Technology)
OSS	=	Open Source Software
RQ	=	Research Question
SOCRATIC	=	SOcial CReATive IntelligenCe
SVP	=	Social Value Proposition
US	=	United States

Chapter 1

Introduction

GQCCM (Growth, Quality, Collaboration, Creativity, Motivation) is an evaluation method for collaborative social innovation platforms. The goal is to figure out what social innovators need in terms of collaborating online for social innovation. The rest of this chapter shortly explains the motivation for doing the study, the problem addressed and what the results turned out to be.

1.1 Motivation

The motivation for doing social innovation research is explained here, and why it is important both from an academic perspective and from a personal perspective.

1.1.1 Personal Motivation

The research will be carried out by Jie Li who will hereinafter be referred to as the researcher. His motivations are based on his previous experiences working in a social startup and has always wanted to better the world. The researcher has often gravitated towards challenges involving social issues like climate change, immigration, mental illnesses etc. because it was the natural thing to do. This is why the researcher picked collaborative social innovation platforms as his research topic. The personal motivation is to develop a greater understanding of how social innovation can be facilitated online which hopefully will spark more social innovation around the world.

1.1.2 Academic Motivation

The academic motivation for doing the research is the growing interest for social innovation among entrepreneurs and academia. The EU (European Union) has played a big role in spearheading social innovation in Europe (Chiappero-Martinetti et al., 2017; EU, 2018c). Despite of EUs initiatives to help research, theory is still behind practice in the field of social innovation. Therefore theory have to study the current practices and try to

make sense of the patterns (Mulgan, 2012). Only then can theory catch up, and possibly make it easier to succeed in the field of social innovation. Therefore the academic goal of this study is to contribute to the knowledge of social innovation by studying current practices to bring theory one step closer. The goal is to provide a new evaluation strategy for collaborative social innovation platforms that serves two purposes, evaluating a social innovation platform while also providing a guideline for platform owners to build on. The reason behind this topic is because of the gap that exists within the field of social innovation and collaborative platforms; this will be explained in more detail in the next section. Therefore the goal of this study is to research what has been done in practice, both by social innovation experts and the platforms, to try and contribute to theory.

1.2 Problem Definition

The initial call for research on the topic of evaluating collaborative social innovation platforms was created by NTNU (2018b) the Norwegian University of Science and Technology. The reason behind the call is because NTNU has a project related to the Horizon 2020 program (EU, 2018b) which is an initiative created by the EU. SOCRATIC - SOcial CReATive IntelligenCe for achieving Global Sustainability Goals is the project name, and it is a collaborative platform for social innovation. The original research proposal can be found in **Annex A**.

Collaborative social innovation platforms have not been researched a lot in the past, rendering it an unknown field. This was validated by surveying the literature which can be seen in **chapter 2**. Chapter 2 also make up the background literature used in this study. In brief, it shows that very little is known about collaborative social innovation platforms, and the search for material had to be spread into social innovation and collaborative platform literature respectively.

The literature pointed out that social innovation is a collaborative activity (Montgomery et al., 2012), thus providing an indication that social innovation can benefit from collaborative platforms. Moreover, the literature also pointed out that one of the strengths of collaborative platforms is that it is possible to implement predefined processes (Whitehead, 2007). Social innovation can benefit from this as there is a generally agreed upon social innovation process which is illustrated by Murray et al. (2010). Additionally, these platforms can spread awareness about social innovation and spark new solutions (Bellini et al., 2016; EU, 2018a). These are the main arguments for merging social innovation with collaborative platforms and sets the basis for the research questions.

1.2.1 Research Questions

The research questions (RQ) was created by using the background information in **chapter 2** and the original project proposal. The main RQ was created with careful articulation by including the *Who, What, When and Where* to ensure a high-quality RQ, while the sub-questions were created by adapting elements from the research proposal to support the

main question. In short, these are the RQs:

- RQ 1: How can a collaborative digital platform help facilitate the process of social innovation, both locally and remotely while providing the necessary tools for a knowledge diverse team to collaborate?
 - RQ 1.1: What are the main functionalities needed by the platform to facilitate the process of social innovation and for the team?
 - RQ 1.2: What are the most important non-functional requirements that the platform has to support?

The collaborative digital platform will be the *What* in this case, while the process of social innovation is *When*. As collaborative tools let people work both offline and online, the *Where* targets both local teams and distributed teams. Finally, the *Who* is addressed, the literature in **chapter 2** pointed out that diverse teams are often more creative and often create better solutions. Therefore the *Who* in this instance is the knowledge diverse team. Additionally, the evaluation strategy should be created to be user-friendly to enable knowledge diverse teams to be able to use it.

These RQs help address the void that is collaborative social innovation platforms. By answering these questions, it is possible to gain a greater understanding of social innovation online. Additionally, it also provides a way to further the field of digital social innovation. The results which helped answer these questions are presented in the next section.

1.3 Results

The primary result of this study is the evaluation strategy (GQCCM) found in **section 5.4**. It was created through three different steps, first by exploring existing literature and platforms to find suitable criteria for an evaluation strategy (see **chapter 4**). The second step was to validate the criteria and to find new findings through interviews and questionnaires. Lastly, the strategy was tested on three different collaborative innovation platforms, a more detailed breakdown of the research process can be found in **chapter 3**. By going through this process, a set of goals was discovered which was unexpected and can be seen in **subsection 5.3.3**. It addresses some of the goals that a platform should have to increase its impact.

GQCCM targets RQ 1.1 and RQ 1.2 and provides a set of criteria that can be used to develop or evaluate a collaborative social innovation platform. The goals together with GQCCM answers RQ 1 by including additional measures which platforms can utilize to further spark social innovation. **Figure. 1.1** shows the contributions in a visual format.

1.4 Structure of Thesis

To summarize **chapter 2** contains the background theory for this study, while **chapter 3** explains how the research was carried out. The preliminary analysis is reported in **chapter 4** which builds a foundation for the evaluation strategy and **chapter 5** shows the process



Figure 1.1: Overview of the results

of building the evaluation strategy. Moving on, **chapter 6** tests the evaluation strategy on three different platforms through an experiment. Finally, **chapter 7** summarizes the results and discusses the possible critiques of the study while also introducing possibilities for further work.

Background & Related Work

In this chapter the reader will gain some basic knowledge about social innovation, what it is, why it is important and the process of social innovation. Additionally, collaborative platforms will be explained and what characteristics a collaborative platform has. The merging of social innovation and collaborative platforms will be explored and why it makes sense. Finally, a quick presentation of how the evaluation strategy will take form is explained.

2.1 General Information

There is very limited work on collaborative social innovation platforms. One can say that the focus of such a platform is to help identify, analyze and respond to needs and causes (Selsky and Parker, 2010). The cut-off date for the literature review was September 2017, and any newer literature was not taken into account (i.e. Dinant et al. (2017); Vilarinho et al. (2017)).

2.1.1 Objective

The literature review aims to present a brief overview of the fields and provides some context of where this study will fit in, i.e., between social innovation and collaborative platforms. Correspondingly, this is also the gap which was identified by the literature review, the lack of literature about collaborative social innovation platforms even though several exists. Furthermore, the literature review provided the means to create appropriate research questions for this study to move forward.

2.1.2 Inclusion Criteria & Search Strategy

Setting hard inclusion criteria for this review was not straightforward as very little literature targets collaborative social innovation platforms. Therefore the search strategy had to target social innovation and collaborative platforms respectively. The search terms used were different variations of those two, either by combining them, leaving them segregated or using similar wording (e.g., collaborative tools, digital social innovation, etc.). Since the goal of the literature review was to provide a brief overview and to help construct the RQs an inclusion guideline was created to align with this. The guideline provides a way to judge a paper. Instead of hard limiting criteria, the guideline might still include some of the papers falling outside of it, if it was relevant to the problem domain.

- The paper has reasonable results about social innovation and/or collaborative platforms.
- The paper has followed a well documented scientific method.
- Preferably from a well-known peer-reviewed journal.
- Preferably from well-known authors within those fields.

2.2 Social Innovation

Social innovation has many different definitions. At the time of writing, social innovation is yet to receive a formal definition from academia. Consequently, this thesis will operate with a combination of these three definitions found from previous studies:

Social innovation is simultaneously the production of new ideas and new structures, and a process of re-contextualization within social (re)constructed norms of the public good, justice, and equity. *Nicholls and Murdock (2012b)*

Social innovations as new ideas (products, services and models) that simultaneously meet social needs and create new social relationships or collaborations. In other words, they are innovations that are both good for society and enhance society's capacity to act. *Murray et al. (2010)*

Social innovation refers to new ideas that work in meeting social goals. Innovative activities and services that are motivated by the goal of meeting a social need and that are predominantly developed and diffused through organizations whose primary purposes are social. *Mulgan et al. (2007b)*

Although there were a lot of different definitions for social innovation, they all contained the same key elements. Those elements were; new ideas that try to solve social problems and contribute to society. Thus we can say that a boiled down version of the definition can be *the production of new ideas/products that aim to contribute to society, by trying to solve social problems.*

2.2.1 The Importance of Social Innovation

Social innovation bases itself on social theory and social practice. It examines how actors, cultural contexts and their interrelationships facilitate social change (Howaldt and Schwarz, 2017). Social innovation usually reflects society and some of the most pressing issues that exist. This can also be seen through history, where some of the most dire situations get addressed. Social innovation has especially been prominent within fields like health and childcare (Mulgan et al., 2007b).

Social innovation has been regarded by some as a potential macro-level change and has the potential to disrupt or influence current systems (Nicholls and Murdock, 2012a). The power of social innovation is that it can be both for-profit and non-profit. These are usually run by social entrepreneurs or by corporations as a part of their corporate social responsibility (Hanke and Stark (2009); Harazin and Kósi (2013); Mulgan (2006)). Regardless of the profit type social innovation has the aim of contributing to society which gives it the power to change society as we know it.

2.2.2 The Process of Social Innovation

The most well-known process of social innovation at the time of writing has six stages, **Figure. 2.1** shows a visual representation of these stages. The first stage is prompts or needs which include all the factors which specify the need for innovation. The second stage is the idea or proposal stage where idea generation is done based on the needs identified during the first stage. Stage three is the prototyping stage where ideas are built and tested. These three stages are the early stages where things are still informal and where the ideas and prototypes can easily be switched out. While stage four which is sustaining often means that the idea is implemented and has some form of income stream. Stage five is about scaling and diffusion where the goal is to grow or spread the idea. This can be done in several ways some examples are: growing a company or moving into a different market. The last stage of the social innovation process is systemic change which usually is the ultimate goal of social innovation, changing society for the better (Murray et al. (2010); Mulgan (2006)).

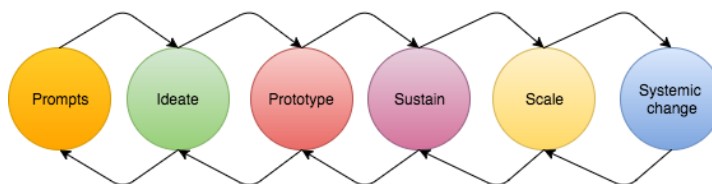


Figure 2.1: Social Innovation Stages, adapted from Murray et al. (2010)

Design Thinking has also emerged as a model for social innovation (Brown and Wyatt, 2010; Westley et al., 2011). **Figure. 2.2** shows the design thinking process. The history of

why design thinking turned into a tool for solving social problems comes from the theory of wicked problems. Wicked problems share a lot of the same characteristics as social problems (Rittel and Webber (1973); Checkland et al. (2006)). Design thinking has shown itself to be an effective process to tackle wicked problems, which means that it could be useful for social problems (Buchanan, 1992).

The two models are very similar. Both look at the basic needs, ideates based on them and end up as testable prototypes. Design Thinking does not address sustaining or systemic change, but many of the activities might still be useful for social innovation.

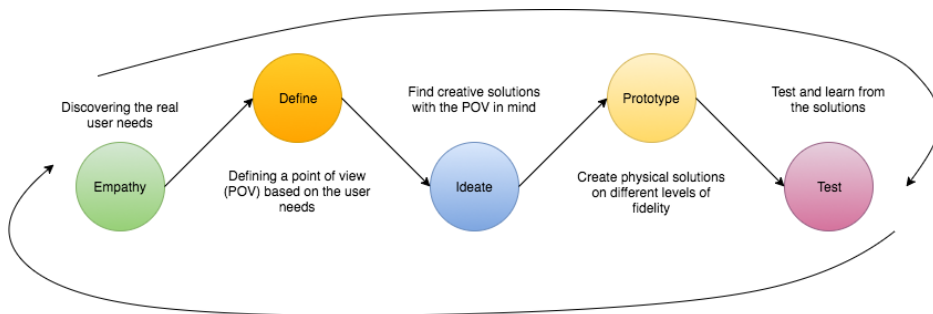


Figure 2.2: Design Thinking Process

Social innovation is usually driven by social entrepreneurs. Social entrepreneurs are entrepreneurs who hold their social mission as a central part of their philosophy. They explicitly make their mission impact driven and not money-driven, money usually ends up as a byproduct (Dees et al., 1998). Other characteristics of social entrepreneurs are that they are willing to take higher amounts of risks, often more than "regular" entrepreneurs, and can adapt with scarce resources while pursuing their social venture (Peredo and McLean, 2006). A large part of literature puts emphasis on the individual social entrepreneur who takes on the heroic role of creating systemic change (Austin et al. (2006); Leadbeater (1997); Volkmann et al. (2012)). However social entrepreneurship has a collective nature which usually manifests itself as cooperative teamwork or partnerships (Montgomery et al., 2012; Spear, 2006). The collective efforts of individuals help co-evolve social innovation (Cajaiba-Santana, 2014). Hence, while facilitating social innovation, the team has to be accounted for and not only the individual.

2.3 Collaborative Platforms

A collaboration platform, collaboration software or groupware is a system where people can come together to work on different tasks. A more formal definition of groupware is:

Computer-based systems that support groups of people engaged in a common task (or goal) and that provide an interface to a shared environment. *Ellis et al. (1991)*

Whereas the two elements a *common task* and a *shared environment* are highlighted as important. This is further reinforced by the fact that collaborative platforms have to support the 3Cs - Communication, Collaboration, and Coordination (Peng et al., 2014). Additionally group awareness is an important aspect, which lets team members obtain the required knowledge to work within a domain (Ellis et al. (1991); Favela and Peña-Mora (2001); Lanubile et al. (2010)).

Collaborative platforms can include three categories; exploration, experimentation, and execution. Most collaborative platforms address aspects within all of those categories, but some platforms might focus more on specific parts. Exploration focus on finding and defining core problems, while also aiding the ideation process. The experimentation part includes developing solutions and testing them. The last aspect which is execution entails releasing the solution and helping it diffuse into markets (Nambisan, 2009).

2.3.1 The Importance of Collaborative Platforms

Like earlier mentioned the 3Cs have to be supported by a collaborative platform. It gives the users a way of scheduling and tracking the progress whenever and wherever. Additionally, it lets the user integrate team members virtually if the users are remotely located. A digital platform can enable a team to create a shared vision and to build trust between them. Assigning responsibility and creating ownership is another critical element that a digital platform can support (Favela and Peña-Mora, 2001). The speed of communication is accelerated through the use of collaborative platforms, removing the need for face-to-face meetings for small detail work. The time saved can be applied in some other way to progress towards a goal. Physically storing information is no longer required when everything is shared electronically, and all of these elements can result in huge monetary and time savings (Alshawi and Ingirige, 2003).

Collaborative platforms can help contain a process. It can present the users with a structured model which the team members can follow. It also gives the possibility of highlighting different skills present within a team (Whitehead, 2007). Awareness is an issue that can be solved by a collaborative platform since people can get updates about happenings within a project and also between members (Dabbish et al. (2012); Lanubile et al. (2013)). Awareness presents a time-saving opportunity which lets people allocate their resources to other tasks. A platform creates an opportunity to share knowledge with team members and communicate with several actors at the same time. One of the most common ways of keeping a collective knowledge base, according to literature, is through wikis. Wikis enable people to get the domain information they need to continue with the project (Chao (2007); Leuf and Cunningham (2001); Louridas (2006)).

2.4 Merging Social Innovation and Collaborative Platforms

Digital social innovation is slowly becoming a part of the world. EU has been facilitating the growth of social innovation in Europe and has even created cross-continental projects (Tostensen et al. (2016); Stokes et al. (2017)). Creating a digital platform to facilitate the

process of social innovation requires merging social innovation with collaborative platforms. Many existing collaborative platforms can already be used for parts of the process, but are missing some crucial stages e.g., scaling. Thus a tailored experience is needed to facilitate social innovation. Below an overview of how social innovation can be integrated with aspects of collaborative platforms is shown.

2.4.1 Fitting For Social Innovation

Earlier social innovation was established as a group effort, which ultimately means that a team is present. Very often social innovation requires diverse teams as knowledge within multiple fields are needed. Whether it be a developer for software engineering, a designer for visualization or a business developer for his organizational skills, these individuals form a diverse team that can enable innovation (Brown and Wyatt, 2010). These people would then be lead by a strong leader towards a shared vision (Thompson et al., 2000). An argument for why diverse teams are needed is that the problems social innovation tackles are complex or even wicked problems. Some studies have found that *under the right conditions* diverse groups have been able to produce more effective or higher-quality solutions (Hoffman (1959); Hoffman and Maier (1961); Horwitz and Horwitz (2007); Østergaard et al. (2011)).

One of the core conditions that has to be in place is knowledge sharing. Diversity in teams means diversity in knowledge. Creating a common understanding between team members would require something to bridge between them. If such a bridge is not implemented, it might heavily impact coordination and create conflicts. That bridge can be a strong leader, a culture or a way to facilitate trust and respect (Cronin and Weingart (2007); Mannix and Neale (2005)). One of the simplest forms of knowledge sharing is a wiki, while other solutions can take the form of a collective brain where all the information is gathered together. Some of the drivers for such a knowledge base is that knowledge management can contribute to more effective decision making. Collaboration across geographical borders becomes a reality and the risk of losing a team members expertise gets mitigated to some degree (Du Plessis, 2005). Also, knowledge management can lead to more innovations, accelerated learning and growing market share (Havens and Knapp, 1999).

Collaboration, communication, and coordination have to be supported regardless of the topic. However, as social innovation teams might be locally or remotely based these tools have to contribute to group awareness. Since social innovation is such an uncertain field, continuous team learning is important. Hence the collaboration tools have to support sharing and co-construction to facilitate for co-learning. Coordinating has to be done based on a shared mental model and group decisions (Decuyper et al., 2010). The communication has to facilitate general awareness, which entails both synchronous and asynchronous communication between team members. Each team member also has to know whom to ask for a specific topic, and also how to exploit each member's expertise. All of these elements: knowledge sharing/knowledge base, bridging, team learning, team consensus, general awareness and specific awareness contribute to the group awareness aspect which is needed by a social innovation platform to do well (Dabbish et al., 2012; Gutwin et al., 2004).

2.4.2 Specific Needs For Social Innovation

For a platform to facilitate the process of social innovation, a few characteristics have to be supported. The process itself has to be supported (see **Figure. 2.1**). One of the powers of a collaborative platform is that it can implement a predefined process (Whitehead, 2007). One possibility is to create a challenge proposal which prompts the process. Then a knowledge diverse team can be gathered to solve the challenge. The team would then move on to the needs finding process before continuing to ideation. One possibility here is to make use of crowdsourcing opportunities to gather insight from a large pool of people (Howe, 2006). Several strategies can be employed for the prototyping stage, which would be more team focused. The team have the possibility to rapidly prototype solutions and test them out, or do slow prototyping and set up an evolving infrastructure (Hillgren et al., 2011). The fast prototyping would have to transition into the sustaining phase, while the slow prototyping method would naturally gravitate towards a sustainable solution. However, since slow prototyping has not been thoroughly studied at the time of writing it will be omitted from this study.

Further work would be sustaining, scaling and systemic change. These last three stages would possibly require help from third-party actors like impact investors, non-governmental organizations (NGOs) or even governments. Sustaining would require deployment to a market, which means that an effective demand and an effective supply must exist (Mulgan et al., 2007a). To verify these factors and if the solution is ready for scaling one would require market research. The market research can assess the five R's (5Rs) before scaling - Readiness, Receptivity, Resources, Risks and Returns (Dees et al., 2004). The 5Rs help in the process of choosing the appropriate scaling strategy, some of the different methods proposed in the literature are; uncontrolled diffusion, directed diffusion, takeover or organizational growth. These vary in control level where uncontrolled diffusion is the least controlled and organizational growth is the most controlled. Uncontrolled diffusion bases itself on spreading the proposed innovation through multiple sources with no control over whom it might reach. Directed diffusion relies on different methods of spreading to target a specific audience. Some methods can be concerted promotion, licensing and franchising. Organizational takeover is based on a strategy to create something which gets taken over by a larger organization or even government. The last is to establish an organization and have full control of the growth (Mulgan et al., 2007a; Westley and Antadze, 2010). Lastly, systemic change is something that usually requires political support and needs the power to transform institutions. However, if the problem is severe enough and several innovations target the same problem systemic change might occur (Mulgan et al., 2007b; Westley et al., 2011).

It might be impossible for a platform to facilitate for those three stages in an optimal way, but it might be able to facilitate the necessary resources to gain the knowledge needed about those stages. Another way is to bring in maturity guidelines about when the team should proceed to the next stage or even move back to a previous stage. This is because process knowledge help facilitate the social innovation process (Estensoro, 2015). Hence, the platform should have a heavy emphasis on project management and process control.

2.4.3 Motivation & Incentives

Motivating total strangers are not an easy feat. By looking at motivation factors which have been studied within similar domains, one can see that the two dominating factors are intrinsic and extrinsic motivation. Intrinsic motivation can be defined as:

Intrinsic motivation is defined as the doing of an activity for its inherent satisfactions rather than for some separable consequence. When intrinsically motivated a person is moved to act for the fun or challenge entailed rather than because of external prods, pressures, or rewards. *Ryan and Deci (2000)*

In other words, the actor is doing an activity purely for the activity itself. The main goal is to get enjoyment for doing said activity, while extrinsic motivation can be defined as:

Extrinsic motivation is a construct that pertains whenever an activity is done in order to attain some separable outcome. *Ryan and Deci (2000)*

For extrinsic motivation, an actor would perform an activity with a goal in mind. These goals can be several things from being able to put it on their resume, reputation or one of the most standard motivations, money.

For a platform to gain popularity, one would have to bring these motivational incentives into the platform. Since people are different and have different motivations, it is important to have several incentives. While some people might be more extrinsically driven, others might be more intrinsically driven. They might be doing something purely out of the enjoyment of being able to apply their craft or gain new knowledge. Motivational factors are not black and white and would require a good balance to be implemented correctly. Adding money awards can be a good extrinsic motivator for people to jump on different projects, but the project would also have to be challenging and fun to keep people interested (Antikainen et al., 2010; Frey et al., 2011). Building a virtual community with knowledge diversity has also proven to provide better solutions (Lakhani et al., 2007). By applying this, people would be able to get attention, safely learn from others and receive fair feedback. This is similar to open source software (OSS), which often is regarded as a form of social coding operates (Dabbish et al., 2012; Lakhani et al., 2005). Regardless of someone's motivations, it has to feel rewarding for them to be a part of a project and the platform has to have a business model to support those factors (Peng et al., 2014).

2.5 Identified Categories & Evaluation Strategy

This section presents the identified categories and what the evaluation strategy is supposed to measure. Additionally, who the evaluation strategy is for and when the evaluation strategy is to be carried out will be explained. Lastly, a rough breakdown of how the evaluation strategy will be built will be presented.

2.5.1 Identified Categories

From the above discussion, it became apparent that under the right conditions people can solve complex problems together. A digital platform can provide tools to provide such conditions. **Figure. 2.3** shows a summary of the identified categories that might be necessary for such a digital platform. Some subcategories will be omitted i.e., extrinsic and intrinsic motivations as the parent category of "Motivation" encapsulates them. There are overlapping characteristics between categories, and all of them might not be required, these are factors that will be empirically validated.

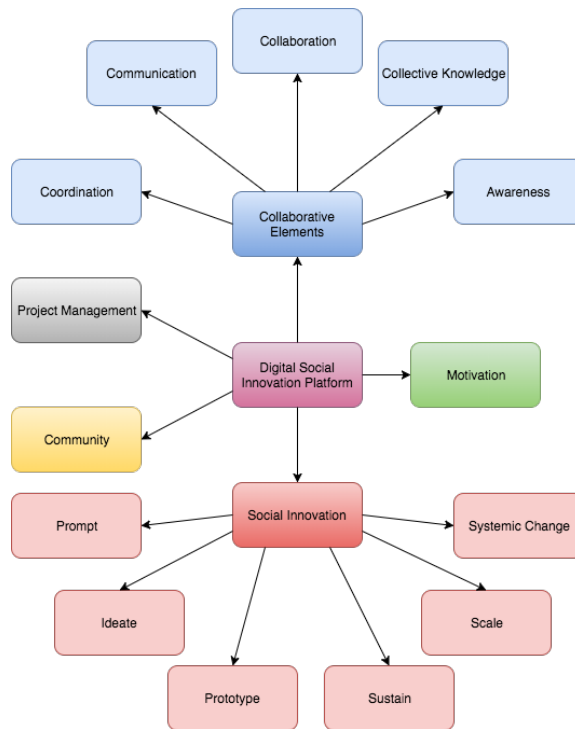


Figure 2.3: Important Categories

2.5.2 Evaluation Strategy

The evaluation strategy will have the goal of determining how suitable a platform is for collaborative digital social innovation. It will mainly focus on the platform itself and its supported characteristics. The evaluators that the strategy is targeting is the people trying to create such a digital platform and the users of said platform. It can be used both during development as a way to confirm that the right requirements are met or after deployment to see where improvements can be made.

The evaluation strategy will have a similar structure as the GameFlow model (Sweetser and Wyeth, 2005), which is a model that evaluates player enjoyment in video games. The GameFlow model is based on eight different elements, an example is "Control," and each element has different criteria which help realize the element, which is similar to how a construct works. Similar formats have been used by other studies as well, mainly Brooke et al. (1996); Parasuraman et al. (2005). The categories presented in the last section will act as a starting point to identify the final categories. These would be acting as the elements in the GameFlow model. Each criterion has a score which is assigned by the evaluator, and in the end, the score will be summarized, which creates a rating of the platform. A similar system will be used by this evaluation strategy to determine how suitable a digital platform is for the process of social innovation.

To find the necessary characteristics for the categories, a preliminary analysis was performed. More information about the preliminary analysis will be described in **chapter 4**. After the preliminary analysis, the identified characteristics was empirically validated through several methods, before constructing the evaluation strategy.

Research Method

This chapter contains everything related to how the research was carried out. It starts by giving the reader a general overview before explaining how the preliminary analysis was done. Afterward, the process of creating the evaluation strategy is presented. Lastly, the process of testing the evaluation strategy is showcased.

3.1 Overview

This study started with a broad literature review as seen in **chapter 2**. The broad literature review gave an overview of the field and helped define a conceptual framework to work from which can be seen in **Annex A**. It also helped define the research questions in **subsection 1.2.1**. **Figure 3.1** illustrates the workflow using Business Process Model and Notation (BPMN), and **Figure 3.2** shows an overview of the different methods used. BPMN is a process modeling method with the goal of communicating the modeler’s meaning solely based on the diagram itself (Silver and Richard, 2009).

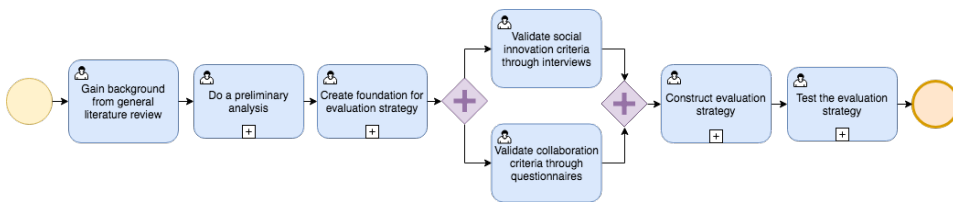


Figure 3.1: Research process overview

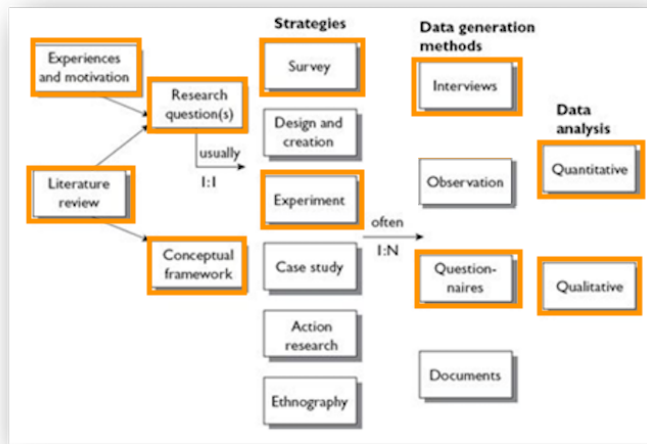


Figure 3.2: Research method overview adapted from Oates (2005)

A survey approach was utilized, and the data generation methods were mainly interviews and electronic-questionnaires. Additionally, an experiment was performed to test the final results where the participants interacted with different platforms and evaluated them. The reason multiple data generation methods were used, was so that the data found would not only be limited to local participants. By utilizing these methods, a lot of qualitative and quantitative data was generated and analyzed. Thus a mixed method and method triangulation was used, which made it possible to supplement data found locally with data found globally.

3.1.1 Research Strategy

A survey strategy was used for the first part of the study because the focus was to obtain data systematically. The data was gathered from large groups of people, and the goal was to create a tool that could be used by an average user. However, it was not the only goal. In addition to the above mentioned, a more in-depth exploration of the topic was performed. Interviews and questionnaires were used to accomplish this these will be explained in further detail later on in this chapter.

An experiment strategy was used to test the results. The goal was to test if the evaluation strategy performed as intended. By using an experiment format, it was possible to control certain factors. For example, one factor was that a team should comprise of people with diverse backgrounds, and experiments allow researchers to build these kinds of controlled environments. However, there were uncontrollable factors involved which made it more of a quasi-experiment or a field experiment. This will be further elaborated in **section 3.4**.

3.1.2 Research Paradigm

Although the research strategy is a mixed strategy, the paradigm for this study will be interpretivism. Traditionally positivism has frequently been used with the survey and experiment strategies. However, since social innovation is closely related to social studies and the study has the goal of creating a greater understanding, interpretivism will be a better fit for the exploratory nature of this study. This was especially important as this study tried to study people in their natural social setting and not how they behaved in a laboratory setting (Oates, 2005). Therefore this study did not try to prove or disprove a hypothesis, but based itself on identifying characteristics and exploring possible explanations for why some characteristics are needed by social innovation platforms. Additionally both qualitative and quantitative data was gathered, which fits better for interpretivism as the data had to be interpreted rather than analyzed through statistical approaches.

3.1.3 Ethics

The ethical responsibility of the research was very important as a majority of the data gathering was qualitative. The words and the actions of the participants were noted down as data. Therefore personal security had to be heavily focused. The reason being that contributing to a study should not lead to any negative implications to the participants' personal lives (Robson and McCartan, 2016; Yin, 2009). The first step towards being an ethical researcher was to notify the Norwegian Centre for Research Data (NSD) which was done the 16th of September 2017. On the 20th of October 2017, NSD responded with an approval message and the study received project number 55966. All of these documents can be found in **Annex A**, the consent forms for the participants are included as well. The consent forms inform the rights that the participant have, and it is created according to the rights described by Oates (2005). These are listed below including a short explanation of what will be done by the researcher to fulfill those rights:

- **The right not to participate** - The participants do not have to participate in the research if they do not want to and will by no means be forced. The participants will be participating out of their own volition and their own volition alone.
- **The right to withdraw** - The participants can at any time opt out of the research program with no questions asked.
- **The right to give informed consent** - The participants will be made aware of the purpose of the research and the benefits of them. Who the researcher is and any organizations that are connected will be disclosed. They will be notified about which activities they will partake in and how long those activities will last. Lastly, they will know how their data will contribute to the research and where to possibly find the final results.
- **The right to anonymity** - The participants will be 100% anonymous and will be disguised with aliases where needed.
- **The right to confidentiality** - All the data gathered will be safely protected, and anything that the participant does not want to include in the research will not be included in the findings unless an agreement has been made.

The second step towards being an ethical researcher is the responsibilities that a researcher has to withhold. The researcher took the necessary precautions not to intrude unnecessarily into a participant's life, e.g., asking questions which are intrusive or unnecessary. Integrity was important to ensure that the data recorded and presented was un-manipulated, and did not harm anyone. Another focus was plagiarism it is important that *credit is given where credit is due* and only material learned from the research was submitted as the researchers work. In addition to the previously mentioned steps, a professional code of conduct was followed which was developed by NTNU. It does contain some overlap with the steps mentioned above which just highlights the importance of those aspects. It is institutionally specific and can be found at the ethics portal of the university (NTNU, 2018a). Everything mentioned in this section was enforced during the research process.

3.2 Preliminary Analysis Process

The preliminary analysis process consisted of two main parts. Examining literature and different platforms, both for social innovation and collaboration. The analysis started by analyzing the platforms to reduce any bias that might be introduced by the literature and then moved onto the literature. Afterward, the analysis went back to the platforms to add any characteristics that were missed during the first round, with the literature in mind. **Figure 3.3** shows the process in more detail.

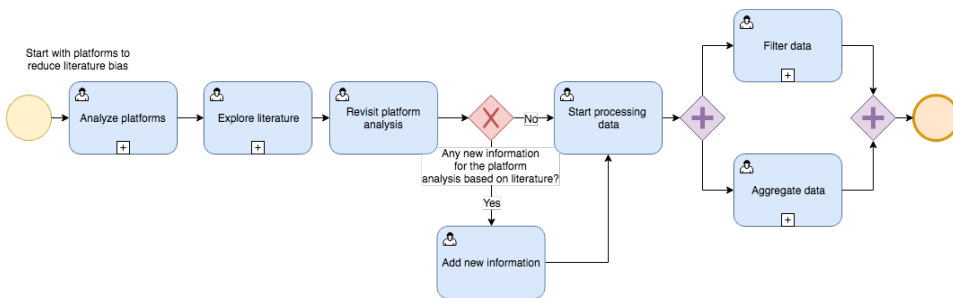


Figure 3.3: Preliminary analysis workflow

3.2.1 Platforms & Tools

The tools chosen for the analysis are described shortly in **Annex A**. The reason why these platforms were chosen specifically was because of the fact that the majority of them were mentioned in the literature. The remaining platforms which were not mentioned in the literature were chosen because of their popularity, and their rapid adoption rate. All except the SOCRATIC platform which was analyzed because of its close relation to this study. Nine platforms were explored in total: *Github*, *Slack*, *Trello*, *Google Drive*, *InnoCentive*, *Quirky*, *SOCRATIC*, *OpenIDEO*, and *SocialChallenges*.

The method used to analyze the platforms was Goal-Oriented Requirements Engineering (GORE). However, instead of using GORE to create requirements it was used to reverse

engineer requirements by using each category showed in **Figure 2.3** as goals. By doing this, it was possible to elicit sub-goals by asking *HOW* questions as mentioned by the methodology (Van Lamsweerde, 2001). However, instead of asking how a goal can be solved, the question of how did the platform solve the goal was asked. Therefore not the entire GORE-methodology was used as it would provide a lot of unnecessary information. Thus GORE was customized to fit the analysis purpose. **Figure 3.4** shows the analysis process where *HOW* questions were asked to find high-level criteria. However, in some rare cases *WHY* questions were asked if there were any special criteria that the platforms implemented, but did not fit into any of the categories. The rest of the figure illustrates the analysis workflow where a platform is chosen and analyzed.

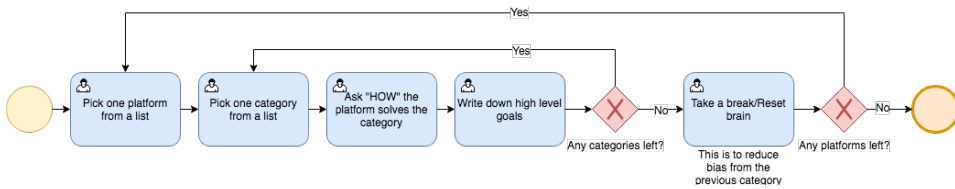


Figure 3.4: Analysis workflow for platforms

3.2.2 Literature

By doing the GORE analysis first, it gave a sense of direction on what the developers had prioritized and possibly what their users had perceived as important. Additionally, the general literature review done in **chapter 2** provided a starting point for this in-depth literature review. These two previous steps helped create a structural approach for the in-depth literature review, which had the goal of finding important characteristics for collaborative platforms and social innovation. A large quantity of the literature examined was from the field of software engineering and information technology (IT), as software engineers continuously adopt new tools to help optimize different processes (Herbsleb, 2007; Whitehead, 2007). These tools can usually be applied to other fields as well, e.g., Trello which started as a development backlog tool, but can be used to organize almost any task or project. The basic workflow of the in-depth literature review is shown in **Figure 3.5**. The thing that determined if a characteristic was interesting was how it was utilized/presented in the paper or if it explained anything found in the platforms.

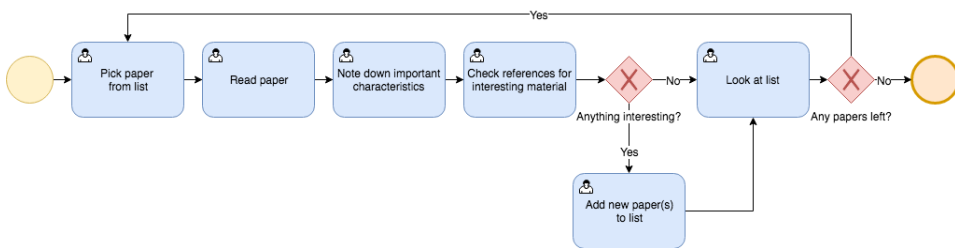


Figure 3.5: In-depth literature review workflow

3.2.3 Filtering & Aggregation

The filtering and aggregation process was done after all the preliminary data had been collected. This step compared and aggregated the data. While merging the data, it was important to mark data points that showed up in both the literature and the platforms, as they most likely would be significant. The goal of the filtering process was to remove unimportant data and duplicates to reduce the size. The result of the filtering and aggregation process was a set of criteria that acted as a foundation for the evaluation strategy. A more detailed representation of the filtering and aggregation process is shown in **Figure 3.6**, **Figure 3.7a** and **Figure 3.7b**.

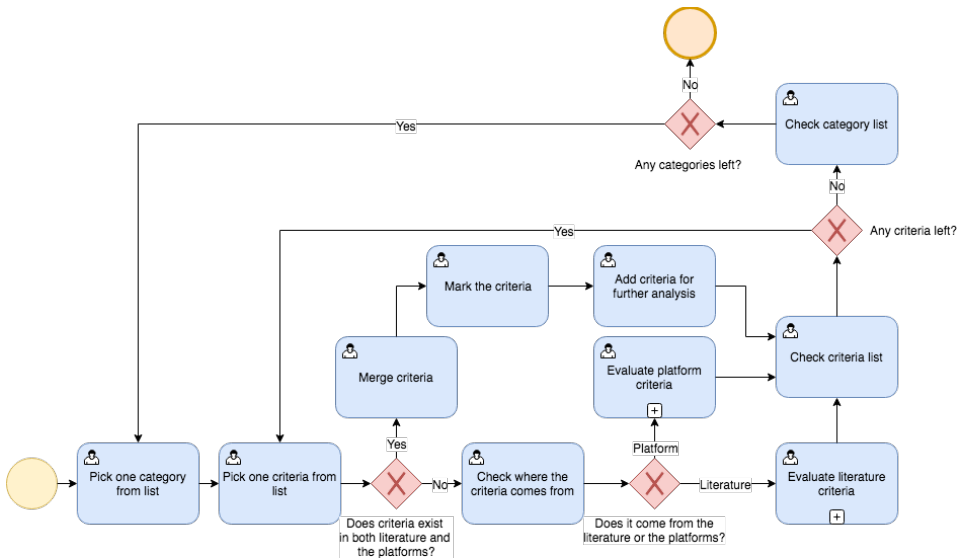
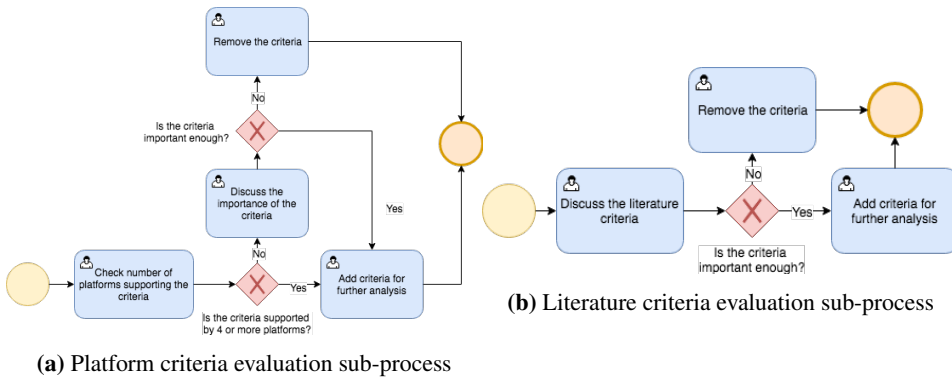


Figure 3.6: Filtering & aggregation workflow



(a) Platform criteria evaluation sub-process

(b) Literature criteria evaluation sub-process

Figure 3.7: Filtering & aggregation sub-processes

3.3 Creation of The Evaluation Strategy

The evaluation strategy was created by using the foundation found during the preliminary analysis. Each element in the foundation was backed up by either interview data, questionnaire data or more in-depth literature. These three sources were merged with the foundation to create the final evaluation strategy, **chapter 5** shows this process in detail. **Figure 3.8** shows an overview of the process.

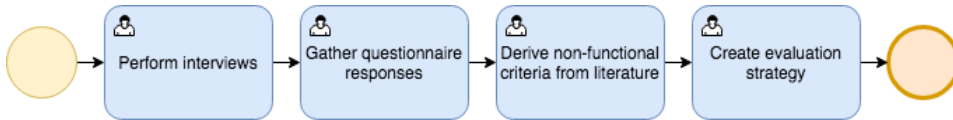


Figure 3.8: Overview for the evaluation strategy creation process

3.3.1 Interview

Interviews are commonly categorized as structured, semi-structured or unstructured interviews (Robson and McCartan, 2016). Since the goal of the interviews were to validate the findings from the preliminary analysis and to do some deeper exploration the semi-structured method was chosen. Thus being able to talk about the elements found in the preliminary analysis while also providing the possibility to explore interesting topics further.

The participants had to be recruited and the sampling techniques used was purposive sampling and snowball sampling. This was to ensure that the participants were people with extensive social innovation experience. After the participants were identified their backgrounds were researched to better customize the interview experience to fit their background. It is worth mentioning that the interviews were done through video conferences as the participants were distributed around the world. This limited the possibility to read body language, but still made it possible to see facial expressions and hear intonations.

An interview guideline was created by using the foundation and the goals identified by the preliminary analysis. Since the interviews had an exploratory nature, the interview guideline was not created to get a yes/no answer. The guideline was created to target the experiences that the interviewees had acquired through working in the social domain. Therefore the interview guideline contains open questions about work practices, their motivations and how they solved the process of social innovation. However, since the interviewees were not people who were heavily invested in IT, asking them about platform specific technical criteria would most likely not give any promising results. Hence, a lot of the highly technical aspects were omitted from the guideline, while some of the lesser technical aspects were added as additional parts to the guideline. The interview guideline can be found in **Annex C**.

When conducting the interviews, the first thing was to get the participants comfortable by starting with some small talk about their day. Afterward, the interviewer asked for their

permission to record the conversation. The rest of the interview session took about 30 minutes and followed the interview guideline. If interesting events were mentioned, then the interviewees were probed for more information. This was done by utilizing the "five whys technique," by asking *why* five times it will most probably lead to finding a root cause which is more valuable than the initially received answer (Serrat, 2017). In the end, they were asked if they had any questions to the researcher and thereafter the interview concluded.

Method of analysis

Here the interview analysis method is explained. As the data acquired were both audio and written, the data would have to be transcribed and checked. The reason for transcribing the data is to make the data easier to work with and easier to comment (Oates, 2005). The transcription process was done objectively while listening through and adding own notes where it was appropriate.

Open coding

The analysis process borrowed one method from grounded theory. Open coding is utilized as a customized tool to facilitate the analysis process. The reason why axial and selective coding was left out was because the categories had already been established, and there was no focus on any "core" codes as explained by Corbin et al. (2014). Open coding aims to label data points to concepts, and this was utilized for the transcripts. Afterward, those concepts were further mapped to the predefined categories before moving on to the next step.

Inductive & abductive thinking

From the coding, a set of sorted data was created. Some of the data were counted and represented quantitatively while the majority was qualitatively analyzed and presented as such. Inductive thinking was used for the most part while making sense of the data. Inductive thinking is a way of inference meaning to data, this is done by going through the data and creating plausible hypotheses and acting upon the most credible of them (Arthur, 1994). In addition to inductive reasoning, abductive thinking was used. Abductive thinking is similar to the process already described, mapping concepts and forging connections. But one thing abductive thinking does is to synthesize the information to derive new information (Kolko, 2010). Thus the methods from grounded theory and inductive thinking were leveraged, and by using abductive thinking new meaning was given to the data by identifying insights.

3.3.2 Questionnaire

The goal of the questionnaire was to validate some of the findings which made up the foundation. Especially the collaborative parts of the foundation as the interviews were not able to explore these in depth. It targeted collaborative tools and what people use collaborative tools for. The questionnaire also tried to find answers to why people use or do not use

collaborative tools. Consequently, this meant that the target population would be everyone who are using collaborative tools. Meaning that the population would be in the millions, with 95% confidence level and a 3% margin of error it would require over a thousand respondents to make it statistically robust (Oates, 2005).

Designing and disseminating the questionnaire

With this in mind getting these numbers would not be realistic in terms of the time that was available. Thus this questionnaire was designed to help validate the foundation, by giving an implication that those criteria were true. In this situation, the design of the questionnaire would play a big role. This is because the information gained from a questionnaire is proportional to the quality of the questionnaire which leads back to the design (Peterson, 2000).

The questionnaire was not created to address constructs, only to gauge if the information found in literature were true. To do this the questions were kept brief, and the questions were also created to be specific. Additionally, one of the goals was to create objective and unambiguous questions. Both factual and opinion based data was gathered. The factual data was to get demographical and usage data to better understand the sample, while the opinion data was to validate the foundation. The factual data was designed to be nominal data, while the opinion data was designed to be ordinal. The majority of the questionnaire used closed Likert-type data (not Likert scale data), but some open questions were also added for elaboration. The questions were placed in a logical order with clear labeling and splits to avoid confusion. In the beginning of the questionnaire it contained information about how the data would be stored and used. Additionally, in the end the respondents were thanked for taking the time to fill out the questionnaire. Lastly to address the reliability of the questionnaire some control questions were added during the design phase. These were contradicting questions and some "weird" questions which would act as filtering criteria while analyzing the results. The entire questionnaire can be found in **Annex C**.

Before disseminating the questionnaire a pre-test was done, where the content was shown to peers to help improve the questionnaire. Because of time issues, it was not possible to run a pilot of the questionnaire on a test group. The questionnaire was disseminated through the internet, by utilizing collaborative online tools (social media, forums, email, etc.) it was easy to get to the right population. Therefore one could say that the questionnaire was self-administered and that random sampling was the primary sampling strategy used.

Analyzing the questionnaire

According to Oates (2005), some researchers have become skeptical about statistical results in research papers as these have become readily available through software. The reason is that a lot of these tools lets anyone perform such analyses, but without the right

knowledge or knowing its boundaries the results can be used inappropriately. The researcher acknowledges that he does not have enough statistical knowledge to perform complex analyses correctly. Instead, simple quantitative analysis techniques e.g., graphs, tables, and charts were used to show the results. Another reason for doing this was connected to the research paradigm, and the validity criteria which is explained in **section 3.5**, by presenting the data in full other researchers can make up their own mind about the results and if they are valid or not.

A data cleaning process was performed before the analysis was done. Since the questionnaire was already electronic, spot checking and eyeballing would not be required. As these are methods to verify if the data is valid and if any mistakes were made during the transition from paper to a digital medium (Oates, 2005). The method used was logic checking, this was prepared for during the design phase by creating contradicting and nonsensical questions. These were then scored against each other to look for flaws. Ideally, these would cancel each other out. This process is further explained in **section 5.2**.

The nominal data which targeted background information was represented with simple charts and tables to provide a general overview. While the ordinal data was presented in tables with percentages and frequencies. These ordinal data were Likert-type data. There was the possibility of presenting the central tendency through medians or modes (Boone and Boone, 2012). However, since the data is supposed to be used interpretive the choice was made to present the variability through frequencies. The reason why standard deviations are not used is because standard deviations should not be calculated for ordinal scale data, this is because it is connected to mean values which would not be a proper central tendency variable for ordinal data (Allen and Seaman, 2007). Although there are many researchers who use mean values with ordinal data, the argument this study utilized was that mathematically speaking it is not possible to calculate a mean value of *Strongly agree* and *neutral*. An example is that if the mean value was 3,4 it would mean that people are neutral (= 3) and a 0,4 towards agree (= 4), but it is not possible to tell how much more neutral people are towards agreeing because these numbers are just for coding and do not have a real numerical value. By presenting the frequencies, other researchers can work out the central tendency if needed, including the mean value if that is a value they would like to utilize. Furthermore, since these questions were created to validate the foundation, there were few associations between them. The goal was not to find relationships which is why no correlational analyses were performed.

3.3.3 Finding Non-functional Criteria

It was made clear by the preliminary analysis that the majority of non-functional criteria would be highly technical. These non-functional criteria are already well defined in the field of software engineering. Particularly from the subfield software architecture. However, these are very technical and would not be suitable for regular consumers without in-depth IT knowledge. Therefore the choice was made to pull non-functional criteria from existing IT literature and then make them easier to understand for non-IT consumers.

On the other hand, there were some non-functional criteria which were not connected to

IT. These were also derived from literature as the research done in those topics were fairly mature, and further exploration would be outside the scope of this study. One of the examples was safety, or rather psychological safety as the field of IT also have safety defined, but this is more connected to the failure of machinery and the consequences (Leveson, 1986). Thus the non-functional criteria were derived by going through literature targeting the elements found by the preliminary analysis. Some of the literature findings were coupled with results from the questionnaire as some of the questions were open or targeted usability.

3.4 Testing The Evaluation Strategy

The evaluation strategy was tested out through an experiment. Three different platforms were used to test the evaluation strategy SOCRATIC, Quirky and OpenIDEO. It is important to note that it was a quasi-experiment as real-world commercial products were used, thus creating uncontrollable factors. The experiment took the shape of a workshop where participants were invited to test a few platforms and then evaluate them with the created strategy. The goal was to test if the evaluation strategy gave similar results, not to test the generalizability of the strategy. **Figure 3.9** shows an overview of the experiment.

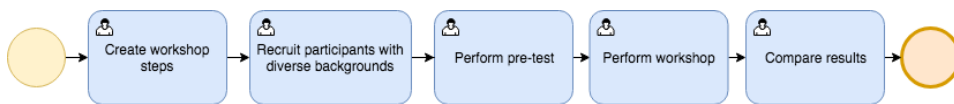


Figure 3.9: Overview of the experiment process

3.4.1 Workshop

The workshop was designed by recruiting people with diverse backgrounds. The sampling technique used here was purposive sampling and convenience sampling. Purposive sampling was used to get people with diverse backgrounds, thus controlling the kind of participants. Convenience sampling was also utilized because of time limitations and availability issues. Afterward, the participants were split into groups, thus creating predefined groups with roughly the same backgrounds. The advantage gained by using these two techniques was to be able to eliminate certain factors e.g., several people with the same backgrounds, while also controlling other factors like recruiting roughly the same amount of competencies for each group. These are some of the advantages of performing experiments as explained by Oates (2005).

Before the workshop hypotheses were created, a pre-test was done by the researcher to create results which could be compared. Then the workshop was performed, it took around 6 hours to complete. First, the participants were briefed on the purpose of the workshop and then given the consent form. Afterward, the groups were split into two different rooms to avoid them from influencing each other. Thus creating two groups which could be compared. In the end, the workshop results were compared to the pre-test results. Effectively creating a pre-test/post-test like experiment. More details about the workshop are

explained in **chapter 6**.

3.5 Validity and Reliability

Validity and reliability are terms used to describe the quality of a research project. However, for interpretivism the quality of the research can not be judged with the same criteria as positivism (Heron, 1996; Lincoln and Guba, 1985). Some of the reasons are that interpretivist research is not objective, and traditional reliability is hard to achieve as interpretive research is hard to recreate. Therefore the validity and reliability of the research should be judged by the criteria created for interpretivist research instead. Lincoln and Guba (1985) proposes five criteria as alternatives to that of positivism:

- Trustworthiness (instead of validity)
- Confirmability (is enough information reported to confirm the results)
- Dependability (how well is the research process recorded)
- Credibility (if the target was correctly identified and if the data is credible)
- Transferability (instead of generalizability)

A more detailed discussion about this study in relation to these criteria can be found in **chapter 6**.

Preliminary Analysis

This chapter presents the preliminary analysis which was executed to create the foundation. It starts off by showing the criteria found in the literature, and then the platform analysis is presented. Afterwards a filtering process is performed, and the foundation for the evaluation strategy is created. Additionally, a set of goals for collaborative social innovation platforms is also identified.

4.1 Criteria From Literature

In total there were 35 articles which contained interesting information while examining the literature. The articles were mainly split into the topics of collaborative software, social innovation, project management and motivation. A list containing the papers can be found in **Annex B**. These are not all of the papers examined, only the ones where useful information was found.

4.1.1 Collaboration Criteria

The collaboration criteria were from the subcategories *Communication*, *Coordination*, *Collaboration and Awareness*. The *Collective Knowledge* subcategory from **Figure. 2.3** was renamed *Knowledge Management*. The reason behind the change was because while examining the literature it became more and more apparent that knowledge management was a huge field with perks outside of the collaborative space. Therefore it did not feel right to put it under the collaboration category, and the importance of knowledge management deserves to be highlighted as its own category.

Communication

The literature heavily emphasized communication technologies. Peng et al. (2014) mention the importance of exchanging messages in crowdsourcing platforms. The importance of communication is also stressed by Dabbish et al. (2012), where the author talks

about how conveying one's intentions through messages are crucial for social coding. She also points out that communication generally happen when the information provided is insufficient. Whitehead (2007), Favela and Peña-Mora (2001) shares a few ways to communicate (e-mail, instant messaging, voice calls and video conferences) which have proven successful in software engineering projects.

Coordination

A lot of the literature emphasizes how communication has been used to solve coordination issues. However, Peng et al. (2014), Favela and Peña-Mora (2001) describes the importance of coordination support. Coordination helps with project scheduling and tracking different activities. Additionally, it brings clarity to the time estimations and has the opportunity to show the project status to all the participants. Another reason that assigning tasks to people is important is that it enables everyone to keep track of who is doing what. Herbsleb (2007) mentions how coordination tools might reduce the amount of time spent on communication if created correctly. Additionally, coordination support tools can help in those cases where communication is not possible e.g., distance and time differences.

Collaboration

Collaboration differs from project to project, very often because of the nature of the project, be it programming or construction. Although the nature varies, there are some common features that apply to collaboration in general. Decuyper et al. (2010) explain how important co-construction, constructive conflict and team activity is for team learning. The difference between co-construction and team activity is that co-construction is building shared knowledge and meaning, while team activity is based on tacit knowledge and "learning by doing". Being able to create and work together has been highlighted by other authors as well. Peng et al. (2014) mention shared workspaces to collaborate, and Antikainen et al. (2010) explain that having collective minds can boost efficiency and creativity. Lanubile et al. (2013) looked into several platforms for software engineering and found that several of these platforms host your projects and those who do not host projects still have shared workspaces.

As for the constructive conflict, it is something that can lead to more communication and learning. Kimmerle and Cress (2008) have found that receiving individual feedback can increase cooperation, however the feedback giver has to be identifiable. It was also found that group feedback is not taken as seriously as individual feedback. Dabbish et al. (2012) mention that being able to give direct feedback to other people's work has been important for social coding.

Awareness

Awareness has been highlighted as an integral part of all collaborative efforts. Awareness ties in with the 3Cs above, but also has its own perks. The necessity of awareness is explained by Peng et al. (2014) as a way to easily stay updated and learn from others which might spark creativity. Additionally, Whitehead (2007) mentions that awareness tools are

not supposed to support a single task, but to inform about the ongoing work of others, which can help avoid conflict. There seems to be a split between general awareness and group awareness. Gutwin et al. (2004) mention that general awareness can be achieved through communication and one of the goals is to figure out who is who. This is also mentioned by Lanubile et al. (2013), but under the name of informal awareness instead. Furthermore, he adds the possibility to see who is available at any given time through instant messaging or voice calling.

Group awareness according to Gutwin et al. (2004) is called specific awareness, which entails knowing whom to talk to and how to find these people in certain situations. This is broken down into two parts by Lanubile et al. (2013), group-structural awareness and workspace awareness. Group-structural awareness involve seeing the structure of the group, what roles and responsibilities the different people have. Workspace awareness is more about who is doing what, at what time and even where. In addition to this, another type of awareness is introduced which is called social awareness. Social awareness entails information about the group members outside of a particular project. It has the goal of stimulating socialization between group members on a personal level in remote teams. Social awareness can result in more trust among them, as group members might not have the possibility to have the face-to-face interaction, which usually plays an integral part in trust building.

4.1.2 Project Management & Knowledge Management Criteria

The project management criteria contain information about leadership, team management, and process support. The knowledge management is focused around documentation, project history, and information sharing. These two seem to be central for all types of projects regardless of the project type.

Project management

Mulgan (2006) explains that several organizations use formal creativity methods to help generate possibilities. Moreover, it is mentioned by Whitehead (2007) that one of the strengths of collaborative platforms is the possibility to integrate process support tools directly into the platform itself. Antikainen et al. (2010) explain that several open innovation platforms utilize certain design tools and toolkits which can help the development process. In the field of social innovation, Design Thinking has been highlighted by Westley et al. (2011) as a possible way to accelerate social innovations. Favela and Peña-Mora (2001) indicates that having an organized system over resources and how to use them can be beneficial.

In **subsection 2.4.1** it was established that team diversity is important, this is also explained by Mannix and Neale (2005). Additionally, Peng et al. (2014), Minocha and Thomas (2007) both explain that enabling socialization and encouraging user interaction is important to start trust building, as people online are most likely strangers. Favela and Peña-Mora (2001) agrees to this by stating that trust can be achieved through communication and collaboration in the virtual space. Additionally, they mention that developing

protocols for interaction can help people give feedback and ease tension around criticism because people will be on the same page. The goal is to gain social cohesion which facilitates trust and decreases conflicts as described by Mannix and Neale (2005). Decuyper et al. (2010) add to this by saying that social cohesion and team enjoyment can lead to greater group potency or efficacy. Group potency/efficacy boils down to being able to trust that the group is able to work together effectively and solve tasks together.

Another challenge of project management is recruiting people which have been mentioned by Thompson et al. (2000) and Austin et al. (2006). One has to bring together people with the right knowledge and the right ideas. Dabbish et al. (2012) point out that in social coding a lot of recruitment is done through open information, looking at what people have done in the past and what knowledge they have. A shared vision and mental model are key elements for team success, similarly having a common goal is important too. These are elements mentioned by Decuyper et al. (2010) and Favela and Peña-Mora (2001). Favela and Peña-Mora (2001) introduces team contracts as a possible solution which can incorporate several of these elements. Lastly, Decuyper et al. (2010) describe the integral role of team reflexivity, which is learning by reflecting on the project as a whole.

Both Mulgan et al. (2007a) and Thompson et al. (2000) mentions the importance of having a strong leader that can operationalize a vision. This also includes being a wise founder who knows when to continue and when to pass on the mantle, as mentioned by Mulgan (2006). One of the things communicated by Favela and Peña-Mora (2001) is that the leader has to be able to give people responsibility and power. This is for people to know what they are supposed to do, and it lessens the load on the leader. Another important aspect is that a good team leader has to be able to cross boundaries (Decuyper et al., 2010). This is because of the diversity that might exist within teams, and a leader can bridge this diversity. Bridging the diversity includes being able to manage conflicts and make decisions as explained by Mannix and Neale (2005). The reason behind this is because that communication might be harder for dissimilar people.

Knowledge management

Shneiderman (2007) and Herbsleb (2007) explains the importance of project history/memory, which can help with creativity and learning. The goal here is to work with and build on the unique knowledge of individuals as stated by Mannix and Neale (2005). Rich history keeping is not the only criteria needed, Kimmerle and Cress (2008) and Decuyper et al. (2010) explain that it must be easy to share knowledge with each other. Additionally, they have to feel safe while doing it. Decuyper et al. (2010) add that it has to be easy to store and retrieve the information. Du Plessis (2005) talks about the perks of knowledge management, and how collaborative forums for knowledge sharing can catalyze decisions and drive actions. The retainment of the knowledge also enables reuse and sharing. Minocha and Thomas (2007) and Louridas (2006) agrees they mention that wikis can be a good tool for collaboration, project documentation, discussion, and meetings. Especially because of the collective writing effort that a wiki can offer which can catalyze the knowledge. Furthermore, Du Plessis (2005) explains that mining internal and external information is important as people could leave at any given time.

4.1.3 Social Innovation Criteria

The social innovation literature examines the six stages of the social innovation process which are prompt, ideation, prototyping & testing, sustaining, scaling and systemic change. All of these stages have a huge spectrum of possibilities so the criteria will be based on what a platform can provide.

Prompt, ideate and prototype

Social innovation has to address a real need. Mulgan (2006), Austin et al. (2006), Nambisan (2009) and Thompson et al. (2000) all write about being able to understand, define or see the core problems. Mulgan (2006) explains that one will have to generate ideas and find potential solutions to address a need. This can be done through crowd thinking or crowdsourcing as Frey et al. (2011), and Westley et al. (2011) explains. There is also the possibility of creating open challenges where the need is already addressed, and solutions can be provided by the crowd (Lakhani et al., 2007). Such challenges have to be maintained and rewarded according to Peng et al. (2014). The providers of such challenges can be anyone, but one possibility is that businesses submits these tasks and give out money prizes or reputation. This can often be a part of the business strategy for corporations as a part of their corporate social responsibility as mentioned by Hanke and Stark (2009).

Moving on one would have to develop prototypes and then test them. Mulgan (2006) and Hillgren et al. (2011) mentions a way of doing this which is called rapid/fast prototyping. Afterward, the prototype should be tested in near-real-world contexts so that feedback from diverse stakeholders can be integrated. This is mentioned by Nambisan (2009), however he also mentions that neutral environments should be offered for more extensive testing of the solutions.

Sustain and scale

Sustaining is not easy, both a business model and a business strategy is needed which is explained by Teece (2010). The innovation also has to be non-imitable in certain aspects or at least hard to imitate so that it is possible to be competitive. All of these things have to be covered while providing a value proposition or in this case, a social value proposition(SVP). **Figure. 4.1** shows how Austin et al. (2006) represents an SVP. The SVP is a coalition of an opportunity and two enabling factors, people and capital. The outer ring represents the context that the innovation has to work within.

How this can be done is first by controlling the internal factors (see **subsection 4.1.2**). The next step would then be to explore the external factors, figuring out the context as shown in **Figure. 4.1**. This can be done through market research as mentioned by Mulgan (2006), Mulgan et al. (2007b) and Teece (2010). Not only should it be done, it is stated that market researching is critical during development or expansion. Because one has to find the effective supply and demand for the innovation to be able to sustain it.

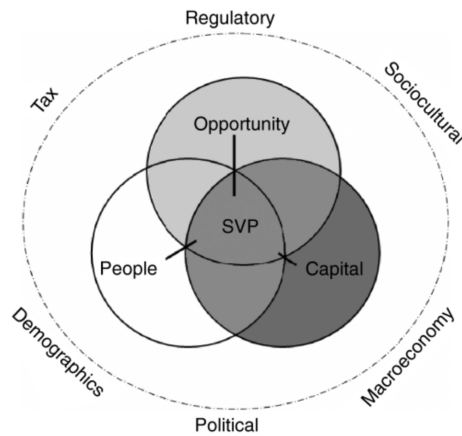


Figure 4.1: Social value proposition, from Austin et al. (2006)

When it comes to capital, it is mentioned by Mulgan et al. (2007b) that "relatively free money" is a critical factor for social innovations to succeed. Thompson et al. (2000) mention that one of the skills an entrepreneur needs is to be able to acquire resources. Venture capital funding is a possible way of getting funding, Mulgan (2006) mentions that a way to help social innovations along is to have milestones for funding. Meaning that the innovation has to reach certain thresholds to acquire a new influx of money instead of receiving everything at the same time. The goal is to get partnerships with larger organizations or governments because they have previously played a big role in sustaining and scaling social innovations according to Montgomery et al. (2012), Mulgan (2006) and Mulgan et al. (2007b). One of the reasons that an organization might support such partnerships is because it might be a part of their corporate social responsibility plan as explained by Hanke and Stark (2009).

A social entrepreneur wants to engage people and gain publicity as mentioned by Thompson et al. (2000). According to Mulgan (2006), you want to have a direct connection with the funders and the consumers. Mulgan et al. (2007b) explain how this can be done which is through branding, public relations, building up an identity and creating a story people can relate to. Westley et al. (2011) mention that social media can be a powerful tool to communicate these kinds of messages.

Scaling a social innovation might be harder than sustaining it. Some different ways are mentioned by Mulgan et al. (2007b). Organizational growth is one of the main ways of scaling. There are a few different ways of doing this, one of which is just trying to grow the business. Uncontrolled and controlled diffusion is mentioned where uncontrolled diffusion means letting it being spread randomly. This usually means that the innovation provided will be adapted to fit different local and cultural conditions. Controlled diffusion means spreading it through known channels, so it is much more specific, and the goal here is often to replicate the innovation through the means of community building, franchising

or licensing. The last way of scaling mentioned is simply being taken over by bigger organizations or governments with more resources to accelerate growth and facilitate change.

The last thing that is going to be addressed here is when a social innovation is ready to scale. Dees et al. (2004) explain that the 5Rs that have to be identified before scaling. If all of these five points are covered you can try to scale the innovation, if not it might become a terrible mistake. The 5Rs are listed below:

- Readiness, is the innovation ready to be spread?
- Receptivity, will the innovation be well received?
- Resources, do you have the necessary resources to spread and sustain the innovation?
- Risk, what are the risks and how to combat them?
- Returns, what are the return and is it worth it?

Systemic change

There is not much literature about systemic change. It boils down to a lot of hard work and sustaining for a long period of time. However, Mulgan et al. (2007b) mention that disruptive innovations can accelerate systemic change, but only slightly. He also mentions that politics play a huge role in systemic change. Nambisan (2009) acknowledge that helping the adopters adapt to the innovation is a way of accelerating systemic change.

4.1.4 Motivation & Community Criteria

The motivation literature will target general motivation, and why people choose to participate in open innovation projects or social coding. The community literature will highlight the importance of a community on such platforms.

Motivation

The topic of motivation can be split into two parts extrinsic motivation and intrinsic motivation. Both are present in open innovation and social coding according to Frey et al. (2011), Lakhani et al. (2005) and Lakhani et al. (2007). **Figure. 4.2** illustrates a spectrum of the field of motivation.

Intrinsic motivation is usually propelled by interest, self-determination, and autonomy (Gagné and Deci, 2005; Reeve and Deci, 1996; Ryan and Deci, 2000). The enjoyment of the activity is one of the main reasons for people to be intrinsically motivated which has been pointed out by Antikainen et al. (2010) and Lakhani et al. (2005). Ryan and Deci (2000) explain that to be intrinsically motivated the task has to be challenging, and one would have to be able to apply his/her knowledge. Furthermore, it is alluded to by Lakhani et al. (2005), Reeve and Deci (1996) that the possibility to improve one's skills/knowledge is important too. Working with people can also be an intrinsic motivation and especially

people with diverse knowledge according to Frey et al. (2011). In social coding, learning from others and working with influencers are big motivational factors according to Dabbish et al. (2012) which coincides with the above-mentioned elements. Another reason according to Dabbish et al. (2012) and Lakhani et al. (2005) for doing a task in the field of social coding is that there might be a personal need for the results of the activity. Additionally one might feel the obligation to contribute to a project because of the value it provides. All of these above-mentioned elements are important to intrinsically motivate someone, however Gagné and Deci (2005) mentions that to maintain the motivation one would have to feel relatedness to the task and that they are competent enough to solve it.

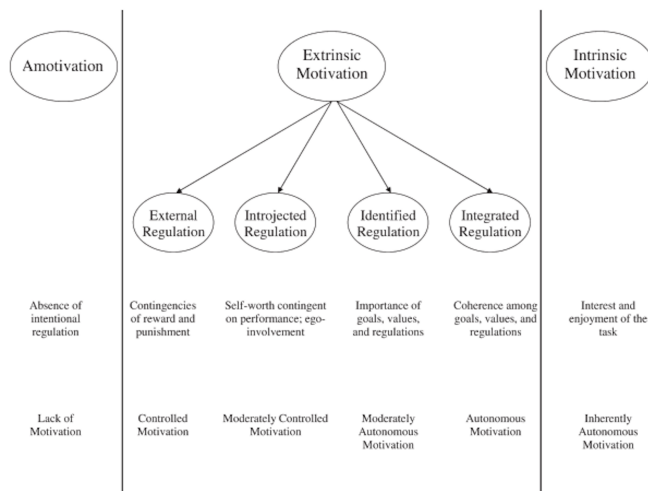


Figure 4.2: Motivation figure, from Gagné and Deci (2005)

Extrinsic motivation can be split into a spectrum of four as shown in **Figure 4.2**. These four are external regulation, introjection, identification, and integration which are discussed by Gagné and Deci (2005) and Ryan and Deci (2000). The external regulation is usually economic motivations as mentioned by Lakhani et al. (2005) and Antikainen et al. (2010). Gagné and Deci (2005) and Ryan and Deci (2000) agrees to this, but they add the possibility of threat or avoiding punishment as another motivational factor. Introjection is based on self-worth and ego, and it targets the need of approval from others or themselves. This connects with what Dabbish et al. (2012) and Antikainen et al. (2010) states about how reputation can be a crucial motivational factor. Lakhani et al. (2005) also mention that enhancing professional status together with reputation can act as a trigger. Jeppesen and Frederiksen (2006) talk about how company recognition also might be a reason for people to get motivated. Identification bases itself on that a person is able to see the value of the task and is conscious of it. Lastly, integration means that they see the value as an integral part of themselves, that the goal is an integral part of their identity and fits with their goals. Something similar is mentioned by Thompson et al. (2000) that a social entrepreneur, unlike a regular entrepreneur, has to have social values which act as one of

their main driving forces. Consequently, extrinsic motivation boils down to seeing a value or a meaningful rationale behind doing something.

Intrinsic motivation and integrated extrinsic motivations have usually delivered the best results according to Gagné and Deci (2005). Having said that there are several ways of increasing and decreasing intrinsic motivations. Positive reinforcement and feedback have been shown to increase intrinsic motivation which is explained by Reeve and Deci (1996) and Ryan and Deci (2000). They also mention that competition and the pressure to win has a negative impact on intrinsic motivation. Gagné and Deci (2005) notes that most extrinsic motivations might decrease intrinsic motivations, but that you can not only focus on intrinsic motivations, hence a good balance is needed.

Community

Having a community is important as both open innovation and social coding platforms are dependent on their users. Fischer and Giaccardi (2007) explain that you have to focus on communities to build social creativity. By doing this, one can harness the synergy of many which is similar to crowdsourcing. Mulgan (2006) mentions that creativity can be stimulated by other people's ideas which is a form of social creativity. Another reason for building a community is so that one can build a diverse coalition of stakeholders which can give feedback as explained by Nambisan (2009). Antikainen et al. (2010) explain that you have to use branding to attract people and that active participation from the maintainers can help retain people. According to Jeppesen and Frederiksen (2006), the people you most likely will attract are hobbyists which are casual users without any pressure to perform. Additionally, they mention that the "lead users" are the people you want to put extra focus on because they produce the most important content. These are often the early adopters of a platform which means that a branding strategy should target the wanted users.

4.1.5 Non-functional Requirements & Uncontrollable Factors

There were not many non-functional requirements mentioned in the literature. However, there were some general points worth noting down. As for uncontrollable factors, some were mentioned, but a platform is not able to target these. They are included as they are important aspects which influence the social innovation process, hence a few will be shared below.

Non-functional

There were no non-functional requirements mentioned explicitly, however some were implied. Decuyper et al. (2010) talk about psychological safety among teams which points to safety. The user needs to feel safe while using a platform and not feel attacked. Another thing which is mentioned by Peng et al. (2014) and Thompson et al. (2000) is that intellectual property has to be handled. There has to be a certainty about who owns what, how to transfer it and being able to keep it public or private. This points to privacy and the fact that one has to feel safe about posting something.

Antikainen et al. (2010) mention that the simplicity is a crucial factor for people to adopt a platform. Adding to this Shneiderman (2007) says that it has to have "a low threshold, high ceilings, and wide walls". What he means by that is that it has to be easy for beginners to get started and that experts have to have room to grow. Lastly, it has to support a wide range of functionality. These statements point towards usability.

Uncontrollable factors

The uncontrollable factors are factors which social innovation is subjected to, which a platform can not help with. It is mentioned by Mulgan et al. (2007b) and Austin et al. (2006) that the right timing is crucial for success. Westley et al. (2011) talk about something similar that one has to wait for the emergence of opportunity and have carefully planned actions to address the opportunity. Hence luck needs to be involved. One could argue that the part about having a strong leader which was mentioned in the project management literature could also be categorized as an uncontrollable factor. Thompson et al. (2000) mention something of interest, that training people to be entrepreneurs might be worth investing in. This includes being able to spot or transform ideas into opportunities, leading, sustaining or growing initiatives (or in this case social initiatives).

Literature summary

The literature looked into the needs of social innovation, how collaboration is done in software engineering, open innovation, social coding, and motivation. The results are summarized in **Table. 4.1** which is included to provide a better reading experience, but can be skipped.

Start of Summary Table	
Category	Criteria/Need
Communication	<ul style="list-style-type: none"> - E-mail - Instant messaging - Voice call - Video conference
Coordination	<ul style="list-style-type: none"> - Time scheduling - Tracking activities - Assigning people - Reduce communication
Collaboration	<ul style="list-style-type: none"> - Shared workspace - Host projects - Give direct identifiable feedback on tasks
Awareness	<ul style="list-style-type: none"> - Know who is who - Know who is available - Know who to talk to in certain situations - Know what the others are doing

Continuation of Table 4.1	
Category	Criteria/Need
Project management	<ul style="list-style-type: none"> - Process support tools/design toolkits - Design thinking - Overview of resources and how to use them - Strong and smart leader - Assign responsibility to others - Bridge team diversity - Conflict management - Decision making - Enable and encourage socialization/user interaction - Have protocols for interaction/feedback - Recruiting people through open information - Have a shared vision/mental model - Team contract - Team reflections
Knowledge management	<ul style="list-style-type: none"> - Project history - Build on the knowledge of individuals - Easy to share knowledge - Able to store and retrieve knowledge - Wikis for collaboration and documentation
Prompt	<ul style="list-style-type: none"> - Crowdsourcing - Open challenges - Define the problem - Understand the real needs
Ideate	<ul style="list-style-type: none"> - Crowdsourcing - Find potential solvers - Find potential solutions
Prototype	<ul style="list-style-type: none"> - Develop prototype - Test prototype - Provide a neutral environment for feedback
Sustain	<ul style="list-style-type: none"> - Business model - Business strategy - Non imitable or hard to imitate - Social value proposition - Market research - Funding (including milestone funding) - Partnerships with companies or governments - Publicity
Scale	<ul style="list-style-type: none"> - Market research - Funding (including milestone funding) - Partnerships with companies or governments - Publicity - Organizational growth - Getting taken over by others

Continuation of Table 4.1	
Category	Criteria/Need
	- Gauge the 5Rs
Systemic change	- Political support - Disruptive change - Help adopters adapt to the change
Community	- Creativity is stimulated by others - Diverse group of stakeholders - Receive feedback from stakeholders - Branding to attract people - Find the "lead users" - Active participation from maintainers
Motivation	- Support both intrinsic and extrinsic motivations - Be able to choose tasks based on interest and enjoyment - Target personal needs or obligations - Give the possibility to improve skills - Give the possibility to apply knowledge - Must be challenging - Working with people with diverse backgrounds - Need to feel competent and relatedness - External motivations like threat or money - Reputation, status or company recognition possibilities - The person should be able to identify themselves with the task - The task should lead to the persons' goals - The person and the task should have similar values and goals - Make it seem less like a competition - Be able to receive positive feedback - Target social values - Good balance between extrinsic and intrinsic motivations - Intrinsic motivations and autonomous extrinsic motivations gives the best results
Non-functional	- Safety - Privacy - Intellectual property rights - Usability (both for beginners and experts)
Uncontrollable	- Timing - Emergence of opportunity - Luck - Possible solution: Training to be an entrepreneur
End of Summary Table	

Table 4.1: Literature criteria summary table

4.2 Criteria From Existing Platforms

The criteria found from the nine platforms during the GORE analysis will be presented below in a summarized manner to reduce bloating and enhance readability. The raw representation of the data can be found in **Annex B**. The data will be presented in a tabular format with the criteria on the left side and the number of platforms that support that criteria on the right side.

One thing worth noting is that OpenIDEO made changes to their platform after this analysis was performed, some of the most obvious functionalities which were added to the platform were also added to the results below. However, the second walkthrough was not as thorough as the first one because of time constraints, which means that some changes might not have been included. The update notice can be seen in **Annex B**.

For the rest of this section collaborative platforms refer to *Slack, Trello, Github and Google Drive*. While open innovation platforms refer to *InnoCentive and Quirky* and lastly the social innovation platforms refers to *SocialChallenges, SOCRATIC and OpenIDEO*.

4.2.1 Collaborative Elements

The 3Cs

For the coordination category, there were seven criteria identified which can be seen in **Table. 4.2**, and close to none of the open/social innovation platforms supported any coordination criteria. One thing those supported which were not supported by the collaboration platforms was the local meet-up events.

Criteria	No. of platforms
Support creating several chatrooms for specific topics	4
Support tagging specific people	4
Support creating different lists for tasks	2
Support assigning people to tasks	2
Support creating different labels for different tasks	2
Able to create different projects for different topics	3
Local coordination meet-up events	2

Table 4.2: Coordination criteria table

There were nine communication criteria identified, and these were much more evenly spread. **Table. 4.3** shows the communication criteria. One thing to note here is that the open/social innovation platforms provide a way to communicate directly with the stakeholders.

Criteria	No. of platforms
Support real-time/instant messaging	3
Support group messaging	5
Support one-on-one instant messaging	4
Support commenting on a specific thread/task	6
Support message logs	4
Support asynchronous messaging	7
Support voice calls and video	2
Can vote/react on messages/posts	6
Can communicate with stakeholders directly	2

Table 4.3: Communication criteria table

Five collaboration criteria were found and can be seen in **Table. 4.4**. The upper two criteria in the table were evenly spread all over the platform types, while the bottom half of the table were only found in collaborative platforms.

Criteria	No. of platforms
Can share different resources with each other in a workspace	6
Visualizes workflow	5
Real-time editing of elements	2
Can create checklists for each element	2
Support splitting workflow	4

Table 4.4: Collaboration criteria table

Awareness & knowledge management

Although collective knowledge was changed to knowledge management during the literature analysis, collective knowledge will still be mentioned here because of the nature of the criteria discovered. There were six criteria found, and these are shown in **Table. 4.5**.

Criteria	No. of platforms
Support public information	7
Support private information	8
Support wikis	1
Open ideation	3
Open research	2
Shared brain	3

Table 4.5: Collective knowledge/knowledge management criteria table

A total of ten awareness criteria were discovered. Awareness seems to be something that has been highly valued all across the different platforms. **Table 4.6** shows the awareness criteria.

Criteria	No. of platforms
Support notifications	8
Support seeing which people are a part of a project	8
Support tracking of all the content you are a part of	6
Support following topics	6
Automatically highlights the most popular content	1
Support searching for specific content	9
Support reminders	1
Support self-created due dates	1
Creates a log of recent team activity	3
Logs personal activity	7

Table 4.6: Awareness criteria table

4.2.2 Social Innovation

Prompt, ideate & prototype

The prompt criteria are shown in **Table 4.7**. Only four criteria were found for the prompt phase, and almost all of them were from open/social innovation platforms. Additionally **Table 4.9** shows the seven criteria which fit into the ideate category. The platforms only supported two criteria for prototyping which can be found in **Table 4.8**.

Criteria	No. of platforms
Private people can create challenges	4
Organizations can create challenges	6
Collective research	3
Support tagging presumed knowledge needed	2

Table 4.7: Prompt criteria table

Criteria	No. of platforms
Show impact and get feedback	1
Create prototypes and showcase them	3

Table 4.8: Prototype criteria table

Criteria	No. of platforms
Single ideation	5
Group ideation	3
Refinement phase	4
Show sketches and get feedback	3
Takes care of IP	2
Community vote for best idea	2
Crowdsourcing	6

Table 4.9: Ideate criteria table

Sustain, scale & systemic change

Table. 4.10 shows the seven criteria identified for sustaining. The most popular criterion was to have sponsors or mentors available. Five criteria were found for scaling, these were related to marketing or third parties and can be seen in **Table. 4.11**.

Criteria	No. of platforms
Have potential mentors	3
Have potential sponsors	4
Market research tools	1
Own platform to market	2
Own platform to make money	1
Have paying customers	2
Business model tool	1

Table 4.10: Sustain criteria table

Criteria	No. of platforms
Have stories about ideas	1
Different communities around the world	2
Getting more manufacturers	1
Possibility of spreading work	2
Have patrons	1

Table 4.11: Scale criteria table

Only three criteria found could be categorized under systemic change. These were related to spreading impact stories and having partnerships with governments or international organizations. These partnerships have the potential to generate huge changes. **Table. 4.12** shows the three criteria identified for systemic change.

Criteria	No. of platforms
Success stories	1
EU backing	2
Government backing	1

Table 4.12: Systemic change criteria table

4.2.3 Project Management

There were a total of 12 criteria which could be put under the term project management. The open innovation platforms had a lot of these criteria, but the collaborative platforms are still fairly dominant. The criteria can be seen in **Table. 4.13**.

Criteria	No. of platforms
Can invite team members	9
Can get statistics about the project as a whole	3
Support workspace customization	2
Support managing several projects	7
Support 3rd party services	5
Support archiving	5
Support milestones	2
Support transferring ownership	4
Support team creation	3
Support discovering people with different skills	1
Have rules for intellectual property rights and equity	3
Have an integrated process	3

Table 4.13: Project management criteria table

4.2.4 Community

The community criteria are shown in **Table. 4.14**. There were ten criteria identified that would fit into the community category. It is worth noting that almost none of the collaborative platforms supported any of the community criteria, only the open/social innovation platforms did.

4.2.5 Motivation

Ten motivational criteria were found on the platforms and can be seen in **Table. 4.15**. None of the collaborative platforms had any motivational factors except for the fact that it makes it easier to fulfill a task. The rest of the criteria were all from open/social innovation platforms and Github.

Criteria	No. of platforms
One large chat room	2
Support discovering open projects	5
Supports contributing to open projects	5
Support a public profile	6
Has local communities of people	2
Hosts local events	2
Has community leaders	2
Support private projects	2
Sharing through social media	3
Support hosting private/personal projects	6

Table 4.14: Community criteria table

Criteria	No. of platforms
Money	4
Reputation	6
Learning	3
Personal need	4
Just wanting to help	4
Meeting people	4
Get in contact with a company/person	4
Applying knowledge	6
Competition	4
Makes it easier to fulfill a task	4

Table 4.15: Motivation criteria table

Non-functional requirements

While analyzing the platforms, a few non-functional requirements were observed. One of them has been mentioned in the platform criteria which was being able to have both private and public information available. This points towards privacy. Privacy ties into security, one has to feel that their data is being kept securely to trust the service. Safety is another important aspect, people have to be sure that they will not be attacked by the other users while using a service. Intellectual property is related to safety as one has to know the implications of using the service. Transparency connects to this as people have to know why something is done (e.g., what is the point of a challenge) and what the terms are (e.g., what are the evaluators looking for).

Furthermore, during the analysis, some of the platforms were not working properly. Some broke down, or some functions were bugged which lead to reliability and availability issues. People have to be able to trust that the service is available whenever they want to

use it. Another thing that was experienced was the load time and the latency. It is not as severe as not having the service running, but performance is a deciding factor for adoption because it might demotivate people. Lastly, the usability of the platform is crucial. The platform needs to be easy to pick up and use without encumbering people unnecessarily, if not it could demotivate many users.

All the above criteria are important as it adds up to make a general feeling of a platform. The non-functional requirements become a quality staple, and if it lacks in any those fields, it ends up feeling unprofessional. The non-functional requirements found during the platform analysis were as follows: *Privacy, Security, Safety, Transparency, Availability, Reliability, Performance, and Usability*

4.3 Filtering & Aggregation

Here the criteria from the literature and the platforms will be combined, reordered and filtered out. One of the reasons is that there exist duplicate or similar data points because one criterion might have served different purposes on different platforms. Thus denoted as different criteria, however in the end, they are targeting the same issue and can be merged. This step will be done thoroughly as the labeling of certain criteria can strongly vary based on if it came from the literature or the platforms. The filtering and aggregation process will follow the workflow as shown in **Figure. 3.6**, to enhance the reading experience a small summary of the process is provided below.

The reasons for any additions, movings or removals will be discussed below, and then a combined and filtered list will be presented at the end of each subsection. The criteria that appear in both literature and practice will be marked with an * at the end and is brought along to the next step for further exploration. If the criterion only comes up in literature, it will be further discussed if it should be brought to the next step or not. The criteria from the platforms which have at least four or more platforms supporting it will be brought to the next step as well. Those with three or less will be weighted to see if they bring enough value to be brought along or not. Therefore a majority of the criteria will not be discussed here as they will be validated later. These harsh conditions are in place to reduce the risk of removing crucial information before trying to validate them, while still removing criteria that do not fit in the domain of collaborative social innovation platforms.

4.3.1 Communication

The criterion "E-mail" and the criterion "Support asynchronous messaging" is arguably the same thing. It is only implemented with different technologies. Therefore it will be listed as "Support asynchronous messaging". One of the platform criteria were "Support one-on-one instant messaging", the word instant will be removed to make it support both asynchronous and instant messaging. Additionally the "Support message logs" will be moved to *Knowledge management* as it fits better there with the history keeping criteria. Lastly the "Can communicate with stakeholders directly" criteria will be moved to the

Sustaining and Scaling of social innovations as it was mentioned in the literature there. The resulting list of communication criteria is presented below:

- Support instant messaging*
- Support asynchronous messaging*
- Support one-on-one messaging
- Support group messaging
- Support commenting on a specific thread/task
- Support voice call*
- Support video conference*
- Support voting or reacting on messages or posts

4.3.2 Coordination

The "Tracking activities" criterion mentioned in the literature is translated in practice to "being able to create lists for tasks, label them and being aware of them". Thus it would be more fitting to have a criterion called "Support having a task/activities overview which supports tracking". The "Time scheduling" criterion matches with the platform criterion "Support self-created due dates" which was discovered under the awareness section, therefore that criterion will be moved here instead. For the last two criteria discovered during the platform analysis, "Able to create different projects for different topics" and "Local coordination meet-up events", these will be moved to *Collaboration* and *Community* respectively. This is due to them fitting better under those categories rather than coordination.

The resulting list of coordination criteria is presented below:

- Support assigning people*
- Support tagging specific people
- Support creating several chatrooms for specific topics
- Support having a task/activities overview which supports tracking*
- Support time scheduling on tasks/activities*

4.3.3 Collaboration

Having a "Shared workspace" and "being able to share different resources with each other in a workspace" is more or less the same criterion which means that it is addressed by both literature and platforms. The "Host projects" criterion will be moved to *Project management* as it is more related to project management than collaboration. The two criteria "Support splitting workflow" and "Able to create different projects for different topics"

from the platforms analysis are essentially addressing the same issue and will be merged. The need to be able to split workflow seems to be an important criterion for collaboration, as it leads to more efficient ways of working, consequently "Support splitting workflow" will be added to the list below. The last two criteria "Real-time editing of elements" and "Can create checklists for each element" were supported by few platforms and seem to be non-essential features which does not provide much value. Hence those two will not be included further.

The resulting list of collaboration criteria is presented below:

- Support a shared workspace*
- Support visualizing workflow
- Support giving feedback*
- Support splitting workflow

4.3.4 Awareness

The literature emphasizes the importance of knowing "whom is who", "who to talk to in certain situations" and "knowing who is available". The platforms use public profiles (moved here from *Community*) to represent people. Additionally, they show which people are a part of which projects, which is similar to knowing whom to talk to. These two criteria seem to be prioritized by both the platforms and the literature and will be included in the list below. The literature criterion about knowing who is available, seems to be connected to the communicative aspect and might be of importance and should be explored further. During the platform analysis, these three criteria were identified "Support notifications", "Support reminders" and "Support following topics". These three have a similar nature which is being able to get update notifications and will be denoted as "Support getting update notifications on important activities".

The last literature criterion "know what the others are doing" are supported by three different criteria from the platform analysis. Being able to track all the content someone is a part of, tracking the team activity and personal activity. As a result, it will be merged into a single criterion and denoted as "Support logging of important activities". However, because of the nature of this criterion, it would also fit better under *Knowledge management*. Thus it will be moved there. Additionally, the "Support searching for specific content" criterion is also deemed more appropriate under the *Knowledge management* category and will be moved as well. The final unaddressed criterion "Automatically highlights the most popular content" had only one platform supporting it and it seems to be a niche criterion which is not a must have, and will be removed.

The resulting list of awareness criteria is presented below:

- Support a public profile*
- Support seeing which people are a part of a project*
- Support seeing who is available for communication
- Support getting update notifications on important activities

4.3.5 Project Management

One thing which was mentioned in the literature was "Design Thinking" which is a human-centered design process, which will be integrated into the process tools criterion. The two criteria about private projects from the *Community* category corresponds with the literature, criteria where it is highlighted that hosting projects are important. Those two will be moved here and merged as "Support private project hosting". Another criterion which is closely related is "Support transferring ownership", this should be implicit if project hosting is supported, hence the criterion will be removed. Two of the platform criteria "Can get statistics about the project as a whole" and "Support 3rd party services" have a similar nature to the literature criterion "Overview of resources and how to use them". These will be merged as "Support an overview of resources and statistics for the projects". The literature addresses the need for a team contract, such a contract can contain some of the other criteria mentioned in the literature. The criteria in question are about assigning responsibility, protocols for feedback and having a shared vision. An aggregated statement of these would be "Support a team contract which contains roles, rules and a shared vision". The next criterion is about "Team reflections" or team reflexivity which is something common in agile software development and usually called agile/sprint retrospectives. Previous research suggests that team reflexivity affects team innovativeness and project success (Hoegl and Parboteeah, 2006; Schippers et al., 2015). Because of the benefits of team reflexivity the criterion "Support team reflexivity tools" will be added.

There are two criteria from the platform analysis that states "Support workspace customization" and "Support milestones" which ends up being extra functionalities which are not essential, hence they will be removed. The criterion "Support archiving" will be moved to *Knowledge management* and "Have rules for intellectual property rights and equity" will be moved to *Non-functional management*, because those would be more relevant there. The remnants of the project management literature criteria will be moved and discussed further in the *Goals* section below. The reason is that these criteria are hard to control, and would fit better as goals instead of criteria.

The resulting list of project management criteria is presented below:

- Support process support tools*
- Support inviting team members*
- Support discovering/recruiting people through open information*
- Support private project hosting*
- Support managing several projects
- Support an overview of resources and statistics for the projects
- Support a team contract which contains roles, rules and a shared vision
- Support team reflexivity tools

4.3.6 Knowledge Management

For knowledge management the literature points towards "Project history", and the platform criteria related to this are "Support message logs", "Support archiving" and "Support logging of important activities" (from *Awareness*). These will be merged and represented as "Support rich project history". Another field the literature points towards is being "Able to store and retrieve knowledge", there are also mentions of "Wikis for collaboration and documentation". There was one platform which supported wikis as a tool. These three are more or less the same as wikis is a way of storing and retrieving knowledge. The platforms also have the criteria "Support searching for specific content" and "Shared brain", which both would go under storage and retrieval of knowledge. Thus these criteria will all be merged into "Support storing and retrieving knowledge".

Furthermore the literature criterion "Build on the knowledge of individuals" is more of an argument for why crowdsourcing is an important functionality to have. As a result, it will be removed, the next two platform criteria "Open research" and "Open ideation" will be moved to *Prompt* and *Ideate* respectively. Lastly the part about "Easy to share knowledge" will be moved and further discussed in the *Goals* section.

The resulting list of knowledge management criteria is presented below:

- Support public information
- Support private information
- Support rich project history*
- Support storing and retrieving knowledge*

4.3.7 Prompt

The literature points towards "Open challenges", and the platform analysis points in the same direction as "Private people can create challenges" and "Organizations can create challenges". These three will be turned into "Support open challenges from people" and "Support open challenges from organizations" respectively because it is important to highlight the difference as some platforms only support one of them. Following the problem definition and finding the real needs criteria are addressed. Crowdsourcing has been mentioned as a solution to these, and some platforms have similar functionalities. Crowdsourcing has become a powerful tool where it is possible to harvest the distributed knowledge of many at a very low cost (Brabham, 2008). This aligns with the interests of social entrepreneurs since social innovation ventures could need all the economic help possible. Some platforms have "Collective research" and "Open research" functionalities, merging these three creates the criterion "Support research crowdsourcing". Lastly, the criterion "Support tagging presumed knowledge needed" appears to be an extra functionality and not an essential functionality. Thus it will be removed.

The resulting list of prompt criteria is presented below:

- Support open challenges from people*

- Support open challenges from organizations*
- Support research crowdsourcing*

4.3.8 Ideate

As the goal of the ideation is to find potential solvers or solutions, crowdsourcing is a popular tool for ideation. A high amount of platforms support crowdsourcing for ideation, rather than research. Therefore a similar criterion will be created for *Ideate*. Several of the criteria are about the ideation process. Two of the criteria are about being able to submit ideas alone or as a group which should be supported as these builds on the crowdsourcing criterion. The next two criteria "Refinement phase" and "Show sketches and get feedback" are similar. These two should be further explored and will be merged into one criterion which reads "Support receiving feedback and refining ideas". The criterion which addresses intellectual property will be moved to the *Non-functional* category. Lastly the criterion about "Community vote for the best idea" will be removed. The reason being that only two platforms supported it and it is an extra feature which is not crucial for such a platform to work.

The resulting list of ideate criteria is presented below:

- Support ideation crowdsourcing*
- Support submitting ideas alone
- Support submitting ideas as a group
- Support receiving feedback and refining ideas

4.3.9 Prototype

The category did not bring many results, neither from literature nor practice. The literature mentions developing the prototype and testing it as the way to go. A platform is rarely able to support building the prototype, but it might include resources on how to rapidly prototype and good practices while testing such prototypes. Hence a criterion can be "Support guides for prototyping", and a platform that supports this in detail is OpenIDEO who are actively recruiting prototyping mentors from the community (see **Annex B**).

Additionally, it is mentioned that providing a neutral environment for showcasing and receiving feedback is a possibility. This neutral environment is provided by a few of the platforms (e.g., Quirky). Such an environment has recently received some attention from researchers where they have tried to build an environment to effortlessly capture and share prototypes (Sjöman et al., 2017). The last criteria "Show impact and get feedback" has more or less the same goal and will be omitted to reduce duplicates.

The resulting list of prototype criteria is presented below:

- Support guides for prototyping
- Support a neutral environment for showing prototypes and receiving feedback*

4.3.10 Sustain

One thing that has been mentioned in the literature is that an innovation has to be non-imitable or hard to imitate to be able to sustain it. This criterion would be hard to support by a platform and should rather be communicated as one of the goals of creating a good business model/strategy. Hence this criterion will not be brought further. Another criterion, which has been heavily emphasized by the literature, is having a social value proposition which will be explored further. One thing highlighted by the literature is to have partnerships with companies or governments and have the possibility to directly contact them. This is something a few platforms support through sponsorships, communication and mentoring. It is worth noting that the mentoring does not only point to companies/governments, but also people from the community. The sponsoring also correlates with the literature about having "Relatively free money". Lastly, there are two criteria "Own platform to make money" and "Have paying customers" which are niche criteria for a specific platform (Quirky) which will be omitted in the future.

The resulting list of sustain criteria is presented below:

- Support business model/strategy tools*
- Support building a social value proposition
- Support market research tools*
- Support funding opportunities*
- Support partnerships with companies and/or governments*
- Support direct communication with stakeholders*
- Support mentoring*
- Support marketing*

4.3.11 Scale

The majority of the criteria stated under *Sustain* also apply here and will be removed to reduce duplication. There was very little literature which specifically targeted scaling up. The 5Rs mentioned earlier is something which should be explored further. The literature criterion targeting "Organizational growth" is something some of the platforms provide an opportunity for, which is through building communities around the world and providing means of spreading the innovation e.g., partnerships. "Getting taken over by others" is another way to scale up, and this is connected to having patrons and sponsors that are willing to take the innovation under their wings. However, these are already mentioned or will be mentioned in the *Community* section as it is more fitting there.

The resulting list of scaling specific criteria is presented below:

- Support the 5Rs model

4.3.12 Systemic Change

There were few criteria which would fall under systemic change. One thing mentioned is the political support needed which entails partnerships with governments as mentioned in *Sustain*. However, several of the platforms actually had support from the EU, which is a level up from companies and will be added as its own criterion. The success stories criterion is similar to the marketing criterion and will be omitted. The last two criteria from the literature "Disruptive change" and "Help adopters adapt to change" are two things that are hard to achieve by platforms and will be removed from further exploration.

The resulting list of systemic change criteria is presented below:

- Support partnerships with international institutions*

4.3.13 Community

The platform criterion "Sharing through social media" has been mentioned earlier in literature as a way to help accelerate social innovation and will be included. "Active participation from maintainers" were mentioned in the literature and has a similar counterpart from the platforms, which is the criterion "Has community leaders". These participants can strengthen the community network, as they are able to stimulate community growth (Fuge et al., 2014).

The two criteria "Support discovering open projects" and "Supports contributing to open projects" have the same purpose and will be merged into one criterion. Additionally, the literature criteria about creativity being stimulated by others and receiving feedback have already been covered in the other categories and will be omitted here. The last three literature criteria which reads "Diverse group of stakeholders", "Branding to attract people" and "Find the 'lead users'" are much more related to goals than actual criteria a platform should support. Hence these will be moved to the *Goals* section.

The final platform criteria address having a large chat room and supporting local communities. The criterion for having "One large chat room" is not something supported by many platforms and seems like an extra functionality which does not provide much extra value. As it is not a necessity, it will be removed. The last three platform criteria "Hosts local events", "Has local communities of people" and "Local coordination meet-up events" seems to provide value to some of the platforms. These three are similar and will be translated into one criterion: "Support local networking events".

The resulting list of community criteria is presented below:

- Support sharing through social media*
- Support active participation from the platform creators*
- Support discovering and contributing to open projects
- Support local networking events

4.3.14 Motivation

The motivation criteria are a bit different. The majority of them are more fit to be goals rather than supported as criteria. There is one literature criterion which will be removed as it deals with receiving positive feedback and has already been covered.

Starting with the extrinsic motivations as these are easier to fulfill by a platform. The criteria about external motivations like money and threats correspond with the platforms that give out prizes and grants. The part about the threats will be omitted as this would not be beneficial for a platform in any shape or form. Another extrinsic criterion is the one about "Reputation, status or company recognition possibilities". The platforms support some kind of reputation/status system through metrics, merging these creates a criterion like this "Support a reputation system". Company recognition is supported by certain platforms through the possibility of getting in contact with certain people or companies. Another criterion would then be "Support getting in contact with specific companies/people through participating in challenges".

For the intrinsic motivations, the line between goal and criterion is harder to differentiate and will be discussed further here. "Working with people with diverse backgrounds" as stated by the literature relates to the platform criterion "Meeting people". These two will be merged and rewritten as "Support discovering new people to collaborate with" as one of the goals of such a platform should be to attract people with diverse backgrounds. Another criterion states "Give the possibility to improve skills" has a counterpart in the platforms as some of them provide the opportunity to learn. A merging of these two can be written as "Support learning opportunities".

The literature states that it "Must be challenging", however this is hard to control. Some platforms have achieved this by screening the challenges that companies publish. Screening the challenges was not found during the platform analysis, but by revisiting the platforms shows that this is done by three of the platforms. This correlates to another criterion "Be able to choose tasks based on interest and enjoyment". The first part is covered by being able to discover and contribute to tasks as mentioned in *Community*, and the latter part is about the challenge itself. If the challenge is poorly presented, it would be harder to know if you would enjoy it or not. Thus some sort of quality control is needed, therefore "Support quality control of challenges" is added as a criterion.

The next two criteria to be addressed are the "Need to feel competent and relatedness" and "The person should be able to identify themselves with the task", which are unpredictable criteria because people are different. One way to target this problem is to provide a "wide range of challenges" that "target different competencies and values" (especially social values). By doing this there is a higher chance of people finding challenges where they want to contribute, or it might support one of their personal needs. These two criteria were found from the platform analysis, and it is partly because all five of the open/social innovation platforms support a wide range of challenges. Like the quality control criterion, this was also overlooked during the initial analysis, but derived from these findings. Consequently the criterion "Support a wide range of challenges" will be added to the list.

Lastly, there is a contradiction between the literature and what is done in practice. Quite a few of the platforms support competitions while the literature wants to "Make it seem less like a competition". This is probably because of the split between open innovation and social innovation. Open innovation is usually fueled more by extrinsic motivations (money/reputation), while social innovations are fueled by intrinsic motivations (wanting to help). With this in mind the criterion "Support friendly competitions" is added instead. The rest of the criteria which are not mentioned here will be moved to the *Goals* section. The resulting list of motivation criteria is presented below:

- Support money grants/prizes*
- Support discovering new people to collaborate with*
- Support learning opportunities*
- Support a reputation system*
- Support getting in contact with specific companies/people through participating in challenges*
- Support being able to apply knowledge*
- Support quality control of challenges
- Support a wide range of challenges
- Support friendly competitions

4.3.15 Non-functional

Something that has come up several times in literature and the platforms is the issue of intellectual property. This is a criterion which seems to be needed by such platforms. This ties together with safety, as people need to trust the platform. This is especially important when enabling for feedback and crowdsourcing, as the literature highlights the need for psychological safety during team learning. Privacy seems to be in a similar space as the user's data and projects should be protected. However, to achieve this privacy, several security measures have to be in place to prevent data leakage. As a result, security has to be a criterion. The last non-functional criterion mentioned in the literature is usability. It has to be simple for beginners, but still provide the necessary means to grow for seasoned users.

Lastly, the criteria from the platforms will be discussed. One in particular is the availability/reliability of a platform. This will especially be important if people host projects on the platform, as the service has to be available when they want to work. However, while analyzing the platforms, some errors occurred which would be detrimental for the users while working. Thus availability/reliability should be prioritized. Performance is another criterion which is important while using a platform. To long latency can demotivate and increase the time needed to solve a task, which can reduce the overall quality of a platform.

The last criterion observed in the platforms is transparency which is partly related to the quality of the submitted challenges, but also the overall information flow. Transparency will also be added for further exploration.

The resulting list of non-functional criteria is presented below:

- Support rules for intellectual property rights*
- Support safety measures*
- Support privacy measures*
- Support security measures
- Support usability measures*
- Support availability/reliability measures
- Support performance measures
- Support transparency measures

4.3.16 Goals

The goals are not functional or non-functional criteria that the platform should support, but rather what the platform should aim to accomplish. Earlier it was mentioned that there were some uncontrollable aspects like timing and the emergence of opportunity. Some other conditions were the need for a strong and smart leader which could bridge team diversity and resolve conflict. These are all uncontrollable or partly uncontrollable features which can not directly be facilitated by a platform. However, as mentioned by Thompson et al. (2000) training people to become entrepreneurs can enable them to succeed in the future and spot earlier unseen opportunities. Adding onto this, training people to become good leaders would also be beneficial. Thus one goal should be "Train people to become entrepreneurs and good leaders".

Regarding knowledge management, one of the goals should be to enable easy sharing of knowledge so that people can learn from each other. This is partly connected to the last goal, but as Du Plessis (2005) points out, good knowledge management leads to improved decision making and can act as a catalyst for action. Sharing knowledge correlates with the criterion "Enable and encourage socialization/user interaction". Additionally, by making this available to all users, it could be a powerful knowledge crowdsourcing tool and a great community building tool. This is similar to how GitHub operates with all of its OSS projects, and how research is done for challenges in OpenIDEO. Thus another goal should be "Enable and encourage public sharing of knowledge".

A platform would also have to attract the right crowd of people to succeed. As previously stated people with diverse backgrounds are needed. Thus another goal should target how to attract the right people and build the right community. One would need to find the "lead-users", as explained in literature, whom often are hobbyists (Jeppesen and Frederiksen, 2006). However, another group of people which should be targeted are social

entrepreneurs. Social entrepreneurs would be large knowledge and content providers. One of the main ways to attract people is through branding as mentioned by Antikainen et al. (2010). Consequently, one goal should be as follows "Create a brand that attracts both hobbyists and social entrepreneurs from different fields".

After attracting the right crowd, the platform has to retain them. After all, a community is created by retaining large groups of key users. The platform should align with people's goals and values. In this case, the platform should be able to target the users' social values. This is because intrinsic motivations (like values) and autonomous extrinsic motivations (or alignment of goals) give the best results as explained by Gagné and Deci (2005). So the aim should be to support both intrinsic motivation and extrinsic motivations. However, a good balance is needed to retain people. Hence two more goals will be added, "Target people's social values" and "Have a good balance between intrinsic motivation and extrinsic motivation".

The final goal which a platform should have is to provide tools that make it easier to fulfill certain tasks. The basis of this is the criterion discovered during the platform analysis which reads "Makes it easier to fulfill a task". The platform has to provide tools that make the task easier and more time efficient than if it was to be done without it. This will also affect the retainment aspect. Thus a goal should be to "Provide tools that make the social innovation process easier and more time efficient".

The resulting list of goals is presented below:

- Train people to become entrepreneurs and good leaders
- Enable and encourage public sharing of knowledge
- Create a brand that attracts both hobbyists and social entrepreneurs from different fields
- Target people's social values
- Have a good balance between intrinsic motivation and extrinsic motivation
- Provide tools that make the social innovation process easier and more time efficient

4.4 Meta Changes & The Foundation

This section presents meta changes that will be done and then shows the foundation for the evaluation strategy. Before moving on, there were some other interesting findings which should be noted as well. One of which is how almost none of the innovation platforms supported coordination criteria, only the collaborative platforms emphasized the importance of coordination online. On the other hand, it makes sense that the collaborative platforms did not support any social innovation criteria. Lastly, it was interesting how many platforms had emphasized awareness. It did not matter if it was an innovation platform or a collaborative platform.

4.4.1 Meta Changes

Several changes to the categories will be done because the preliminary analysis showed that the categories were too granular. By reducing the number of categories, it will become less complex and easier to understand. Instead of having 14 different categories as depicted in **Figure. 2.3** only six will be needed for the foundation, these are shown in **Figure. 4.3**. The seventh category which is depicted *Goals* will not be a part of the evaluation strategy itself, but includes important goals a platform should strive for.



Figure 4.3: Refined overview of the categories

Starting with the categories *Communication*, *Coordination*, *Collaboration*, and *Awareness*. These have very similar criteria, and they overlap in the sense that the communication criteria are usually used to collaborate and coordinate. The awareness criteria usually support one of the other three other categories. Therefore it would make sense to reduce these four categories into one category which will simply be called "Collaboration". Next up is *Project management* which has a lot of criteria targeting the project and the team. The *Knowledge management* targets more or less the same aspects, but from another perspective. Merging these two categories into one would make sense because of the similarities and the category will be called "Management".

Moving on, the social innovation process there was a clear split between the early stages and the late stages. *Prompt*, *Ideate* and *Prototype* all target the early stages of an innovation. These three categories involve some form of creativity and are also a phase where radical change can be made with little effort. The merged category of these three categories will be dubbed "Creativity Phase". The other three categories *Sustain*, *Scale* and *Systemic change* are all targeting the business aspects. The criteria are all trying to help with growth in some way. Hence these three will be named "Growth Phase".

Lastly the categories *Motivation* and *Community* will be merged. The majority of the criteria are all motivational factors to join the platform community, therefore the category took on the name "Motivation". The sixth category will be the *Non-functional* criteria. This category will not be merged with anything else. However, the label will be changed to "Quality" instead of non-functional as all of the criteria target the quality of a platform. These changes trigger some positional changes of certain criteria which will be discussed below.

Consequences of the meta changes

These merges do not happen without consequences. Since the *Community* category disappears one of the criteria which does not fit into *Motivation* has to be moved. The criterion in question is "Support sharing through social media", this criteria correlates with the *Creativity Phase* as one of the goals is to bring in people. Next up is *Awareness* where two of the criteria are project and people related. Instead of merging these two into *Collaboration*, it would make more sense to add them to *Management*. Merging the 3Cs with awareness creates overlapping criteria "Support giving feedback" and "Support commenting on a specific thread/task". These two target the fact that you should be able to give direct feedback to people. Hence these two will be merged into one criterion which reads "Support giving direct feedback to people".

4.4.2 The Foundation of The Evaluation Strategy

The six categories serve as a foundation for the evaluation strategy. A summarized view of the foundation can be seen in **Table. 4.16**. However, another part which should be taken into consideration is the set of important goals identified in **subsection 4.3.16**.

Start of Foundation Table	
Category	Criteria
Collaboration	<ul style="list-style-type: none"> - Support instant messaging* - Support asynchronous messaging* - Support one-on-one messaging - Support group messaging - Support voice call* - Support video conference* - Support voting or reacting on messages or posts - Support assigning people* - Support tagging specific people - Support creating several chatrooms for specific topics - Support having a task/activities overview which supports tracking* - Support time scheduling on tasks/activities* - Support a shared workspace* - Support visualizing workflow - Support giving direct feedback to people* - Support splitting workflow

Continuation of Table 4.16	
Category	Criteria
	<ul style="list-style-type: none"> - Support seeing who is available for communication - Support getting update notifications on important activities
Motivation	<ul style="list-style-type: none"> - Support active participation from the platform creators* - Support discovering and contributing to open projects - Support local networking events - Support money grants/prizes* - Support discovering new people to collaborate with* - Support learning opportunities* - Support a reputation system* - Support getting in contact with specific companies/people through participating in challenges* - Support being able to apply knowledge* - Support quality control of challenges - Support a wide range of challenges - Support friendly competitions
Management	<ul style="list-style-type: none"> - Support a public profile* - Support seeing which people are a part of a project* - Support process support tools* - Support inviting team members* - Support discovering/recruiting people through open information* - Support private project hosting* - Support managing several projects - Support an overview of resources and statistics for the projects - Support a team contract which contains roles, rules and a shared vision - Support team reflexivity tools - Support public information - Support private information - Support rich project history* - Support storing and retrieving knowledge*
Creativity Phase	<ul style="list-style-type: none"> - Support open challenges from people* - Support open challenges from organizations* - Support research crowdsourcing* - Support ideation crowdsourcing* - Support submitting ideas alone - Support submitting ideas as a group - Support receiving feedback and refining ideas - Support guides for prototyping - Support a neutral environment for showing prototypes* and receiving feedback* - Support sharing through social media*

Continuation of Table 4.16	
Category	Criteria
Growth Phase	<ul style="list-style-type: none"> - Support business model/strategy tools* - Support building a social value proposition - Support market research tools* - Support funding opportunities* - Support partnerships with companies and/or governments* - Support direct communication with stakeholders* - Support mentoring* - Support marketing* - Support the 5Rs model - Support partnerships with international institutions*
Quality	<ul style="list-style-type: none"> - Support rules for intellectual property rights* - Support safety measures* - Support privacy measures* - Support security measures - Support usability measures* - Support availability/reliability measures - Support performance measures - Support transparency measures
End of Foundation Table	

Table 4.16: Foundation table

The Evaluation Strategy

In this chapter, the results of the interviews and the questionnaire are shown. Afterward, the non-functional criteria are defined. Finally, the evaluation strategy is created by using the data found.

5.1 The Interviews

The interviews were performed as explained in **subsection 3.3.1** and the results will be presented in a qualitative manner. First, the participants of the interviews are presented in a summarized manner to gain a better insight of who the participants are. Afterward, some quantitative results will be presented in an item/reference form. In the end, the results are presented and the analyzed.

5.1.1 The Participants

In total 11 interviews were performed with 11 different people. The participants are all heavily invested in social innovation or social entrepreneurship and are spread throughout the world. A short summary of the participants is presented in **Table. 5.1**. The table contains fake names to maintain their anonymity, the purpose of the names is to make it easier to reference a participant. A bit of their backgrounds can be found in **Annex C**, this is to add a bit more context to the participants. However, these will not be mapped to the names to better maintain their privacy. The table presents how many years of social innovation experience they have, and their current roles. One thing worth pointing out is that several of the participants have business degrees or MBA (Master of Business Administration) backgrounds. Additionally, 6 of them are female, and 5 of them are male. The participants also range from early entrepreneurs to seasoned leaders of social enterprises.

Start of Participant Presentation Table		
Participant	Years	Current Role
Celine	15+	Director of social innovation & social entrepreneur

Continuation of Table 5.1		
Participant	Years	Current Role
Moe	15+	Chairman of a social organization & lecturer
Alex	3+	Social entrepreneur & mentor
Monica	3+	General manager at a social organization
Irene	5+	General manager at a social organization
Louise	5+	Impact investor manager
Alan	2+	Chief operation officer at a NGO
Abby	5+	Chief executive officer at a NGO
Caroline	15+	President of two large social businesses, lecturer & mentor
Frederick	10+	Innovation lecturer & mentor
Chris	1+	Social entrepreneur
End of Participant Presentation Table		

Table 5.1: Participant presentation table

5.1.2 Interview Results & Analysis

Here the references are defined as mentions of situations/objects that fit into one of the categories, and most of these situations/objects apply to multiple categories. An overview of the references for each category can be seen in table **Table. 5.2**, a more granular breakdown can be found in **Annex C**. It is important to note that the more references to a certain criterion do not necessarily mean that it is more important. The importance of a criterion will be gauged on how it was presented in those situations, which is why the quantitative data only provides a general overview of the interview results. Although the number of references is not as important as the situations themselves they will still be taken into consideration while creating the final evaluation strategy.

Category	References	Sources
Collaboration	178	7
Motivation	67	11
Management	177	11
Creativity Phase	111	6
Growth Phase	100	11
Goals	145	5
New Findings	81	10

Table 5.2: Interview category references overview

Collaboration

The collaboration category concerns all the references to collaboration, collaborative tools and how they were used. **Table. 5.3** shows the tools that were used by the participants

to collaborate on their social ventures. The first four shows voice/video communication tools, the next three are messaging tools, the last two are collaborative and coordination tools. Slacks huge repertoire of 3rd party integrations are not taken into account here, only the base messaging service.

Tool	No. participants
Skype	4
Google hangouts	1
Zoom	2
Telephone	2
WhatsApp	2
Slack	4
E-mail	4
Trello	2
Google Drive	3

Table 5.3: Collaboration tools used by the participants

Although the participants use a lot of different tools, none of them are really used for a standardized purpose. This is mentioned by several of the interviewees, and one of the participants said this:

We end up using whatever tool people are accustomed to because we want to maximize our working time instead of spending a lot of time learning new tools. - Celine

Another interviewee, Caroline mentioned that they use a lot of different tools based on their current needs. She explains it like this:

Oh we have many, we are using a lot of different tools for different purposes. It all depends on the task we are trying to solve. - Caroline

Having all of these tools makes it hard to keep track of what to use and where to find the different information. Several of the interviewees all had similar views about the collaboration tools. Moe mentioned something interesting about how he viewed the situation.

All of these tools that I have mentioned are just tools, there needs to be a system between them so that people know how to create, relate and interact. - Moe

All of the interviewees agreed that there was a need for physical meetings because of relationship building. The meetings are usually on a routine basis and happen once every week. Monica said this:

I talk to our remote office every day on the phone to better collaborate, but I still go there once a week to have a physical meeting. This is because the human interaction is important and it is easier to collaborate physically. -
Monica

This was agreed upon by several of the other participants, Celine mentioned that they meet every week so that it is possible to give direct feedback to each other. She phrased it like this:

We hold a formal meeting every week so that we can do a status update and give each other feedback. This is an important part of our practice as it facilitates trust building and social interaction. - Celine

Alex said something similar, but mentioned that they used their meetings to better coordinate their future activities. Moe gives a good explanation as to why they have a lot of physical meeting, it was phrased like this:

Human interaction is very important and virtual relations are very different. Nothing can emulate physical human interaction. - Moe

There also seem to be a similar work practice in the larger organizations where they split up into many sub-teams to better coordinate. It was explained by Celine in this manner:

We usually have many sub-teams, around five teams of four which makes it easier to keep things more structured. Each team then have one project, which they self-manage. - Celine

The main takeaways from the interviews in regards to collaboration are that there are a lot of different tools used for different purposes and a system is missing between them. There are some tasks that need oral explanation to reduce miscommunication, while in other cases messaging works just fine. The usage of voice/video communication tools does not only seem to serve communication purposes, but also provide an extra sense of trust. They also help with giving feedback as they seem more personalized. Another finding was that none of the interviewees really mentioned awareness as a reason for why they use some tools. Instead, it seemed that it was taken for granted. There also seem to be a lack of coordination tool usage, as the interviewees end up coordinating through physical meetings or messaging. They end up splitting into smaller groups in coordinate which supports the fact that splitting workflow might be a way to go. In conclusion, it seems that social innovation might gain a lot of value from having a system of collaborative tools that can help in different situations.

Motivation

The interview targeted both intrinsic and extrinsic motivations. At the beginning of each interview, one of the goals was to figure out why they started doing social innovation and what it was that kept them there. The answers were very different. However, all of the answers targeted the same end goal, being able to make a positive impact on other people's lives. Here are some quotes from the interviews that point towards this desire:

Previously I worked in the private sector, but I realized that I wanted to do something with more meaning. The idealist within finally woke up. - Alan

I initially started this job because there was an opening, but I ended up staying because I saw how important it was for the people we help. - Irene

I want to be a part of something larger, I have always had the goal of changing and disrupting the system. - Moe

I want to challenge today's norms and think big to make big positive changes in other people's lives. - Chris

However, making an impact does not seem to be the only reason for doing social innovation. As seen by these next set of statements there is also a personal need to help people.

I want to help, and it is my personal need to have an impact, but at the same time have fun while doing it. My need is to make a lasting and valuable impact for people that don't have it that easy. - Frederick

I am attracted to social innovation because of the fulfillment I get when I help shape the quality of life for many people. A lot of the people I work with think the same and are willing to go the extra mile to change something. The way they see life is different, and those moral values make it so that we get along really well. - Louise

There also seem to be a broad consensus that being able to apply their knowledge for a social cause is a motivating factor. This includes just helping people or running their own venture. As a result, half of the interviewees devote time to share their knowledge with other people, so that more social innovation can happen. Abby, Louise, and Frederick explain it as such:

Sharing and disseminating knowledge is what I am about. Democratizing knowledge is my mission through my career, and there is a lot of positive energy generated when this becomes a good for society. - Abby

I think it is our responsibility as people with higher education to spread the impact somehow. - Frederick

Being able to do something with purpose using what I know makes me happy. How lucky I was getting my education in something good. - Louise

After figuring out what motivated the participants, the interview moved on to some of the factors that motivate other people to start social innovations. To no surprise, they answered similar reasons to their own, but when asked about some extrinsic motivations some of them replied:

Reputation might be a good start, but social innovation is to difficult to manage with just reputation alone. - Celine

I don't know anyone that has made it [within social innovation] based on reputation alone. - Caroline

As can be seen here reputation is not enough to drive social innovation, but it is implied that it might be a way to get people to move into the social arena. Abby mentions that they use gamification to keep people engaged and to keep things interesting. This might be something which could be applied to reputation as well. When talking about the money aspect as a motivational factor, everyone agreed that money is not what people are in it for. However, it is important to make a profit so that you are able to sustain and be competitive in the market. In regards of money as a motivational starter, it was explained by Celine that it might work, or not. She phrased it like this:

Money or grants might work or not, we tend not to apply because it takes too much time and the grant might be too binding. We usually do a cost/benefit calculation before applying. - Celine

Alex agrees with this statement by saying:

Grants from NGOs are usually very bad as there are too many barriers and rules. There is too much overhead to be worth it. - Alex

Moving on from grants as a motivational starter everyone had the consensus that it was important to get an influx of money. What the different interviewees have ended up doing was to actively look for investors who were willing to invest in their social venture. These investors were often local companies that had a relation to the problem, or corporations through their corporate social responsibility policy. It seems that getting the second round of investment required a lot less effort as many investors already believed in the venture. There also seem to be a pattern where these social entrepreneurs reach out to private investors first before trying to get public ones. Monica shared her experience which explained it pretty well:

We got two good rounds of fundraising. The first one was with larger private corporations and in the second round we were able to invite smaller investors. - Monica

Chris also shares a similar experience:

We have recently been able to get money from private investors, we are now trying to get public funding to match it. - Chris

After finishing up the talks about money one participant mentioned something interesting:

Guilt never works. People are never wrong, they might just not have enough information to act rightly. - Celine

This is quite interesting because it reflects the earlier assumption about removing guilt or punishment as an extrinsic motivator. Another statement that was mentioned by Irene which should be highlighted was the fact that:

Motivations might vary for different people, but giving and receiving feedback is always important. - Irene

When asked how they find motivated people to work with they mostly answered the same thing. It seems that if you are able to market yourself through the right channels, the right people will eventually get attracted to you. Here are a few statements that point towards these factors:

The cool thing with social innovation is that it attracts people with similar interests and values, who are driving for the same goals, but in very different ways. - Frederick

The right people might contact you and help you out just because of your common values. - Alex

I am very impressed by the people that want to work for a good cause. They are stubborn and ready to take large risks. It is a different kind of environment in the ideal sector, people have very high integrity. - Alan

Monica actually fits this description, the way she got into social innovation was similar. This was her explanation:

I was reading the newspaper one day, and I saw a notice that was looking for people to help run a social business. I got very interested because it targeted an issue our family was facing. So I ended up contacting the guy who put up the notice, originally I wanted to become a part of the board and help from there. It was never my intention to join the company itself, but now I have ended up becoming the general manager. - Monica

When asked what the determining factors are for why they choose to work with whom they do they all answered *it is because of their skills and personal values*. It seems that these people have to share a lot of the same social values and are willing to take large amounts of risk. These next statements explain this in a better way:

I need to know why they want to work with me and what their motivations are. This is because the people have to have the same social values and the same feelings about the problem as me. And lastly they need to have the right skills to help. - Alex

They have to be stable and they must be able to be trusted. They have to be good with people so in the end the most important thing is their personal values. - Irene

It is all about the people, you need to have the same values, and you have to ask [yourself], do I like this person? - Celine

You have to find people that are driven with strong values to help others and not only oneself. You also need a strong understanding of entrepreneurship and the market. - Frederick

Lastly, it seems that physical meet-ups and networking play a big role for motivation. These meetings seem to serve the purpose of awareness and relationship building. It is a good way for people to connect, trust and learn from other entrepreneurs. Social entrepreneurs are very open and share a lot of their experiences with others with the hope that others will succeed as well. Alan shares a bit of his experience on this case:

People seem to get really motivated when they realize that they are a part of a network. You can learn a lot from social entrepreneurs and they are really positive. - Alan

One of the main points found for motivation was that social entrepreneurs are most likely people who want to make a positive impact on other people's lives. They also have a core set of social values and interests that drive them towards social innovation. Moreover, being able to use their knowledge for something good also seems to be a big motivational factor. Whereas people who do not go into social innovation are not bad people, they might just not have the necessary information to know why they should help. Another interesting finding is that extrinsic motivators like money and reputation can serve as a good starting point for people, but no social entrepreneur seems to succeed if these are their main goals. Finally, it seems that social innovators benefit hugely from developing community networks, unlike for-profit companies they share a lot more information because they want their peers to succeed.

Management

Management contains all the references to different project related things like processes, knowledge, recruitment, etc. The goal here was to figure out what kind of processes the interviewees use to proceed, and what important things to take note of during a project. Here the words processes, frameworks and methods/methodologies will be used interchangeably as they have the same nature. Starting with the processes that were being used by the interviewees, it did not seem like there was one single method that was used by everyone. Several frameworks were mentioned by a subset of the interviewees while others did not use any at all. **Table 5.4** shows a breakdown of what was used and by how many.

Process	No. participants
Design Thinking	4
Blue Ocean	2
Lean Startup	3
Kanban	1
Strategyzer	1
Work Breakdown Structure	1
Business Canvas	1

Table 5.4: Processes used by the participants

These processes seem to be important when you do not know how to proceed. A specific method might help you get a push in the right direction. However, the methods depend on

the problem that needs to be solved. Celine said this when asked what they do when they get stuck:

Well, first we have to find out why we are stuck if it is because of a lack of resources we will look into getting an influx of money. But often it is because we don't know how to provide real value to the users. Then we tend to go through a week of Design Thinking. - Celine

Moe agrees with this to a certain extent by saying:

When you're stuck, you have to understand your users. Figure out the customer experience and use human-centered design methodologies. It is important to empathize with the users. - Moe

By adding these processes, it seems that people get more efficient. Alex explained his situation like this:

We started off with no method at all after a while we started to utilize methods that broke down the work into smaller pieces. This made us more efficient while working towards a goal. - Alex

Regardless of processes, something else that had to be taken into account was tracking different metrics. It is important to track both social metrics and business metrics for social businesses. The business metrics are mostly economical and are related to sustaining, while the social metrics are based on impact to see if things are moving in the right direction. Louise explains this really well:

Social businesses need to track both their social innovation performance and their economic performance. You want to measure that what you are doing is actually helping you accomplish what you want to do. Each company usually have at least three impact metrics with set goals that they want to achieve. - Louise

After talking about metrics, the interview moved towards recruitment and how they built their teams. One trend was that there was a strong team of founders or leaders with a lot of talent and drive towards helping people. When asked how they recruited their early members the majority of the interviewees have followed the same pattern. Namely that they recruited through their existing networks, it might point towards a need for trustworthiness before bringing people onboard. They explain it like this:

Today I have a team of 10-11 people and I know them through collaborate networks, they are people I have worked with in the past. Sometimes they hear about what I am doing and they end up contacting me. - Frederick

Through my career, I have built up a network with a lot of diverse people. When I need someone with a specific type of knowledge I try to find them in my network. - Celine

When I built my first team, they were either friends or friends of friends whom all had an interest in social innovation. - Caroline

We have recruited once, we were looking for someone with a very particular skill set and we got recommended someone from an old friend. - Chris

After wrapping up the part about recruitment, the next part on the agenda was knowledge management. There were not a lot of the participants that practiced this, but it has brought quite some success to the ones that have. For instance, Celine has used stored knowledge to understand how to act in the future, she explains it like this:

Another thing we do when we are stuck is that we revisit older material, we often get a new perspective from it. - Celine

Furthermore, Moe agrees to a certain degree, he phrases it like this:

Learning has been important, it is important to understand what has been done well and then build a business model around it. - Moe

There seems to be an overall agreement that diverse knowledge is important and that there is a lack of specialized knowledge in the social domain. Alan explains it pretty well:

Diverse knowledge is very important, especially if it can be applied to better society. There are big needs of knowledge in the ideal sector. - Alan

In addition to this Caroline mentions something interesting. She shared her experience about how knowledge effects success in social businesses. This was her statement:

The ones with better success are people that have previously worked in the same field as their social problem. They have more knowledge in the field and they know the real problem. - Caroline

Again Monica turned out to be a good example of the previously mentioned points. They were initially struggling with their business and took a lot of losses. They had to use a lot of time learning and training people, and after doing that, they were able to find a new business model. She explained her situation like this:

We used a lot of time to find out what kind of resources we had, we learned a lot about what works and what doesn't. We moved away from trying to facilitate for people with disabilities to mastering skills instead. By doing this shift, we were able to acquire a lot of new information which enabled us to hold courses for students and other people on how to master new skills or facilitate people with disabilities. This eventually lead to us getting a contract with the government. - Monica

The main takeaways from this part of the interviews are mainly that frameworks and methodologies are important for efficiency and finding new possibilities, but there is no methodology that fit for all situations. Having said that it seems that Design Thinking

and Lean Startup are two processes that are popular and used by highly successful social entrepreneurs. Furthermore, knowledge management is something that can spark new business models or improve current practices. In addition to this, tracking both business metrics and impact metrics are crucial for a social business. Lastly, it seems that the most successful people in social innovation have vast networks where they can recruit trusted people.

Creativity phase

The parts that fit here are mainly the situations where the interviewees shared their experience about the problem definition, the ideation, and the prototyping process. The general pattern made apparent by the interviews was that you have to invest quite some time into finding the real problem. One of the biggest pitfalls seemed to be that people made false assumptions about the social problem and ended up wasting a lot of time and resources on something that was unneeded. Celine explains this in detail:

It is important to find value for the users. It is important to empathize with people, this is how you see and connect with the problem. I usually assign students a task to see the world first before I give them a challenge to solve.
- Celine

She also thinks that processes that help you come up with ideas are important as they usually increase efficiency and creativity. One of the reasons why she wants people to see the world first is so that they are able to relate more. Celine also mentions that finding similar services in other fields can spark your creativity. For instance, she talks about how they learned a lot from the prostitution industry while trying to figure out how to solve their own problem. Lastly, she added this:

A social value proposition must be shown through action and not just words or else it won't have as much of an impact. - Celine

Moe said something correspondingly:

You have to ask deeper questions rather than speed. Go out and find the real user, empathize with them and find the real needs rather than what you believe is the need. Only then do you move into prototyping and testing of a solution.
- Moe

It is also similar from Alex's and Louise's points of view, they explain it like this:

You have to analyze everything and interact with people. Do interviews or experiments to figure out how to proceed. - Alex

You need a clear theory of change. You need a clear understanding of the social problem and then you have to find solutions for this. - Louise

Most of the other entrepreneurs have similar experiences. For instance, Chris has worked a couple of years at an innovation lab where he learned about user-centered design, rapid prototyping, and business modeling. When the interviewees were asked how they would spark someone's interest in social projects, several of them mentioned that simply by inviting them to participate could be enough. Moe and Frederick shared their experiences on this:

There are a lot of people that get invited to a social event and suddenly they get an aha moment. - Moe

I was really lucky to get invited as an intern to India with three others. We all got heavily impacted by the trip and to this day we are still working with similar things. - Frederick

The main elements found for the creativity phase are as follows. It is important to figure out the real problem first and not what you presume is the real problem. A clear example here would be the act of giving homeless people food/money versus figuring out why the people are homeless to begin with and finding a solution to target this instead. This is where there is a clear distinction between social entrepreneurs and NGOs as NGOs tend to do the first one, while social entrepreneurs focus on the latter. Meanwhile, it seems that formal ideation and creativity processes can help spark creativity and increase efficiency. Lastly, it seems that showing action is more impactful than just sharing ideas and that working social might motivate to become social.

Growth phase

This part of the interview aimed to explore how these people were able to sustain and/or scale their social ventures. Something interesting is the amount of people among the participants with business backgrounds. Seven participants have degrees with business knowledge incorporated within them. So for these people business modeling was not something new, but they did indeed point out that business modeling was a crucial step in doing social innovation. **Table. 5.4** shows the different processes that the people use whereas 3 of them are for business modeling or strategizing. However, a traditional business model is not enough as illustrated by Alex and Caroline:

To succeed as a social innovation, you need to have both a sustainability model and a social impact model. Those models both have to be sustainable and scaleable. - Alex

For me being a social entrepreneur is wanting to change things, otherwise it would just be a business and a regular entrepreneur. If you don't want to change the world, you will probably end up moving away from your mission and stop being a social entrepreneur. - Caroline

It seems that a social venture needs a high social value proposition to even be considered social and it usually becomes the driving force towards success. When the interviewees were asked how they created their SVP the majority of them agreed that it had to be created together with the stakeholders. Abby, Chris, and Alex shared their experiences from creating their SVP:

We created our social value proposition through strategizing. Where stakeholders were included and unique value propositions were created. This has helped with our negotiations with our partners. - Abby

We communicate our social value proposition through our website. It was formed through discussions with the end users and through testing and strategy meetings. - Chris

You must talk to all stakeholders to find the right strategy to make money. Someone has to pay to be sustainable it is just the matter of finding the right value proposition. - Alex

Afterward, the interviews moved more into the money aspect of things. The majority of the interviewees agreed that a social business has to make money to be sustainable and to succeed. Although the main goal is not to make money, it is required to gain the necessary resources to retain talent and to expand. Caroline summarizes this in a good way:

You have to keep in mind that you want to be sustainable and to do that you have to make profits. Remember that making profits is not a bad thing. Think about creating a solution in a sustainable way first and then figure out how to make profits. - Caroline

Alex explains the concept of *emotional salaries* in social businesses. Emotional salaries are broken into two parts. One is targeting people's values by giving them a sense of meaning, while the second part is to give them a fair salary. He explained his experience with finding talent like this:

We are very emotional salary based and not profit based. It was really hard to find the right people because we had to find people who were willing to work on an emotional salary. - Alex

Moe has the same view on retaining talent. He phrased it slightly differently, but the meaning is more or less the same. His views were shared like this:

To retain good talent, you need to provide the right set of values and the right amount of money. These people need to have a lot of passion for a cause, at least in the very beginning because they will have to forego many benefits that can be found in the private market. However, some things need more than just passion, you need to be competitive and not only base your business on the good of people. - Moe

Frederick shared a personal example of a social business that he used to work for. The social innovator behind the business had a similar mindset to Silicon Valley entrepreneurs, he was constantly trying to grow the organization and increase revenues. By becoming more efficient and creating profits for his stakeholders he was able to grow his business to become one of the worlds largest social businesses. These kind of views are still fairly new in the social arena as several of the interviewees mentioned that making profits while being a social business might not feel socially acceptable by the society. Nevertheless

making profits still seems to be the right way to run a social venture. Monica and Irene are both following a similar model, and they have a lot of similarities. They are both running businesses that are hiring people with disabilities or problems. They explain it like this:

We are a normal business and we want to do business while profit isn't the main goal. We run sustainable projects and commercialize our products. However, we don't pay out dividends, everything is reinvested into the company to maximize impact, and our investors are a 100% aware of that. We have fairly low wages, but money is not a deciding factor, the most important thing is to have a job with meaning. - Monica

The business has to be sustainable and economically sound to provide real-life experience. The things we do is something that the market demands, earlier we didn't do that and it was really bad. We have to provide real work to people to be able to sustain. People come into work even while they are on their vacation, they need a place to go. Other places put more emphasis on salaries and free time, while we aim to provide the right value for people instead. - Irene

There seem to be a running theme here that you need to provide a set of values, but also a competent salary to keep things running. Another way to sustain and scale was mentioned, which was finding partners to sustain the business. Finding partners can provide an information boost as they might be able to share their experiences on how to proceed. Caroline puts it this way:

It is good to have mentors and partners, learn from them, but don't let them lead your business. - Caroline

There were several examples mentioned by the interviewees where partnerships have helped them keep their business running or found new opportunities. Celine shared her view on the matter:

Finding beneficiaries is important as they can help you sustain or give a new perspective. Networking is important, talk to other people and listen to their opinions, but don't let them dictate you. - Celine

After talking about sustaining, the next step of the interviews went into scaling. The goal was to figure out how they planned and executed their scaling phase. If they had not scaled before the interviews moved more in the direction of how they were planning to do it. Through the interviews there seemed to be a few elements that were emphasized, these elements were time, economy, market readiness, and market receptivity. These target 3 of the 5Rs, the two that was not mentioned in detail were the risks and the returns. The situations that were about scaling played out like this:

When I have more time, I want to extend my training program from corporations and startups to refugees so that I can help more in the social arena. - Frederick

Market readiness is the one thing we are looking for before we choose to expand, that and also being able to sell our product. - Chris

You can scale up when you know the local business and have the resources. It is a big commitment to scale and a solid business model is required. - Caroline

We are very careful with scaling now, because of our early mistakes we lost a lot of resources. We created our social value proposition, our vision and a strategy very early. We created a business plan early as well, but the founder was too big of a visionary, and it simply wasn't possible to achieve. - Monica

From the first three quotes, one can see the need for resources in the shape of money and time. The market readiness and receptivity is illustrated as well. In contrast, the last statement from Monica shows the consequences that can happen if you do not understand the risks and the returns of scaling. Although these two Rs were not explicitly mentioned during the interviews, it is possible to see that these have to be emphasized as well. When asked how they market themselves a lot of the interviewees end up using word of mouth or social media as these are low cost and low effort options. Alex shared an interesting point about how laws can become a barrier for scaling, he explained his side of the story like this:

You have to bear in mind that there might be social barriers that hinder adaptation. Our concept has worked everywhere we have tested it out, the hard parts have been marketing and the legal works. - Alex

Overall the main points found for the growth phase was that social entrepreneurs use a lot of time to find partners and funding. This is because partnerships are essential for sustaining and implementation of a product/service, and should absolutely be prioritized. People also have to understand that profits are not a bad thing even though there might be a stigma behind it, in essence social entrepreneurs have to actively work towards breaking the stigma. There also seem to be a trend that the most successful social entrepreneurs have business mindsets or in-depth business knowledge. An SVP has to be prioritized, and in some cases, it has to be prioritized even higher than increasing profits. Having said that money is still essential to retain talent as values might not be enough. Lastly scaling can be detrimental if not planned correctly, especially for social businesses as resources are scarce. Some of the interviewees mentioned that it might be a good idea to target the local markets first as this is where you should have the most knowledge.

Goals

The goals part of the interview tried to figure out if the goals identified during the preliminary analysis (in **subsection 4.3.16**) actually were important or not. When it came to training people to become entrepreneurs several of the interviewees agreed that this was something which was needed for the social innovation domain. Six of the participants have worked at or started their own accelerator for social entrepreneurs. These accelerators have served the purpose of accelerating social innovations and scaling them as a lot of innovations need the extra push. However, Caroline mentions that it is important not

to depend too much on accelerators as they are not your "mummy". Moe shares how he helps accelerate social ventures:

You have to focus on the people and not the projects. Different projects will fail, especially in a risky environment with low resources. We aim to accelerate and deaccelerate people instead of projects, giving them the necessary skills to succeed in the future. It is important to help the people flourish and focus on training their confidence and not their arrogance. - Moe

Similarly several of the interviewees have picked up lecturing to help more people gain the necessary skills to succeed as a social entrepreneur. The interviewees are always looking to help advance the field of social innovation in a practical sense. They offer their time to help others gain the necessary information, which corresponds with the second goal of enabling and encouraging public sharing of knowledge. Sharing knowledge might lead to more success for others, which then results in an increase of positive impact. Abby explains this in a proper way:

For me, knowledge and competencies are the most important resource. Dissemination and sharing of knowledge have a democratizing effect and it increases social mobility. - Abby

With this in mind, the interview moved into the topic of communities, although accelerators were already mentioned it was important to figure out why those were important in the first place. Some of the main points which were mentioned were that being with other entrepreneurs help. Most people learn by doing and by bringing a lot of people together you are able to build on a broad diversity of knowledge. Moe explained it like this:

The goal is to bring people together, learning from each other is important. It also serves as a meeting point to keep people from getting sucked into the system. - Moe

The diversity of knowledge has been highlighted by the interviewees as well. The participants all started off with a small team of founders and then started to actively look for people with knowledge which they did not possess. Chris and Caroline shared their experiences:

We needed someone within sales, business, and economy. We were a small group of engineers who were concentrating on building the product and we did not know too much about sales. - Chris

We all came from different companies and disciplines. Our backgrounds were law, business, engineering, philosophy, telecom, and social work. We were two women and four men and our backgrounds allowed us to build together as each of us could contribute in different areas. - Caroline

The goal about targeting people's social values seem to hold true from the interview responses. The social values can come from many places, it might be family, upbringing, religion or specific events. It does seem that a person can get impacted during any point of their life, which will be made apparent by the next set statements.

When I was asked what I wanted to be when I was a kid I answered that I want to be good. Back then being good was not a career, but I have been able to stick with it and created a career from it. - Moe

I grew up in a small town so I was really close with my grandparents. I empathized a lot with the elderly, especially after mine were moved to an elder center, there were a lot of loneliness there. One day I met Carl [an alias] whom was retired and he impacted my life immensely, ever since that day I have been focusing on getting people in contact with the elderly. - Alex

The company was founded because of a personal need for the founder, which was a dear friend of ours. We really wanted to help him which was why we joined the company. - Chris

A lot of people might get their values from family, friends, spirituality or religion. I have gained a lot of my values from Buddhism, which is why I am trying to help people unconditionally. - Frederick

All in all, it seems that people can get impacted in different ways, but still work towards a similar cause. Lastly, when the interviewees were asked if they knew any of the collaborative social innovation platforms the answer was that none of them had heard about or used any of them. Caroline was able to summarize it in a good way:

The social innovation platforms need to be known and useful. I have never used or heard about any of them. - Caroline

One of the main takeaways is the fact that social innovations often require a push to get started as starting a social venture is risky. The importance of training/teaching people also became apparent as a lot of social innovations fail, and sometimes it might not be the social entrepreneur's fault. By teaching people the necessary skills, they can bounce back from failure easier, and possibly start a new social venture. To achieve this, it is important to build communities where people can help each other and share knowledge. This is something which is special for social innovation as people do not see each other as competitors, but rather peers that are trying to achieve the same thing, changing the world for the better. The communities have to target people's social values, as it is the thing that will attract people. They might have different backgrounds and competencies, but the one thing in common is their values. It also seems that people's values might change at any time, which means that by providing the right information you might be able to influence more people to become social entrepreneurs. Lastly, it seems that collaborative social innovations platforms need to be known and useful, which means that besides providing the right tools it also has to build the right brand and market it correctly.

New findings

The interviews brought forward some new and interesting findings which will be presented in this section. There were a few points which were mentioned in the previous sections which were "new findings". Those were related to how people want to make an impact,

applying whatever tool is convenient and how crowdfunding might be a good idea for social innovations. These were related to the previous sections, whereas the points presented next are new, interesting and unexpected findings found during the interviews.

While talking about how the interviewees perceived social innovation and how they got into it something interesting came to light. It seems that almost everyone (9) of the participants have been influenced by the United States(US) or another Anglo-Saxon country. Here the term "Anglo-Saxon" points mainly to the countries with English culture and language as defined by Reynolds (1985) which ranges from Great Britain, Australia, the US, etc. Several of the entrepreneurs have studied in the US and mentioned that this was one of their triggers for moving into social innovation. Louise shared her opinion on the matter:

Things are slowly starting mature, but it is still way behind the Anglo-Saxon countries. The Anglo-Saxon countries have a business mentality for solving social problems which have been very successful. - Louise

Even the participants that did not have a direct connection to an Anglo-Saxon country still mentioned something similar even though none of the interview questions targeted this. Monica and Alan shared their views as such:

There are very few NGOs and social companies in Norway. It is not as prestigious here as it is in England or the US. - Monica

Compared to the US it feels like we are far behind when it comes to how we view social entrepreneurs. Here it does not feel as socially acceptable to make money as a social entrepreneur, as it does over there, even though you are helping the society. - Alan

Next up some of the barriers for social innovation were identified. As Alex mentioned before he had met some resistance from the law on what he was allowed to do. Another thing which was mentioned was that social innovation is not an easy life, you have to work really hard to succeed, often harder than regular entrepreneurs. Celine shared one of her barriers while doing social innovation:

For me, the biggest barrier for running my social venture has been my employers. I have been doing social innovation as a part-time job and not a lot of employers like that. Currently, I have an employer that lets me use time on my social venture as it is a part of my job as well. - Celine

Although it was possible for Celine to run her social venture part-time, it is not possible for everyone to do the same. Caroline gave this advice to people who want to do social innovation:

One advice I give to any social entrepreneur is that you have to take this full time or else it won't work. It might turn out OK for a few months, but you have to commit and quit your job to make it a success. - Caroline

Alex said something interesting about social innovation and governments. He mentions that governments should learn from and help social entrepreneurs as it helps out the society. He phrased it like this:

Social innovation happens in gaps that governments can't fix and governments need to understand that and help out in any way they can. - Alex

Monica shared a similar experience about how people regarded her business:

People say that what we do is what NAV [Norwegian Labour and Welfare Administration] does, but we do something that NAV doesn't do, we create workplaces. Norway has a really good welfare system, but NAV ends up throwing money at people with disabilities and do not try to rehabilitate them. - Monica

In brief, it seems that governments need to pay more attention to the social arena. Frederick explains in his next statement that social entrepreneurs are able to achieve change/impact much faster. He phrased it like this:

The absolute best way to create impact is through social entrepreneurship. The other alternatives are non-profits or charities, but these options are really slow. The best way to do social good is through being an entrepreneur. - Frederick

Moving on, the next interesting finding was about the people that do social innovation. Earlier their motivations and values were mentioned and discussed, but here the interviewees went more into detail about the kinds of people, and if there were any patterns. Louise mentions that there seem to be two different types of people that do social innovation. One is the people that have worked in the same field and know the problem well, but lack the business knowledge. The second is the people with money and business sense that want to create change. She also says that the optimal thing would be to unite those two profiles. Lastly, she added this:

The young companies are usually managed by younger people, while the more mature companies are usually run by older people who already have experience from that field. - Louise

Alan also shared his experience:

The age differs very much, it ranges from 20-60+, but the average age is around 40. It also seems to be right before they get kids or after the child-phase. - Alan

Caroline mentioned that it is not the people in their 20s that succeed the most, it is the ones in their 30s and 40s. This might be because of the experience that they have gained from working in the industry. Not everything is lost for the younger crowd though, on the contrary, the younger crowd might have a higher chance of disrupting the market. Louise and Monica shared their views on younger entrepreneurs:

Many of the social entrepreneurs and the consumers of social innovations are usually millennials with different mindset. - Louise

There seems to be a bigger focus on social innovation in younger people these days, they are able to find new business models that we old people haven't seen before. - Monica

Alex is a prime example of this. His entire team are millennials in their 20s that want impact rather than money. They were able to create an entirely new business model for generating revenue within the elder care market. Another interesting finding related to age was that the older companies used fewer processes and collaboration tools than the younger companies. Besides age there seems to be a broad consensus that the gender split of the people that do social innovation are 50-50. Caroline had not really thought about it before the question was asked and she answered as such:

There is a good mixture of women and men, there might even be more women which is interesting when you think about it as most of the other industries are dominated by men. - Caroline

The next element which was made apparent by the interviews was the need for business knowledge, and how this has impacted the social innovation domain. It seems that business knowledge is key and probably the most sought after knowledge by social entrepreneurs. Louise, Caroline, and Abby shared their experience with this:

Social innovation has grown a lot here in the last 2 years. There seems to be a rising trend where more entrepreneurs with business knowledge are willing to move into the social arena. It also seems that people from the social sector are also gaining more of a business mindset. I also started off working for a social enterprise for a year, mainly helping with strategy and finance. - Louise

I want to extend for-profit tools into the social arena, a lot of tools are not applied. People think that the social arena doesn't need them, but it is needed because a social business is still a business. - Caroline

The most important social entrepreneurs we have are more often than not super enthusiastic with unique insights and solutions to different problems. They aren't entrepreneurs with a great business sense which you would find in the private sector. - Abby

Alan explained his side of the story like this:

We help different companies with their projects, not necessarily social companies, but often ideal companies. What we often end up doing is helping them out with their business strategy and business model. - Alan

To sum it up it seems that the most sought after knowledge is business knowledge as the people often turn out to be someone from another field. The recent interest in business

knowledge has also been able to push the social arena further. Another challenge was the need for locality among social entrepreneurs. A lot of the processes require face-to-face work and global collaboration is not something which is well established. The physical meetings are important to build trust, and nothing can replace human interaction. One more thing discovered was the cultural issue, something which is acceptable one place might not be somewhere else.

Finally, something peculiar was mentioned. Some of the interviewees do not necessarily like to be titled as a *social entrepreneur*. The reason being that it has some negative stereotypes and connotations bound to it. Moe and Irene share their view on this:

People just want to be authentic, they don't need to frame it as social. Call it whatever you want, as long as it makes impact it doesn't matter. It is important to make social innovation more mainstream. - Moe

We are a normal workplace, and we don't want to be stigmatized. We market ourselves as a regular place, but highlight the social part. - Irene

To summarize the new findings, it seems that the Anglo-Saxon countries are doing something right to spark more social innovations. Perhaps it is giving out the right information for people to act accordingly or something entirely different. Social innovation is becoming more of a career path now on the contrary to earlier, but it still requires some time before becoming mainstream. This is partly because of the mindset change that profit is acceptable which in turn brings more sustainability and long-term impact. Generally it seems that social innovations fix problems that governments can not see and governments should pay attention and support those, especially since social entrepreneurship seem to be a promising and fast way to generate change. Furthermore, it seems that younger people (millennials) are ready to become social innovators and not only the older more experienced generation. The older generation seem to have set problems that they want to work towards solving as they have a lot of knowledge there already. Since a lot of the younger entrepreneurs are inexperienced, it might be an idea to train them as mentioned earlier. Especially since the younger entrepreneurs can be more creative and come up with new business models. All things considered the social domain seem to be gender neutral in terms of the entrepreneurs on the contrary to other fields. Finally being able to work locally is important for social innovation as it requires you to be with the people it applies to. In addition it is important to consider the cultural differences for social innovation. Something that is socially accepted one place might not be somewhere else.

This concluded the interviews, next up is the questionnaire. But before ending the interviews Moe and Celine shared their final opinions on the future of social innovation which were fitting as an endnote:

We have a very challenging present and future, it is important to be optimistic and work towards building a better world. - Moe

The ultimate goal of a social innovation is systemic change, and the only way to achieve this is through a lot of hard work. - Celine

5.2 The Questionnaire

The goal of the questionnaire was to figure out why people use collaborative platforms to better understand why they are used or not used and also what they are used for. There were a total of 141 respondents, and the majority were from Europe. Diving into the data there were four responses which were suspicious, and one of the answers were deleted. The reason for this deletion was because of the answering pattern, all of the answers were the same (neutral on everything), and it did not make any sense. On the remaining three suspicious answers logic checking was used to see if there were big deviations. There were several questions that targeted the same thing, but the questions which brought forth the suspicion were these:

1. I collaborate with people online because I can track what people are doing effortlessly
2. I feel that collaborative online tools makes it harder to see who is doing what
3. I feel that collaborative online tools makes me more productive
4. I feel that online collaborative tools reduces my productivity while working
5. I collaborate with people online because I like physical interaction

There were "contradicting" answers in these questions, but on further examination, there was the possibility of misinterpreting these questions. The first and the second question could both be true if they were thinking of different tools. The third and the fourth do not correspond directly as the word "more" in the third question introduces the possibility of misinterpretation. The last question was purposely created to not make sense in the context, but because of the design of the questionnaire, it could have been easily missed by the respondents. Especially if they were inattentive at that particular moment. The reasoning behind this is that there were several respondents that answered similarly on this question, but the rest were completely fine. In short, these three respondents will be included in the rest of the analysis, the deciding factor for this decision was the textual parts of the questionnaire where the answers were very sensible. Additionally, these three responses will not make a big impact to the analysis. The entire questionnaire can be found in **Annex C**, how it was designed was explained in **chapter 3**.

5.2.1 The Respondents

The participants were fairly diverse with respondents from different countries and with a pretty even gender split. The majority was in the age range of 18-24, and the majority of the respondents were Norwegian (59%). In contrast, the other respondents (41%) were spread around different countries around Europe and some Anglo-Saxon countries, a granular breakdown can be found in **Annex C**. **Table 5.5** shows an overview of the participants.

Total sample size, n = 140	
Gender	Female = 45% (n = 63) Male = 54,3% (n = 76) Other = 0,7% (n = 1)
Age	Under 18 = 1,4% (n = 2) 18-24 = 70,7% (n = 99) 25-34 = 21,4% (n = 30) 35-44 = 3,6% (n = 5) 45-54 = 1,4% (n = 2) Over 55 = 1,4% (n = 2)
Social innovation background	No = 81,4% (n = 114) Yes = 18,6% (n = 26)
Information technology background	No = 55,7% (n = 78) Yes = 44,3% (n = 62)

Table 5.5: Overview of respondents' gender, age group, and background

5.2.2 Questionnaire Results & Analysis

The questionnaire results are presented here. Before starting off a few things have to be addressed. There were only 140 respondents, and the survey population is all the people who are using collaborative platforms actively in a group work setting which would equate to millions of people. In comparison, the number of respondents only make up 1/10 of the needed total (1000+), which means that statistically, it would not provide robust results. The results can only give an implication towards how things are, but no robust conclusion can be drawn. With the current number of respondents and the same confidence level (95%) would give a margin of error of 8% (calculated with a proportion of 50%, z-score of 1.96 and a large population). Knowing these facts, the results might have big deviations and might not be as correct as intended. However, despite all of these limitations there are some key points where inferences can be made.

Frequency and number of platforms

The questionnaire explored the frequency of how often people used collaborative tools and what kind of tools they used. **Fig. 5.1** shows the frequency of how often people use collaborative platforms and **Fig. 5.2** shows what types of platforms were used the most. A more granular breakdown of the platforms can be found in **Annex C**.

Here it is clearly shown that the majority of the tools are used for textual messaging, and what is interesting is that co-working is the second most popular. Video and voice communication is used the 3rd most, and lastly it is coordination tools. There seems to be a pattern that most people use communication tools to coordinate online and very few coordination tools are known and used by the general mass. This could indicate that people could benefit from learning a coordination tool and increase efficiency by reducing com-

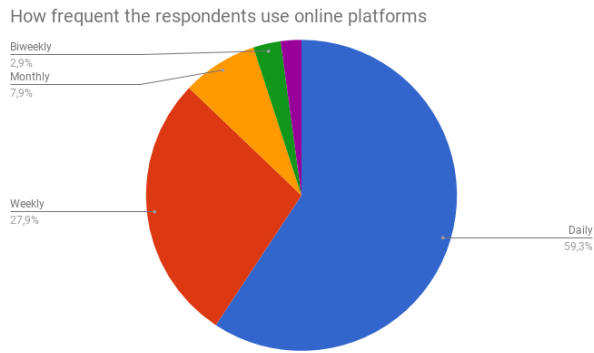


Figure 5.1: Pie chart of the frequency of how often people use collaborative platforms

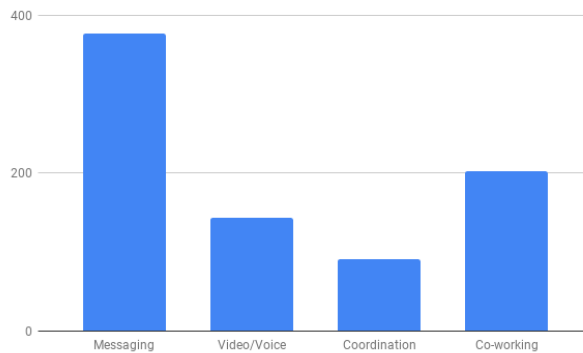


Figure 5.2: Diagram that shows the types of the platforms the respondents use

munication. The low usage of video/voice communication might indicate that these people generally do not need to communicate that way. A probable explanation is that they meet face-to-face fairly often, which mean that textual messaging might suffice when there are short intervals between meetings.

Something interesting was the mean values of the platforms used contra the respondents' backgrounds. **Table. 5.6** shows an overview of the mean values indicating the number of platforms used when factoring in other elements. Only the mean values with a significant amount of respondents are shown, here the bi-weekly and monthly categories are merged as they essentially the same. The interesting thing is that on average people use around 5-6 platforms on the regular regardless of gender. There also seem to be truth behind the statement found earlier that people with IT background use more tools than those without (Herbsleb, 2007; Whitehead, 2007). This is shown through the mean value of 7,1 versus the value of 4,9. Additionally, the people who have a social innovation backgrounds (although there is a small sample size = 15) used on average one more platform than the

people without (when the people with IT backgrounds are excluded). There did not seem to be any deviation based on the age ranges of 18-34 in the number of platforms, and it was pretty similar for the frequency in terms of the daily and weekly usage. The number of platforms seemed to deviate on ages above 35, but this was most likely because of the small sample size ($n < 11$). In comparison the monthly users used on average 1,5 less platforms than the daily/weekly users. These findings indicate that people tend to use between 4-6 collaborative platforms on a regular basis.

Total sample size, n = 140	
Platform vs ...	Mean number of platforms used
Gender	Female = 5,5 (n = 63) Male = 6,3 (n = 76)
Age	18-24 = 6,0 (n = 99) 25-34 = 6,0 (n = 30)
Social innovation background	No = 5,9 (n = 114) Yes = 6,0 (n = 26)
Information technology background	No = 4,9 (n = 78) Yes = 7,1 (n = 62)
Information technology background and social innovation background	Neither = 4,6 (n = 63) Both = 6,1 (n = 11) Only social innovation = 5,9 (n = 15)
Frequency	Daily = 6,2 (n = 83) Weekly = 6,0 (n = 39) Monthly = 4,5 (n = 15)

Table 5.6: Overview of mean number of platforms used based on background information

What the different tools are used for

The respondents are using different tools for different activities. It seems like the majority of the respondents are still in school. **Fig. 5.3** shows a breakdown of what the respondents use collaborative tools for. What is interesting here is the usage of collaborative tools for leisure activities and private projects. School and work are often places where you would be required to use them, and the low amount of answers on work can be justified by the age group of the participants. The fact that people are using collaborative online tools during their free time to realize an objective might point towards the usefulness of collaborative tools for other activities than just school/work.

Motivations and obstacles for using collaborative tools

The questions about motivations and obstacles will be broken down into smaller groups to make it easier to present. These groups are *Team process*, *Coordination*, *Co-working*, *Self-feeling and Adaptation* and will be presented in tables. The duplicate questions which

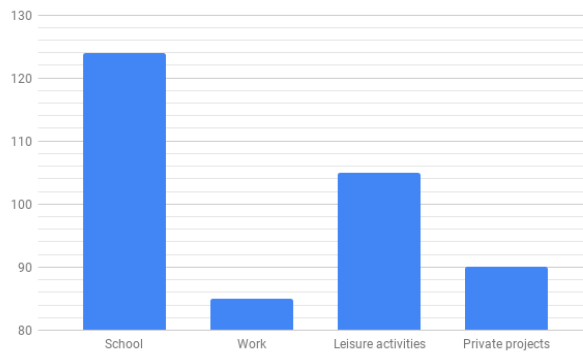


Figure 5.3: Diagram that shows what the respondents use collaborative tools for

were created as control questions will be omitted from the results section as they had similar results and would be redundant.

There were seven questions related to the team process and can be seen in **Table. 5.7**. From the results, it seems that the majority of the respondents either agreed that collaborative tools made the team process simpler or were indifferent to it. Not everyone thinks that collaborative tools can help with leading a team or making decisions. Around 55-60% of the respondents agreed to these two statements while around a quarter were neutral, but it also shows that less than 15% disagreed with the statements which is promising. The next statement about giving feedback had a 70% agreement rate which would mean that even with an 8 percent margin of error the majority would still agree with this statement. Generally speaking, giving feedback on tasks seem to be an important factor. The same applies to the statements highlighting documentation, efficiency, and organizing which had an agreement rate of 80% or above. The last statement in this category about visualizing workflow was more split, around 65% agreed while a quarter stayed neutral which shows promise, but is not as crucial of a functionality.

Start of Team Process Related Table			
Question	Scale	Frequency	%
I feel that collaborative online tools help with decision making	Strongly agree	12	8,6%
	Agree	69	49,3%
	Neutral	38	27,1%
	Disagree	17	12,1%
	Strongly disagree	4	2,9%
I feel that collaborative online tools is making it easier to lead a team	Strongly agree	18	12,9%
	Agree	61	43,6%
	Neutral	44	31,4%
	Disagree	14	10,0%
	Strongly disagree	3	2,1%

Continuation of Table 5.7			
Question	Scale	Frequency	%
I collaborate with people online because I can give specific feedback on what people have done directly in the collaborative tool	Strongly agree	36	25,7%
	Agree	65	46,4%
	Neutral	29	20,7%
	Disagree	8	5,7%
	Strongly disagree	2	1,4%
I collaborate with people online because it is an easy way to document what we have been doing	Strongly agree	54	38,6%
	Agree	70	50,0%
	Neutral	13	9,3%
	Disagree	1	0,7%
	Strongly disagree	2	1,4%
I feel that collaborative online tools makes the group more efficient	Strongly agree	32	22,9%
	Agree	81	57,9%
	Neutral	23	16,4%
	Disagree	3	2,1%
	Strongly disagree	1	0,7%
I collaborate with people online because it is easier to keep things organized digitally	Strongly agree	61	43,6%
	Agree	57	40,7%
	Neutral	17	12,1%
	Disagree	3	2,1%
	Strongly disagree	2	1,4%
I collaborate with people online because visualizing workflow is important and is easy digitally	Strongly agree	30	21,4%
	Agree	63	45%
	Neutral	36	25,7%
	Disagree	9	6,4%
	Strongly disagree	2	1,4%
End of Team Process Related Table			

Table 5.7: Motivations and obstacles related to the team process

Table 5.8 presents the coordination related results, which amounts to six questions. The respondents were more spread in this category, although the majority still agreed to the fact that it is easier to keep track of people in collaborative tools, there were a lot of people who were neutral. This might be connected to the low usage of coordination tools as shown in **Fig. 5.2**. Rather than being a problem, this might be an opportunity to increase group work efficiency by introducing better coordination tools for teams. Especially since a lot of these coordination tools are created for agile software development processes, one example of such a tool is Jira.

Start of Coordination Related Table			
Question	Scale	Frequency	%
I collaborate with people online because I can track what people are doing effortlessly	Strongly agree	25	17,9%
	Agree	55	39,3%
	Neutral	48	34,3%
	Disagree	10	7,1%
	Strongly disagree	2	1,4%
I collaborate with people online because it is easier to keep myself updated on what is done and what needs to be done	Strongly agree	37	26,4%
	Agree	77	55,0%
	Neutral	22	15,7%
	Disagree	4	2,9%
	Strongly disagree	0	0,0%
I collaborate with people online because it is easier to coordinate online than physically	Strongly agree	41	29,3%
	Agree	38	27,1%
	Neutral	34	24,3%
	Disagree	25	17,9%
	Strongly disagree	2	1,4%
I feel that collaborative online tools makes it harder to keep track of the group process	Strongly agree	1	0,7%
	Agree	6	4,3%
	Neutral	25	17,9%
	Disagree	81	57,9%
	Strongly disagree	27	19,3%
I collaborate with people online because I can easily assign tasks to people with collaborative tools	Strongly agree	40	28,6%
	Agree	65	46,4%
	Neutral	25	17,9%
	Disagree	9	6,4%
	Strongly disagree	1	0,7%
I collaborate with people online because I can specifically see who has done what part without having to ask people	Strongly agree	40	28,6%
	Agree	65	46,4%
	Neutral	23	16,4%
	Disagree	9	6,4%
	Strongly disagree	3	2,1%
End of Coordination Related Table			

Table 5.8: Motivations and obstacles related to coordination

What is shown in **Table. 5.9** are the six questions related to co-working. The results show that the majority of the respondents would use collaborative tools to have a shared workspace where people can work together and share resources. There was a 90% agreement rate on all the co-working and sharing questions, but the two questions related to communication had a different outcome. The communication aspect of co-working seems to be more spread, although the majority agreed there was a significant amount of people that were neutral or disagreed. These results might indicate that co-working tools help with efficiency while working and that communication is not facilitated by the tool, but rather by self-initiative. People also disagreed whether if communication is faster online

than physically and this might be connected to avoiding misunderstandings.

Start of Co-working Related Table			
Question	Scale	Frequency	%
I feel that collaborative online tools provides a shared workspace where everyone can contribute	Strongly agree	45	32,1%
	Agree	88	62,9%
	Neutral	6	4,3%
	Disagree	0	0,0%
	Strongly disagree	1	0,7%
I collaborate with people online because several people can work on the same task online	Strongly agree	68	48,6%
	Agree	56	40,0%
	Neutral	10	7,1%
	Disagree	4	2,9%
	Strongly disagree	2	1,4%
I collaborate with people online because it is easier to communicate quickly online than physically	Strongly agree	52	37,1%
	Agree	32	22,9%
	Neutral	17	12,1%
	Disagree	28	20,0%
	Strongly disagree	11	7,9%
I feel that collaborative online tools facilitates social interaction	Strongly agree	14	10,0%
	Agree	45	31,1%
	Neutral	45	32,1%
	Disagree	26	18,6%
	Strongly disagree	10	7,1%
I collaborate with people online because it is easier to work with people over long distances with collaborative tools	Strongly agree	93	66,4%
	Agree	36	25,7%
	Neutral	5	3,6%
	Disagree	4	2,9%
	Strongly disagree	2	1,4%
I collaborate with people online because sharing resources with each other is quicker with collaborative tools than without	Strongly agree	86	61,4%
	Agree	47	33,6%
	Neutral	4	2,9%
	Disagree	1	0,7%
	Strongly disagree	2	1,4%
End of Co-working Related Table			

Table 5.9: Motivations and obstacles related to co-working

The self-feeling questions in **Table 5.10** shows that people are positive towards collaborative tools. These results show that the majority of the respondents were either indifferent or agreeing to the fact that collaborative platforms made them more productive. They were also either neutral or agreeing to the feelings of enjoyment or control while using collaborative platforms. The majority disagrees with the fact that they feel angry or neglected while using collaborative platforms. In short, this might be a sign that the current collabo-

rative tools have a fairly high usability focus to reduce the negative feelings while trying to increase the positive ones. The one question which brings some concern is the one about the feeling of personal communication. The respondents were fairly evenly spread, but there was a slight majority that agreed that collaborative tools made communication feel less personal. This might indicate that something more than just communication has to be done to build trust among people on collaborative platforms.

Start of Self-feeling Related Table			
Question	Scale	Frequency	%
I feel that collaborative online tools makes me more productive	Strongly agree	33	23,6%
	Agree	63	45,0%
	Neutral	34	24,3%
	Disagree	7	5,0%
	Strongly disagree	3	2,1%
I feel that collaborative online tools are enjoyable to use	Strongly agree	22	15,7%
	Agree	72	51,4%
	Neutral	40	28,6%
	Disagree	5	3,6%
	Strongly disagree	1	0,7%
I feel that I am in control while using online collaborative tools	Strongly agree	19	13,6%
	Agree	90	64,3%
	Neutral	28	20,0%
	Disagree	2	1,4%
	Strongly disagree	1	0,7%
I feel that I am angry while using an online collaborative tool	Strongly agree	2	1,4%
	Agree	7	5%
	Neutral	12	8,6%
	Disagree	55	39,3%
	Strongly disagree	64	45,7%
I feel that online collaborative tools make communication less personal	Strongly agree	11	7,9%
	Agree	55	39,3%
	Neutral	32	22,9%
	Disagree	34	24,3%
	Strongly disagree	8	5,7%
I feel that I don't get valued when I use online collaborative tools	Strongly agree	1	0,7%
	Agree	8	5,7%
	Neutral	44	31,4%
	Disagree	67	47,9%
	Strongly disagree	20	14,3%
End of Self-feeling Related Table			

Table 5.10: Motivations and obstacles related to the self-feeling

The adaptation related questions are shown in **Table. 5.11** targets new ways of working,

time usage, complexity, and learnability. The majority feel that they are able to learn new tools fairly fast. But there still seem to be a significant amount of people that think adapting a new tool could be stressful. When asked if collaborative tools consume unnecessary amounts of time, the majority disagreed. Even though most people felt that adapting a new tool is not too much work, they would still choose something that the majority of the team knew. These results indicate that the learnability and the usability of a platform is crucial as there are several whom view this as a barrier. Lastly, it seems that people might have a hard time choosing platforms, they might either be too complex or just too many to choose from, this is shown by an even spread in opinions which imply uncertainty.

Start of Adaptation Related Table			
Question	Scale	Frequency	%
I feel that new ways of working are stressful	Strongly agree	2	1,4%
	Agree	27	19,3%
	Neutral	39	27,9%
	Disagree	64	45,7%
	Strongly disagree	8	5,7%
I feel that collaborative online tools consumes a lot of unnecessary time	Strongly agree	2	1,4%
	Agree	14	10,0%
	Neutral	32	22,9%
	Disagree	67	47,9%
	Strongly disagree	25	17,9%
I feel that many online collaborative tools are too complex for my purpose	Strongly agree	3	2,1%
	Agree	31	22,1%
	Neutral	42	30,0%
	Disagree	48	34,3%
	Strongly disagree	16	11,4%
I feel that there are too many tools and don't know which one to choose	Strongly agree	3	2,1%
	Agree	37	26,4%
	Neutral	39	27,9%
	Disagree	52	37,1%
	Strongly disagree	9	6,4%
I feel that I would rather choose something that everyone knows	Strongly agree	28	20,0%
	Agree	72	51,4%
	Neutral	26	18,6%
	Disagree	12	8,6%
	Strongly disagree	2	1,4%
I feel that learning a new online collaborative tool is hard for me	Strongly agree	2	1,4%
	Agree	15	10,7%
	Neutral	31	22,1%
	Disagree	71	50,7%
	Strongly disagree	21	15,0%
End of Adaptation Related Table			

Table 5.11: Motivations and obstacles related to adaptation barriers

At the end, the respondents were asked if there were any other reasons as to why they would not use a collaborative platform. **Table. 5.12** shows the breakdown of why people would not use a collaborative platform. Although some of these answers were covered by some of the earlier questions, the fact that the respondents wrote it down manually might imply significance. These were mainly that the tool was too complicated, if it was hard to use/learn or if too few people knew the tool. Another interesting finding was that they might be using too many tools already or that it does not fit into their system of tools which is similar to what was found during the interviews. Overall this might mean that if they already have a tool that does something similar or that the limit of number of tools (4-6) have been saturated. Moreover, speed and design were mentioned which indicate that if it is not usable or it is too slow people might not start using the platform. Lastly, the price of the tool was mentioned as a barrier, which shows that the tool has to bring enough value to the people if they are going to pay.

Other mentioned obstacles	Mentions
Too complex/overcomplicated for task	11
Too few people know the tool	6
Does not fit into a system of other tools or too many tools already	3
Hard to learn/use	8
Poor design	7
Speed issues	5
Cost	3

Table 5.12: Results of the textual answers of why people will not adopt a new collaborative platform

Collaborative tools while physically present

The respondents were asked if they used online collaborative tools even though they were meeting physically and 93% (n = 130) answered that they did, while only 7% (n = 10) answered that they did not. The questionnaire also tried to figure out why they used the tools while meeting physically or why they did not use them.

Table. 5.13 shows the breakdown of why the respondents would use a collaborative tool while physically meeting. While **Table. 5.14** shows the breakdown of why the respondents would not use collaborative tools while physically present.

Overall it seems that the respondents who used collaborative tools while physically meeting used them to stay organized and for co-working. This was to document and coordinate what they had done to easier continue their work remotely or to work together on a joint task. The communication aspect of collaborative tools was omitted during physical meetings. This might be connected to the reason why some people will not use collaborative tools while physically present. The reason being that messaging online could cause misunderstandings and that communicating directly would be faster.

Why it is used while present	Mentions
Storage area	20
Logging/documentation	24
Coordination and awareness	32
Keep everyone on the same page	9
Planning	6
Sharing resources	21
Organizing and structuring	26
More continuous workflow	14
Productivity	13
Work on the same thing	35

Table 5.13: Results of why people use collaborative tools while physically present

Why it is not used while present	Mentions
Avoid misunderstanding	3
Communicate directly to the people physically present	6
Not needed for the task	3

Table 5.14: Results of why people do not use collaborative tools while physically present

Collaborative tools in relation to social innovation

The questionnaire included a scenario and asked if collaborative tools could aid in creating a solution. The scenario was presented as such:

You see a lot of children in hospitals, not being able to play and experience what other children do. You decide to create a dog petting service that connects dog owners and the children at the hospital so that they can experience the joy of playing with a pet.

The first part of the questions targeted the process of creating a solution for the above-mentioned scenario. Here the majority of the respondents seem to agree that collaborative tools can aid in creating a solution. **Table 5.15** shows the results related to the creation of the service.

Start of Creation Related Table			
Question	Scale	Frequency	%
Based on the scenario, online collaborative tools will make it easy to create such a service	Strongly agree	27	19,3%
	Agree	90	64,3%
	Neutral	18	12,9%
	Disagree	4	2,9%
	Strongly disagree	1	0,7%

Continuation of Table 5.15			
Question	Scale	Frequency	%
Based on the scenario, online collaborative tools will make it easy to recruit dog owners	Strongly agree	29	20,7%
	Agree	64	45,7%
	Neutral	38	27,1%
	Disagree	7	5,0%
	Strongly disagree	2	1,4%
Based on the scenario, online collaborative tools will lessen the time it would take to create such a service than without	Strongly agree	33	23,6%
	Agree	80	57,1%
	Neutral	24	17,1%
	Disagree	2	1,4%
	Strongly disagree	1	0,7%
Based on the scenario, online collaborative tools will overcomplicate things	Strongly agree	3	2,1%
	Agree	10	7,1%
	Neutral	34	24,3%
	Disagree	78	55,7%
	Strongly disagree	15	10,7%
Based on the scenario, online collaborative tools will make it easier to keep track of all the resources available at any given time	Strongly agree	47	33,6%
	Agree	80	57,1%
	Neutral	13	9,3%
	Disagree	0	0,0%
	Strongly disagree	0	0,0%
End of Creation Related Table			

Table 5.15: Results of the questions which target the creation part of the scenario solution

The next part of the questionnaire aimed to see if collaborative tools could aid in the execution of the service. Again it seems that the majority agrees to that collaborative tools can help with the execution. **Table. 5.16** presents the results related to the execution phase.

Start of Execution Related Table			
Question	Scale	Frequency	%
Based on the scenario, online collaborative tools will make it easier to coordinate with dog owners	Strongly agree	53	37,9%
	Agree	70	50,0%
	Neutral	15	10,7%
	Disagree	2	1,4%
	Strongly disagree	0	0,0%
Based on the scenario, online collaborative tools will make it easier to communicate with the dog owners	Strongly agree	41	29,3%
	Agree	76	54,3%
	Neutral	16	11,4%
	Disagree	7	5,0%
	Strongly disagree	0	0,0%

Continuation of Table 5.7			
Question	Scale	Frequency	%
Based on the scenario, online collaborative tools will make it easier to work with the dog owners	Strongly agree	29	20,7%
	Agree	80	57,1%
	Neutral	25	17,9%
	Disagree	6	4,3%
	Strongly disagree	0	0,0%
Based on the scenario, online collaborative tools will make it easier to share experiences	Strongly agree	41	29,3%
	Agree	72	51,4%
	Neutral	23	16,4%
	Disagree	2	1,4%
	Strongly disagree	2	1,4%
End of Execution Related Table			

Table 5.16: Results of the questions which target the execution part of the scenario solution

Lastly, the respondents were asked if they could think of any other ways collaborative tools could aid in the scenario. Some of the respondents answered that it could be used for planning, organizing and booking while also providing an easy way of record keeping. Several of the respondents mentioned marketing and spreading awareness as a way collaborative tools could help. People also said that collaborative tools could help find like-minded people to help with the project and that it might be more likely to follow through with the idea if it was online. There was one very interesting answer which was written as such:

I think that tools are secondary to whether or not the team has the right skills and a consensus on what they should be doing. A great team with poor tools can still get great results (arguably, even the 'best' collaborative tools are still very clunky to use) while a poor team with the ideal, excellent tools won't be able to make anything out of the opportunity. - Questionnaire respondent

This statement shows some insight about the reality of social innovation as it is the people behind and not the tools themselves that are important. Some of the other respondents addressed the fact that collaborative tools can help scaling up the solution and gain feedback from the stakeholders. One respondent answered that one could ask online if other people had approached the problem earlier and could use their experiences to better implement the solution. There was one respondent who addressed the worry of technological competence. It was worded like this:

This really depend on if the dog owners are comfortable using the technology or not, it could go both ways. As kids in hospitals usually can't do much online I expect they are not a part of it. Which means interaction is between the system maker and dog owners. If they are all unfamiliar with technology it may be a bad fit. This feature would require a lot of individuality so I don't know to be honest. - Questionnaire respondent

To summarize the results presented in this section illustrate that social innovation can benefit greatly from collaborative platforms. All of the questions have an agreement rate of

65% or higher, and a disagreement rate of less than 8% which indicate that for this specific scenario social innovation would benefit greatly from collaborative tools. Although it was a very specific scenario, it goes to show that social innovation can benefit from collaborative tools, whether it be creating or executing a social innovation. The real problems were illustrated by the two statements above that it is the people behind that are doing the social innovation, and the tools are just helping the process. It was also mentioned that the right technical knowledge would be required to use these tools efficiently, if not you might be better off without them.

5.3 Creating The Evaluation Strategy

This section explains the creation of the evaluation strategy. It was created by using the results, from the interviews and the questionnaires, together with the foundation identified in **chapter 4**. The literature for the foundation criteria has already been discussed in that chapter and will be omitted here for better readability. Furthermore, the quality criteria will be defined through the usage of the results and new literature. Finally, the goals will be altered in light of the new found results. Here the criteria from the foundation will be denoted as *elements* to reduce confusion.

5.3.1 Mutating & Adding to The Foundation

Here the foundation will be weighted against the results found earlier to derive the final criteria. As shown earlier by the questionnaire, merging collaborative tools with social innovation can be beneficial. This helps validate some of the background material in **chapter 2**. Thus it would make sense to include collaborative elements in the evaluation strategy. Although it was a very specific scenario, it shows that social innovation, in general, can benefit from collaborative tools, whether it be creating or executing a social innovation.

Collaboration

To start off one finding which was both found in the questionnaire and the interviews is that there are a lot of different tools, and it might be hard to choose. A collaborative platform might be able to solve this problem by choosing the collaborative tools and create a system around them. Another important finding was that the users would rather use tools which the majority of the team already knew instead of adopting a new one. This might indicate that a social innovation platform can benefit from providing a tool that the majority already knows. Also, it means that fewer resources would be required. Hence the evaluation strategy will start using the wording "*Provide a ...*" which opens for integration instead of implementation. **Fig. 5.2** clearly shows that majority are already using communication tools for textual messaging, which means that this should be pretty standard for people already. Diving more into the collaboration part of the foundation there are five elements which target the textual messaging *instant-, asynchronous-, one-on-one-, group messaging and seeing the availability of people*. These parts are already provided by standard textual tools on the market and should be aggregated into a simple messaging tool. However, this

messaging tool would only be between team members and not to other platform users. Thus another tool would have to exist for communication between regular users. To sum up, two criteria are created and goes as such:

- How well does the platform provide a tool for messaging your team
- How well does the platform provide a tool for communicating with other people on the platform

In the same figure, it can be seen that video and voice communication is used the third most. This is most likely connected to the fact that teams meet up physically and these kinds of tools are rarely needed. However, those tools also seem to provide an extra sense of trust between people as you are able to see or hear their voice. A lot of the interviewees gave feedback face-to-face because they recognized the importance of personalized feedback. But over distances, video/voice tools are probably the best substitute. Hence a criterion will be:

- How well does the platform provide a tool for video/voice chatting

Co-working scored the second highest in **Fig. 5.2**, and was also the type used during physical meetings (see **Table. 5.13**). The questionnaire results show that digital co-working spaces are highly regarded by the respondents. Taking this into account, a shared workspace for storing and co-working should be emphasized. This was highlighted by the foundation, that a shared workspace and a project overview were important to collaborate. On the contrary visualizing workflow had a neutral rating by the respondents which makes it a nice to have, but not crucial and should not be emphasized. In other words, another two criteria will be:

- How well does the platform provide an overview tool for a project
- How well does the platform provide a shared workspace for collaboration and resource storing/sharing

In the same figure coordination scored the lowest, a possible explanation is that these tools are created to target very niche markets. From the interviews, it became apparent that the majority coordinated through meetings and direct communication, some did use coordination tools, but these were a minority. The questionnaire results showed that even though the majority agreed that keeping track of people were easier digitally, a lot of people were neutral to the statement. The right kind of coordination tool can present an opportunity, where you can increase efficiency by reducing the need for communication. The foundation also has elements targeting assignment and tracking of work, the additional elements about time scheduling should be an implicit part of this. Thus a new criteria will be:

- How well does the platform provide a tool for assigning tasks to teammates and tracking their progress

Feedback has been highlighted as an important factor by both the interviews and the questionnaire. The foundation also supports this with three different elements which are connected to feedback. Although the most interesting ones are the possibility of giving direct feedback on tasks, the small addition of reacting to messages seem to be something that facilitates social interaction. In any case, these elements will be merged into a single criterion, which is as follows:

- How well does the platform provide ways of giving feedback

Lastly, awareness will be addressed. The interviews showed that awareness was not something which was actively thought off and that they usually gain value from it passively. Although keeping track of what people are doing and assigning tasks would fall under coordination, people do not view it as such. Most likely it is because different awareness mechanisms let people coordinate more efficiently, thus gaining from it passively. This should be included, the criterion will be similar to the element in the foundation and will be as such:

- How well does the platform keep you updated on activities happening in a project

Motivation

First of all the most basic intrinsic motivational factor which is enjoyment should be addressed by a collaborative platform. The questionnaire indicates that the majority of the respondents enjoy using different collaborative platforms, or are at least neutral about it. Factor this together with enjoyment as an intrinsic motivation, a criterion is created to address this:

- How enjoyable is it to use the platform

From the interviews, it was made clear that the people who do social innovation have a set of social values that they stick by. Additionally, they are always looking for ways to help people. This supports the foundation element which addresses discovering and contributing to open projects. However, they also have to target the right social values to get people to contribute in the first place. Some of the interviewees even went as far as saying that they felt empty if they were not doing something for social good. By taking these elements into account, two new criteria will be added:

- How well does the platform target your social values
- How easy is to discover and contribute to open projects

The element about discovering people to collaborate with is an important feature. It was also mentioned by some of the questionnaire respondents that collaborative tools could help discover like-minded people. If this is not included it would remove one of the main strengths of collaborative platforms. Therefore one criterion will be addressing discovering people:

- How easy is it to find new people to collaborate with

Moving over to the extrinsic motivations, it was made apparent by the interviews that, no social entrepreneur has found success by having money or reputation as their main goal. There has to be a drive for helping people, but it was mentioned during the interviews that reputation and money can serve as good motivational starters. Furthermore, it was mentioned that working social and gaining more information, can give people a reason to work social. There is a second element in the foundation which is related to funding (from *Growth Phase*), which is the element talking about funding opportunities. This was to target the social entrepreneurs whom already are doing social innovation. The interviews uncovered that a lot of the interviewees had to actively look for funding, which presents an opportunity for social innovation platforms. A way that the platform could facilitate social innovation is to attract potential investors for promising projects. Another way of funding was mentioned by one of the interviewees, which was crowdfunding for social innovations. This seems to have been successful in the past. To sum it up the reputation system can be a way for someone to take initiative, and the money related parts will be merged. These two will be written as such:

- How well does the platform provide a reputation system
- How well does the platform provide funding opportunities

As just mentioned, gaining information and working social can keep people engaged in social innovation. A collaborative social innovation platform should facilitate the process of gaining information, and one way is through providing learning opportunities. Learning is also a motivational factor which was a part of the foundation. Furthermore, what was found during the interviews, was that the majority of the interviewees were really happy that they were able to apply their knowledge for a good cause. Unquestionably, applying knowledge seems to be a big motivational factor. Applying knowledge and learning have similar natures and the two elements from the foundation will be merged into a single criteria:

- How well does the platform provide opportunities for learning and applying knowledge

Lastly, the two elements targeting the community will be addressed. The interviews indicated that social innovators are willing to share their experiences to make others succeed, which is different from the for-profit sector. They want to spread the knowledge which hopefully increases the efforts made to better the world. The biggest problem would be getting in contact with said people. The two elements in the foundation which target this are the local networking element and the getting in contact with specific people/companies. These two are a step in the right direction, by hosting local and possibly online events it is possible to network which could lead to more trust among people. The trust issue has been one of the problems identified, both by the interviews and the questionnaire. Thus a single criterion is created to support this:

- How well does the platform provide networking event both online and offline

Management

Again the issue of trust will be targeted. One of the problems, found from the questionnaire, was that communication online is less personal than physically. In addition to this, the interviewees mentioned the importance of physical meetings as it builds trust. They usually recruited people through their existing networks for the same reason. Although physical meetings are not always possible for strangers, the foundation contained an element about supporting a public profile. The literature mentioned that public profiles could be a way for people to gain some insight about that specific person. Thus a platform can build trust by supporting public profiles. The criterion will be written like this:

- How well does the platform provide a trustworthy public profile

Moving on to the element targeting process support tools. The interviews found that different processes like Design Thinking or Lean Startup could be beneficial. However, it was also found that there is no single process that works for every situation, which means that a platform might have to support multiple processes. In other words, one criterion will be formed like this:

- How well does the platform provide process support tools

One of the important features addressed by the foundation is the need for private and public projects. This was to take care of intellectual property rights and retain sensitive information. While also having the possibility to have open projects were one could crowdsource. To build on that, OpenIDEO just recently added this feature to their platform, because they saw the need for it. The change notice can be viewed in **Annex C**. The foundation also addressed being able to *split workflow, manage several projects and creating chat rooms* for them. This is similar to how the bigger entrepreneurs from the interviews worked. They chose to split into smaller groups to better collaborate on each individual project, which contributed to making the coordination efforts easier. Bringing these concepts together creates two criteria for the evaluation strategy:

- How well does the platform host both private and public projects
- How well does the platform let you manage several projects

The questionnaire highlighted that collaborative tools have the potential to make team management more efficient. Granted that it is implemented in a good way. The number of people that were neutral might have experienced bad or mediocre tools on the contrary to those who agreed. To add to this, the foundation has four different elements which are team management related, *team contract, reflexivity, inviting team member and recruiting/discovering people*. These are very granular and to make it more general these elements will be synthesized into one single criterion:

- How well does the platform support team management tools

Finally, the knowledge management related elements from the foundation will be addressed. The foundation has elements related to *public/private information, seeing who*

is part of a project, rich project history, storing and retrieving knowledge. These elements all target storing knowledge about a project or information. The results support the importance of knowledge management. One of the reasons why the questionnaire respondents used collaborative tools while meeting physically was to document and retain a log. This facilitates more continuous work both online and offline. Whereas the interviews showed that knowledge management can spark new business models or improve current practices. Havens and Knapp (1999) explains similar results of knowledge management, it is mentioned that knowledge management can lead to faster innovation and accelerated learning. Taking these points into account and merging them with the elements from the foundation equates to two criteria written as follows:

- How well does the platform provide ways for sharing/storing knowledge publicly and privately
- How well does the platform save a projects history

Creativity phase

The elements related to open challenges from the foundation are not explicitly mentioned in the interviews. However, as mentioned in *Motivation* being able to discover challenges is important to spark creativity. Open challenges are supported by the literature and the platforms. Although the majority of the platforms only support challenges from organizations, social innovation might benefit from challenges submitted by people as well. The background for this statement is based on what was found during the interviews, the fact that social innovations happen in the gaps that governments can not fix, and often by the people who are directly touched by it. Thus one criterion addressing the issue of open challenges is created:

- How well does the platform enable people and organizations to create high quality projects

The foundation also addressed the issues of crowdsourcing both for researching and ideation. Subsequently, it also addressed how the ideas can be submitted. These four elements from the foundation were very granular and can be merged as it targets the same issues about submitting information for a process. In comparison, the interviews showcased that formal ideation processes can help increase efficiency and creativity. In addition, the interviews highlighted the importance of figuring out the real problem in contrast to the perceived problem. This was also an important skill for social entrepreneurs, being able to see the real need. Therefore the foundation elements will be merged, but the researching and the ideation bits will still be segregated because of the highlighted importance. Hence two criteria are created and written like this:

- How well does the the platform support collective researching
- How well does the the platform support collective ideating

Moving to the prototyping and sharing elements of the foundation. Something uncovered by the interviewees was that showing action is much more impactful than creating ideas.

Comparatively the foundation also addressed the issue of prototyping, although the literature was very recent, it goes to show that it is something which has been done in practice and has caught the interest of researchers. The foundation also highlighted the importance of social media, and how it can spread impact by sharing ideas, stories, and possibly prototypes. This creates another possibility to communicate the right information to other people, for that reason sharing through social media should also be included. Taking these into account two criteria are created for the evaluation strategy:

- How well does the platform provide an environment for building, showing and receiving feedback on prototypes
- How well does the platform enable sharing through social media

Growth phase

The business aspects of social innovation are important. The interviews uncovered the fact that all of the interviewees had a business mindset, and had the knowledge to do different business processes e.g., business modeling, market researching etc. These were some of the skills that made them highly successful social entrepreneurs. They also emphasized the importance of impact before profits (although profits are still very important), which means that a social value proposition needs to be incorporated into each step. In comparison the foundation highlighted the importance of the same elements. However, for collaborative social innovation platforms, more often than not, the people on it will not have the same business knowledge. Therefore a platform should provide resources to help with these problems. For this reason three new criteria will be as such:

- How well does the platform provide business modeling tools for social projects
- How well does the platform provide market research resources
- How well does the platform help you market your solution

Moving on to sustaining and partnerships. The foundation has three elements addressing this: *partnerships with companies/governments/international organizations and communication with stakeholders*. Similarly, the interviewees indicated that partnerships were essential for sustaining and implementing a social innovation. Especially because governments can be either a barrier or an accelerator. Using this as a background, governments are split from the companies as only governments and international organizations have these traits. Encapsulating these points into criteria creates these:

- How well does the platform provide partnership opportunities with companies
- How well does the platform provide partnership opportunities with governments and/or international organizations

Mentoring is one element highlighted by the foundation. According to the interview results, mentoring is important, and the interviewees seek out situations where they can help others succeed. However, it was also discussed that one has to think critically about what the mentor is saying. Regardless mentoring can still help accelerate social innovation and should be addressed. One criterion will be:

- How well does the platform provide mentors for projects

The elements about statistics and scaling will be addressed. The interviewees were all looking for market readiness and if they had the necessary resources. This is similar to what was mentioned by the literature (5Rs), but not everything was mentioned by the interviewees. They mentioned that you have to track your impact metrics and economic performance before thinking of scaling. The interviews also showed that if you try to scale before you are ready, it can be very detrimental for the business. To facilitate these points, three criteria are created:

- How well does the platform help you track your impact metrics
- How well does the platform help you track your project resources
- How well does the platform guide you while scaling up a social project

Structural changes

Before moving on a few structural changes will be done for the evaluation strategy. The first thing to be addressed is the four remaining elements from the foundation which was not mentioned above: *quality control of challenges, a wide range of challenges, friendly competitions and participation from the platform creators*. Rather than being criteria for a platform to support, these should be goals as these four requires work to be done outside of the platform itself.

Secondly, the *Phase*-part of the *Creativity Phase and Growth Phase* will be removed. The word "phase" does not give any more value and removing it will help keep things simple. With this in mind, the *Management* category does not correspond with the identified criteria either. As a result, it will be removed and the criteria will be distributed into *Motivation, Creativity, and Growth* respectively, based on where it fits best. Additionally, two of the criteria connected to partnerships from *Growth* will be moved to *Motivation*, as these are more connected to motivational reasons to use the platform. All of the changes made can be viewed in **section 5.4** where the evaluation strategy is summarized.

5.3.2 Defining The Quality Criteria

The quality elements from the foundation (see **subsection 4.3.15**) were not fully complete. They only gave an indication of where to look, and this started a new search in literature. Right off the bat, the criterion about intellectual property rights will be included as it has been emphasized heavily by several platforms and referenced in literature. It also adds a sense of trust between the user and the platform, so that they know what their ideas or contributions can be used for. This criterion will be written like this:

- How well does the platform take care of the intellectual property rights

Figuring out how a platform can support *safety measures* required a deep dive into some literature, which gave a few pointers on how one can induce a sense of safety into someone.

Carmeli and Gittell (2009) suggest that high-quality relationships and respect is something that helps build psychological safety. Furthermore, psychological safety enables people to be able to make mistakes and learn from them. Therefore one safety criterion should target the relationship between users, and one way is through respect. Additionally, Kark and Carmeli (2009) found that psychological safety affects people's involvement with creative work. This was partly because of the connection between psychological safety and the feeling of vitality or in other words empowerment. May et al. (2004) have similar findings where human relations, norms, and self-consciousness affect safety, which consequently connects to engagement. The results from the questionnaire also indicate that the majority of people feel in control while using collaborative tools, which backs up this statement as it can help induce a sense of safety. Additionally, people do not feel neglected by the others while using collaborative tools, which builds on the point about relationships. By taking these elements into account two criteria which target safety and engagement can be created:

- How empowered do you feel while using the platform
- How respected do you feel by the others on the platform

When looking into the *availability/reliability measures*, it seems that it would target the availability of the platform and its tools. Len et al. (2003) explain it as how fault tolerant the system is and how it responds to those faults. Lyu (2007) description of reliability engineering gives a more in-depth view of the field, but it corresponds to the previously mentioned points about fault tolerance. However, since these are very technical heavy terms, a better approach would be to assess the user satisfaction of the availability/reliability of the platform. Thus the criterion will be written out like this:

- How satisfied are you with the reliability of the platform and its tools

The next quality criteria to be addressed is the *performance measures*. Palmer (2002) discusses the usage of data access speed as a metric for performance. This is something Len et al. (2003) agrees with, they explain software performance as the throughput and the latency while using a system. Similarly, it was also mentioned in the qualitative part of the questionnaire, which was about the barriers for adopting new collaborative platforms. One of the barriers mentioned by the respondents was that while choosing a new platform, the speed of the platform played an important factor. This also ties in with the efficiency while using a platform. Using these above-mentioned points, a single criterion is created for performance:

- How satisfied are you with the load time of the platform

Moving on to the *privacy, transparency, and security measures*, these have a relation to each other. Len et al. (2003) use six characteristics which are defined by the Central Intelligence Agency to describe security. These are *Confidentiality, Integrity, Availability, Authentication, Nonrepudiation, and Authorization*. Availability has already been addressed and can be ignored. Instead, the focus is on confidentiality which is related to data access which then would be related to privacy. How the is data stored, who is able to get access

and that it is not changed by someone different than themselves. The last part was connected to integrity. Authentication and authorization is connected to user login. Verifying that you are who you are, thus giving you the power to access personal data. McGraw (2004) also explains that it is important to look for security breaks. According to the author, attacks will happen regardless of design and implementation. Transparency would be connected to nonrepudiation or in other words accountability. There seem to be an relationship between transparency and accountability as explained by Fox (2007), where transparency generates accountability. A collaborative tool for social innovation should be transparent about its goals and responsibilities, so that people can trust it to do the right thing and hold it accountable. Carlo Bertot et al. (2012) explains how transparency can reduce the risk of corruption, and for a collaborative social innovation tool, corruption would be detrimental. This is illustrated by the interviews where the social entrepreneurs want to be transparent, and a lot of social innovation is built on being transparent. Transparency is also connected to privacy as the platform should be transparent about how the data is stored and what it can be used for. It would of course have to be based on the users consent (Pearson, 2009). This would especially be important in terms of the newly released General Data Protection Regulation from the EU. By taking all of these previously mentioned points into account, the three measures mentioned in the beginning will then be translated into three criteria:

- How well does the platform communicate its goals and responsibilities
- How well does the platform communicate how your data is used and preserved
- How satisfied are you with platforms ability to authenticate/authorize users and detect intrusion

Finally, *usability measures* will be addressed. Len et al. (2003) describe usability as the ease of learning a system, using the system efficiently, minimizing errors and increasing confidence and satisfaction. These were also some of the concerns that were presented by the questionnaire, the complexity of the system, productivity and the learning time of new systems. The questionnaire highlighted that people would rather choose known tools rather than picking up new ones, one of the reasons was because of the technical knowledge needed to learn the new tool. The tool also has to be useful for the task at hand, this is to make people feel productive. Sauro and Kindlund (2005) use efficiency, effectiveness and satisfaction as usability metrics which is similar. The efficiency of use is also one of the 10 heuristics by Nielsen (1995), in addition to efficiency the aspect of error prevention is addressed. It is argued that error prevention should be done by design to reduce user error. Therefore this will not be a criterion. From the questionnaire, related concerns were mentioned, one of which was poor design. The other one was the early risk period of adopting a new platform. It was mentioned that a lot of errors could occur early on while adopting a new tool, which highlights the importance of good design. Taking these points into account five criteria are created:

- How productive do you feel while using the platform
- How satisfied are you with the learnability of the platform tools

- How satisfied are you with the user friendliness of the platform tools
- How satisfied are you with the amount of functionality the platform provides
- How satisfied are you with the design of the platform

5.3.3 Validating The Goals

From the results, there were some interesting remarks that would add on to the goals. Additionally, there were also other findings that will be merged and built into new goals at the end. To start off, the existing goals from **chapter 4** targeted: *training entrepreneurs, encouraging knowledge sharing, attracting both hobbyist and social entrepreneurs, targeting people's social values, having a good balance of motivational factors and to provide tools that make the social innovation process more efficient*. The interviews were able to highlight the importance of these goals which will be further discussed below.

From talking to the interviewees, it was apparent that training people to become social entrepreneurs was an important element. Several of the interviewees were teaching social entrepreneurs about business knowledge, innovation skills, etc. while others were helping at accelerators. Their reasoning for this was because people often need a push to take the risk of being a social entrepreneur and that more often than not their project will fail. However, the hope is that the knowledge about being an entrepreneur will help them bounce back. There seem to be a lot of younger people starting social innovations, which highlights the need for entrepreneurial training as these people are often more inexperienced.

The interviews also found that information can act as a catalyst for people to join social innovation. However, the "right information" is not entirely known. The interviews show that the US or the Anglo-Saxon countries are doing something right in this regard and is something worth exploring further. Although the specific "information" is unknown, it was made apparent that social innovators benefit from building communities and sharing knowledge. This is a way to increase impact as these people see each other as peers rather than competitors. Thus highlighting the importance of sharing knowledge.

When it comes to attracting people, the interviews were able to identify two groups of people that do social innovation. The first group was the millennial generation that seeks impact, and then the older generation whom usually have a lot of experience. Social innovation also seems like a gender-neutral domain. Taking these points into account, a collaborative social innovation platform might want to attract millennials rather than the older generation. The reason being that younger entrepreneurs seem to be more creative and might come up with new business models, while the older generation already has their eyes set on a social problem.

The foundation addressed that high-quality challenges with a lot of diversity can be a way to attract people. Another way is connected to the motivational factors. Money and reputation can be incentives to get started, but ultimately one has to be able to target the right social values. The importance of social values was highlighted by the interviews, where

it was the gained values which kept the social innovators from leaving. Lastly, one could build a strong community which could attract even more people. Building a strong community would require participation from the platform owners as the foundation mentions. By having a strong community, friendly competitions would also be easier to achieve, which was also pointed out to be important by the foundation.

The final goal is the one about providing the right tools to make the process of social innovation more efficient. The results show that tools are just tools. There needs to be a system between them to increase efficiency, and they must also be useful for the task at hand. The goal here should be to create a system of tools, which also provides the benefit of reducing the issue of choice. Lastly, there was also the issue of pricing, and a platform for social innovation should aim to be as free as possible.

New goals

The interviews were also able to uncover some new goals that a platform for social innovation should have. One of which was being able to attract companies, governments, and international institutions. A platform should aim to lessen the load of the entrepreneurs so that they can focus on providing impact. A third party should be able to see that and choose to invest. Therefore a platform should aim to partner with external entities who have the possibility to increase a social innovation's impact.

Social innovations have the problem of being stigmatized, and a platform should address this. A social innovation platform should contribute to making social innovation mainstream. Thus making it more accepting as a profession, and breaking down the misconception that it can not be profitable. This view varies between countries as shown by the interviews, and a platform should try to strive for worldwide acceptance of profitable social innovations. Especially since profitable social innovations tend to be the ones who are able to generate the most change. A summarized list of the goals are presented below:

- Train people to become entrepreneurs and good leaders
- Enable and encourage public sharing of knowledge
- Create a brand and a community that attracts both hobbyists and social entrepreneurs from different fields
- Target people's social values
- Have a good balance between intrinsic motivation and extrinsic motivation
- Provide a system of tools which make the social innovation process easier and more time efficient
- Partner up with third-party entities that can help with spreading the impact of social innovations
- Help make social innovation mainstream

5.4 The Evaluation Strategy

The evaluation strategy is summarized here and will hereinafter be referred to as GQCCM (Growth, Quality, Collaboration, Creativity, Motivation). Each criterion will be a scale from 1-7 (1 = worst, 7 = best) and the sum can then be added up together to create a score. The scores are also calculated for each category, and the maximum score possible will be 350 points. More importantly, the scale will help to combat some of the details lost from the creation process, and each evaluator will gauge the platform based on their own experience with the platform. This is similar to what has been done in other evaluation methods. Some examples are assessing electronic service quality by Parasuraman et al. (2005) and evaluating player enjoyment in games by Sweetser and Wyeth (2005). By using a scale, it is possible to calculate mean values as these are interval data in contrast to the questionnaire which had ordinal data (Allen and Seaman, 2007; Boone and Boone, 2012). It is also worth mentioning that these categories are not constructs, but overall descriptives for the criteria. They might be related, but not as related as items for a construct. Finally, there will probably never be a platform that will be able to get a perfect score, but GQCCM will provide pointers on where to improve in the future or what to provide in the first place. A fillable version of the GQCCM can be found in **Annex C**.

Start of GQCCM Table	
Category	Criteria
Collaboration	<ul style="list-style-type: none"> - How well does the platform provide a tool for messaging your team - How well does the platform provide a tool for communicating with other people on the platform - How well does the platform provide a tool for video/voice chatting - How well does the platform provide an overview tool for a project - How well does the platform provide a shared workspace for collaboration and resource storing/sharing - How well does the platform provide a tool for assigning tasks to teammates and tracking their progress - How well does the platform provide ways of giving feedback - How well does the platform keep you updated on activities happening in a project
Motivation	<ul style="list-style-type: none"> - How enjoyable is it to use the platform - How easy is to discover and contribute to open projects - How easy is it to find new people to collaborate with - How well does the platform target your social values - How well does the platform provide a reputation system - How well does the platform provide a trustworthy public profile - How well does the platform provide funding opportunities - How well does the platform provide networking event both online and offline - How well does the platform provide opportunities for learning and applying knowledge - How well does the platform provide partnership opportunities

Continuation of Table 5.17	
Category	Criteria
	<p>with private companies</p> <ul style="list-style-type: none"> - How well does the platform provide partnership opportunities with governments and/or international organizations
Creativity	<ul style="list-style-type: none"> - How well does the platform enable people and organizations to create high quality projects - How well does the platform provide process support tools/frameworks - How well does the platform host both private and public projects - How well does the platform let you manage several projects - How well does the the platform support collective researching - How well does the the platform support collective ideating - How well does the platform provide an environment for building, showing and receiving feedback on prototypes - How well does the platform enable sharing though social media
Growth	<ul style="list-style-type: none"> - How well does the platform help you track your impact metrics - How well does the platform help you track your project resources - How well does the platform guide you while scaling up a social project - How well does the platform provide mentors for projects - How well does the platform provide business modeling tools for social projects - How well does the platform provide market research resources - How well does the platform help you market your solution - How well does the platform support team management tools - How well does the platform provide ways for sharing/storing knowledge publicly and privately - How well does the platform save a projects history
Quality	<ul style="list-style-type: none"> - How empowered do you feel while using the platform - How respected do you feel by the others on the platform - How productive do you feel while using the platform - How satisfied are you with the learnability of the platform tools - How satisfied are you with the user friendliness of the platform tools - How satisfied are you with the amount of functionality the platform provides - How satisfied are you with the design of the platform - How satisfied are you with the reliability of the platform and its tools - How satisfied are you with the load time of the platform - How satisfied are you with platforms ability to authenticate/authorize users and detect intrusion - How well does the platform communicate its goals and responsibilities

Continuation of Table 5.17	
Category	Criteria
	<ul style="list-style-type: none">- How well does the platform communicate how your data is used and preserved- How well does the platform take care of intellectual property rights
End of GQCCM Table	

Table 5.17: Evaluation strategy table

Chapter 6

Testing The Evaluation Strategy

In this chapter, the process of testing GQCCM is presented. It starts off by explaining the workshop design and then how it was performed. Then the discussion will move into the actual execution of the workshop and how it went before the results are presented and discussed. Finally, GQCCM will be discussed in terms of the research questions from **chapter 1**.

6.1 The Workshop

GQCCM was tested by ten different participants. Three platforms were tested out and then evaluated with the strategy. The platforms tested were Quirky, SOCRATIC and OpenIDEO. Quirky is a highly collaborative platform, whereas SOCRATIC and OpenIDEO focus more on social innovation. SOCRATIC and Quirky were picked based on the possibilities that the platforms provided for a workshop. These two are open and easy to test to their full potential in comparison to OpenIDEO, which have a very strict structure and controlled content. As a result, SOCRATIC and Quirky was subjected to team activity, while OpenIDEO was an individual activity performed by the participants. The workshop guidelines can be found in **Annex D**. Team 1 started with SOCRATIC, while Team 2 started with Quirky. Their role was to follow the workshop guideline. After two and a half hours refreshments were served and then the teams switched platforms.

6.1.1 Experiment Details

The workshop will be run as an experiment, and thus hypotheses are needed. First, a pre-test was run by the researcher on the previously mentioned platforms to create a set of evaluations. The researcher counts as a long-term user as he has around half a year of experience on each of those platforms. In addition to being a long-term user, the researcher has also done in-depth analyses of the platforms as a part of the preliminary analysis. A more detailed explanation of the pre-test will be explained below, but three hypotheses were created for the workshop.

- Hypothesis 1: The evaluation of SOCRATIC and Quirky done by the participants will be similar to the pre-test ones
- Hypothesis 2: The evaluation of OpenIDEO will differ from the pre-test equivalent
- Hypothesis 3: The two teams will have similar evaluations for SOCRATIC and Quirky

SOCRATIC and Quirky gives the possibility of completing an entire project cycle during the workshop, which will roughly give the same experiences as long-term usage. While for OpenIDEO, it is strictly structured and would require long-term usage to get access to all of the tools the platform has to offer. The deviations will most probably be within the categories *Motivation and Creativity*, the reason behind this is because of the recent change of the platform. The change removed a lot of the older challenges where most of the information about motivations were communicated e.g., money and partnerships. Creativity would be reduced because of the strict process the platform follows, and because of this process a lot of the tools are limited to each phase. This would limit a short-term (used for a few days) user’s knowledge about the tools, which would reduce the creativity score. Having said this, GQCCM should still be able to produce similar results.

6.1.2 The Participants

The ten participants were all recruited based on their backgrounds, the goal was to find people with diversified backgrounds to simulate a real social innovation team. The genders were also pretty evenly split (4-6) to try to keep it as diversified as possible. Furthermore, the teams were created to have equal amounts of knowledge within each field. The teams can be seen in **Figure 6.1**, it is worth mentioning that the industrial economics team member in team 2 has a heavy engineering background while the one on team 1 has more of a financial background.

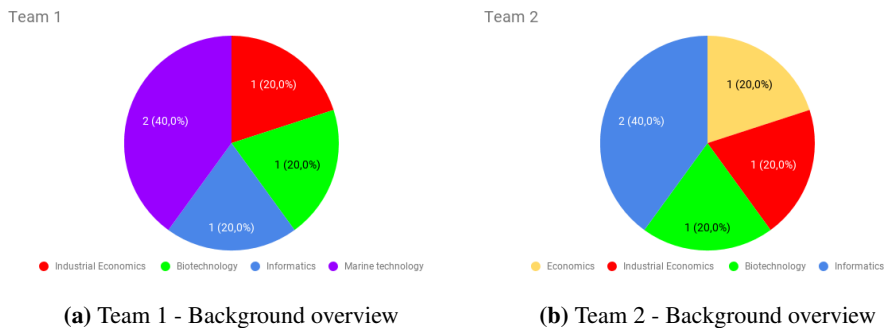


Figure 6.1: Workshop teams

6.1.3 Pre-testing

The pre-test was done in advance by the researcher, and the goal was to evaluate the different platforms from a long-term user perspective. The evaluation was done by filling out GQCCM for each platform. The results can be seen in **Table 6.1**, for those who are curious **Annex D** shows more detailed information and it also contains results for SocialChallenges and InnoCentive. The percentages indicate how many percent it scored for each category based on the maximum score possible for each category.

Platform	Collab	Motivation	Creativity	Growth	Quality	Total
OpenIDEO	29%	65%	68%	24%	63%	51%
SOCRATIC	38%	36%	48%	29%	36%	37%
Quirky	64%	43%	79%	44%	76%	61%

Table 6.1: Pre-test results

6.1.4 Errors During The Workshop

While executing the workshop, there were some unforeseen issues. The issues were mainly with Quirky, a platform that has a large user base, but despite this, there were critical errors. Images of these errors can be found in **Annex D**, but to summarize them a lot of the functionality did not work. There were issues with logging in to the platform, and it was not possible to see other projects. None of the intended functionalities were working. Luckily one of the informatics participants was able to spot a security issue, and when exploited, it enabled the group to create a project and collaborate with each other. However, this only helped enable a subset of the functionality. Thus there was still limited functionality that the participants could explore. These errors will have to be taken into account in the results.

Another unforeseen error was with SOCRATIC. There were some strict rules to the process similar to that of OpenIDEO. Thus some of the tools which target *Growth* could then not be tested out, mainly the functionality about business modeling. This will also have to be taken into account when viewing the results. These errors were observed by the researcher, but some were also found by asking the participants after they were done.

6.1.5 Workshop Results & Analysis

First, the aggregated results will be presented. Then the percentages are calculated by using the mean values from all the participants. **Table 6.2** shows these results. Afterward, the results will be split into each team for the two team-based platforms. Finally, the workshop results will be compared to the pre-test results.

Platform	Collab	Motivation	Creativity	Growth	Quality	Total
OpenIDEO	34%	44%	39%	20%	53%	39%
SOCRATIC	48%	38%	50%	21%	43%	39%
Quirky	39%	34%	36%	24%	42%	35%

Table 6.2: Workshop results based on mean values from the workshop participants

Comparing the teams

The team results will be presented together to make it easier to compare. Only the results from Quirky and SOCRATIC will be compared here as OpenIDEO was not designed as a team activity. **Table. 6.3** presents the Quirky results while **Table. 6.4** shows the SOCRATIC results. A more detailed breakdown of the team comparison data can be found in **Annex D**.

Team	Collab	Motivation	Creativity	Growth	Quality	Total
Team 1	47%	32%	36%	27%	42%	36%
Team 2	34%	35%	34%	21%	41%	33%

Table 6.3: Quirky team comparison results

Team	Collab	Motivation	Creativity	Growth	Quality	Total
Team 1	54%	32%	54%	21%	46%	41%
Team 2	47%	43%	46%	21%	40%	39%

Table 6.4: SOCRATIC team comparison results

What is interesting here is that the total scores are within a range of 3% between the teams. There are some bigger deviations within each category, but the total evaluation of the platform still turns out to be similar. These results show that there are some flaws in GQCCM, but it still equates to similar scores among different people.

Comparing the the workshop result with the pre-test results

The comparison of the pre-test and workshop results will be presented as radar graphs instead as the numbers have already been mentioned earlier. Starting with OpenIDEO, **Figure. 6.2** shows the two graphs **Figure. 6.2a** shows the pre-test while **Figure. 6.2b** show the workshop results. There are clear deviations between the tests, mainly in *Motivation, Creativity, and Quality*.

Secondly, the comparison for SOCRATIC is done, **Figure. 6.3** shows the two graphs **Figure. 6.3a** shows the pre-test while **Figure. 6.3b** show the workshop results. These two graphs show very similar results, although there are small deviations it is possible to see

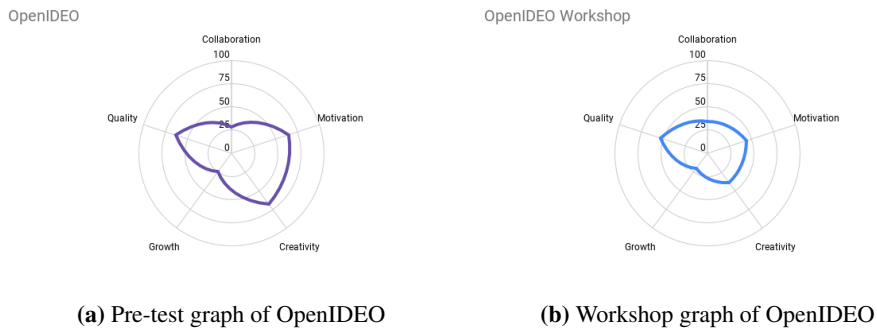


Figure 6.2: Comparison of radio graphs between the pre-test and workshop results for OpenIDEO

that the graphs have similar patterns. The deviation in the *Growth* category could be due to the error discovered.

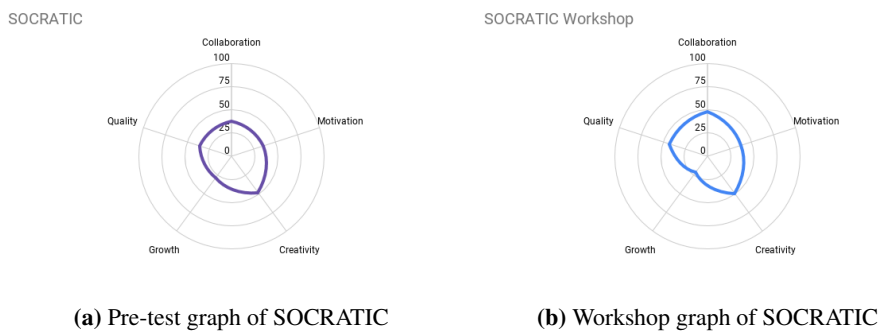


Figure 6.3: Comparison of radio graphs between the pre-test and workshop results for SOCRATIC

Lastly, the comparison for Quirky is presented, **Figure. 6.4** shows the two graphs **Figure. 6.4a** shows the pre-test while **Figure. 6.4b** show the workshop results. Here you can see pretty big deviations. These deviations are certainly created by the errors which were discussed. However, by using the observed errors during the workshop to reduce the equivalent results for the pre-test gives some new numbers as presented in **Table. 6.3**. Using these new numbers, a new graph can be made, **Figure. 6.5** shows the comparison. Here **Figure. 6.5a** shows the pre-test with reduced values while **Figure. 6.5b** repeats the workshop results.

Collab	Motivation	Creativity	Growth	Quality	Total
48%	34%	41%	37%	52%	43%

Table 6.5: Pre-test results for Quirky, including the reductions caused by the errors

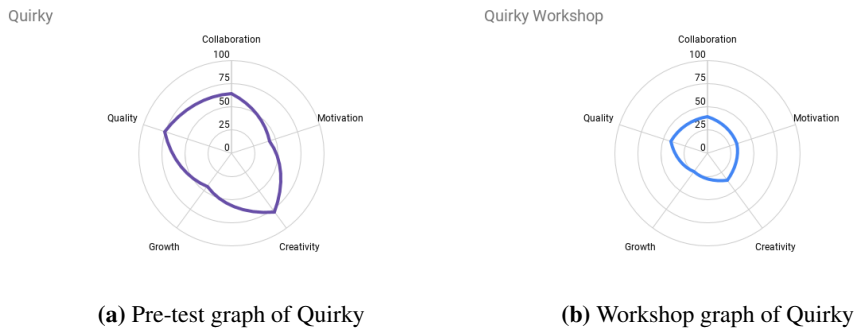


Figure 6.4: Comparison of radio graphs between the pre-test and workshop results for Quirky

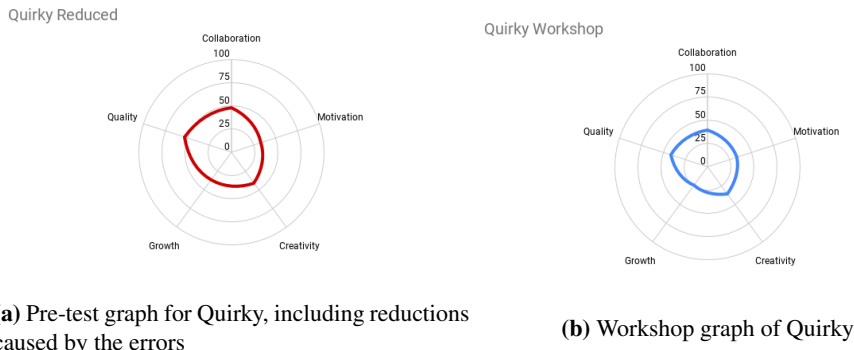


Figure 6.5: Comparison of radio graphs between the pre-test with reduced numbers and workshop results for Quirky

6.1.6 Discussing The Workshop Results

The results will be discussed with the hypotheses in mind, while also creating inferences to potential causes. Starting with hypothesis 1 *“The evaluation of SOCRATIC and Quirky done by the participants will be similar to the pre-test ones”*, the results indicate that these are very similar. Looking at SOCRATIC, the pre-test score amounted to 37% versus the workshop results which gave a score of 39%. The radar graphs were also very similar for the pre-test and the workshop. However, for Quirky there were big deviations, although this can be blamed on the errors which the workshop participants were subjected to. After reducing the pre-test with the same errors in mind, the results amounted to 43% for the pre-test and 35% for the workshop. This is a deviation of 8 percent which is fairly significant, but by looking at the comparison graphs, one can still see that these two have a similar evaluation. Factoring in that some of the errors were missed by the researcher, this deviation might be justifiable. Thus it can be argued that hypothesis 1 is semi-proven, but would still require more testing.

For hypothesis 2 *“The evaluation of OpenIDEO will differ from the pre-test equivalent”*,

the results indicate that this is right. As earlier mentioned OpenIDEO has some restrictions in the short-term where you will not be able to access all of its functionalities. In addition, the removals of the old challenges also removed a lot of the information about the tools and the motivations. This is a probable explanation as to why the two evaluations differentiate in *Motivation and Creativity*. Excluding these from the comparison graphs, results in similar values for the remaining categories. Therefore it can be concluded that this hypothesis was right.

The final hypothesis (3), *The two teams will have similar evaluations for SOCRATIC and Quirky*, these results are very interesting. For Quirky it was 36% versus 33%, and for SOCRATIC it was 41% versus 39%. This shows that the teams had a 3 percent deviation while evaluating the platforms. Although there were larger deviations on the more granular level e.g., *Collaboration* for Quirky and *Motivation* for SOCRATIC. Some of the reasons for these deviations might also be because of the errors, as team 2 started with Quirky and discovered the errors first while team 1 got to know these errors before they started. This could have influenced the *Collaboration* score for team 1 on Quirky to become higher. Because of the errors in Quirky, the team 2 might have been influenced by the poor quality and rated some of the criteria higher for SOCRATIC. All in all the total evaluations still amount to similar scores and hypothesis 3 is proven for this particular instance, but should still be subjected to further testing.

One thing worth taking into account is that GQCCM might be more fit for long-term (couple of months) users. After all, the errors that Quirky had skewed the estimated results considerably. Also, there are platforms where longer periods of time is required before you are able to test out all of the functionality. Therefore GQCCM might benefit greatly from being used in case studies in future research. GQCCM can also be used by platform owners to survey their long-term users to gain insights as to where they can improve.

As for how many people should participate in an evaluation you would want as many as possible, but a minimum of five evaluators would be recommended. This is connected to Virzi (1992), who found that after four-five participants 80% of the usability issues were identified. Although usability is not the main topic at hand, a similar pattern was observed from the workshop results. With five participants a similar pattern to the pre-test was already forming while merging it to ten gave a slightly closer result.

6.2 Discussing The Evaluation Strategy

First, this discussion will start off with a short summary of everything which has been done so far to get a better overview. GQCCM is very comprehensive and rough with 50 different criteria which were built by combining existing literature and existing platforms (see **chapter 4**). This exploration amounted to a huge set of elements that could be important for collaborative social innovation platforms. The next step was to validate those findings, and this was done through a series of interviews with successful social innovators and through a questionnaire which tried to validate why collaborative tools are important (see **chapter 5**). The reason for this is as stated in **chapter 1**, where it was explained that

for the field of social innovation, it is important to learn from practice as theory is far behind. By using this data, the initial elements were reduced, while new findings were found. However, moving on it is important to note that all of the criteria are not of equal importance, but trying to prioritize these would be outside of the scope of the thesis. GQCCM provides a list of important criteria, but not a prioritized list of them.

6.2.1 GQCCM & The Research Questions

Going back to the research questions it is important to see how these two connect. Starting with RQ1.2 *What are the most important non-functional requirements that the platform has to support?*, there were not a lot of surprising findings. A lot of the elements found in **chapter 4** were very standard non-functional requirements which would apply to almost any online platform. However, something which was stressed a lot by the existing platforms was the issue of intellectual property and how this should be handled. Another unconventional finding was the issue about safety and how this can be beneficial for creativity. Thus RQ1.2 is mainly covered by the *Quality* category of GQCCM and a subset of the *Motivation* category.

Moving on to RQ1.1 *What are the main functionalities needed by the platform to facilitate the process of social innovation and for the team?*, this question takes a lot more effort to answer. The short answer is that the criteria in *Collaboration, Motivation, Creativity and Growth* cover RQ1.1. However, looking back, the main functionality needed for a team to work together are communication tools and co-working tools. In addition to this team management and project management tools are important to be able to run a project on a platform. For the process of social innovation, the best way for a platform to help is to help with the more time-consuming tasks e.g., finding partners and funding. While also providing content/functionality to help spark new social innovations. The importance of knowledge sharing and having processes were also highlighted to be important for social innovation. All in all the GQCCM criteria are all functionalities which facilitate the process of social innovation and team work.

Finally, the main research question is addressed (RQ1) *How can a collaborative digital platform help facilitate the process of social innovation, both locally and remotely while providing the necessary tools for a knowledge diverse team to collaborate?*. In addition to RQ1.1 and RQ1.2, there were other findings connected to RQ1. From the questionnaire results, it was made apparent that the collaboration tools required differ while locally present or if you are working remotely. The tools needed while working locally were mainly co-working tools and shared workspaces, these were to increase efficiency. Storage and documentation was the other key part while working locally, this was to easily share resources and to keep a project history to look back on. This also enabled more continuous work when they were to work on their own. The tools needed when they were remotely located were the communication tools and the coordination tools. This was to better gain an overview and to see what they could do to further the project.

There were some interesting findings which were not included in GQCCM, but are connected to RQ1. These were the goals in **subsection 5.3.3**. The goals were not directly

functionalities which a platform could have, but rather goals they should try to fulfill. A platform should try and train people to become social entrepreneurs, and not only create social innovations as innovations might fail. The majority of the goals are targeted towards getting people to use the platform and attracting them. However, the last goal which was found through the interviews was something which should be highlighted, *making social innovation mainstream*. By making social innovation mainstream, more people might indulge in social innovation which would help create more impact. The main reason behind this was because of the stigma social innovation might have in different cultures. This is how the findings relate to the research questions. However, it is important to be critical as this research is probably only scratching the surface after all social innovation is still a fairly unknown field.

6.2.2 The Indications of GQCCM

GQCCM can be used as a tool for both researchers and platform owners. For researchers, GQCCM can be used to evolve the understanding of collaborative social innovation platforms and provide a starting point for that research. Platform owners and implementers, on the other hand, can use GQCCM to provide a guideline to understand how well their platform covers the needs of digital social innovation. Giving a starting point of how they can expand their service or better their current ones. However, it is important to use these results in a critical manner as they are not facts, but guidelines.

6.2.3 Research Quality

Looking back at the research, the results should be looked at critically. The reason behind this argument is that the research is highly interpretive and uses a lot of inductive and abductive thinking to derive the results. Hence a lot of the researcher's assumptions and beliefs are incorporated into the research. If the same research was to be done by another researcher the results might turn out differently. In essence, this research is based on an interpretivism paradigm and would have to follow the qualities of interpretive research.

Therefore when talking about the quality of the research one would have to look at the trustworthiness, confirmability, dependability, credibility, and transferability (Lincoln and Guba, 1985). Starting off with the trustworthiness, the main data has been gathered through literature and existing platforms. Afterward, it was validated through interviews and questionnaires. Lastly, the findings were tested out through a workshop which showed promising results. Thus pushing the data through several iterations before reporting a final contribution.

This is connected to the credibility of the research as it has been using multiple methods for gathering data and triangulating them. The data was recorded by following the process described in **chapter 3**, which addresses the confirmability and the dependability. For the transferability, since the data has been subjected through three different steps some subsets of the data should be able to be transferable to other situations. Each step has been reported in its respective chapters. Therefore the confirmability, dependability, and transferability

should be judged by the reader.

Having said that, the data found from the interviewees in **chapter 5** should be able to be applied to general social innovation research. Additionally, **chapter 4** also presents a form of synthesis of important literature for social innovation and collaborative platforms which could be used for other purposes. On the whole, the research quality would have to be judged by the individual reader. Nevertheless, the research is arguably sound as it has been validated through several steps and the data has been collected from high-value sources.

Conclusion

This thesis aimed to figure out what kind of functionality is needed for an online collaborative tool to support the process of social innovation. The way this was achieved, was by creating an evaluation strategy named GQCCM. This acts as a guideline for implementers and researchers to better understand the needs of collaborative platforms for social innovation. Here is a quick recap of how the research questions were answered by this study:

- RQ 1: How can a collaborative digital platform help facilitate the process of social innovation, both locally and remotely while providing the necessary tools for a knowledge diverse team to collaborate?
 - RQ 1.1: What are the main functionalities needed by the platform to facilitate the process of social innovation and for the team?
 - RQ 1.2: What are the most important non-functional requirements that the platform has to support?

GQCCM answers RQ1.1 and RQ1.2, the criteria under the *Quality* category and a subset of the *Motivation* category answer RQ1.2. These contain standard non-functional requirements often addressed by software design or software architecture, but there is an addition of psychological safety and transparency which is important to help boost creativity. The remaining four categories contains the main functionalities that a platform should have which was a part of RQ1.1. When it comes to the main RQ, it is not only addressed by GQCCM directly. The answer to RQ1 combines the goals identified (see **subsection 5.3.3**), why people use collaborative platforms while physically present (see **Table. 5.13**) and GQCCM. A platform can help the local process by helping a team stay organized and increase efficiency. While working remotely requires coordination and communication. Additionally, by applying the goals, it might spark more social entrepreneurs and not only social innovations. The rest of this chapter summarizes the previous chapters by presenting the contributions, critiques of the study and possible further work in more detail.

7.1 Contribution

The contributions of this study are primarily GQCCM which can be found in **section 5.4**. GQCCM is a rough, but comprehensive model created by analyzing existing literature and platforms. Additionally, the needs of social innovators were explored to better understand how to facilitate social innovation digitally. It is important to use GQCCM with care as not everything in the model is of equal importance, and further work should be put in to better prioritize. One recommended way to utilize GQCCM is to have at least five long-term users evaluate the platform and then use the results as a guideline to understand how to improve.

The second contribution can be found in **chapter 4** where a synthesis of literature and platforms was done which resulted in a comprehensive list of functionalities a platform could support. This can act as a practical guide for implementers rather than being used by researchers. Although it could serve as groundwork for other research as it provides a means of merging collaborative platforms with social innovation. The questionnaire results also indicated that social innovation can benefit from collaborative platforms.

The final contribution was an unexpected finding, although unexpected it is unquestionably important. According to both literature and social innovation experts, there were a few factors that could affect social innovation, but these could not be translated into criteria for GQCCM. This contribution is the goals which were first hinted to by the literature, but then also highly featured by the interviewees. These can be found in **subsection 5.3.3**, and are ways to spark and attract social entrepreneurs, rather than creating social innovations. The reason why these goals are important is that social innovations might fail, but the people behind might be able to create new ones given that they have the know-how.

7.2 Critique of Study

Moving on to possible critiques of the research, there are a lot of factors that can be included here. As explained earlier the research paradigm used is interpretivism, Oates (2005) mentions that there are many that do not view this as "real" research. In addition to this, the strategies used (survey and experiment) have primarily been associated with positivism. This might introduce uncertainty in people who do not trust research done in an interpretive way.

Next up is a more direct critique of how the research was carried out. The research started off by merging social innovation with collaborative platforms and then moved into finding criteria from literature and existing platforms. This process might not have been detailed enough (e.g., not enough platforms or literature covered), although the next steps helped validate the criteria, there might have been important elements overlooked. Especially since the interviews and the questionnaire were designed by using the foundation. Additionally, the filtering and aggregation process might have removed some crucial points.

There is also the question of the participants, it was established that the questionnaire did

not have enough respondents to be statistically robust. In addition to this, because of the design with Likert-type items, it limited the analysis methods. This was because mean values could not be used (Boone and Boone, 2012; Clason and Dormody, 1994). Or at least this study followed the view that mean values should not be used on ordinal data. Another critique of the questionnaire was that there were a lot of people with IT backgrounds which might give false results. This coupled with the poor design makes the questionnaire results a weak point in this study.

In contrast, the interviews were carried out with 11 different people with varying amount of experience with social innovation. Although all of them were heavily involved with social innovation, their backgrounds were very different which can be viewed both positively and negatively. The positive side is that a lot of ground is covered, while the negative side is that there might not have been enough participant of each type. Another critique is that inductive and abductive thinking was used during the analysis which might be disregarded as proper research. This means that the researcher has made assumptions based on the data to formulate the final results. Hence the research can not be generalized, although some of the results should be transferable.

The way these people were sampled can also be discussed. These were social innovators from all around the western world which limits the results to the western world (mostly Europe). In addition, the interviews found that social innovation is not the same in different cultures e.g., it is prestigious in the United Kingdom, but not so much in Norway. Thus there might even be variations in the needs between countries in Europe as well. Hence introducing more uncertainty to the results.

Lastly, some concerns have to be addressed. The non-functional criteria were derived from very technical literature and have not been tested to the same extent as the other categories. Another concern is that the criteria might be open to interpretation by the evaluator which makes it possible to deviate from the initial meaning which was addressed by the literature and the platforms. Finally, there is also the issue found by the workshop that GQCCM might be more fit for long-term usage and evaluation rather than short-term.

7.3 Further Work

The further work addresses some of the concerns mentioned. As the research has demonstrated, GQCCM should be further tested to validate if it is general enough to evaluate collaborative platforms for social innovation, possibly in a case study. It would also be interesting to test GQCCM in other cultures/countries to see if the results vary. It should also be refined, as mentioned earlier all the criteria are not of equal importance and a smaller core might be able to be identified. The criteria should also be subjected to linguistic testing to reduce the possibility of misinterpretation. Additionally, the location specific needs should be explored, figuring out what needs are local and what are global to better understand social innovation for different cultures.

Other elements which should be explored more is the non-functional criteria or the *Quality*

part of GQCCM. These should be explored further from the perspective of both technical personnel and social innovators to figure out if the same criteria apply or if there exist more. Lastly, it is clear that the Anglo-Saxon countries and especially the United States should be researched more to figure out why they are able to influence more social movement than other countries in Europe.

Acknowledgement & Closing Words

I would like to thank all the participants who agreed to join this research project. Especially the interviewees who took valuable time to join the research project. Additionally, I would like to thank my supervisors for their support during the research process.

Moving on to the research itself, it has been a hard and rigorous process. There seem to be many variables that influence the needs of social innovation, and many of these are limited to different cultures. This research only provides a starting point to address these cultural issues for digital platforms and should be further explored. I hope that GQCCM can provide a means for the field of social innovation to improve and advance. Likewise, I also hope that GQCCM can help improve collaborative social innovation platforms and as a result spark more social creativity in the world.

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Appendix

The appendix contains 4 annexes:

1. Annex A - General Information
2. Annex B - Preliminary Analysis Resources
3. Annex C - Evaluation Strategy Resources
4. Annex D - Workshop Resources

Annex A - General Information

Annex A contains the general information like the task proposal, NSD agreement, and participation agreements.

1. Original Task Proposal
2. Conceptual Framework
3. NSD Report Form
4. NSD Approval
5. Interview Participation Form
6. Workshop Participation Form
7. Platforms For The Preliminary Analysis
 - (a) Collaboration tools
 - (b) Open innovation platforms
 - (c) Social innovation platforms

Original Task Proposal

Social Innovation platforms - Co-supervisor Ilias O. Pappas

The main objective of SOCRATIC www.socratic.eu is to facilitate a platform for the citizens and/or organisations to collaboratively identify specific innovative solutions for achieving the desired Global Sustainability Goals, as defined by United Nations. The platform will allow individuals, collectives, institutions, companies or administration:

1. to propose new challenges oriented to solve specific sustainability issues,
2. to invite individuals or organizations to participate with innovative ideas that solve these issues,
3. to collectively select and implement the most promising ideas.



The Socratic project has implemented a prototype of such a platform. The purpose of this student project (master thesis) is to develop a state of the art and state of the practice about existing social innovation platforms. To do so the candidate(s) will have to perform the following steps:

1. Review of the literature. A State of the art document has been produced by the Socratic consortium and will serve a starting point for this activity. The activity will result in a revised state of the art document about ICT platforms for Social Innovation.
2. Identify a set of available platforms and their characteristics. This step will be based on the literature review and other search techniques. Examples of characteristics are functionalities specific to the social innovation platforms as well as generic not functional requirements such as efficiency, portability, usability, reliability, degree of openness of the development process and the product itself.
3. Propose an evaluation strategy of the available platforms (with focus on the open source ones and the Socratic prototype) according to the characteristics developed at step b) above.
4. Perform the evaluation and document it.

Depending on the kind of project (15 ECTS, or 30 ECTS, or 60 ECTS) and the number of students (one or two), the candidate(s) and the supervisor(s) will agree on which of the four steps above will be prioritized.

Co-supervisor Ilias O. Pappas <ilpappas@ntnu.no>

[[Skjul beskrivelse](#)]

Faglærer: [Maria Letizia Jaccheri](#) Status: *Valgbart* Eget for: + Lenke: 

Original task proposal

Conceptual Framework

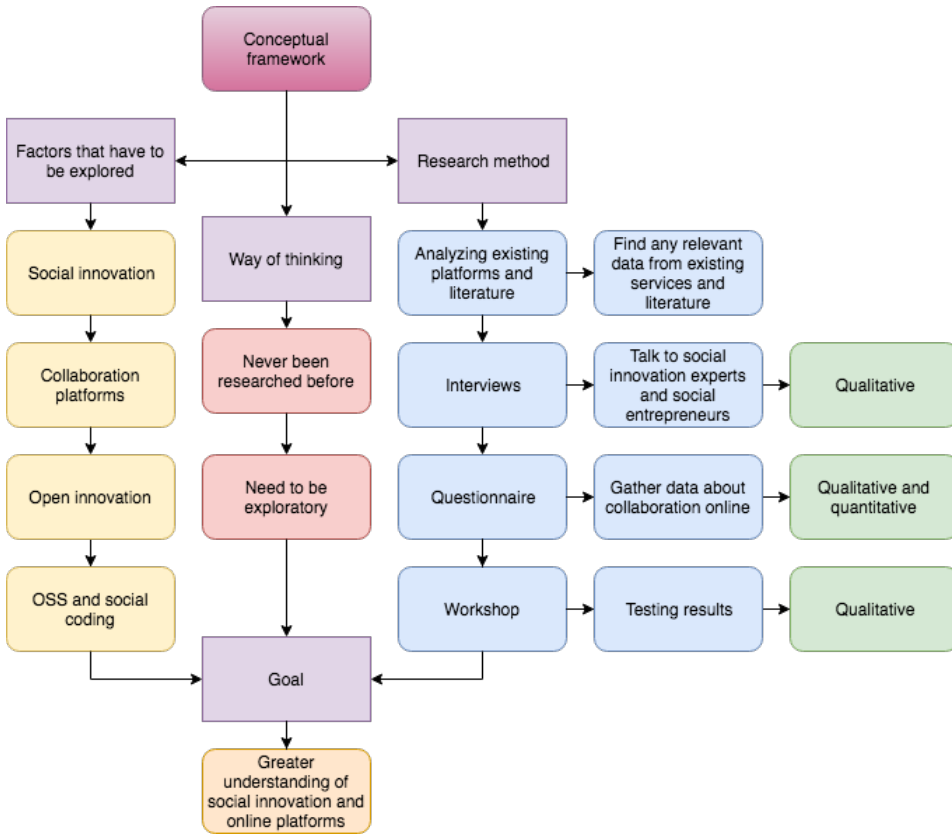


Illustration of the conceptual framework

NSD Report Form



MELDESKJEMA

Meldeskjema (versjon 1.6) for forsknings- og studentprosjekt som medfører meldeplikt eller konsesjonsplikt (jf. personopplysningsloven og helseregisterloven med forskrifter).

1. Intro		
Samles det inn direkte personidentifiserende opplysninger?	Ja • Nei ○	En person vil være direkte identifiserbar via navn, personnummer, eller andre personentydige kjennetegn. Les mer om hva personopplysninger er.
Hvis ja, hvilke?	<input checked="" type="checkbox"/> Navn <input type="checkbox"/> 11-sifret fødselsnummer <input type="checkbox"/> Adresse <input checked="" type="checkbox"/> E-post <input checked="" type="checkbox"/> Telefonnummer <input type="checkbox"/> Annet	NBI Selv om opplysningene skal anonymiseres i oppgave/rapport, må det krysses av dersom det skal innhentes/registreres personidentifiserende opplysninger i forbindelse med prosjektet. Les mer om hva behandling av personopplysninger innebærer.
Annet, spesifiser hvilke		
Skal direkte personidentifiserende opplysninger kobles til datamaterialet (koblingsnøkkel)?	Ja ○ Nei ●	Merk at meldeplikten utløses selv om du ikke får tilgang til koblingsnøkkel , slik fremgangsmåten ofte er når man benytter en databehandler .
Samles det inn bakgrunnsopplysninger som kan identifisere enkeltpersoner (indirekte personidentifiserende opplysninger)?	Ja ○ Nei ●	En person vil være indirekte identifiserbar dersom det er mulig å identifisere vedkommende gjennom bakgrunnsopplysninger som for eksempel bostedskommune eller arbeidsplass/skole kombinert med opplysninger som alder, kjønn, yrke, diagnose, etc.
Hvis ja, hvilke		NBI For at stemme skal regnes som personidentifiserende, må denne bli registrert i kombinasjon med andre opplysninger, slik at personer kan gjenkjennes.
Skal det registreres personopplysninger (direkte/indirekte/via IP-/epost adresse, etc) ved hjelp av nettbaserte spørreskjema?	Ja • Nei ○	Les mer om nettbaserte spørreskjema .
Blir det registrert personopplysninger på digitale bilde- eller videoopptak?	Ja ○ Nei ●	Bilde/videoopptak av ansikter vil regnes som personidentifiserende.
Søkes det vurdering fra REK om hvorvidt prosjektet er omfattet av helseforskningsloven?	Ja ○ Nei ●	NBI Dersom REK (Regional Komité for medisinsk og helsefaglig forskningsetikk) har vurdert prosjektet som helseforskning, er det ikke nødvendig å sende inn meldeskjema til personvernombudet (NBI) (sjelder ikke prosjekter som skal benytte data fra pseudonyme helseregistre). Les mer. Dersom tilbakemelding fra REK ikke foreligger, anbefaler vi at du avventer videre utfylling til svar fra REK foreligger.
2. Prosjektittel		
Prosjektittel	Social Innovation Platforms	Oppgi prosjektets tittel. NBI Dette kan ikke være «Masteroppgave» eller liknende, navnet må beskrive prosjektets innhold.
3. Behandlingsansvarlig institusjon		
Institusjon	NTNU	Velg den institusjonen du er tilknyttet. Alle nivå må oppgis. Ved studentprosjekt er det studentens tilknytning som er avgjørende. Dersom institusjonen ikke finnes på listen, har den ikke avtale med NSD som personvernombud. Vennligst ta kontakt med institusjonen.
Avdeling/Fakultet	Fakultet for informasjonsteknologi og elektroteknikk (IE)	
Institutt	Institutt for datateknologi og informatikk	Les mer om behandlingsansvarlig institusjon .
4. Daglig ansvarlig (forsker, veileder, stipendiat)		

NSD Report Form

Fornavn	Letizia	<p>Før opp navnet på den som har det daglige ansvaret for prosjektet. Veileder er vanligvis daglig ansvarlig ved studentprosjekt. Les mer om daglig ansvarlig.</p> <p>Daglig ansvarlig og student må i utgangspunktet være tilknyttet samme institusjon. Dersom studenten har ekstern veileder, kan biveileder eller fagansvarlig ved studiestedet stå som daglig ansvarlig.</p> <p>Arbeidssted må være tilknyttet behandlingsansvarlig institusjon, f.eks. underavdeling, institutt etc.</p> <p>NB! Det er viktig at du oppgir en e-postadresse som brukes aktivt. Vennligst gi oss beskjed dersom den endres.</p>
Etternavn	Jaccheri	
Stilling	Profesor	
Telefon	73593469	
Mobil	91897028	
E-post	letizia.jaccheri@ntnu.no	
Alternativ e-post	letizia.jaccheri@idi.ntnu.no	
Arbeidssted	NTNU Department of Computer Science	
Adresse (arb.)	Sem Sælands vei 9, IT-bygget	
Postnr./sted (arb.sted)	7034 Trondheim	
5. Student (master, bachelor)		
Studentprosjekt	Ja • Nei ◦	<p>Dersom det er flere studenter som samarbeider om et prosjekt, skal det velges en kontaktperson som føres opp her. Øvrige studenter kan føres opp under pkt 10.</p>
Fornavn	Jie	
Etternavn	Li	
Telefon	41768104	
Mobil	41768104	
E-post	jjeli280495@gmail.com	
Alternativ e-post	jjel@stud.ntnu.no	
Privatadresse	Ubåtsvingen 11	
Postnr./sted (privatadr.)	7045 Trondheim	
Type oppgave	<input checked="" type="radio"/> Masteroppgave <input type="radio"/> Bacheloroppgave <input type="radio"/> Semesteroppgave <input type="radio"/> Annet	
6. Formålet med prosjektet		
Formål	Formålet med oppgaven er å utforske plattformer som fasiliteter sosial innovasjon og hva slags karakteristikk de har. Hvordan forbedre, videreutvikle osv.	Redegjør kort for prosjektets formål, problemstilling, forskningsspørsmål e.l.
7. Hvilke personer skal det innhentes personopplysninger om (utvalg)?		
Kryss av for utvalg	<input type="checkbox"/> Barnehagebarn <input type="checkbox"/> Skoleelever <input type="checkbox"/> Pasienter <input type="checkbox"/> Brukere/klienter/kunder <input type="checkbox"/> Ansatte <input type="checkbox"/> Barnevernsbarn <input type="checkbox"/> Lærere <input type="checkbox"/> Helsepersonell <input type="checkbox"/> Asylsøkere <input checked="" type="checkbox"/> Andre	Les mer om forskjellige forskningstematikker og utvalg .
Beskriv utvalg/deltakere	Deltakere vil være tilfeldige personer igjennom spørreundersøkelser. Andre vil være intervjuer med mennesker med bakgrunn som entreprenør, sosial innovasjons erfaren eller erfaren samarbeids plattformer	Med utvalg menes dem som deltar i undersøkelsen eller dem det innhentes opplysninger om.
Rekruttering/trekking	Dette vil bli gjort fra eget nettverk og vil være spørsmål om de ønsker å være med.	Beskriv hvordan utvalget trekkes eller rekrutteres og oppgi hvem som foretar den. Et utvalg kan rekrutteres gjennom f.eks. en bedrift, skole, idrettsmiljø eller eget nettverk, eller trekkes fra registre som f.eks. Folkeregisteret, SSB-registre, pasientregistre.
Førstegangskontakt	Dette vil være meg, evt. i person eller igjennom epost.	Beskriv hvordan førstegangskontakten opprettes og oppgi hvem som foretar den. Les mer om førstegangskontakt og forskjellige utvalg på våre temasider .

NSD Report Form

Alder på utvalget	<input type="checkbox"/> Barn (0-15 år) <input type="checkbox"/> Ungdom (16-17 år) <input checked="" type="checkbox"/> Voksne (over 18 år)	Les om forskning som involverer barn på våre nettsider.
Omtrentlig antall personer som inngår i utvalget	20-30	
Samles det inn sensitive personopplysninger?	Ja <input type="radio"/> Nei <input checked="" type="radio"/>	Les mer om sensitive opplysninger .
Hvis ja, hvilke?	<input type="checkbox"/> Rasemessig eller etnisk bakgrunn, eller politisk, filosofisk eller religiøs oppfatning <input type="checkbox"/> At en person har vært mistenkt, siktet, tiltalt eller dømt for en straffbar handling <input type="checkbox"/> Helseforhold <input type="checkbox"/> Seksuelle forhold <input type="checkbox"/> Medlemskap i fagforeninger	
Inkluderes det myndlige personer med redusert eller manglende samtykkekompetanse?	Ja <input type="radio"/> Nei <input checked="" type="radio"/>	Les mer om pasienter, brukere og personer med redusert eller manglende samtykkekompetanse .
Samles det inn personopplysninger om personer som selv ikke deltar (tredjepersoner)?	Ja <input type="radio"/> Nei <input checked="" type="radio"/>	Med opplysninger om tredjeperson menes opplysninger som kan identifisere personer (direkte eller indirekte) som ikke inngår i utvalget. Eksempler på tredjeperson er kollega, elev, klient, familiemedlem, som identifiseres i datamaterialet. Les mer .
8. Metode for innsamling av personopplysninger		
Kryss av for hvilke datainnsamlingsmetoder og datakilder som vil benyttes	<input type="checkbox"/> Papirbasert spørreskjema <input type="checkbox"/> Elektronisk spørreskjema <input checked="" type="checkbox"/> Personlig intervju <input checked="" type="checkbox"/> Gruppeintervju <input checked="" type="checkbox"/> Observasjon <input type="checkbox"/> Deltakende observasjon <input type="checkbox"/> Blogg/sosiale medier/internett <input type="checkbox"/> Psykologiske/pedagogiske tester <input type="checkbox"/> Medisinske undersøkelser/tester <input type="checkbox"/> Journaldata (medisinske journaler)	<p>Personopplysninger kan innhentes direkte fra den registrerte f.eks. gjennom spørreskjema, intervju, tester, og/eller ulike journaler (f.eks. elevmapper, NAV, PPT, sykehus) og/eller registre (f.eks. Statistisk sentralbyrå, sentrale helseregistre).</p> <p>NB! Dersom personopplysninger innhentes fra forskjellige personer (utvalg) og med forskjellige metoder, må dette spesifiseres i kommentar-boksen. Husk også å legge ved relevante vedlegg til alle utvalgs-gruppene og metodene som skal benyttes.</p> <p>Les mer om registerstudier. Dersom du skal anvende registerdata, må variabeliste lastes opp under pkt. 15</p> <p>Les mer om forskningsmetoder.</p>
	<input type="checkbox"/> Registerdata	
	<input type="checkbox"/> Annen innsamlingsmetode	
Tilleggsopplysninger		
9. Informasjon og samtykke		
Oppgi hvordan utvalget/deltakerne informeres	<input checked="" type="checkbox"/> Skriftlig <input checked="" type="checkbox"/> Muntlig <input type="checkbox"/> Informeres ikke	<p>Dersom utvalget ikke skal informeres om behandlingen av personopplysninger må det begrunnes.</p> <p>Les mer. Vennligst send inn mal for skriftlig eller muntlig informasjon til deltakerne sammen med meldeskjema.</p> <p>Last ned en veiledende mal her.</p> <p>Les om krav til informasjon og samtykke.</p> <p>NB! Vedlegg lastes opp til sist i meldeskjemaet, se punkt 15 Vedlegg.</p>
Samtykker utvalget til deltakelse?	<input checked="" type="radio"/> Ja <input type="radio"/> Nei <input type="radio"/> Flere utvalg, ikke samtykke fra alle	<p>For at et samtykke til deltakelse i forskning skal være gyldig, må det være frivillig, uttrykkelig og informert.</p> <p>Samtykke kan gis skriftlig, muntlig eller gjennom en aktiv handling. For eksempel vil et besvart spørreskjema være å regne som et aktivt samtykke.</p> <p>Dersom det ikke skal innhentes samtykke, må det begrunnes. Les mer.</p>
10. Informasjonssikkerhet		
Spesifiser	Selve persondataen vil være på papir, mens innholdet som blir samlet inn vil bli skrevet ned digitalt.	NB! Som hovedregel bør ikke direkte personidentifiserende opplysninger registreres sammen med det øvrige datamaterialet. Vi anbefaler koblingsnøkkel .

NSD Report Form

Hvordan registreres og oppbevares personopplysningene?	<input type="checkbox"/> På server i virksomhetens nettverk <input type="checkbox"/> Fysisk isolert PC tilhørende virksomheten (dvs. ingen tilknytning til andre datamaskiner eller nettverk, interne eller eksterne) <input type="checkbox"/> Datamaskin i nettverkssystem tilknyttet Internett <input checked="" type="checkbox"/> Privat datamaskin <input type="checkbox"/> Videoopptak/fotografi <input type="checkbox"/> Lydopptak <input checked="" type="checkbox"/> Notater/papir <input type="checkbox"/> Mobile lagringsenheter (bærbar datamaskin, minnepenn, minnekort, cd, ekstern harddisk, mobiltelefon) <input type="checkbox"/> Annen registreringsmetode	<p>Merk av for hvilke hjelpemidler som benyttes for registrering og analyse av opplysninger.</p> <p>Sett flere kryss dersom opplysningene registreres på flere måter.</p> <p>Med «virksomhet» menes her behandlingsansvarlig institusjon.</p> <p>NB! Som hovedregel bør data som inneholder personopplysninger lagres på behandlingsansvarlig sin forskningsserver.</p> <p>Lagring på andre medier - som privat pc, mobiltelefon, minnepenne, server på annet arbeidssted - er mindre sikkert, og må derfor begrunnes. Slik lagring må avklares med behandlingsansvarlig institusjon, og personopplysningene bør krypteres.</p>
Annen registreringsmetode beskriv		
Hvordan er datamaterialet beskyttet mot at uvedkommende får innsyn?	Privat datamaskin med brukernavn og passord.	Er f.eks. datamaskintilgangen beskyttet med brukernavn og passord, står datamaskinen i et låsbart rom, og hvordan sikres bærbare enheter, utskriffter og opptak?
Samles opplysningene inn/behandles av en databehandler (ekstern aktør)?	Ja <input type="radio"/> Nei <input checked="" type="radio"/>	Dersom det benyttes eksterne til helt eller delvis å behandle personopplysninger, f.eks. Questback, transkriberingsassistent eller tolv, er dette å betrakte som en databehandler . Slike oppdrag må kontraksreguleres.
Hvis ja, hvilken		
Overføres personopplysninger ved hjelp av e-post/Internett?	Ja <input type="radio"/> Nei <input checked="" type="radio"/>	F.eks. ved overføring av data til samarbeidspartner, databehandler mm.
Hvis ja, beskriv?		Dersom personopplysninger skal sendes via internett, bør de krypteres tilstrekkelig. Vi anbefaler ikke lagring av personopplysninger på nettskytjenester. Bruk av nettskytjenester må avklares med behandlingsansvarlig institusjon. Dersom nettskytjeneste benyttes, skal det inngås skriftlig databehandleravtale med leverandøren av tjenesten. Les mer .
Skal andre personer enn daglig ansvarlig/student ha tilgang til datamaterialet med personopplysninger?	Ja <input type="radio"/> Nei <input checked="" type="radio"/>	
Hvis ja, hvem (oppgi navn og arbeidssted)?		
Utleveres/deles personopplysninger med andre institusjoner eller land?	<input checked="" type="radio"/> Nei <input type="radio"/> Andre institusjoner <input type="radio"/> Institusjoner i andre land	F.eks. ved nasjonale samarbeidsprosjekter der personopplysninger utveksles eller ved internasjonale samarbeidsprosjekter der personopplysninger utveksles.
11. Vurdering/godkjenning fra andre instanser		
Søkes det om dispensasjon fra taushetsplikten for å få tilgang til data?	Ja <input type="radio"/> Nei <input checked="" type="radio"/>	For å få tilgang til taushetsbelagte opplysninger fra f.eks. NAV, PPT, sykehus, må det søkes om dispensasjon fra taushetsplikten . Dispensasjon søkes vanligvis fra aktuelt departement.
Hvis ja, hvilke		
Søkes det godkjenning fra andre instanser?	Ja <input type="radio"/> Nei <input checked="" type="radio"/>	I noen forskningsprosjekter kan det være nødvendig å søke flere tillatelser. Søkes det f.eks. om tilgang til data fra en registerer? Søkes det om tilatelse til forskning i en virksomhet eller en skole? Les mer om andre godkjenninger .
Hvis ja, hvilken		
12. Periode for behandling av personopplysninger		
Prosjektstart	30.09.2017	Prosjektstart Vennligst oppgi tidspunktet for når kontakt med utvalget skal gjøres/datainsamlingen starter.
Planlagt dato for prosjektslutt	01.06.2018	Prosjektslutt: Vennligst oppgi tidspunktet for når datamaterialet enten skal anonymiseres/slettes, eller arkiveres i påvente av oppfølgingsstudier eller annet.
Skal personopplysninger publiseres (direkte eller indirekte)?	<input type="checkbox"/> Ja, direkte (navn e.l.) <input type="checkbox"/> Ja, indirekte (identifiserende bakgrunnsopplysninger) <input checked="" type="checkbox"/> Nei, publiseres anonymt	Les mer om direkte og indirekte personidentifiserende opplysninger. NB! Dersom personopplysninger skal publiseres, må det vanligvis innhentes eksplisitt samtykke til dette fra den enkelte, og deltakere bør gis anledning til å lese gjennom og godkjenne sitater.

NSD Report Form

Hva skal skje med datamaterialet ved prosjektslutt?	<input checked="" type="checkbox"/> Datamaterialet anonymiseres <input type="checkbox"/> Datamaterialet oppbevares med personidentifikasjon	NB! Her menes datamaterialet, ikke publikasjon. Selv om data publiseres med personidentifikasjon skal som regel øvrig data anonymiseres. Med anonymisering menes at datamaterialet bearbejdes slik at det ikke lenger er mulig å føre opplysningene tilbake til enkeltpersoner. Les mer om anonymisering av data .
13. Finansiering		
Hvordan finansieres prosjektet?		Fyller ut ved eventuell ekstern finansiering (oppdragsforskning, annet).
14. Tilleggsopplysninger		
Tilleggsopplysninger		Dersom prosjektet er del av et prosjekt (eller skal ha data fra et prosjekt) som allerede har tilrådning fra personvernombudet og/eller konsesjon fra Datatilsynet, beskriv dette her og oppgi navn på prosjektleder, prosjektittel og/eller prosjektnummer.
15. Vedlegg		
Vedlegg	Antall vedlegg: 2. <ul style="list-style-type: none">• interview_guide.pdf• participation_agreement.pdf	



Letizia Jaccheri
Sem Sælandsvei 7-9
7491 TRONDHEIM

Vår dato: 20.10.2017

Vår ref: 55966 / 3 / BGH

Deres dato:

Deres ref:

Vurdering fra NSD Personvernombudet for forskning § 31

Personvernombudet for forskning viser til meldeskjema mottatt 16.09.2017 for prosjektet:

55966	<i>Social Innovation Platforms</i>
Behandlingsansvarlig	<i>NTNU, ved institusjonens øverste leder</i>
Daglig ansvarlig	<i>Letizia Jaccheri</i>
Student	<i>Jie Li</i>

Vurdering

Etter gjennomgang av opplysningene i meldeskjemaet og øvrig dokumentasjon finner vi at prosjektet er meldepliktig og at personopplysningene som blir samlet inn i dette prosjektet er regulert av personopplysningsloven § 31. På den neste siden er vår vurdering av prosjektopplegget slik det er meldt til oss. Du kan nå gå i gang med å behandle personopplysninger.

Vilkår for vår anbefaling

Vår anbefaling forutsetter at du gjennomfører prosjektet i tråd med:

- opplysningene gitt i meldeskjemaet og øvrig dokumentasjon
- vår prosjektvurdering, se side 2
- eventuell korrespondanse med oss

Vi forutsetter at du ikke innhenter sensitive personopplysninger.

Meld fra hvis du gjør vesentlige endringer i prosjektet

Dersom prosjektet endrer seg, kan det være nødvendig å sende inn endringsmelding. På våre nettsider finner du svar på hvilke [endringer](#) du må melde, samt endringskjema.

Opplysninger om prosjektet blir lagt ut på våre nettsider og i Meldingsarkivet

Vi har lagt ut opplysninger om prosjektet på nettsidene våre. Alle våre institusjoner har også tilgang til egne prosjekter i [Meldingsarkivet](#).

Vi tar kontakt om status for behandling av personopplysninger ved prosjektslutt

Dokumentet er elektronisk produsert og godkjent ved NSDs rutiner for elektronisk godkjenning.

NSD – Norsk senter for forskningsdata AS Harald Hårfagres gate 29 Tel: +47-55 58 21 17 nsd@nsd.no Org.nr. 985 321 884
NSD – Norwegian Centre for Research Data NO-5007 Bergen, NORWAY Faks: +47-55 58 96 50 www.nsd.no

Ved prosjektslutt 01.06.2018 vil vi ta kontakt for å avklare status for behandlingen av personopplysninger.

Se våre nettsider eller ta kontakt dersom du har spørsmål. Vi ønsker lykke til med prosjektet!

Marianne Høgetveit Myhren

Belinda Gloppen Helle

Kontaktperson: Belinda Gloppen Helle tlf: 55 58 28 74 / belinda.helle@nsd.no

Vedlegg: Prosjektvurdering

Kopi: Jie Li, jieli280495@gmail.com

Personvernombudet for forskning



Prosjektvurdering - Kommentar

Prosjektnr: 55966

Utvalget informeres skriftlig og muntlig om prosjektet og samtykker til deltakelse. Informasjonsskrivet er godt utformet.

Personvernombudet legger til grunn at forsker etterfølger NTNU sine interne rutiner for datasikkerhet. Dersom personopplysninger skal lagres på privat pc, bør opplysningene krypteres tilstrekkelig.

I følge meldeskjemaet skal personopplysninger samles inn ved bruk av nettbasert spørreskjema. Personvernombudet antar derfor at det skal brukes en databehandler (som for eksempel Questback eller SurveyXact). Vi forutsetter derfor at det inngås en databehandleravtale. For råd om hva databehandleravtalen bør inneholde, se Datatilsynets veileder: <http://www.datatilsynet.no/Sikkerhet-internkontroll/Databehandleravtale/>.

Vi minner om at også databehandler må slette personopplysninger fra sine systemer. Dette inkluderer eventuelle logger av koblinger mellom IP-adresse/epost-adresser og besvarelser.

Forventet prosjektslutt er 01.06.2018. Ifølge prosjektmeldingen skal innsamlede opplysninger da anonymiseres. Anonymisering innebærer å bearbeide datamaterialet slik at ingen enkeltpersoner kan gjenkjennes. Det gjøres ved å:

- slette direkte personopplysninger (som navn/koblingsnøkkel)
- slette/omskrive indirekte personopplysninger (identifiserende sammenstilling av bakgrunnsopplysninger som f.eks. bosted/arbeidssted, alder og kjønn)

Interview Participation Form

Information and agreement on joining the research project

Social Innovation Platforms

Background and purpose

The project is a master thesis at IDI NTNU and is connected to an EU project about Social Innovation(SI). The purpose is to gather characteristics about SI platforms to see what are the key elements that help facilitate SI and what does not.

You are selected to be a part of this project because you have experience within one of these fields: Entrepreneurship, SI or Collaboration platforms.

What joining the study entails

Individual interviews(approx. 30 minutes).

What happens with the information?

All personal information will be confidential and the data will be merged and published anonymously. The only people who have access to the personal information is the researcher(Jie) and possibly his supervisors.

The project will be done 01.06.2018 and all the personal information will be deleted.

Voluntary participation

It is voluntary to join the study and you might pull your agreement whenever you want, without giving a reason. If you choose to pull out from the study all your data will be 100% anonymized.

If you want more information or have questions about the project you can contact Jie Li, +47 41768104. or his supervisor Letizia Jaccheri +47 91897028

This study has been cleared by "Personvernombudet for forskning", NSD - Norsk senter for forskningsdata AS. (Norwegian Center for Research Data)

Agreement to join the study

I have received the necessary information about the study and would like to join

(Signed by participant, date)

Workshop Participation Form

Information and agreement on joining the research project

Social Innovation Platforms

Background and purpose

The project is a master thesis at IDI NTNU and is connected to an EU project about Social Innovation(SI) platforms. The purpose is to gather the needed characteristics for a SI platforms to help facilitate SI.

You are selected to be a part of this project because of your background.

What joining the study entails

Workshop (approx 5-6 hours) where you will be a part of a small experiment. You will be solving some cases while being observed. Afterwards you will be given a survey which is related to the experiment. You might be contacted at a later date to answer a few questions.

What happens with the information?

All personal information will be confidential and the data will be merged and published anonymously. The only people who have access to the personal information is the researcher(Jie) and possibly his supervisors.

The project will be done 05.07.2018 and all the personal information will be deleted.

Voluntary participation

It is voluntary to join the study and you might pull your agreement whenever you want, without giving a reason. If you choose to pull out from the study all your data will be 100% anonymized.

If you want more information or have questions about the project you can contact Jie Li, +47 41768104. or his supervisor Letizia Jaccheri +47 91897028

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Agreement to join the study

I have received the necessary information about the study and would like to join

(Signed by participant, date)

Platforms For The Preliminary Analysis

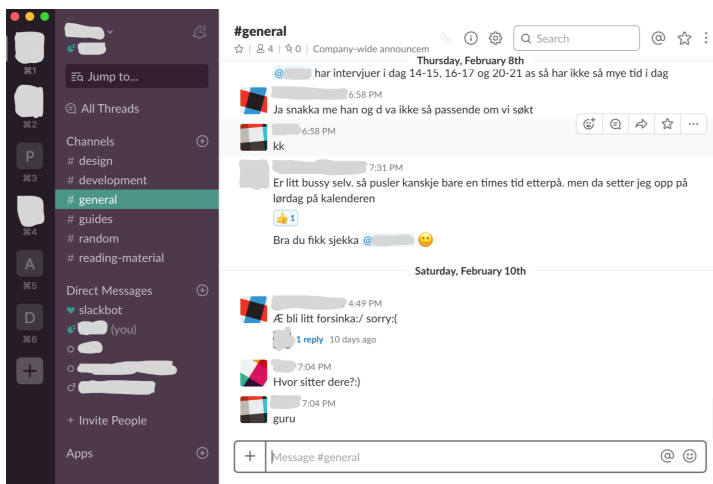
Collaboration tools

The collaboration platforms which were chosen for the analysis are Slack, Trello, Github and Google Drive. These are platforms that represents communication, coordination, collaboration and all of them have awareness functionalities. At the time of writing, each individual platform excel within their own respective fields.

Slack

Slack is a communication platform for teams with the aim of simplifying communication. It lets you manage several teams at the same time and a shared workspace is provided to each team. It is highly flexible and you can connect a lot of external tools or even build your own. One of the main reasons Slack was chosen as a platform for the analysis is because of their goal and their history which can be seen at their "About" page. It conveys their goal and history as follows:

At Slack, we're building the platform that connects teams with the apps, services, and resources they need to get work done. Launched in 2014, Slack is the fastest growing business application in history. Millions of people around the world use Slack to bring their teams together, make sense of their work, and drive their business forward. *Slack (2018)*

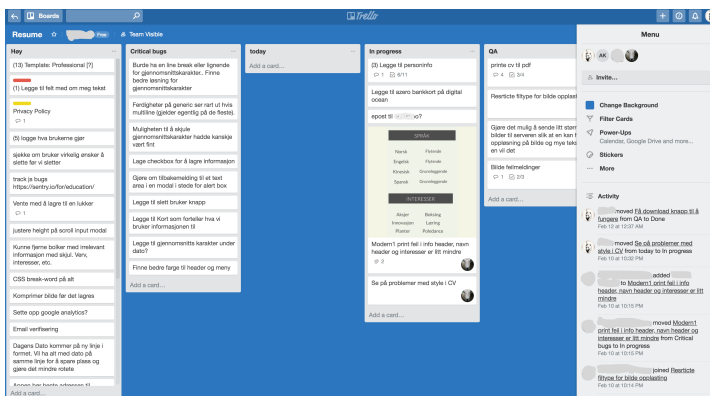


Screenshot of Slack (taken 20.02.2018)

The figure shows how the solution looks like at the time of writing. On the left side is a list of your teams and the different users and channels within a specific team. On the right side is the chatroom with different search and awareness functions.

Trello

Trello is a simple digital board to keep projects organized which are similar to physical whiteboards. It provides an easy interface to visualize workflow and to be aware of who is doing what. It is very easy to coordinate with Trello and to stay up-to-date with the progress. One of the strengths of Trello is that it is super simple and flexible, which makes it possible to run different processes like Scrum or Kanban effortlessly. One of the main reasons Trello was chosen is because of its simplicity and rapid adoption rate which is conveyed on their "About" page (Trello, 2018).

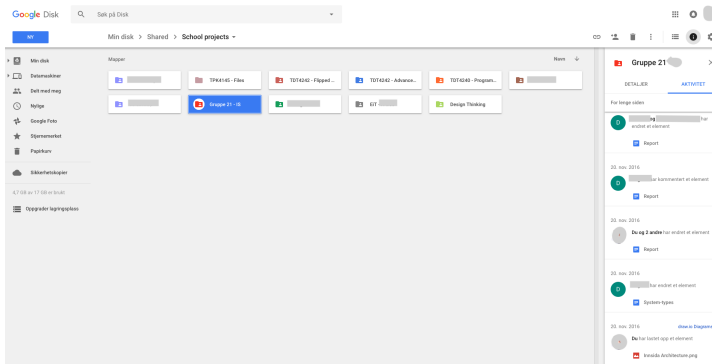


Screenshot of Trello (taken 20.02.2018)

An illustration of Trello can be seen in the figure above . It is a simple customizable board which works as a shared workspace for a team. It is possible to assign different members to tasks and add deadlines. A log of the team activity can be seen on the right hand side, while the rest of the screen contains the tasks.

Google Drive

Google Drive is a storage and cooperation service that provides an easy solution to file storing and sharing and it is free up to a certain storage amount. It also provides a set of tools like Docs, Sheets and Slides which are equivalent to Word, Excel and Powerpoint. However, everything happens in a browser without having to download any additional software and the main reason Google Drive was chosen was because of the possibility to collaborate live in those tools (Drive, 2018).

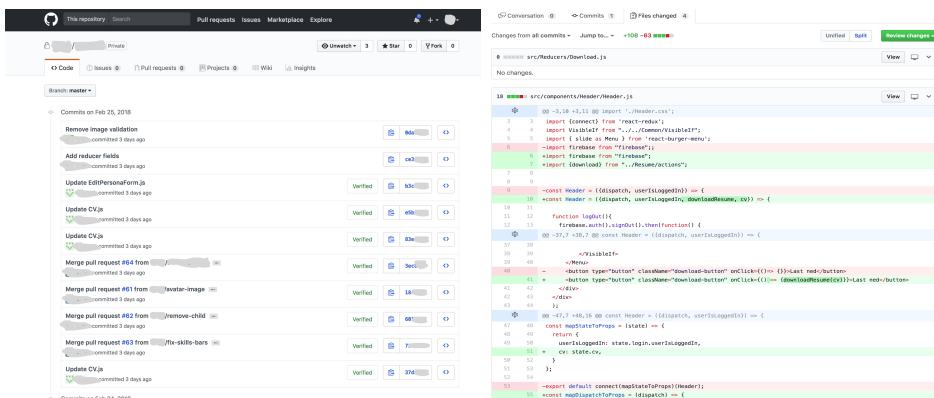


Screenshot of Google Drive (taken 27.02.2018)

In the figure above a basic overview of Google Drive can be seen. On the right hand side you can see an activity log of everything happening in a specific folder or file. The folders which have a small human silhouette represent folders which are shared with other people and those without are private. This enables one to segregate team workspaces easily.

Github

Github is a collaboration platform for programming which helps with collaborating and sharing the code files. Another major selling point is the version controlling and awareness features of the service. It is a big venue for social coding as mentioned by Dabbish et al. (2012) and a big part of this is probably because of the free project hosting that Github provides for open source projects. Github boasts 27 million users on their about page (Github, 2018a) and that they are the largest open source community in the world (Github, 2018b). All of these reasons are why Github was chosen to be one of the platforms analyzed.



Github repository overview

Github collaboration example

Screenshot of Github (taken 28.02.18)

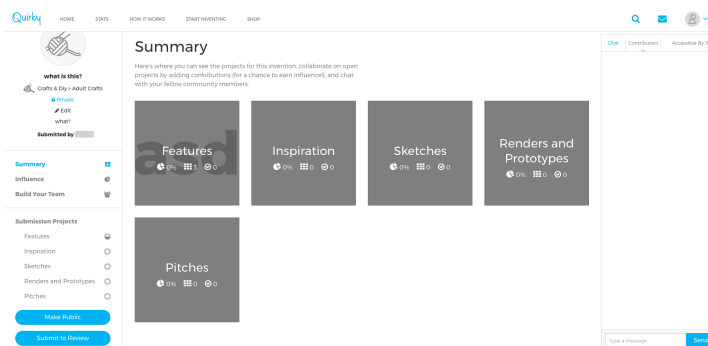
The figure above shows two images of how Github works. The left side shows what has been done by whom and the right side shows what kind of information has been changed in each file. This is the basic workflow in Github and how collaboration works. It helps with coordinating changes and helps bring awareness to the collaborators.

Open innovation platforms

The open innovation platforms chosen for the analysis are Quirky and InnoCentive. These platforms are some of the most popular platforms out there for open innovation and have gotten media attention and research attention.

Quirky

Quirky is an open collaborative invention community. It is a collaborative platform for open innovation where the user can bring their idea to life and possibly earn money while doing it. You can submit an idea or just collaborate with others on their ideas, and the platform will review and possibly produce the ideas. Any sold inventions will then earn the creators royalties as long as the item is in production. On their site it is stated that they have over a million members and over 300.000 inventions and that they have paid out over 10 million dollars (Quirky, 2018). The reason that Quirky was chosen as one of the platforms is because of the amounts of mentions that it has received by collective design research papers and its heavy emphasis on collaboration.

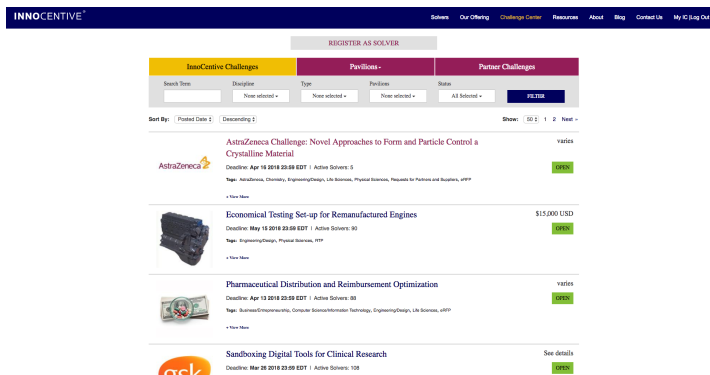


Screenshot of Quirky (taken 28.02.2018)

In the figure above you can see how the collaborative space of Quirky looks like. On the left hand side you see the project statistics and on the right you see a chatroom for team members to communicate. In the middle you see the different phases that needs to be done before the project can be reviewed.

InnoCentive

InnoCentive is an open innovation platform which uses crowdsourcing as its primary tool. It contains challenges from different organizations which are called seekers and they give out money prizes to the best submissions. The solvers as they call them are located all around the world and they mention that many of these have ph.d backgrounds. On their "About" page they also mention that they have a proven methodology and a comprehensive innovation management software (InnoCentive, 2018). InnoCentive is also one of the platforms that have been mentioned in multiple papers, however this is not the only reason it was chosen. One of the core reasons of why InnoCentive was that it is one of the oldest open innovation platforms out there, despite being started in 2001 it is still able to compete with the newer services out there.



Screenshot of InnoCentive (taken 28.02.2018)

The figure above shows how the challenge page of InnoCentive looks like. It is possible to filter out challenges based on your knowledge and then jump in to compete for a price. It even has a social innovation discipline in its filter settings. It looks old design-wise, but it is still able to attract people.

Social innovation platforms

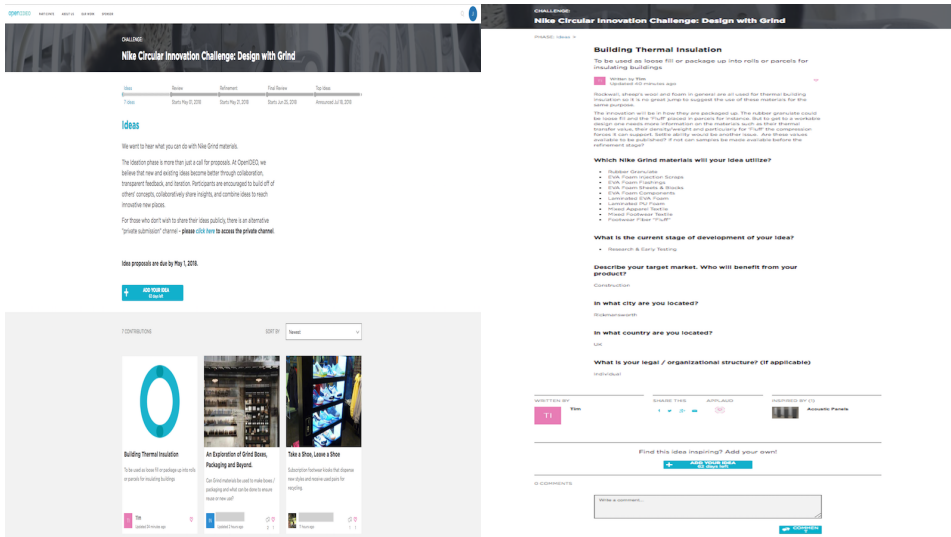
The social innovation platforms chosen are OpenIDEO, SOCRATIC and SocialChallenges. These platforms are quite different even though they try to do solve similar problems. The latter two are fairly new and has not gained to much popularity just yet.

OpenIDEO

OpenIDEO is a by definition a open innovation platform, however they have been marketing themselves as a company that want to help the world. A quote from their about us page (called approach) states:

At our core, we design to create a positive impact in the world. We act with intention in service of a cause greater than ourselves. *OpenIDEO (2018a)*

In addition to this most of their projects involve social issues in some shape or form which is communicated by their "Our Work" page (OpenIDEO, 2018b). On the basis of this OpenIDEO is in more of a gray area between pure open innovation and pure social innovation. The decision to add it under social innovation platforms was made because of how they identify themselves as a company that creates positive impact. The reason OpenIDEO was chosen as one of the platforms is because of their history. OpenIDEO is created by the design firm IDEO, which coincidentally also is the people behind Design Thinking, one of the more popular methodologies for social innovation.



OpenIDEO challenge page

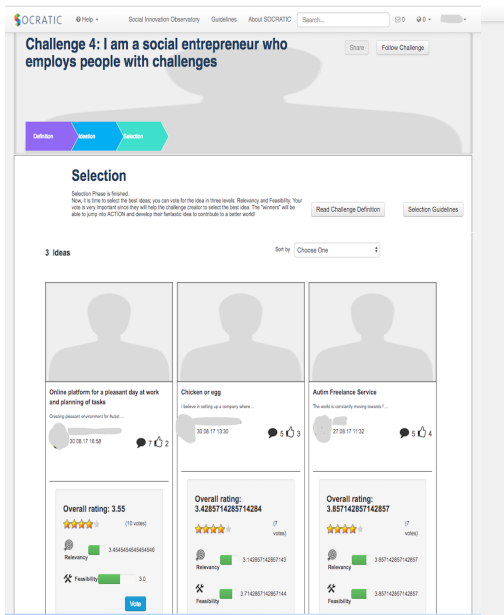
OpenIDEO collaboration example

Screenshot of OpenIDEO (taken 28.02.18)

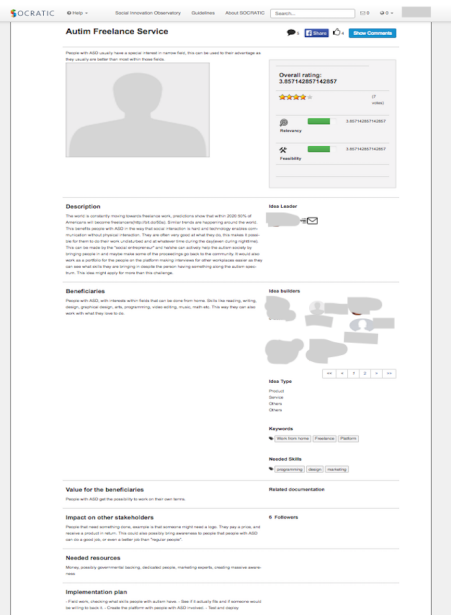
The figure above shows two images of OpenIDEO. On the left it illustrates a challenge page is presented. On the top part you can see a progress bar that follow some elements of the Design Thinking methodology. On the right side you see a submitted idea, and how people can give feedback and possibly contribute to the idea.

SOCRATIC

SOCRATIC was briefly mentioned in the introduction, but it is essentially a platform that tries to offer a set of tools to support the whole social innovation project life cycle (SOCRATIC, 2018). The main reason for choosing SOCRATIC as a platform is because of how it is related to the study and the institution. However, SOCRATIC is based on research within the social innovation domain which makes it an interesting platform to analyze.



SOCRATIC challenge overview



SOCRATIC collaboration example

Screenshot of SOCRATIC (taken 28.02.18)

The figure above shows two images of the SOCRATIC platform. On the left hand side it shows the challenge page with idea submissions and votes. It also have a progression tracker on the top which implements the social innovation life cycle. On the right side an illustration of an idea submission is shown. It contains the idea and the contributors to the idea which are blurred out in this instance. Overall it looks fairly similar to OpenIDEO in terms of functionality.

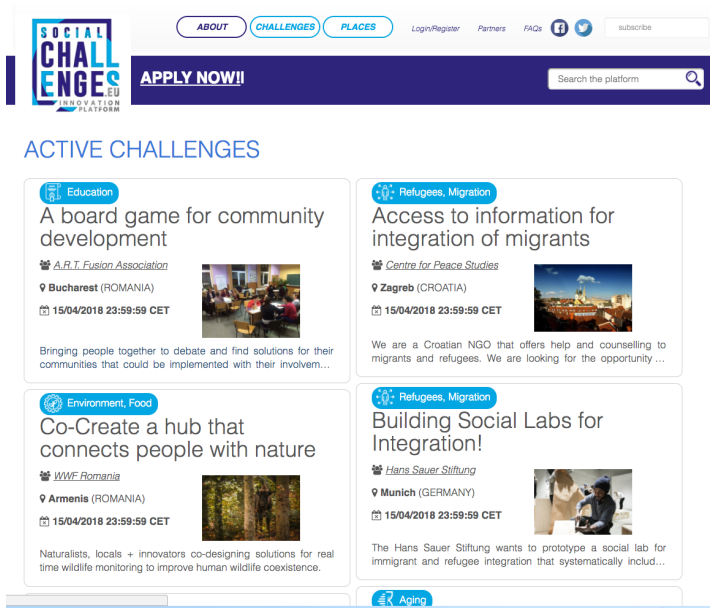
SocialChallenges

SocialChallenges is a recently released platform for social challenges where it crowd-sources ideas to solve those challenges. Any ideas that are sufficient enough will be able to receive a grant from the EU to help realize the idea. A quote from their website states that:

Socialchallenges.eu is a platform aiming at creating a marketplace where actual social challenges can meet powerful and innovative solutions. A space where the work among different players make the European Social Ecosystem vibrant and collaborative. Where a challenge is transformed into a new business opportunity. *SocialChallenges (2018)*

SocialChallenges is an interesting platform because it has the backing of the EU and is also a part of the Horizon 2020 program. One of their key selling points is that each challenge that they post have a connected organization and in some cases even municipalities which

can help with generating large scale changes. These two are some of the main reasons that SocialChallenges was picked as one of the platforms.



Screenshot of SocialChallenges (taken 28.02.2018)

In the figure above you see the challenges page of SocialChallenges. You can see that it has different tags on the challenges and which organizations are connected to the challenges. It is a platform created for the entirety of Europe which is partly shown by the image as well, as each challenge has a different location and/or country.

Annex B - Preliminary Analysis Resources

Annex B contains all the resources connected to the preliminary analysis.

1. Foundation Literature
2. Coordination, Communication, Collaboration & Collective Knowledge Findings Platforms
3. Project Management, Awareness, Community & Motivation Findings Platforms
4. Prompt, Ideate, Prototype, Sustain, Scale & Systemic Change Findings Platforms
5. OpenIDEO Community Prototyper
6. OpenIDEO Change Notice

Foundation Literature

Start of Preliminary Analysis Articles Table	
Title	Author(s)
An experience in collaborative software engineering education	<i>Favela and Peña-Mora (2001)</i>
Business Models, Business Strategy and Innovation	<i>Teece (2010)</i>
Collaboration in Software Engineering: A Roadmap	<i>Whitehead (2007)</i>
Collaborative Learning in a Wiki Environment: Experiences from a software engineering course	<i>Minocha and Thomas (2007)</i>
Collaborative Software Development Platforms for Crowdsourcing	<i>Peng et al. (2014)</i>
Collective Social Entrepreneurship: Collaboratively Shaping Social Good	<i>Montgomery et al. (2012)</i>
Creativity support tools: Accelerating discovery and innovation	<i>Shneiderman (2007)</i>
Drivers of knowledge management in the corporate environment	<i>Du Plessis (2005)</i>
Elements of the Competitive Situation that Affect Intrinsic Motivation	<i>Reeve and Deci (1996)</i>
Global Software Engineering: The Future of Socio-technical Coordination	<i>Herbsleb (2007)</i>
Grasping the dynamic complexity of team learning: An integrative model for effective team learning in organisations	<i>Decuyper et al. (2010)</i>
Group awareness and self-presentation in computer-supported information exchange	<i>Kimmerle and Cress (2008)</i>
Group awareness in distributed software development	<i>Gutwin et al. (2004)</i>
Group Awareness in Global Software Engineering	<i>Lanubile et al. (2013)</i>
In and out of sync, The challenge of growing social innovations	<i>Mulgan et al. (2007a)</i>
Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions	<i>Ryan and Deci (2000)</i>

Continuation of Preliminary Analysis Articles Table	
Title	Author(s)
Making a Difference: Strategies for Scaling Social Innovation for Greater Impact.	<i>Westley and Antadze (2010)</i>
Motivating and supporting collaboration in open innovation	<i>Antikainen et al. (2010)</i>
Platforms for Collaboration	<i>Nambisan (2009)</i>
Prototyping and infrastructuring in design for social innovation	<i>Hillgren et al. (2011)</i>
Scaling Social Impact, Strategies for spreading social innovations	<i>Dees et al. (2004)</i>
Self-determination theory and work motivation	<i>Gagné and Deci (2005)</i>
Social and Commercial Entrepreneurship: Same, Different, or Both?	<i>Austin et al. (2006)</i>
Social coding in GitHub: transparency and collaboration in an open software repository	<i>Dabbish et al. (2012)</i>
Social entrepreneurship – a new look at the people and the potential	<i>Thompson et al. (2000)</i>
Strategy Development: Conceptual Framework on Corporate Social Responsibility	<i>Hanke and Stark (2009)</i>
Sustaining social creativity	<i>Fischer and Giaccardi (2007)</i>
The Process of Social Innovation	<i>Mulgan (2006)</i>
The Value of Openness in Scientific Problem Solving	<i>Lakhani et al. (2007)</i>
Tipping Toward Sustainability: Emerging Pathways of Transformation	<i>Westley et al. (2011)</i>
Using wikis in software development	<i>Louridas (2006)</i>
What Differences Make a Difference? The Promise and Reality of Diverse Teams in Organizations	<i>Mannix and Neale (2005)</i>
Whom Should Firms Attract to Open Innovation Platforms? The Role of Knowledge Diversity and Motivation	<i>Frey et al. (2011)</i>

Continuation of Preliminary Analysis Articles Table	
Title	Author(s)
Why Do Users Contribute to Firm-Hosted User Communities? The Case of Computer-Controlled Music Instruments	<i>Jeppesen and Frederiksen (2006)</i>
Why Hackers Do What They Do: Understanding Motivation and Effort in Free/Open Source Software Projects	<i>Lakhani et al. (2005)</i>
End of Preliminary Analysis Articles Table	

Coordination, Communication, Collaboration & Collective Knowledge Findings Platforms

Coordination	Slack	Trello	GDrive	Github	OpenIDEO	Quirky	InnoCentive	SOCRATIC	SocialChallenges	Total
Support creating several chat rooms for specific topics	X		X			X	X			4
Support tagging specific people	X	X	X	X						4
Create different lists for tasks		X		X						2
Support assigning people to tasks		X		X						2
Support creating labels for different tasks		X		X						2
Can create different boards/projects for different topics		X	X	X						3
Local meet-up events					X				X	2
Communication										
Communication	Slack	Trello	GDrive	Github	OpenIDEO	Quirky	InnoCentive	SOCRATIC	SocialChallenges	Total
Support real-time messaging	X		X			X				3
Support group messaging	X		X			X	X	X		5
Support direct messaging one-on-one	X					X	X	X		4
Support commenting on a specific thread/task	X	X	X	X	X			X		6
Support message logs	X	X		X		X				4
Support asynchronous messaging	X	X	X	X		X	X	X		7
Support voice calls and video	X		X							2
Can vote/react on messages/posts	X			X	X	X	X	X		6
Can communicate with the stakeholders directly							X	X		2
Collaboration										
Collaboration	Slack	Trello	GDrive	Github	OpenIDEO	Quirky	InnoCentive	SOCRATIC	SocialChallenges	Total
Can share different resources with each other in a workspace	X	X	X	X		X	X			6
Visualizes workflow		X		X	X	X		X		5
Real-time editing of elements		X	X							2
Can create checklists for each element		X		X						2
Supports splitting workflow	X	X	X	X						4
Collective Knowledge										
Collective Knowledge	Slack	Trello	GDrive	Github	OpenIDEO	Quirky	InnoCentive	SOCRATIC	SocialChallenges	Total
Support public information	X	X	X	X	X	X		X	X	7
Support private information	X	X	X	X	X	X	X	X	X	8
Support wikis				X						1
Open ideation					X	X		X		3
Open research					X	X				2
Shared brain			X		X	X				2

Project Management, Awareness, Community & Motivation Findings Platforms

Project Management	Slack	Trello	GDrive	Github	OpenIDEO	Quirky	InnoCentive	SOCRATIC	SocialChallenges	Total
Can invite team members	X	X	X	X	X	X	X	X	X	9
Can get statistics about the project as a whole	X			X		X				3
Support workspace customization	X	X								2
Support managing several projects	X	X	X	X		X	X	X		7
Supports 3rd party integration of services	X	X	X	X	X					5
Archiving stuff	X	X		X	X	X				5
Support milestones				X		X				2
Support transferring ownership	X		X	X			X			4
Support team creation					X	X	X			3
Support discovering people with different skills							X			1
Rules for IP and equity						X	X		X	3
Process					X	X		X		3
Awareness										
Awareness	Slack	Trello	GDrive	Github	OpenIDEO	Quirky	InnoCentive	SOCRATIC	SocialChallenges	Total
Support notifications	X	X	X	X	X	X	X	X		8
Support seeing which people are a part of the project	X	X	X	X	X	X	X	X		8
Support tracking all of the relevant content you are a part of	X	X		X	X	X		X		6
Support favoriting something to follow it	X	X		X	X	X		X		6
Automatically highlights the most popular content	X									1
Support searching for specific content	X	X	X	X	X	X	X	X	X	9
Support reminders	X									1
Creates a log of recent team activity		X	X	X						3
Support due dates		X								1
Logs own activity			X	X	X	X	X	X	X	7
Community										
Community	Slack	Trello	GDrive	Github	OpenIDEO	Quirky	InnoCentive	SOCRATIC	SocialChallenges	Total
One large chat room	X					X				2
Support discovering open projects				X	X	X		X	X	5
Supports contributing to open projects				X	X	X		X	X	5
Support a public profile				X	X	X	X	X	X	6
Local groups of people					X				X	2
Local events					X				X	2
Has community leaders					X				X	2
Support private projects					X		X			2
Sharing through social media							X	X	X	3
Support hosting private personal projects	X	X	X	X		X		X		6
Motivation										
Motivation	Slack	Trello	Gdrive	Github	OpenIDEO	Quirky	InnoCentive	SOCRATIC	SocialChallenges	Total
Money				X		X	X		X	4
Reputation				X	X	X	X	X	X	6
Learning				X	X				X	3
Personal need				X		X		X	X	4
Just wanting to help				X	X	X		X		4
Meeting people				X	X			X	X	4
Get in contact with a company/person				X	X		X		X	4
Applying knowledge				X	X	X	X	X	X	6
Competition					X		X	X	X	4
Makes it easier to fulfill a task	X	X	X	X						4

Prompt, Ideate, Prototype, Sustain, Scale & Systemic Change Findings Platforms

Prompt	Slack	Trello	GDrive	Github	OpenIDEO	Quirky	InnoCentive	SOCRATIC	SocialChallenges	Total
Private people can create challenges				X		X		X	X	4
Organisations create challenges				X	X	X	X	X	X	6
Collective research			X		X	X				3
Support tagging presumed knowledge needed							X		X	2
Ideate										
Ideate	Slack	Trello	GDrive	Github	OpenIDEO	Quirky	InnoCentive	SOCRATIC	SocialChallenges	Total
Single ideation					X	X	X	X	X	5
Group ideation					X	X	X			3
Refinement					X	X	X	X		4
Show sketches and get feedback			X			X	X			3
Takes care of IP							X		X	2
Community vote for best idea					X			X		2
Crowdsourcing				X	X	X	X	X	X	6
Prototype										
Prototype	Slack	Trello	GDrive	Github	OpenIDEO	Quirky	InnoCentive	SOCRATIC	SocialChallenges	Total
Show impact and get feedback					X					1
Create prototypes and showcase them						X	X	X		3
Sustain										
Sustain	Slack	Trello	GDrive	Github	OpenIDEO	Quirky	InnoCentive	SOCRATIC	SocialChallenges	Total
Have potential mentors				X	X				X	3
Have potential sponsors				X	X	X			X	4
Market research tools						X				1
Own platform to market					X	X				2
Own platform to make money						X				1
Have paying customers							X		X	2
Business model tool								X		1
Scale										
Scale	Slack	Trello	GDrive	Github	OpenIDEO	Quirky	InnoCentive	SOCRATIC	SocialChallenges	Total
Have stories about ideas					X					1
Different communities around the world					X				X	2
Getting more manufacturers						X				1
Possibility of spreading work							X		X	2
Have patrons									X	1
Systemic Change										
Systemic Change	Slack	Trello	GDrive	Github	OpenIDEO	Quirky	InnoCentive	SOCRATIC	SocialChallenges	Total
Success stories					X					1
EU backing								X	X	2
Government backing									X	1

OpenIDEO Community Prototyper

12.4.2018

Leadership Opportunity: Become an OpenIDEO Community Prototyper

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Take the lead as our next Community Prototyper

Did you know that in many OpenIDEO Challenges, there are OpenIDEO community members **supporting teams through their prototyping journey**? These leaders are called **Community Prototypers**. In 2017, teams from three Challenges received support from these incredible volunteers. We've seen Community Prototypers make a huge difference in the journey towards innovation again and again, and look forward to continuing to see that impact in 2018. If you're looking to engage in a leadership role with OpenIDEO, joining the Community Prototyper Program is a great way to start.

What is the Community Prototyper Program?

Community Prototypers are a **global volunteer cohort** who leverage their design thinking expertise to support Challenge teams in **taking their ideas to action**. Community Prototypers receive ongoing mentorship from the OpenIDEO team to facilitate a rapid prototyping sprint with an idea team during the Refinement

<https://mailchi.mp/openideo/learn-from-nike-experts-challenge-webinar-march-1345693?e=b5968f24de>

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OpenIDEO Community Prototyper

12.4.2018

Leadership Opportunity: Become an OpenIDEO Community Prototyper

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Applications Now Open

Currently, we are seeking Community Prototypers for the [Nike Design with Grind Challenge](#), but will also review applications for Challenges more broadly on an ongoing basis.

- **Time commitment:** Roughly 4-6 hours per week during the 4-6 week Refinement Phase of an active Challenge.
- **Application Deadline:** To be considered as a Community Prototyper for the Nike Design with Grind Challenge, please **apply by Friday, April 20 at 5pm PT**.
- **Learn More:** For examples of past Community Prototypers, check out the [Circular Design Challenge Community Prototyper cohort](#), as well as [Naman Mandhan's blog post](#) about his experience in the program.

[APPLY TODAY](#)

If you have questions, please email hello@openideo.com.

With gratitude,

The OpenIDEO Team

openIDEO

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Our mailing address is: OpenIDEO, 501 The Embarcadero, Pier 28 Annex, San Francisco, California 94105

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OpenIDEO Change Notice

13.3.2018

Introducing the New OpenIDEO.com!

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Past Issues

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A New OpenIDEO.com: Change for Good

Over the years, we've shared quite a few announcements—launching Challenges, kicking off global events, celebrating great ideas. While this announcement doesn't come with a “How Might We” question or a million dollars in funding, it feels like a big one.

In the past year, we've applied the feedback and passion of hundreds of our community members, partners, and sponsors to help transform OpenIDEO inside and out. We're proud to share with you [the new face of OpenIDEO](#): one that reflects the evolution of our community and our collective approach to impact. We invite you to explore and [tell us what you think](#).

<https://mailchi.mp/openideo/introducing-the-new-openideocom?e=b5968f24de>

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13.3.2018

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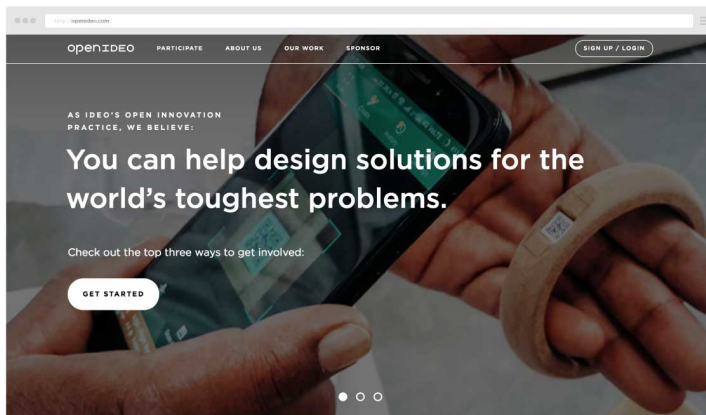
Past Issues

SEE THE NEW SITE

Why We Changed

Short answer: because of you. Since we launched this experiment in 2010, we've been prototyping and refining the OpenIDEO experience to better support our community's needs. We want to build clarity, address confusion, and elevate the efforts of innovators like you.

We've also grown since our launch. Fueled by the energy of people worldwide, we've built new pathways to innovation and gained a deeper understanding of our role in helping communities create change. We want the face of OpenIDEO to reflect that growth.



What We Changed

We began with a deep look inward. We reexamined our approach to innovation, focused on highlighting the voice of our community, and clarified the

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place for sponsors, and a collection of our work.

To help us bring our vision into full color, we turned to our community. A former Chapter leader spearheaded our UI design, while a visual designer—[selected through a Challenge](#)—brought our world to life. Every illustration on OpenIDEO is modeled after real members of this community.



What Will You Change?

Now, we want to know what kind of change you want to make.

- **Make this a #YearOfChange. Share your intention with us:**
 - What change do you want to help create this year? Share one sentence describing your intention, your name, and your country. Help inspire our global community.
 - We'll turn it into something big—you'll be a part of our first community feature! Added bonus: **one lucky person will receive a personalized OpenIDEO illustration!**
 - How? [Fill out this form](#) in 30 seconds, or hit us up on Twitter or Facebook with the hashtag #YearOfChange. Your last chance to participate is **Saturday, March 17.**

SHARE YOUR CHANGE

<https://mailchi.mp/openideo/introducing-the-new-openideocom?e=b5968f24de>

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together.

The OpenIDEO Team



Forward



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Annex C - Evaluation Strategy Resources

Annex C contains all the resources connected to the creation of the evaluation strategy.

1. Participant Backgrounds
2. Interview Guideline
3. Questionnaire
4. Interview Reference Coding Breakdown
5. All of The Respondents' Nationalities
6. Granular Breakdown of Questionnaire Platforms
7. Evaluation Strategy Form

Participant Backgrounds

Here some of the interviewees backgrounds are presented. The order is randomized to maintain confidentiality.

- Started a NGO in his early days. Has created 4 different social innovations not all were successful. Has both an engineering degree and a MBA from one of the top business schools.
- Has an industrial engineering background. Has worked in private companies previously. Moved into the field of social innovation because he realized that he wanted to do something with meaning.
- Has a master degree in innovation and social studies. Has been a board member of several companies and has co-founded a social innovation which has grown to become mainstream. Has a passion for open information and knowledge sharing.
- Started by volunteering for NGOs at a young age. Started her own NGO early in life. Got heavily invested into social innovation during her university days and realized that NGOs were not so good. Has a MBA degree from one of the top business schools in the world.
- Has a master degree in business. Came into contact with social innovation during her university days. Has worked in some NGOs and social enterprises, created accelerators and has done impact investing.
- Grew up in a small town with a tight community. Ran his own startup for a few years and then went to work for a private company before moving into social innovation. Has a marketing and MBA background.
- Has worked many years in private companies. She has also on the board of several companies. Moved into social innovation because of personal reasons. Graduated with a Master of Science in Business degree from one of the top schools in the Nordics.
- Has a background from social studies. Started in a company which split into two fields, one of which was the social oriented company. The reason why she stayed at the company is because of the importance it had for the people.
- Has managed several NGOs and even started her own. She has invested in impact ventures and mentors social entrepreneurs. Has an engineering and MBA background and teaches social entrepreneurship.
- Has an MBA from a renowned university. Started his own social innovation and ran it for a few years. Currently he is a entrepreneur preaching innovation and is constantly trying to find new ways to enter the social arena. Got into social innovation because of a family business.
- Has an engineering degree in mechanical engineering. Has worked a few year in the field of innovation. Moved into the social arena because of personal reasons and wanted to create value for people.

Interview Guideline

Interview Guideline

The interviews are semi-structured and will be specialized based on people's backgrounds. Here are the key things that will be focused:

- Start by breaking the ice a little bit, and ask about their background and experience with social innovation.
- Ask them how they got into social innovation and what kept them there.
 - Build on this and ask what kind of people usually do social innovation and what their motivations are.
- Next up is the process of social innovation:
 - Ask about how they get their ideas and if they use any formal methodologies.
 - Also ask them how they proceed if they get stuck.
 - Ask about the team and how they find people to join their ventures and what type of people they need the most and what makes them stay.
 - Ask if they work distributed and about how they run their teams.
 - Ask about what kind of tools they use for solving different tasks for:
 - Collaboration
 - Communication
 - Coordination
 - Process tools
 - Knowledge management tools
 - Figure out how those tools helped them and if they are able to stay aware of the team activity.
 - Ask about how they create business models.
 - Ask how they get money and whom usually helps.
 - Lastly ask about what they have learned through running their own social venture.
- Additional things to ask about based on background and such:
 - Team work practices
 - Trust and social interaction
 - The importance of transparency
 - Crowdsourcing and platforms
 - Social value proposition
 - Scaling and sustaining
 - Intellectual property and openness

Questionnaire

19.3.2018

Collaboration online

Collaboration online

Background and Purpose:

My name is Jie Li and I am a master student in informatics at NTNU. This questionnaire is part of my master thesis about social innovation platforms (like OpenIDEO, SocialChallenges, SOCRATIC), and this questionnaire is to gather data about how people collaborate online. This is to better understand how social innovation can be supported by online collaborative tools.

By taking this survey you agree to participate in the research and all the data collected will be 100% anonymous. The data will be deleted after the thesis is delivered and assessed in August. For any additional questions, please feel free to send me an e-mail: jie.li@stud.ntnu.no.

DEFINITION - To collaborate implies working, coordinating or communicating with another person.

The survey will take about 10-15 minutes to complete.
Thank you for taking the time to answer the survey!

*Må fylles ut

1. **How often do you collaborate with other people online? ***

Markér bare én oval.

- Daily
- Weekly
- Biweekly
- Monthly
- Yearly

Questionnaire

19.3.2018

Collaboration online

2. Which online collaboration tools do you use? (Mark all that apply) *

Merk av for alt som passer

- Slack
- WhatsApp
- Facebook
- Skype
- Discord
- Trello
- Doodle
- Apper.in
- Zoom
- E-mail
- Google Drive
- Phone calls
- Reddit
- Github
- LinkedIn
- Twitter
- Microsoft Office 365
- Andre: _____

For what do you use online collaborative tools

DEFINITION - To collaborate implies working, coordinating or communicating with another person.

3. Do you collaborate online for... *

Markér bare én oval per rad

	Yes	No	Not relevant
School?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leisure activities (like games, sports, cooking etc.)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Do you collaborate online for your own private projects? *

Markér bare én oval.

- Yes *Hopp til spørsmål 6 etter det siste spørsmålet i denne delen.*
- No *Hopp til spørsmål 9 etter det siste spørsmålet i denne delen.*

5. Are there any other activities where you collaborate online? If so please elaborate.

Questionnaire

19.3.2018

Collaboration online

Hopp til spørsmål 9.

Collaboration for own projects

DEFINITION - To collaborate implies working, coordinating or communicating with another person.

6. What kind of projects do you usually do? *

7. How do you find people to join your project? *

8. Are there any specific fields of knowledge that you particularly try to find? Please specify what kind of knowledge and why. *

Motivation to use collaboration tools

DEFINITION - To collaborate implies working, coordinating or communicating with another person.

The goal here is to figure out why you choose to collaborate online. Pick the one that feels the most right for you.

Questionnaire

19.3.2018

Collaboration online

9. I collaborate with people online because... *

Markér bare én oval per rad

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
It is easier to coordinate online than physically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easier to keep things organized digitally	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can easily assign tasks to people with collaborative tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Several people can work on the same task online	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sharing resources with each other is quicker with collaborative tools than without	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can specifically see who has done what part without having to ask people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easier to work with people over long distances with collaborative tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Visualizing workflow is important and is easy digitally	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easier to communicate quickly online than physically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like physical interaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easier to keep myself updated on what is done and what needs to be done	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can track what people are doing effortlessly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can give specific feedback on what people have done directly in the collaborative tool	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is an easy way to document what we have been doing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. I feel that collaborative online tools... *

Markér bare én oval per rad

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Makes the group more efficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Makes it harder to see who is doing what	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provides a shared workspace where everyone can contribute	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facilitates social interaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Makes it harder to share knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Makes it easy to share experiences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consumes a lot of unnecessary time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Makes it harder to keep track of the group process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is making it easier to lead a team	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help with decision making	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are enjoyable to use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Makes me more productive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Questionnaire

19.3.2018

Collaboration online

11. **Do you use online collaboration tools to collaborate even though your group is physically present? ***

Markér bare én oval.

Yes

No

12. **Why do you/don't you use collaborative tools even though you are meeting physically? ***

Obstacles for using collaboration tools

DEFINITION - To collaborate implies working, coordinating or communicating with another person.

Here the goal is to figure out why you might not use a collaborative tool. Pick the one that feels the most right for you.

Questionnaire

19.3.2018

Collaboration online

13. I feel that ... *

Markér bare én oval per rad

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Many online collaborative tools are too complex for my purpose	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning a new online collaborative tool is hard for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
New ways of working are stressful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It creates more work for the group than without a collaborative online tool	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are too many tools and don't know which one to choose	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am angry while using an online collaborative tool	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would rather choose something that everyone knows	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It takes more time to finish a work assignment with a collaborative online tool than without	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online collaborative tools reduces my productivity while working	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am negative towards technology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't have the technical knowledge to use an online collaborative tool to its full potential	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident while using online collaborative tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I am in control while using online collaborative tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't get valued when I use online collaborative tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am in a bad mood after using online collaborative tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online collaborative tools make communication less personal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. Are there any other reasons you wouldn't choose to use a tool? If so please elaborate

Social innovation

DEFINITION - To collaborate implies working, coordinating or communicating with another person.

Social innovation is defined as the production of new ideas/products that aim to contribute to society, by trying to solve social problems.

SCENARIO:

You see a lot of children in hospitals, not being able to play and experience what other children do. You decide to create a dog petting service that connect dog owners and the children at the hospital so that they can experience the joy of playing with a pet.

<https://docs.google.com/forms/d/1luGTJ9Su00bgHKSBCQHLNHheifRiZ-KkSL523KxegGk/edit>

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Questionnaire

19.3.2018

Collaboration online

15. Based on the scenario above, online collaborative tools... *

Markér bare én oval per rad

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Will make it easy to create such a service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will make it easy to recruit dog owners	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will lessen the time it would take to create such a service than without	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will make it easier to coordinate with dog owners	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will make it easier to keep track of all the resources available at any given time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will overcomplicate things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will make it easier to communicate with the dog owners	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will make it easier to work with the dog owners	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will make it easier to share experiences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will make it easy to find the right dog owner for the job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. Are there any other benefits that you can think of by using online collaborative tools to help solve the scenario? If yes, please elaborate

General information

This information is needed to understand how different genders and age groups uses the collaborative tools, no information will be traced back to you.

17. What is your age? *

Markér bare én oval.

- Under 18 years old
- 18-24 years old
- 25-34 years old
- 35-44 years old
- 45-54 years old
- 55-64 years old
- 65-74 years old
- 75 years or older

Questionnaire

19.3.2018

Collaboration online

18. What is your gender? *

Markér bare én oval.

- Female
- Male
- Andre: _____

Questionnaire

19.3.2018

Collaboration online

19. Nationality *

Markér bare én oval.

- Afghanistan
- Akrotiri
- Albania
- Algeria
- American Samoa
- Andorra
- Angola
- Anguilla
- Antarctica
- Antigua and Barbuda
- Argentina
- Armenia
- Aruba
- Ashmore and Cartier Islands
- Australia
- Austria
- Azerbaijan
- Bahamas, The
- Bahrain
- Bangladesh
- Barbados
- Bassas da India
- Belarus
- Belgium
- Belize
- Benin
- Bermuda
- Bhutan
- Bolivia
- Bosnia and Herzegovina
- Botswana
- Bouvet Island
- Brazil
- British Indian Ocean Territory
- British Virgin Islands
- Brunei
- Bulgaria
- Burkina Faso
- Burma
- Burundi
- Cambodia

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Questionnaire

19.3.2018

Collaboration online

- Cameroon
- Canada
- Cape Verde
- Cayman Islands
- Central African Republic
- Chad
- Chile
- China
- Christmas Island
- Clipperton Island
- Cocos (Keeling) Islands
- Colombia
- Comoros
- Congo, Democratic Republic of the
- Congo, Republic of the
- Cook Islands
- Coral Sea Islands
- Costa Rica
- Cote d'Ivoire
- Croatia
- Cuba
- Cyprus
- Czech Republic
- Denmark
- Dhekelia
- Djibouti
- Dominica
- Dominican Republic
- Ecuador
- Egypt
- El Salvador
- Equatorial Guinea
- Eritrea
- Estonia
- Ethiopia
- Europa Island
- Falkland Islands (Islas Malvinas)
- Faroe Islands
- Fiji
- Finland
- France
- French Guiana

<https://docs.google.com/forms/d/1IuGTJ9Su00bgHkSBCQHLNHcifRtZ-KkSLs23KxegGk/edit>

10/15

Questionnaire

19.3.2018

Collaboration online

- French Polynesia
- French Southern and Antarctic Lands
- Gabon
- Gambia, The
- Gaza Strip
- Georgia
- Germany
- Ghana
- Gibraltar
- Glorioso Islands
- Greece
- Greenland
- Grenada
- Guadeloupe
- Guam
- Guatemala
- Guernsey
- Guinea
- Guinea-Bissau
- Guyana
- Haiti
- Heard Island and McDonald Islands
- Holy See (Vatican City)
- Honduras
- Hong Kong
- Hungary
- Iceland
- India
- Indonesia
- Iran
- Iraq
- Ireland
- Isle of Man
- Israel
- Italy
- Jamaica
- Jan Mayen
- Japan
- Jersey
- Jordan
- Juan de Nova Island
- Kazakhstan
- Kenya

<https://docs.google.com/forms/d/1luGTJ9Su00bgHkSBCQLNHcifRtZ-KkSLs23KxegGk/edit>

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Questionnaire

19.3.2018

Collaboration online

- Kiribati
- Korea, North
- Korea, South
- Kuwait
- Kyrgyzstan
- Laos
- Latvia
- Lebanon
- Lesotho
- Liberia
- Libya
- Liechtenstein
- Lithuania
- Luxembourg
- Macau
- Macedonia
- Madagascar
- Malawi
- Malaysia
- Maldives
- Mali
- Malta
- Marshall Islands
- Martinique
- Mauritania
- Mauritius
- Mayotte
- Mexico
- Micronesia, Federated States of
- Moldova
- Monaco
- Mongolia
- Montenegro
- Montserrat
- Morocco
- Mozambique
- Namibia
- Nauru
- Navassa Island
- Nepal
- Netherlands
- Netherlands Antilles

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12/15

Questionnaire

19.3.2018

Collaboration online

- New Caledonia
- New Zealand
- Nicaragua
- Niger
- Nigeria
- Niue
- Norfolk Island
- Northern Mariana Islands
- Norway
- Oman
- Pakistan
- Palau
- Panama
- Papua New Guinea
- Paracel Islands
- Paraguay
- Peru
- Philippines
- Pitcairn Islands
- Poland
- Portugal
- Puerto Rico
- Qatar
- Reunion
- Romania
- Russia
- Rwanda
- Saint Helena
- Saint Kitts and Nevis
- Saint Lucia
- Saint Pierre and Miquelon
- Saint Vincent and the Grenadines
- Samoa
- San Marino
- Sao Tome and Principe
- Saudi Arabia
- Senegal
- Serbia
- Seychelles
- Sierra Leone
- Singapore
- Slovakia
- Slovenia

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Questionnaire

19.3.2018

Collaboration online

- Solomon Islands
- Somalia
- South Africa
- South Georgia and the South Sandwich Islands
- Spain
- Spratly Islands
- Sri Lanka
- Sudan
- Suriname
- Svalbard
- Swaziland
- Sweden
- Switzerland
- Syria
- Taiwan
- Tajikistan
- Tanzania
- Thailand
- Timor-Leste
- Togo
- Tokelau
- Tonga
- Trinidad and Tobago
- Tromelin Island
- Tunisia
- Turkey
- Turkmenistan
- Turks and Caicos Islands
- Tuvalu
- Uganda
- Ukraine
- United Arab Emirates
- United Kingdom
- United States
- Uruguay
- Uzbekistan
- Vanuatu
- Venezuela
- Vietnam
- Virgin Islands
- Wake Island
- Wallis and Futuna

Questionnaire

19.3.2018

Collaboration online

- West Bank
- Western Sahara
- Yemen
- Zambia
- Zimbabwe

20. **Do you have a background from IT/software engineering? ***
Markér bare én oval.

- Yes
- No

21. **Do you have a background from social innovation/social entrepreneurship? ***
Markér bare én oval.

- Yes
- No

Drevet av
 Google Forms

Interview Reference Coding Breakdown

Collaboration (From 7 sources)	
Support instant messaging*	15
Support asynchronous messaging*	11
Support one-on-one messaging	12
Support group messaging	15
Support voice call*	14
Support video conference*	9
Support voting or reacting on messages or posts	4
Support assigning people*	3
Support tagging specific people	13
Support creating several chatrooms for specific topics	12
Support having a task/activities overview which support tracking*	7
Support time scheduling on tasks/activities*	4
Support a shared workspace*	8
Support visualizing workflow	5
Support giving direct feedback to people*	12
Support splitting workflow	12
Support seeing who is available for communication	13
Support getting update notifications on important activities	9
Total	178
Motivation (From 11 sources)	
Support active participation from the platform creators*	0
Support discovering and contributing to open projects	8
Support local networking events	4
Support money grants/prizes*	9
Support discovering new people to collaborate with*	16
Support learning opportunities*	7
Support a reputation system*	8
Support getting in contact with specific companies/people through participating in challenges*	2
Support being able to apply knowledge*	9
Support quality control of challenges	0
Support a wide range of challenges	4
Support friendly competitions	0
Total	67
Resource Management (From 11 sources)	
Support a public profile*	13
Support seeing which people are a part of a project*	9
Support process support tools*	18
Support inviting team members*	23
Support discovering/recruiting people through open information*	28

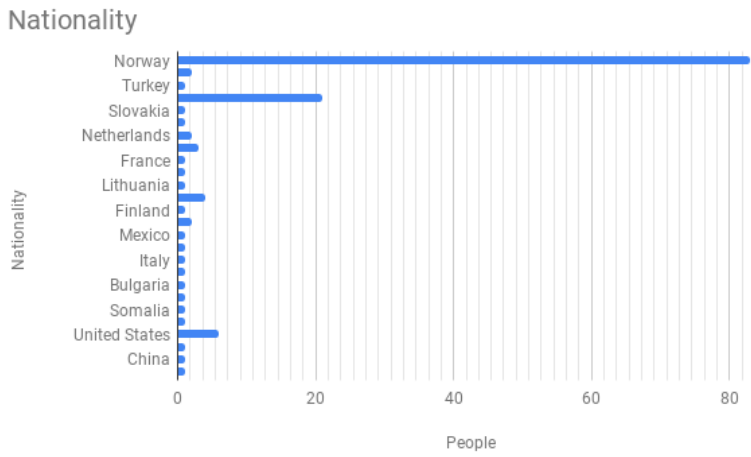
Interview Reference Coding Breakdown

Support private project hosting*	7
Support managing several projects	7
Support an overview of resources and statistics for the projects	3
Support a team contract which contains roles, rules and a shared vision	5
Support team reflexivity tools	2
Support public information	5
Support private information	14
Support rich project history*	31
Support storing and retrieving knowledge*	12
Total	177
Creativity Phase (From 6 sources)	
Support open challenges from people*	36
Support open challenges from organizations*	36
Support research crowdsourcing*	11
Support ideation crowdsourcing*	11
Support submitting ideas alone	1
Support submitting ideas as a group	1
Support receiving feedback and refining ideas	7
Support guides for prototyping	3
Support a neutral environment for showing prototypes and receiving feedback	3
Support sharing through social media*	2
Total	111
Growth Phase (From 11 sources)	
Support business model/strategy tools*	17
Support building a social value proposition	18
Support market research tools*	8
Support funding opportunities*	16
Support partnerships with companies and/or governments*	4
Support direct communication with stakeholders*	2
Support mentoring*	23
Support marketing*	2
Support the 5Rs model	6
Support partnerships with international institutions*	4
Total	100
Goals (From 5 sources)	
Train people to become entrepreneurs and good leaders	11
Enable and encourage public sharing of knowledge	14

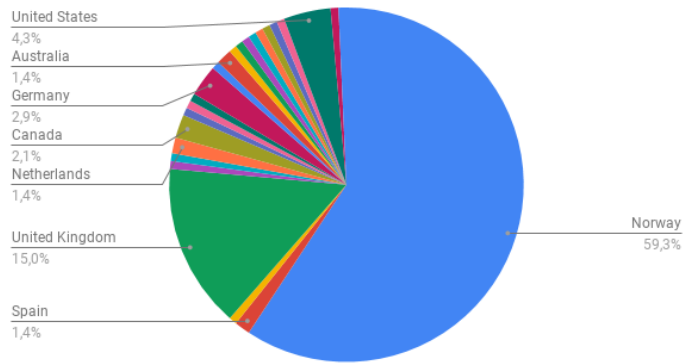
Interview Reference Coding Breakdown

Create a brand that attracts both hobbyists and social entrepreneurs from different fields	12
Target peoples' social values	32
Have a good balance between intrinsic motivation and extrinsic motivation	37
Provide tools that make the social innovation process easier and more time efficient	39
Total	145
New findings (From 10 sources)	
Support being able to make an impact	16
Mentions of USA, and other English speaking countries	11
Social innovation barrier	3
SI and government	3
The people that do social Innovation	20
To be social or not to be social	5
The need for business knowledge	7
Crowdfunding for social innovation	1
The need for locality	9
Uses what is convenient	1
Transparency, cost and culture	4
Best way for social impact is through social entrepreneurship	1
Total	81

All of The Respondents' Nationalities



Nationality of the respondents



Pie chart of the respondents' nationalities

Granular Breakdown of Questionnaire Platforms

slack	facebook	doodle	e-mail	google drive	github	discord	skype
61	112	50	121	98	45	40	43
43,26%	79,43%	35,46%	85,82%	69,50%	31,91%	28,37%	30,50%
onnote	freedcamp	jitsi	toptracker	instagram	our groceries	ryver	blackboard
1	1	1	1	3	1	1	1
0,71%	0,71%	0,71%	0,71%	2,13%	0,71%	0,71%	0,71%
google hangouts	instagram direct messaging	webex	wechat	outlook programs	shared drive	imessage	steam
1	1	1	1	1	1	1	2
0,71%	0,71%	0,71%	0,71%	0,71%	0,71%	0,71%	1,42%
twitter	trelo	appear. in	whatsapp	zoom	phone calls	irc	facebook messenger
8	40	13	38	6	40	1	1
5,67%	28,37%	9,22%	26,95%	4,26%	28,37%	0,71%	0,71%
tumblr	bitbucket	jira	dropbox	linkedin	sharelatex	reddit	microsoft office 365
2	1	1	1	24	5	13	37
1,42%	0,71%	0,71%	0,71%	17,02%	3,55%	9,22%	26,24%
sciebo	snapchat	matter most					
1	3	1					
0,71%	2,13%	0,71%					

Evaluation Strategy Form

19.5.2018

GQCCM

GQCCM

Evaluation strategy for collaborative social innovation platforms

*Må fylles ut

1. Platform *

Collaboration

The scale is based on a scale from 1-7 where 1 is the lowest(also implies non-existent) and 7 is the highest.

2. How well does the platform provide a tool for messaging your team *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

3. How well does the platform provide a tool for communicating with other people on the platform *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

4. How well does the platform provide a tool for video/voice chatting *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

5. How well does the platform provide an overview tool for a project *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

6. How well does the platform provide a shared workspace for collaboration and resource storing/sharing *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

Evaluation Strategy Form

19.5.2018

GQCCM

7. How well does the platform provide a tool for assigning tasks to teammates and tracking their progress *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

8. How well does the platform provide ways of giving feedback *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

9. How well does the platform keep you updated on activities happening in a project *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

Motivation

The scale is based on a scale from 1-7 where 1 is the lowest(also implies non-existent) and 7 is the highest.

10. How enjoyable is it to use the platform *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

11. How easy is to discover and contribute to open projects *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

12. How easy is it to find new people to collaborate with *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

13. How well does the platform target your social values *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

Evaluation Strategy Form

19.5.2018

GQCCM

14. How well does the platform provide a reputation system *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

15. How well does the platform provide a trustworthy public profile *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

16. How well does the platform provide funding opportunities *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

17. How well does the platform provide networking event both online and offline *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

18. How well does the platform provide opportunities for learning and applying knowledge *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

19. How well does the platform provide partnership opportunities with private companies *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

20. How well does the platform provide partnership opportunities with governments and/or international organizations *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

Creativity

The scale is based on a scale from 1-7 where 1 is the lowest(also implies non-existent) and 7 is the highest.

Evaluation Strategy Form

19.5.2018

GQCCM

21. **How well does the platform enable people and organizations to create high quality projects** *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

22. **How well does the platform provide process support tools/frameworks** *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

23. **How well does the platform host both private and public projects** *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

24. **How well does the platform let you manage several projects** *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

25. **How well does the the platform support collective researching** *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

26. **How well does the the platform support collective ideating** *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

27. **How well does the platform provide an environment for building, showing and receiving feedback on prototypes** *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

Evaluation Strategy Form

19.5.2018

GQCCM

28. How well does the platform enable sharing through social media *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

Growth

The scale is based on a scale from 1-7 where 1 is the lowest(also implies non-existent) and 7 is the highest.

29. How well does the platform help you track your impact metrics *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

30. How well does the platform help you track your project resources *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

31. How well does the platform guide you while scaling up a social project *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

32. How well does the platform provide mentors for projects *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

33. How well does the platform provide business modeling tools for social projects *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

34. How well does the platform provide market research resources *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

Evaluation Strategy Form

19.5.2018

GQCCM

35. How well does the platform help you market your solution *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

36. How well does the platform support team management tools *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

37. How well does the platform provide ways for sharing/storing knowledge publicly and privately *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

38. How well does the platform save a projects history *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

Quality

The scale is based on a scale from 1-7 where 1 is the lowest(also implies non-existent) and 7 is the highest.

39. How empowered do you feel while using the platform *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

40. How respected do you feel by the others on the platform *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

41. How productive do you feel while using the platform *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

Evaluation Strategy Form

19.5.2018

GQCCM

42. How satisfied are you with the learnability of the platform tools *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

43. How satisfied are you with the user friendliness of the platform tools *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

44. How satisfied are you with the amount of functionality the platform provides *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

45. How satisfied are you with the design of the platform *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

46. How satisfied are you with the reliability of the platform and its tools *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

47. How satisfied are you with the load time of the platform *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

48. How satisfied are you with platforms ability to authenticate/authorize users and detect intrusion *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

Evaluation Strategy Form

19.5.2018

GQCCM

49. How well does the platform communicate its goals and responsibilities *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

50. How well does the platform communicate how your data is used and preserved *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

51. How well does the platform take care of the intellectual property rights *

Markér bare én oval.

	1	2	3	4	5	6	7	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

Annex D - Workshop Resources

Annex D contains all the resources related to the workshop.

1. Guidelines For SOCRATIC & Quirky
2. Guidelines For OpenIDEO
3. Pre-test & Workshop Results
4. SocialChallenges & InnoCentive Graphs
5. Quirky Errors
 - (a) How Quirky is supposed to be
 - (b) How Quirky behaved during the workshop
6. Team Comparison Results

Guidelines For SOCRATIC & Quirky

Workshop steps

These are the steps you are supposed to perform for each of the platforms

Quirky(<https://quirky.com/>) and

Socratic(<http://socratic.idi.ntnu.no:8080/socratic-platform/>). Each team will have a leader who is responsible for timekeeping and have a few additional tasks. You will have 2 hours on each platform with a break in-between before you switch.

The scenario you will be trying to solve(the solution isn't important, it is the process of getting to the solution which is) is this :

"How might we enable the elderly to become more independent in the bathroom"

1. Go to the platform website and create an account/login (You have to use facebook login for Socratic). (5min)
2. Create your own public profile. Write a short description of yourself and add some interests/skills. (5min)
3. Get acquainted with the platform, read a little bit about the about page and how it works. Explore some of the content on the website. (10min)
4. Try to create your own private project/challenge on the website with the challenge description in mind. (10min) **[Leader]** after the project is created search for and contact your team through the platform and ask if they want to join your project. When they agree invite them to the challenge.
5. Try to solve the the scenario to the best of your abilities while using the tools provided by the platform. **[Leader]** make the team follow the process the platform provides. (This includes ideating, prototyping, making a business plan, etc.). Reduce physical interaction as much as possible, only collaborate physically when there is a limitation that can't be overcome by the platform. (60min)
6. Fill out the the evaluation form individually. You can click through the platform while doing it. (30min)

Guidelines For OpenIDEO

Steps for OpenIDEO

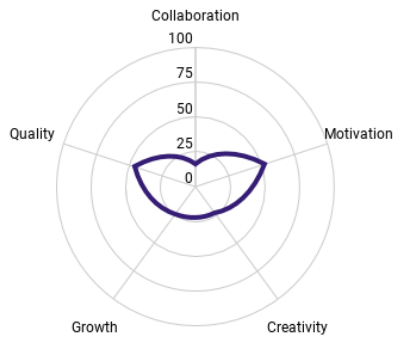
1. Go to the platform website and create an account/login
2. Create your own public profile. Write a short description of yourself and add some interests/skills.
3. Get acquainted with the platform, read a little bit about the about page and how it works. Explore some of the functionalities of the website and some of the possibilities it provides.
4. Look at some of the active challenges and read some of the submitted ideas. Leave some honest feedback to the submitters.
5. Go to the "Nike Design with Grind" Challenge and try to come up with an idea and submit it. You can choose to do it privately if you want.
6. Fill out the evaluation form. You can still click through the platform while doing it.

Pre-test & Workshop Results

Total Max:	350						
Collab Max:	56						
Motivation Max:	77						
Creativity Max:	56						
Growth Max:	70						
Quality Max:	91						
Researcher run evaluations							
	Collaboration	Motivation	Creativity	Growth	Quality	Total score	Total percentage
SocialChallenges	16,07%	51,95%	23,21%	24,29%	46,15%	121	34,57%
	Collaboration	Motivation	Creativity	Growth	Quality	Total score	Total percentage
OpenIDEO	28,57%	64,94%	67,86%	24,29%	62,64%	178	50,86%
	Collaboration	Motivation	Creativity	Growth	Quality	Total score	Total percentage
InnoCentive	50,00%	51,95%	57,14%	20,00%	47,25%	157	44,86%
	Collaboration	Motivation	Creativity	Growth	Quality	Total score	Total percentage
Quirky	64,29%	42,86%	78,57%	44,29%	75,82%	213	60,86%
	Collaboration	Motivation	Creativity	Growth	Quality	Total score	Total percentage
Socratic	37,50%	36,36%	48,21%	28,57%	36,26%	129	36,86%
----- WORKSHOP BELOW -----							
	Collaboration	Motivation	Creativity	Growth	Quality	Total score	Total percentage
OpenIDEO	33,93%	44,16%	39,29%	20,00%	52,75%	137	39,14%
	Collaboration	Motivation	Creativity	Growth	Quality	Total score	Total percentage
Quirky	39,29%	33,77%	35,71%	24,29%	41,76%	123	35,14%
	Collaboration	Motivation	Creativity	Growth	Quality	Total score	Total percentage
Socratic	48,21%	37,66%	50,00%	21,43%	42,86%	138	39,43%
	Collaboration	Motivation	Creativity	Growth	Quality	Total score	Total percentage
Quirky reduced	48,21%	33,77%	41,07%	37,14%	52,75%	150	42,86%

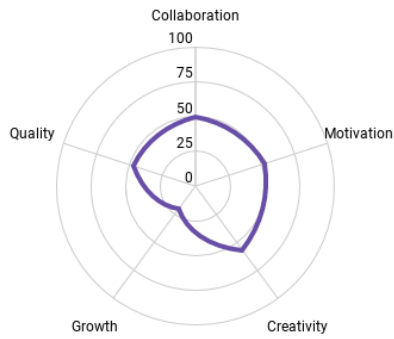
SocialChallenges & InnoCentive Graphs

SocialChallenges



SocialChallenges Evaluation

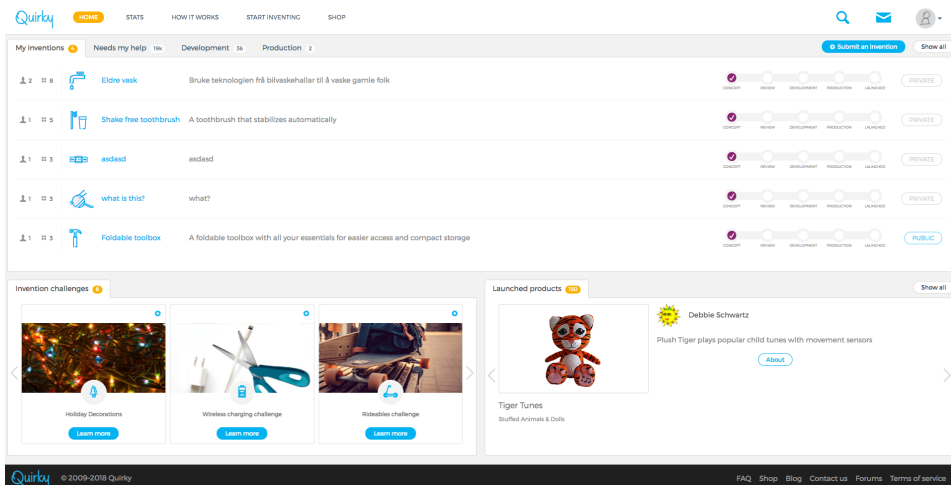
InnoCentive



InnoCentive Evaluation

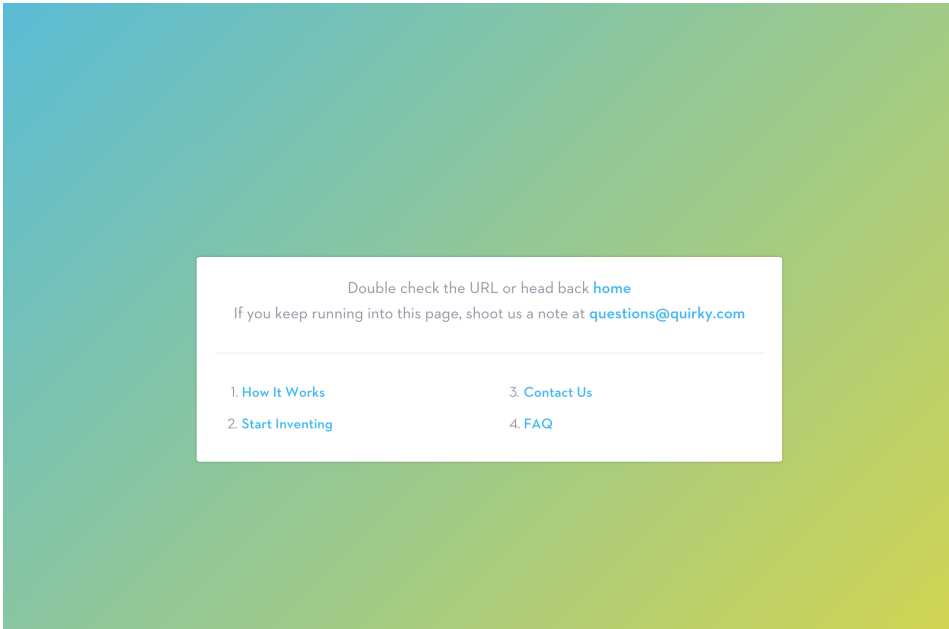
Quirky Errors

How Quirky is supposed to be

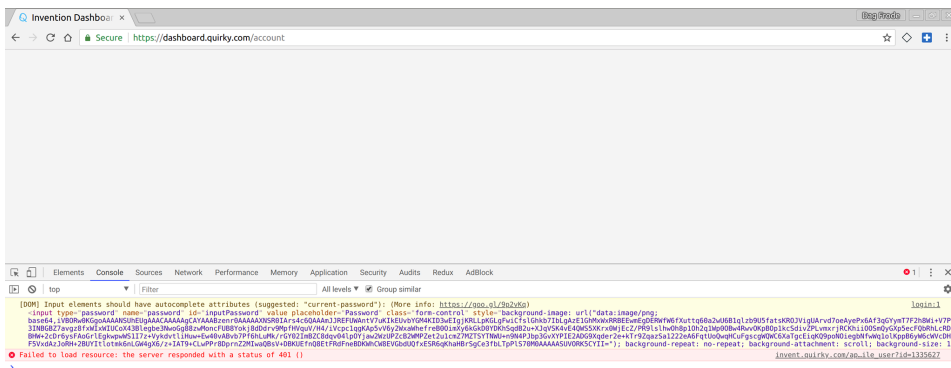


Quirky working image

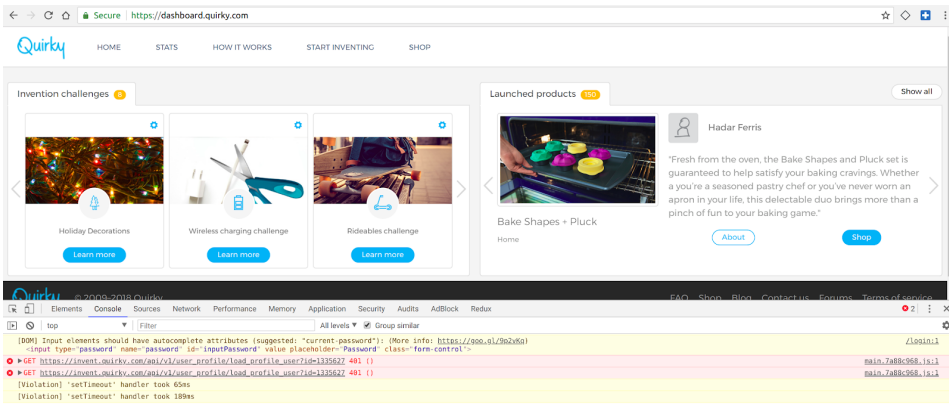
How Quirky behaved during the workshop



Quirky general error for every functionality that did not work as intended



Quirky account related errors e.g., login, public profile etc.



Quirky error where projects were not loaded and could not create own projects as a result either

Team Comparison Results

Total Max:	350			Collab	Motivation	Creativity	Growth	Quality	Total
Collab Max:	56		Team 1 SOC	30	25	30	15	42	142
Motivation Max:	77		Team 2 SOC	25	33	26	15	36	135
Creativity Max	56								
Growth Max:	70		Team 1 Quirk	25	25	20	19	38	127
Quality Max:	91		Team 2 Quirk	19	27	19	15	37	117
Team 1									
	Collaboration	Motivation	Creativity	Growth	Quality		Total		
Quirky	44,64%	32,47%	35,71%	27,14%	41,76%		36,29%		
	Collaboration	Motivation	Creativity	Growth	Quality		Total		
Socratic	53,57%	32,47%	53,57%	21,43%	46,15%		40,57%		
Team 2									
	Collaboration	Motivation	Creativity	Growth	Quality		Total		
Quirky	33,93%	35,06%	33,93%	21,43%	40,66%		33,43%		
	Collaboration	Motivation	Creativity	Growth	Quality		Total		
Socratic	44,64%	42,86%	46,43%	21,43%	39,56%		38,57%		