Master's Thesis, by Inga Galvanauskaite
MSocSc in Management of Creative Business Processes

EXPLORING TECHNOLOGY'S ROLE IN SOCIAL ENTREPRENEURSHIP

Thesis supervisor: Anirudh Agrawal, Department of Intercultural Communication and Management

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DECLARATION OF AUTHORSHIP

I hereby declare that the thesis submitted is my own unaided work. All direct or indirect sources used are acknowledged as references.

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I dedicate this thesis to the people who live their lives under pressing conditions, people who do not have access to clean water, sanitation, health care, education, people who live in poverty, hunger or lack access to basic human rights. I hope this research, indirectly, will help in making their lives better.

I would like to thank my supervisor, Anirudh Agrawal, who guided me throughout the research process. I would like to thank social entrepreneurs who participated in the research: Alison Hughes and George Hiley, Nick Moon, Jacob Vahr Svenningsen and prof. Anil Gupta. I would also like to thank the four consumers who agreed to be interviewed.

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ABSTRACT

Social entrepreneurship is an emerging phenomenon and an important field that tackles the social problems of today's world (Nichols, 2008; Mair and Marti, 2006). However, there is a lack of studies conducted on the topic. This thesis fills this gap by aiming to explore technology's role in social entrepreneurship. Adopting the social constructivist approach and actor network theory, the research reviews existing literature on the social entrepreneurship phenomenon and technology's use in social enterprises. The findings were discovered through analysing four social enterprises from India, Kenya, Denmark and Australia as case studies. Empirical data was collected through interviewing the founders and end-users of the organisations and analysed using elements of grounded theory. The findings uncover that by utilising technology, social enterprises fill the gap that was created by failures of other sectors and positively impact on economic and social conditions. Using technology as the social enterprises' business proposition helps to break a number of barriers and allows people to escape the vicious cycle of ongoing social problems. In social entrepreneurship, technologies increase transparency, e people for social cause and enable anyone to make a social impact. The open-source model is found to be important for innovations in social entrepreneurship, as it facilitates the ongoing development of technologies. To overcome institutional or trade barriers, to spread the technology to wider markets, and to attain better knowledge how to develop and improve a specific technology, social enterprises tend to collaborate, especially at the inter-organisational level.

For academics in the field the findings contribute to a better understanding of technology's meaning and function in social entrepreneurship. It provides insights for international development policymakers on features of technology that should be utilised while implementing projects. The results of the research also provide insights for social enterprises, governments and conventional businesses on using technology as a business proposition while creating social impact. And finally, the findings give scope for further research opportunities and pose questions for broader discussions on technology's role in social entrepreneurship.

1. TABLE OF CONTENTS

2. INTRODUCTION

"The problems of this world are so big and so urgent, that they demand disruptive thinking, audacious thinking" (Premal Shah, Social Finance Architect, President of Kiva.org, ("Dare To Imagine - Skoll World Forum", 2013))

Whilst the majority of technological and industrial developments have made our lives easier, they have also had their implications (Nicholls, 2009). We are left with an uncertain future as we are facing a number of challenges including environmental issues, economic collapses, over-population, poverty and war (Nicholls, 2008).

The most pressing issues worldwide are daunting and if not addressed could become disastrous. For example, according to the Millennium Development Goals report 2013 conducted by the United Nations, about 870 million people, or one in eight worldwide, did not consume enough food on a regular basis to cover their minimum dietary energy requirements over the period 2010 to 2012. There are 1.2 billion people living in extreme poverty, on less than $1.25 a day (Millennium Development Goals report, 2013). Despite progress in some countries, armed conflict continues to displace people from their homes and by the end of 2012, around 45.1 million people worldwide had been forcibly dislocated due to conflict or persecution (Millennium Development Goals report, 2013).

Globally, 123 million youths (aged 15 to 24) lack basic reading and writing skills and 61 per cent of them are young women (Millennium Development Goals report, 2013). Nearly one in six children under age five are underweight, one in four are stunted and 6.9 million children under age five died in 2011—mostly from preventable diseases (Millennium Development Goals report, 2013). According to the Millennium Development Goals report, more than 2.1 billion people have gained access to improved water sources and almost 1.9 billion people have gained access to sanitation facilities since 1990. But despite this progress, 768 million people still drew water from an unimproved source in 2011 (83% of them are in rural areas). And lastly, an estimated 863 million people reside in slums in the developing world (Millennium Development Goals report, 2013).

These issues are not new and they have been pressing the world for centuries. A number of governments and philanthropic organisations have tried tackling them, but have fallen far short (Dees, 1998). Institutions within the social sector are usually "viewed as inefficient, ineffective, and unresponsive" (Dees, 1998, p.1). The conclusion persists that tackling problems in the old and incremental way clearly does not work anymore and we need to shape new ways of thinking and dealing with them ("10 Ideas Driving The Future Of Social Entrepreneurship" Fast Co.Exist, 2013).

Over the last few decades a new type of entrepreneur has emerged. These entrepreneurs start organisations with the mission to create social change and tackle problems that the world is facing today. From saving the rainforests to eradicating poverty, these enterprises address issues that governments, charities and the social sector have failed to develop or recognise. This phenomenon has been called "social entrepreneurship".

One of the most well known examples of social entrepreneurship is Muhammad Yunus and Grameen Bank. Muhammad Yunus founded Grameen Bank, a microfinance organisation that gives small loans for the poor, in 1976. After 15 years the organisation with its partners has helped 9.4 million of the world's poor to start their journey out of poverty. Not only that, but in 2006 the organisation and its founder received the Nobel Peace Prize "for advancing economic and social opportunities for the poor, especially women, through their pioneering microcredit work" (The Nobel Peace Prize, 2006).

The phenomenon of social entrepreneurship per se is not novel. Change-makers have existed throughout our history and there are plenty of examples: Gandhi, Florence Nightingale or Martin Luther King Jr. (Nicholls, 2008; Dees, 1998). However, the term "social entrepreneurship" is new (Dees, 1998). The scale and reach of social impact is tremendously different now, the growth of social enterprises has been rising globally in the last few decades and they have been increasingly recognised and appreciated worldwide (Nicholls, 2008). For example, according to a survey in the UK, today social enterprises are outperforming traditional businesses in terms of the start-up rate and in terms of increase in their turnover (Mills, "New survey suggests social enterprises out-performing mainstream

businesses", 2013). Professionals in the field, including social scientists, politicians, practitioners and civil servants agree that social entrepreneurship plays a central role in improving the failures of the welfare state and social enterprises are contributing to social innovation, developing new strategies, products or services that meet previously unmet social needs (Barinaga, 2012).

The field of social entrepreneurship is receiving significant attention from various perspectives because of its importance in today's society and economy (Mair and Marti, 2006). However, research on the subject is still phenomenon-driven (Mair and Marti, 2006), the field is seen as a work in progress (Nicholls 2008) and there is lack of studies conducted in the area. Nicholls (2008) suggests that there "remains great need for bridging the worlds of theory and practice" in social entrepreneurship (p. I).

Technology and social entrepreneurship are interrelated. Historically, technological and industrial breakthroughs have been increasing the gap between rich and poor, harming the environment and causing number of other issues. At the same time, these innovations make our lives easier, more efficient and productive. How important is technology in social enterprises, which address issues often caused by the outcomes of these innovations and breakthroughs? Does technology help social entrepreneurs? How? This research seeks to explore that as well as it seeks to reduce the lack of research on social entrepreneurship. Stemming from all the above, the research question of this thesis is *exploring technology's role in social entrepreneurship*. The following sub-questions will guide the research and help to answer the main research question:

- *How does social entrepreneurship arise?*
- *How can social enterprises and technology be theoretically and empirically understood?*
- *How do social enterprises leverage technology as part of their business proposition?*

3. METHODOLOGY

3.1 Social research

Exploring and explaining how we construct social reality is one of the main goals of social research (Esterberg, 2002). To discover rather than test hypotheses, to establish how meanings are created and explore the experience of participants – these are only some of the reasons for conducting qualitative research (Corbin & Strauss, 2008). Eriksson and Kovalainen (2008), quoting Ghauri and Gronhaug (2005), imply that using the qualitative research approach is significant when there are few or no insights about a phenomenon, mostly because this method allows for exploration and flexibility. Essentially, the methodological approach that will be used to conduct research is dictated by a research question (Corbin & Strauss, 2008).

Although there are different ways of conducting social research and different goals of social research, these methods have one thing in common, which is the aim of gaining knowledge about the social world and how it is constructed (Esterberg, 2002). In this research I explore the social reality of social entrepreneurship and, more precisely, how humans construct technology's role in social entrepreneurship, where insights on the topic are scarce. Therefore my research will be qualitative business research.

It is important to consider the relationship between theories and the empirical world and therefore define how to advance the knowledge about researched topic (Esterberg, 2002; Eriksson and Kovalainen, 2008). In this research I follow basics of the inductive reasoning approach, which starts with examining a social phenomenon – in this case, social entrepreneurship in today's world – and then developing a research strategy, collecting and gathering data and finally developing a theory (Esterberg, 2002). Although pure induction is rare or even impossible, the fundamentals of the induction method were chosen because as a researcher I see theories as outcomes of empirical research (Eriksson and Kovalainen, 2008). Moreover, the field of technology in social entrepreneurship lacks theory, hence the basics of the inductive approach will help us to understand it through empirical research.

Therefore, this approach is more suitable than deduction, which is drawing hypotheses from the theory and testing it, and abduction, which is combining the two (Esterberg, 2002, Eriksson and Kovalainen, 2008).

The different ways of conducting social research imply that there are various ways of looking at the research process that are defined as worldviews, paradigms, epistemologies, research philosophies or research traditions (Esterberg, 2002, Eriksson and Kovalainen, 2008). These research philosophies are important as they guide an overall research design and strategy, which in turn lead the whole research process from research question to conclusions (Eriksson and Kovalainen, 2008).

3.2 School of thought – social constructivism

During the years of social research, several research traditions have emerged. Esterberg (2002) describes five major paradigms: positivism, naturalism, social constructionism, feminism and critical approaches, and postmodernism. Eriksson and Kovalainen (2008) describe positivism, postpositivism, critical realism, interpretivism and constructionism, hermeneutics, postmodernism and poststructualism as the most common research philosophies. Due to the limited scope of this research I will not describe the advantages and disadvantages of each of them. The paradigm of this research is that of social constructivists and I will further explain why it was chosen and what are the main features of the paradigm.

The guiding definition of social constructivism for this research is proposed by Eriksson and Kovalainen: *"social constructivism seeks to understand how the seemingly 'objective' features, such as industries, organisations and technologies, are constituted by subjective meanings of individuals and intersubjective processes such as discourses"* Eriksson and Kovalainen (2008, p.20).

Esterberg (2002) describes that there are three foundations of constructivism. First is that people give meanings to things and based on those meanings they then engage towards things; second is that meanings result from social interaction; and finally, meanings are

generated and altered through interpretation. Similarly Burr (1998) argues that we have our culturally and historically formed value system from which we cannot actually step outside or be independent from, therefore all meanings or judgments we make are within that system. In other words, knowledge and understanding about things does not exist separately without interpretation and the ability to share it (Burr, 1998). Stemming from this, reflexivity, which is interpretation, and language, which is talking and sharing, are essential parts in social constructivism (Eriksson and Kovalainen, 2008; Burr, 1998).

It is apparent that this social constructivist research follows relativist ontology, meaning there are multiple realities, and subjectivist epistemology, connoting that researcher and participant create meanings and understandings together (Eriksson and Kovalainen, 2008).

In this sense, the research is portrayed through my personal value system. My points of view are embedded in this research and from them I overview literature, collect and analyse the data through interactions with research participants and interpretations of their constructs of the social entrepreneurship phenomenon and technology's role in it, and finally present the findings. The points of view of the research participants are also enclosed in the research, as they declare input on the subject through their own cultural and value systems. Therefore I, as a researcher, and interviewees, as research participants, create various denotations and meanings together, which are interlinked through various different values, experiences (professional, gender, etc.) and cultural systems.

3.3 Actor network theory

As I explore a social phenomenon, or social world, and technology's, or the technical world's, role in it, I adopt some elements of actor network theory. According to actor network theory, social and technical worlds are always intertwined and embedded in each other, and not only the knowledge of it, but materially as well (Marres, 2012).

Actor network theory accepts the idea that everything in the social and natural world is an outcome, being created continuously, of interaction and relations from inside the webs (Law, 2009). It sees systems or technologies not only containing mechanical and technical

parts, but includes people as well (Law, 2009). Therefore actor network theory dismisses the concept of a 'hero' and implies that everything that is ever achieved is a result of materially heterogeneous relations of actors (Law, 2009). For example, a vaccine is not seen as created only by one person, but rather as an effort of various actors involved: patients, technologies, doctors, investors, laboratories, bacteria etc., who in turn create a web or a network (Law, 2009). Also, the notion that the social world shapes technology or technology shapes society loses its sense (Marres, 2012).

Coming back to this research, social inequality and social problems are viewed as a continuous result of interaction inside networks and among different webs. Similarly, social entrepreneurship is viewed as a heterogeneous network, consisting of multiple actors engaging together. Technology, being a component of that network, plays its role and the aim of this research is to uncover it. According to Law (2009), webs or networks have their own speed, scale, metrics etc., and there is no universal framework for explanation of how they work (Law, 2009). The subjects of empirical examples, objects and the participants of this research are not seen as protagonists or heroes, but as following the notion of actor network theory, as actors, members or parts of a network, creating an outcome together.

3.4 Research method - grounded theory

I will use the grounded theory method for this research. The grounded theory approach is focused on discovering new concepts and uncovering findings in business-related phenomena that are grounded in qualitative data (Myers, 2009). Social entrepreneurship is a developing and relatively new topic in business studies, and this research aims to uncover technology's role in the phenomenon.

Mair and Marti (2006) suggest viewing social entrepreneurship as a process stemming from an ongoing "interaction between social entrepreneurs and the context in which they and their activities are embedded". In other words, when studying regular and repeated processes, in this case social entrepreneurship, grounded theory helps in discovering patterns and explanations of organisational phenomena, in this case technology's role in social entrepreneurship (Myers, 2009).

Grounded theory approach is in line with research's social constructivist philosophy, which implies that research begins with exploring the social world as opposed to testing hypotheses originating from theory (Esterberg, 2002). This does not imply that if using grounded theory, a literature review cannot be conducted before starting research (Myers, 2009). On the contrary, Myers (2009) suggests that if a researcher is aware of not having preconceived theoretical ideas from the literature review and is open-minded throughout the research process, a literature review conducted prior to research can accompany a study. For the research to be a solid grounded theory study, it has to show that data analysis is thorough and a theoretical contribution has been made (Myers, 2009).

This research's analysis also follows elements of theory building from the case studies approach described by Eisenhardt (1989). This approach is particularly appropriate when little is known about phenomena or existing perceptions needing empirical support, which is the case of social entrepreneurship and technology's role in it, as described above. The elements used from Eisenhardt's (1989) approach are described in the respective parts of this thesis.

3.5 Data collection

The data was collected through conducting interviews, one of the most common methods of data collection in qualitative studies (Myers, 2009). Interviews are used in qualitative studies because they are effective tools to study social constructions of knowledge and are an "efficient and practical way of collecting information that you cannot find in a published form" (Eriksson and Kovalainen, 2008, p.80). As this research takes the social constructivist approach, it defines that technology's role in social entrepreneurship is constructed differently by different stakeholders. To understand what these constructs are and how they are built I talked to the stakeholders involved in social entrepreneurship in the form of an interview.

The interviews were conducted online through Skype. Skype is an online communication tool allowing registered users to connect and hold conversations using video or voice calls.

Using Skype for interviews only enhanced the technological aspect of the research, and it also formed a natural environment for the interviewees. This is because the interviewees use the program on regular basis to communicate with their business partners, suppliers and other stakeholders. Every research participant gave their consent for their names and views to be used in the research. Where Skype interviews were not possible to conduct due to English language barriers, lack of access to Skype and Internet, email interviews were taken instead.

Other qualitative data collection methods were not suitable for this research. Fieldwork, such as participant observation, was not chosen due to time constraints given for this research as studied companies are in different parts of the world (Australia, Kenya and India). Using documents was not chosen due to a lack of documentation on technology's role in social entrepreneurship.

Regarding the interview approach, I took upon the constructionist approach. As opposed to the positivist approach, where the interviewer focuses on facts, and the emotionalist approach that explores interviewees' authentic experiences, the constructivist approach is mostly in line with the social constructivist approach (Eriksson and Kovalainen, 2008). The constructionist interview approach focuses on the interaction between interviewee and interviewer, and on how meanings are created through that interaction (Eriksson and Kovalainen, 2008). The interviews were semi-structured, where I as interviewer had an outline of topics and themes that had to be covered, but left flexibility to explore interviewees' views on the topic. These are the main advantages over unstructured and structured interviews respectively (Eriksson and Kovalainen, 2008).

In addition, I view interviews as "active interviews", defined by Holstein and Gubrium (2004). In this perspective I look at interviews where all participants constantly engage in the creation of meaning and production of experiences' features that are recognisable, as opposed to a one-way channel of bringing knowledge, where the interviewee is seen as passive and only as a pool of answers (Holstein and Gubrium, 2004). In an active interview approach the question regarding bias is not whether or not particular techniques

contaminate data, but rather how the knowledge about the studied phenomenon is created through the interview (Holstein and Gubrium, 2004).

3.6 Choice of empirical data – why the case studies

According to Eisenhardt (1989), when building theory from case studies, the selection of cases themselves should follow a theoretical approach – for example, fill theoretical categories or provide examples of polar types. In this research the selected cases operate in different industries and different countries. Moreover, participating organisations for the research were carefully chosen based on the following criteria:

- An organisation must be a social enterprise, as defined in the literature review;
- A social enterprise must be an established and successful organisation, which includes having a website, having social media channels with a large following, being recognised or awarded by international organisations such as Ashoka, Skoll Foundation or Schwab Foundation;
- The organisation must use technology, as defined in the literature review, as part of their business proposition;
- A founder or founders of the organisation must agree to give an interview;
- An end-user of the organisation's product or service must agree to give an interview.

Finally the following cases were chosen: an Internet-based e-shopping platform from Australia, an agricultural technology producer in Kenya, a governmental institution that supports various grassroots-level technology innovators in India, and an agriculture education provider in Gambia.

3.7 Data analysis – coding

Analysing data is the backbone in building theories from case studies; at the same time it is the least codified and most difficult process, according to Eisenhardt (1989). The grounded

theory approach offers a systematic data analysis method, which is one of the main advantages of the approach, therefore I used this method when analysing data (Myers, 2009). While implementing data analysis I followed the method that includes four steps: open coding, axial or selective coding and theoretical coding (Myers, 2009). For the reader to fully understand the analysis process, I will describe each step shortly as explained by Myers (2009).

Open coding involves summarising a text by assigning a descriptive code. During this process it is important to find the similarities and differences of the data, therefore open coding also includes comparing and contrasting codes. The similar codes, or in other words texts that are of analogous content, are then grouped together to form concepts. Consequently, similar concepts are grouped into categories and those in turn formulate a theory. The second step of the process is axial or selective coding, which involves interpreting the categories and their characteristics. While interpreting, it is important to "refine the conceptual constructs", because it helps to understand the interaction that happens between the categories (Myers, 2009, p.112). Finally, the third stage is theoretical coding. During this stage, the researcher formulates a theory by creating statements about the phenomenon that are predictive and presumed. The researcher has to find and indicate causality or correlation between interpretive ideas. Throughout grounded theory data analysis process creativity is essential (Myers, 2009).

The coding was done using short memos, which are written records containing thoughts about analysis of the data, as suggested by Corbin and Straus in their book The Basics of Qualitative Research. Each memo contained a label of concept and helped to keep track of ideas developing throughout the research process (Corbin and Strauss, 2008). The mentioned book by Corbin and Strauss was used as a guide when analysing the data.

3.8 Evaluation

Eriksson and Kovalainen (2008) suggest ditching classical evaluation criteria if research "relies on relativist ontology and subjectivist epistemology", which this research does (p.294). Instead, the authors suggest substituting it with the concept of trustworthiness,

proposed by Lincoln and Guba (1985) that consists of credibility, transferability, dependability, and conformability. I will go through each of them, starting with credibility.

The main questions regarding credibility are, according to Eriksson and Kovalainen (2008): the researcher's familiarity with the topic; whether links between findings and categories are rational and logical; whether the data confirms the findings; and whether other researchers would be able to agree to the findings. Credibility was addressed by adopting the recognised research method of grounded theory and research philosophy of social constructivism. Moreover, I have chosen three different case studies based on the criteria explained in this research. Credibility can be also assessed while reading the data analysis, discussion, further research and limitations parts of this research, where I answer the questions related to it. To answer the familiarity question, I have spent more than 10 months following the news, contacting people in the field and becoming familiar with social entrepreneurship prior starting this research. Moreover, I lived in India for 6 months, where I saw a need for social enterprises and technology and saw the poverty in front of me. Therefore I can say that as a researcher, I am familiar with the subject.

Moving on to transferability, which is related with the connection of this research and results of other researches (Eriksson and Kovalainen, 2008). To address this issue I have provided the background of the phenomenon of social entrepreneurship and technology in the literature review, based on research by other authors. This establishes the context of the study, therefore other researchers can relate to it. I also link findings by other researchers with my findings in the discussion section of this research.

Dependability refers to the fact that information flows logically, is traceable and documented (Eriksson and Kovalainen, 2008). Everything that is mentioned in this research can be found in appendices, for example interview transcripts, coding or additional facts; in the reference list, which includes websites, books or articles that are quoted; and in the research itself, such as occurred changes that happened during the research process. The research follows the standard dissertation plan, plus research design graph shows the logic flow of the research to help the reader understand how this study was conducted.

And finally, conformability is concerned with the fact that the data and interpretations are not fictional or biased (Eriksson and Kovalainen, 2008). As per the social constructivist approach the researcher's value system and interpretations are embedded into the research, hence researcher subjectivity in this study exists. Therefore to enhance the conformability of my beliefs and assumptions, interview transcripts and coding are attached in the appendices. Moreover, limitations of the study are recognised and described in the limitations section. To overall address the trustworthiness, the research was guided and overseen by a supervisor, and external readers reviewed the study in full and evaluated logical, academic and grammatical issues.

I would like to finish this part of thesis with a quote from Corbin and Strauss (2008), hoping the reader will find my research useful and insightful: "I still think that the findings "speak" for themselves and when we see quality we will know it. I also recognise that there are special research circumstances requiring different approaches to doing research and standards of judgment. In these situations, it is important for a researcher to explain the specifics of why and what was done, leaving it up to readers to judge the results" (Corbin and Strauss, 2008, p.311).

3.9 Research design

The study has followed the research design as displayed below in Figure 1. It started with an overall empirical overview of the phenomenon of social entrepreneurship and technology. This included following the latest updates of social entrepreneurship globally, becoming familiar with the activities of various social enterprises, profiles of social entrepreneurs and major players in the industry. Being employed by a technology-based company in London allowed me to familiarize myself with technology's role in the business world.

Next, the research process moved to the literature review, analysing the number of books, journals, articles and websites on technology and social entrepreneurship. The research continued with data collection and data analysis, processes that were affecting one another. Eisenhardt (1989) implies that overlapping data analysis and data collection process gives a

number of advantages. It allows flexibility in the data collection process, including adding new questions during the interviews in order to get better insights and data to work with. As a result, more interviews were conducted, more questions in interviews were asked, and the literature review was amended to endorse the new data analysis discoveries, until the final findings were reached.

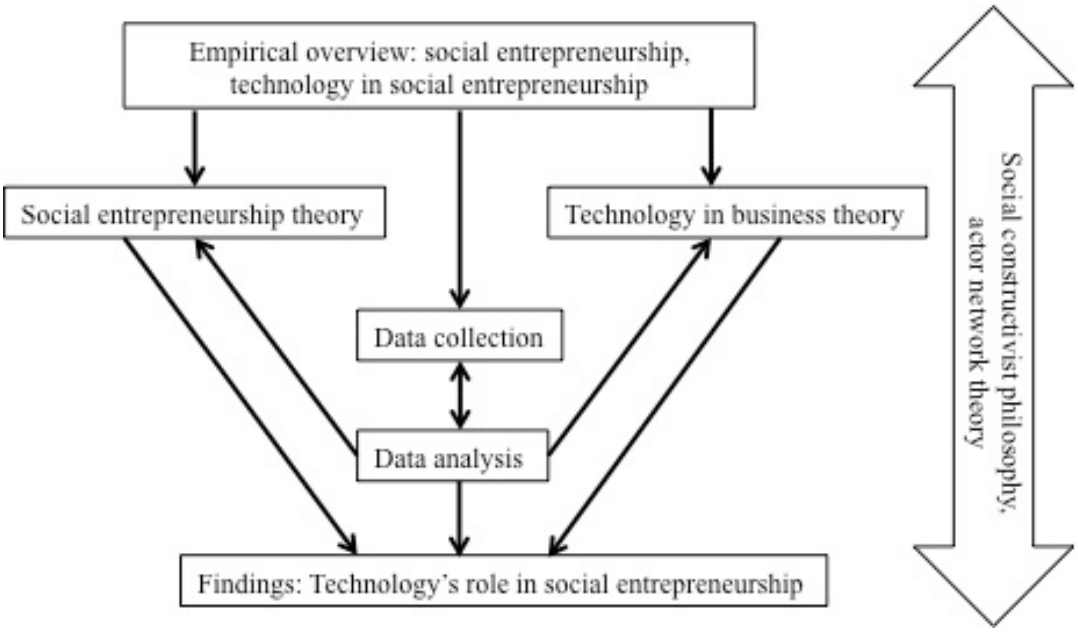

Figure 1. Research design.

The question arises as to whether altering the data collection and data analysis processes is advantageous for research. Eisenhardt (1989) argues that it adds value mainly because of the theory building research, the researcher is always focused on understanding each case individually and in as much depth as possible. If an alteration is going to provide better insights or ground to the theory, it should be implemented (Eisenhardt, 1989).

As Corbin and Strauss (2008) suggest, research, which follows the grounded theory method, is indeed a continuous process of data collection and analysis that leads to more data collection and analysis, until a researcher is satisfied that he or she has sufficient data in order to put together a coherent explanatory story and make insightful findings. The whole research was conducted in line with the social constructivist philosophy and actor network theory in mind.

I considered research ethics when conducting the analysis. My, as a researcher, intervention does not have any implications to people interviewed and the organisations studied. Informants' consent was given form interviewees, including permission to record interviews, use real names, including company names, and any information interviewees provided.

4. LITERATURE REVIEW

The aim of this chapter is to present a review of existing literature on social entrepreneurship, including its definitions, beginnings, key characteristics and challenges. Technology in relation to social entrepreneurship will be defined in this chapter as well. As the thesis is an exploratory study, the literature overview is focused on helping the reader to understand the researched subject. However, as mentioned in the methodology section, as a researcher I realise that it is important not to have preconceived theoretical ideas from the literature review and to stay open-minded throughout the research process (Myers, 2009).

4.1 Social entrepreneurship literature review

4.1.1 Social entrepreneurship: beginnings and definitions

Social entrepreneurship as a phenomenon has gained increasing attention from mass media and the commercial and academic worlds over the last couple of decades, according to Nicholls (2008). However, it still lacks a universal compilation of current thinking on the topic (Nicholls, 2008). Indeed, Mair and Marti (2006), for example, identify the need for more empirical studies exploring opportunities for social entrepreneurs and how these opportunities affect the entrepreneurial process. Nicholls (2008) suggests that more studies that look into policy, praxis and other academic research in social entrepreneurship are needed.

The definition of social entrepreneurship lacks clarity and is often challenged (Nicholls, 2008). This is mainly because of social entrepreneurship's dynamic flexibility (Nicholls, 2008). Nonetheless, through looking at various delineations and schools of thought I will further try to define social entrepreneurship.

It was Banks (1972) who mentioned the term "social entrepreneur" first. When analysing different management approaches, the author suggested that managerial skills could be used when tackling business challenges as well as addressing social issues (Nicholls, 2008).

Ever since then, social entrepreneurship has been positioned amongst other subjects. For example, Mair and Marti (2006) question whether and how social entrepreneurship is different from actions done by politicians or social activists, as they all share the same goals. Nicholls (2008) implies that social entrepreneurship falls in between the two recognised fields of non-profit management and business and economic studies. However, in taking inspiration from both it is starting to create its own direction as a separate subject (Nicholls, 2008).

The Skoll Foundation, which is a social entrepreneurship foundation with a vision of driving large-scale change and creating a sustainable world of peace and prosperity, defines social entrepreneurs as "society's change agents, creators of innovations that disrupt the status quo and transform our world for the better" (Skoll Foundation, 2013). Indeed, a focus on achieving social change and meeting previously unmet social needs through innovation are the two core elements of social entrepreneurship (Barinaga, 2012).

The first element – a focus on achieving social change – is central to the organisation and therefore guides the organisation's choices of partners, processes, scaling up, relationships with stakeholders and evaluating success (Barinaga 2012). In this research I define social change or social impact as increased well-being of an individual person, a community or communities that are facing pressing conditions such as hunger, poverty, lack of health-care, sanitation or access to human rights. From scholars to politicians, social entrepreneurs are praised for catalysing social change, meeting markets' and governments' failures in reducing social and economical disparity and changing social dynamics that lead to inequality (Barinaga 2012). Similarly, Mair, Marti and Ganly (2007) argue that social enterprises are filling the gaps left by letdowns of the private and public sectors to supply products or services to certain communities in order to create positive social change. Therefore this element, according to Barinaga (2012), relates to the word "social" in "social entrepreneurship".

The second element, meeting previously unmet social needs through innovation, happens to generate methods that are not replicated nor tested before, Barinaga (2012) continues. More precisely, when tackling a problem, social entrepreneurs engage in innovation processes

and use resources creatively (Barinaga, 2012). In a parallel manner, Mair and Marti (2006) define social entrepreneurship as "a process involving the innovative use and combinations of resources to pursue opportunities to catalyse social change and/or address social needs" (p.37). They view social entrepreneurship in the following assumptions. According to Mair and Marti (2006), social entrepreneurs create value through a process of combining resources, which often they do not own, in new ways. These combinations are intended to stimulate social change and meet social needs through creating products and services and/or new organisations. This element, according to Barinaga (2012), relates to the "entrepreneurial" element of social entrepreneurship.

According to Murphy and Coombes (2009), social entrepreneurial opportunities arise from various social circumstances, including long-lasting inefficiencies in communities, emergent needs in developing world, complicated environmental and economical issues, natural disasters – and also from new technologies. Although conventional entrepreneurship opportunities also derive from various shortages or inefficiencies, they have significant differences. Social entrepreneurship's main goal is to create social change and unlike traditional entrepreneurship, it does not focus on maximising stakeholder economic value (Murphy and Coombes, 2009). Essentially, according to Murphy and Coombes (2009), social enterprises use different kinds of resources (economic, social and environmental) to achieve their mission.

4.1.2 Levels of researching social entrepreneurship

Three research levels have been used when studying social entrepreneurship: individual, organisational and inter-organisational, according to Barinaga (2012). The individual level is that of a social entrepreneur. Dacin et al. (2010) imply that this level, more precisely the characteristics of a social entrepreneur, is an important aspect of social entrepreneurship. Indeed, motivations to establish social enterprise and create social change are significant. Social entrepreneurs, just like conventional entrepreneurs, have customers, suppliers and maintain relationships with them, face barriers to enter markets, deal with competition and the issues of economics (Oster, 1995).

The organisational level is that of a social enterprise, and the inter-organisational level is that of networks of collaboration (Barinaga, 2012). Adding context as a fourth level, Mair and Marti (2006, p.40) view social entrepreneurship as a process stemming from ongoing "interaction between social entrepreneurs and the context in which they and their activities are embedded". Mair and Marti (2006) continue that in order to understand social entrepreneurship, it needs to be viewed in a social context, preferably in a local environment, and it cannot be looked at purely in the economic sense. Therefore the social entrepreneur and his environment (community, society) cannot be separated either (Mair and Marti, 2006).

Further I will depict organisational and inter-organisational levels of social entrepreneurship. The level of context has been presented in the introduction section and is described when introducing each particular case for analysis, as is the individual level.

4.1.3 Characteristics of social enterprises

As the discipline of social entrepreneurship evolved, three different ways of looking at it developed: social entrepreneurship as non-profit activities searching for funding; social entrepreneurship as part of corporate social responsibility; and social entrepreneurship as a means to tackle social problems and create social change (Mair and Marti, 2006). Similarly, Dacin et al. (2010) summarise other existing directions of viewing social entrepreneurship, including looking at it as a process in non-profit organisations or governments using business models, commercial organisations practising corporate social responsibility, philanthropy's consequences, or financially sustainable organisations creating social value. Mair and Marti (2006) imply that social entrepreneurship can equally be based on non-for-profit and for-profit, depending on the business model and particularly the social need that is being addressed.

Murphy and Coombes (2009) introduce a mobilisation aspect in social entrepreneurship. In their definition, Murphy and Coombes (2009) see social entrepreneurship as "the creation and undertaking of a venture intended to promote a specific social purpose or cause in a context of mobilisation" (p.326). By "social purpose or cause", Murphy and Coombes

(2009) mean the promotion of the values that are essential in a civilised society to maintain quality of human life, such as equality or freedom. But it is the mobilisation aspect that Murphy and Coombes (2009) bring to the notion of social entrepreneurship. Mobilisation, according to the authors, is a strongly supported or intensely shared orientation of the public towards a social cause. According to Murphy and Coombes (2009), mobilisation brings resources together, including social, economic, and environmental resources. In other words, through mobilisation, resource gathering becomes viable: economic resources are more likely to be collected if a higher number of people are interested in enterprise's success, larger social resources are essential as they form social capital and networks, and finally environmental resources are preserved and sustained (Murphy and Coombes, 2009).

Acknowledging that social enterprises vary in organisational type, purpose, size or scale, Di Domenico et al. (2010) characterize four traits that social enterprises have in common. Those are: generating revenues through trading; achieving social and environmental goals; generating benefits such as increased social capital or enhanced community cohesion through stakeholder participation; and finally, working within communities that have limited access to resources – although social enterprises can be found in various contexts (Di Domenico et al., 2010). The latter characteristic makes it particularly challenging for social entrepreneurs to assemble resources in resource-scarce environment (Di Domenico et al., 2010).

The perception of social enterprises' role and function is changing: it is increasingly becoming seen also as a mechanism that supports economic activities in areas overseen by the state and private sectors (Di Domenico et al., 2010). In the private sector, social enterprises share the aim to generate revenue to be self-sustainable and independent from governments or donors; and in the non-profit sector, social enterprises share the focus to achieve social goals (Di Domenico et al., 2010). I will further juxtapose social entrepreneurship in conventional businesses (for-profit sector) and charities (non-profit sector). In addition, I will compare social entrepreneurship with the cultural sector.

4.1.4 Social entrepreneurship and conventional businesses

The difference between business sector entrepreneurship and social entrepreneurship is not the for-profit or not-for-profit orientation, but rather in the priority that is given to creating social wealth in social entrepreneurship as opposed to economic wealth in business sector, where social value is just a by-product (Mair and Marti, 2006). In other words, economic and social aspects are both embedded in the "value creation" in social enterprises: the main focus is given to social value while the necessary economic value ensures financial viability (Mair and Marti, 2006).

Market orientation is also an important factor in understanding social entrepreneurship. On the one hand, as Dees (1998) argues, markets cannot work well for social entrepreneurship as it becomes hard to assess social improvements. On the other hand, market orientation is important for a social enterprise to be self-sustainable (Barinaga, 2012). Social enterprises "offer the promise of financially sustainable organisations that can respond to the world's most pressing problems" (Smith et al., 2012). Through creativity, efficiency and using business models, social enterprises solve social problems such as improving human welfare (Smith et al., 2012).

4.1.5 Social entrepreneurship and charities

Dees (2012) contrasts two cultures of social entrepreneurship: charity and problem-solving. While charity, a selfless action to benefit another, usually a stranger, is a virtue, problem-solving on the other hand is a skill that can be used for good or ill (Dees, 2012). Charity does not take into consideration the consequences of the act, whereas problem-solving is actually judged by results or the usefulness of the process (Dees, 2012). Dees (2012) implies that social entrepreneurship is "a more recent extension of this analytic problem-solving thrust. It simply acknowledges the insight that entrepreneurial efforts can add value to this process by decentralising the innovation, experimentation and learning process, forming a kind of 'learning laboratory'" (Dees, 2012, p.322).

However, frequently when social entrepreneurs start off they are supported by charities that essentially are driven by the same motives (Dees, 2012). Being extraordinary people they are driven by a strong feeling of caring about tackling problems or working in areas that are considered to be hopeless (Dees, 2012). These people in some cases come up with solutions and innovations that catalyse social change and make an unexpected difference (Dees, 2012). Sharot (2011) implies that people who come up with breakthroughs sometimes happen to be those who are perceived to be wasting their time in doing what they do and also the ones that are motivated by irrational optimism or a strong feeling of caring.

Understanding the differences and blurred lines between the two cultures of charity and problem-solving, Dees (2012) proposes a five-step strategy to create a new culture for the social sector that tackles and aims to solve social problems. These are as follows: emphasizing the importance of problem-solving through education, religious authorities, role models or the media; making performance information more available and visible; making smart giving and the leap of reason 'cool'; and engaging supporters in problem-solving and improving the affective positioning of problem-solvers.

4.1.6 Social entrepreneurship and the cultural sector

Dacin et al. (2010) suggest that social entrepreneurship is indeed very similar to cultural entrepreneurship in that both have to combine resources creatively, balance their organisational mission with economic tasks, the leaders have a particular set of skills, and both operate in for-profit and non-profit spaces. Dacin et al. (2010) imply that social entrepreneurs do not let the external environment influence a company's formation or development, as they are more attentive to external resources and implement creative solutions to overcome obstacles imposed by environment. In social entrepreneurship, an important value is given to relationships between the social entrepreneur and their network members: advantageous resources are created through interactions of enterprise's social network and internal organisation, especially for new ventures (Dacin et al., 2010).

4.1.7 Paradoxical challenges of social enterprises

According to Smith et al. (2012), social and commercial parts of social enterprises are interrelated and conflicting rather than isolated from each other. Obviously, social enterprises must attend to both of them, i.e. run the organisation effectively to reach financial goals as well as maintain social mission as primary focus (Smith et al., 2012). However, when organisations pursue social goals through commercial business models, it leads to conflicting demands and thus additional challenges arise (Smith et al., 2012). Therefore it is essential to embrace these conflicting demands and understand the challenges.

The first challenge is that of losing the 'dual focus' and eventually transforming to either commercial business or a socially focused organisation (Smith et al., 2012). The second challenge is getting lost in the intractable conflict among the members that represent both social and commercial sides (Smith et al., 2012). These challenges arise because, as Smith et al. (2012) conclude, the commercial side of social enterprise focuses on economic values, thereby encouraging efficiency and meeting the needs of a more focused group of stakeholders. The social mission, on the other hand, focuses on societal values, and therefore embraces effectiveness in tackling social problems and meeting the needs of a broader group of stakeholders (Smith et al., 2012). In other words, in going after commercial goals, an organisation has to be efficient, focused on performance, innovation and growth; and in achieving social goals, organisations promote passion, motivation and commitment (Smith et al., 2012).

These contradicting and twofold sides of a social enterprise actually comprise a powerful combination that leads to new solutions and innovation as a response to existing challenges (Smith et al., 2012). Indeed, if addressed correctly, these tensions provide an environment for creativity, novelty and sustainability to nurture (Smith et al., 2012). But it is the responsibility of social entrepreneurs to manage the conflicting demands of commercial and social missions (Smith et al., 2012). The authors suggest that social entrepreneurs develop three skills to manage this: accepting that conflicting tensions exist independently from one

another; differentiating each of their distinct values and attending to them; and integrating decision-making through trust, openness and cultural sensitivity (Smith et al., 2012).

4.1.8 Social entrepreneurship and bricolage

First of all, let us define bricolage. According to Mair and Marti (2009), bricolage "encompasses the continuous combination, re-combination and re-deployment of different practices, organisational forms, physical resources, and institutions". Therefore as social enterprises are constantly facing a lack of resources and are in the continuous process of forming new types of organisations, bricolage becomes extremely relevant.

Di Domenico et al. (2010) suggest that although there is a number of ways to acquire resources in commercial ventures, bricolage is the most appropriate to social entrepreneurship. Bricolage is a concept that includes the process of making do, and a refusal to be constrained by limitations and improvisation (Di Domenico et al. 2010). The authors add three more processes to this definition: social value creation; stakeholder participation; and persuasion to construct social bricolage that is specific to social entrepreneurship (Di Domenico et al., 2010). These processes are interrelated and connected to each other.

In social entrepreneurship, making do refers to the recombination of limited resources that are available at hand to create social value (Di Domenico et al., 2010). It can mean creating an entirely new market or services, using disused or unwanted products for new purposes, or using untapped local resources that went unrecognised by other organisations (Di Domenico et al., 2010). In doing so, i.e. making do, entrepreneurs behave unconventionally, or rather refuse to be constrained by limited resources imposed on them by an environment that can be institutional, political or economical (Baker and Nelson, 2005) to pursue social goals. Di Domenico et al. (2010) found that social entrepreneurs face this challenge by trying out solutions that counteract these limitations or subvert the limitations by available resources – for example, finding a new revenue stream or establishing a new organisation. Making do and refusing to be constrained by limitations are connected with improvisation: the social entrepreneur's response to resource scarcity

that leads to constant responding to opportunities, community engagement and counteracting limitations (Di Domenico et al., 2010).

Specific to social bricolage are also the three following elements: social value creation, stakeholder participation, and persuasion. Social value creation that is embedded in social entrepreneurship is a key part in social bricolage and can take the form of employment opportunities, skills development, community cohesion or other (Di Domenico et al., 2010). Stakeholder participation in a form of governance structures, decision-making and implementation is an important element in creating social value and social bricolage (Di Domenico et al., 2010). Finally, persuasion is the social entrepreneur's trait that helps with acquiring resources, persuading other actors to participate and creating social value (Di Domenico et al., 2010). Not only is social bricolage a way to identify, acquire and use resources thus creating and developing social enterprise, but it also sheds light on micro-processes of social entrepreneurship.

However, social entrepreneurs face not only the challenge of limited material and non-material resources. Cultural barriers and institutional voids, more precisely weakness or lack of supportive institutions, constrain people to participate in markets, especially those in the developing countries (Mair and Marti, 2009). To overcome this, enterprises work in networks and collaborate with each other, and the next part of the literature review focuses on exactly that.

4.1.9 Collaborative social entrepreneurship

Montgomery et al. (2012) argue that social entrepreneurs collaborate with other actors and organisations as a way to overcome obstacles that cannot be successfully tackled while working alone. Montgomery et al. (2012) define this as collective social entrepreneurship – "collaboration amongst similar as well as diverse actors for the purpose of applying business principles to solving social problems" (p.376). Collaborative social entrepreneurship can take the form of social movements, community cooperatives and cross-sector collaborations, but they are all intended to provide help sharing and bringing

together ideas and viewpoints, mobilising supporters and essentially collaborating to create social change (Montgomery et al., 2012).

Harnessing resources from multiple actors, as well as collaboration between resources, is essential to effect changes in institutional norms and values (Montgomery et al., 2012). This is because sufficient resources can influence institutional transformation more easily and those resources are brought together through collaborations, partnerships, associations and other organisations (Montgomery et al., 2012). The authors describe four forms of collaboration in collective social entrepreneurship. The first two are same-sector pooling collaborations and cross-sector pooling collaborations. These collaborations pull together resources from same-sector or cross-sector organisations in order to share similar resources, have increased purchasing power, or develop new skills (Montgomery et al., 2012). The other two types are same-sector trading collaborations and cross-sector trading collaborations. These are trading alliances that enable organisations to share and exchange resources, where each party offers something unique or different to the other (Montgomery et al., 2012).

In each case, these forms of collective social entrepreneurship work together in collaboration to reach their objective of tackling social issues through various actors joining forces (Montgomery et al., 2012). Obviously these are different organisations with different goals and strategies, but they all share the following common activities that lead to success: "building credibility, sharing knowledge, and saving costs through joining forces; bringing together diverse actors in ways that benefit each while also servicing combined objectives; and drawing on a multitude of voices and lenses to enhance the venture and expand mobilisation and buy-in" (Montgomery et al., 2012, p.382).

4.1.10 Stakeholder participation

Next I will describe an empirical example of stakeholder participation. Gram Vikas is a social enterprise that provides sustainable rural development in India. It operates in five areas: community health; education; livelihoods; livelihood-enabling infrastructure and renewable energy; and water and sanitation (Pless and Appel, 2012). In their water and

sanitation program the social enterprise assists the community to set up a water supply and sewage system. Gram Vikas helps communities establish self-sustaining governance and decision-making bodies, creates and raises funds for the project, and provides technical and process consulting.

The important factor is that the project has to be implemented through 100% inclusion, meaning that all members of the community irrespective of their gender, caste, religion or class, participate and contribute in the project and finally get access to the infrastructure (Pless and Appel, 2012). Moreover, the social enterprise promotes equal participation of all social groups and both genders (Pless and Appel, 2012). Through their approach, Gram Vikas empowers people as they have to be active and play important role in the project (Pless and Appel, 2012). It gives communities dignity, a strong sense of ownership, and fosters a feeling of citizenship (Pless and Appel, 2012).

This approach has proven to be very successful, and not only in providing water and sanitation facilities in rural areas. Gram Vikas found that communities realise that they can achieve more if their resources are pooled and people work together and continue to implement projects beneficial to their communities (Pless and Appel, 2012). Essentially, according to Pless and Appel (2012), equal opportunity, shared responsibility and participatory decision-making are key elements of inclusive community culture that ensures sustainable development.

4.2 Technology

It is apparent that technology is a very broad topic that contains many varied areas, such as "computer technology", "recycling technology", "aerospace technology", etc. In general, the term "technology" refers to "the application of scientific knowledge for practical purpose" (Oxford Dictionaries, http://oxforddictionaries.com). In this research, by "technology" I mean innovation or the application of science for the purpose of solving social problems; or usage of existing technology to facilitate the addressing and solving of social problems. Mainly "technology" will refer to digital technologies and product innovations that are specifically designed to react to social issues. To begin with, I will

describe technology in social entrepreneurship and continue with digital technologies and types of innovations.

4.2.1 Technology in social entrepreneurship

There is a lack of research looking at technology's role in social entrepreneurship. However, practitioners agree that it plays a significant role in social entrepreneurship. In the article "10 ideas driving the future of social entrepreneurship", FastCoExist's website identifies the current thinking and direction of social entrepreneurship. Among these 10 ideas, the authors mention technology and how it is driving creative disruption ("10 Ideas Driving The Future Of Social Entrepreneurship" Fast Co.Exist, 2013). To be more precise, the authors imply that technology in recent years has played an important role in social entrepreneurship, social movements, transforming conventional thinking and revolutions. Examples include usage of smartphones during the Arab Spring movements or the transformation of financial services in Africa. Through digital tools the protesters in the Arab Spring disseminated news with images and videos via social networks such as Twitter or Facebook immediately as they happened, which helped journalists to cover the Arab Spring in a way that traditional journalism could not have allowed (Duffy, 2011). Another example includes the largest bank in east Africa that has 8.2 million customers who can access their online bank account through mobile phones, and more than 15 million people who use mobile as a money transfer platform ("Technology drives Africa transformation", Financial Times, 2013).

This empowering of people through technology, whether by giving access to real-time information or by enabling them to make basic financial operations, transforms social structures ("10 Ideas Driving The Future Of Social Entrepreneurship" Fast Co.Exist, 2013).

4.2.2 Digital technologies in social entrepreneurship

Bharadwaj et al. (2013) views digital technologies as "combinations of information, computing, communication and connectivity technologies" (p.471). Thanks to the Internet and mobile technologies, markets are bringing us closer to the state of "perfect

information" (Granados and Gupta, 2013). Before making a purchase decision, buyers easily search for product/service reviews, prices or alternatives online (Granados and Gupta, 2013). Today the information is consumed and exchanged online through websites, blogs, and social networks at increasing speed, making end consumers very well-informed and used to getting information instantly (Granados and Gupta, 2013). According to Bharadwaj et al. (2013), last decade saw business structure becoming more interconnected through digital, linking together products, services, processes, customers and stakeholders.

This has changed business strategies and processes, the capabilities of companies and has transformed relationships in networks (Bharadwaj et al., 2013). Indeed, "the ubiquity of electronic communication and the rise of social media have created a transparent business world in which bad behavior is more difficult to hide than ever before. As a result, ethical behavior has become a point of competitive differentiation. Companies that "outbehave" their competitors will eventually outperform them as well" ("The Rise Of Social Entrepreneurship Suggests A Possible Future For Global Capitalism", Forbes, 2013).

In addition to that, Forbes' website suggests that there is a correlation between the increase in sharing of data, access to knowledge and instant communications, and the rise of social enterprises from the mid-1990s to today (Watson, "Net Neutrality And Social Entrepreneurship: Why Freedom To Create And Share Matters", Forbes, 2014).

4.2.3 Innovations in social entrepreneurship

As defined above, social entrepreneurs are "society's change agents, creators of innovations that disrupt the status quo and transform our world for the better". Therefore it is apparent that innovations are essential in social entrepreneurship and as a result I will further review the literature on innovations.

Innovations can be categorised into two groups: sustaining and disruptive (Bower and Christensen, 1995). Sustaining innovations are those that provide additional functionality or improved quality for the company's most demanding customers, and can be either incremental or breakthrough (Bower and Christensen, 1995). A good example of sustaining

innovation is a new and more expensive model of smartphone. Disruptive innovations, on the other hand, apply to new or less demanding customers because they are cheaper, more convenient and simpler (Bower and Christensen, 1995). Examples of disruptive innovations are low-cost flights that brought new customers to air travel, or personal computers that were less powerful but affordable to a big and unreserved market (Christensen et al., 2006). It is these disruptive innovations that frequently give rise to social change, although it happens unintended (Christensen et al., 2006).

A subset of disruptive innovations is catalytic innovations, which can be distinguished by their primal goal of social change (Christensen et al., 2006). In other words, catalytic innovations are disruptive innovations with the mission to achieve increased social wellbeing. According to Christensen et al. (2006), organisations can create catalytic innovations despite their organisational or ownership structures.

One of the examples of catalytic innovation is microfinancing. Microfinance organisations offer loans with little collateral at low interest rates, which opens new markets for people who cannot get loans from conventional banks. Well-known microfinance organisations are Grameen Bank, established by Nobel Prize winner Muhammad Yunus, and Kiva.org, which enables people to lend money online to others living in developing countries. Usually catalytic innovators are not the established players in the market, as creating a cheaper, simpler and more accessible product or service is not in the interest of any company (Christensen et al., 2006).

Christensen et al. (2006) define five traits that catalytic innovators share:
"1. They create systemic social change through scaling and replication.
2. They meet a need that is either overserved (because the existing solution is more complex than many people require) or not served at all.
3. They offer products and services that are simpler and less costly than existing alternatives and may be perceived as having a lower level of performance, but users consider them to be good enough.
4. They generate resources, such as donations, grants, volunteer manpower, or intellectual capital, in ways that are initially unattractive to incumbent competitors.

5. They are often ignored, disparaged, or even encouraged by existing players for whom the business model is unprofitable or otherwise unattractive and who therefore avoid or retreat from the market segment" (p.96).

4.2.4 Bringing social change through technology

Literature review has established that innovations in social entrepreneurship are catalytic innovations (Christensen et al., 2006). But how do these innovations bring social change?

Prahalad and Hart (2002) suggest that currently the markets are based on the needs of consumers from developed countries. The poorest people of the world comprise two thirds of the population and addressing their needs opens new possibilities not only for social entrepreneurs, but for conventional businesses, governments and other organisations as well (Prahalad and Hart, 2002). However, the opportunities will only occur only if "changes in technology, credit, cost and distribution" are re-thinked (Prahalad and Hart, 2002, p.14).

Therefore, according to Prahalad and Hart (2002), when creating social change, innovations are needed, especially in the following four elements: when creating buying power, which is enabling access to credit and income generation; when shaping aspirations, which is consumer education and sustainable development; when tailoring local solutions, which is targeted product development and bottom-up innovation; and when improving access, which include distribution systems and communication links.

5. CASES

As part of this research I have selected four social enterprises in order to explore technology's role in social entrepreneurship. These were carefully selected by having to fulfil the criteria described in the methodology section. To deal with the daunting amount of data that might be collected, usually due to an open-ended research problem, Eisenhardt (1989) suggests using within-case analysis. Within-case analysis means becoming familiar with each case as a standalone entity. It helps unique patterns of each case to arise before researchers start generalizing patterns across all cases (Eisenhardt, 1989). Therefore this chapter will describe the cases, aiming to recognise the background of each organisation that is researched, as well as that of each of the interviewee. This will also help us understand the interviewees' value systems better, as every one of us has culturally and historically formed a value system from which we cannot escape or be independent from and, as a result, all of our meanings or judgments that we make are within that particular system (Burr, 1998).

"There could be nothing more wrong than the Maslowian model of hierarchy of needs because the poorest people in this country can get enlightenment. […] Please do not ever think that only after meeting your physiological needs and other needs can you be thinking about your spiritual needs or your enlightenment. Any person anywhere is capable of rising to that highest point of attainment, only by the resolve that they have in their mind that they must achieve something."

Prof. Anil Gupta

("Anil Gupta: India's hidden hotbeds of invention", TED, 2010)

5.1 The Shop for Change

5.1.1 Overview

The Shop for Change is a web-based platform that enables disadvantaged sellers throughout the world to sell their products online to worldwide markets. The products include various crafts, such as handbags, jewellery, computer cases or clothing. The Shop for Change allows buyers to communicate with and buy products directly from the sellers. The Shop for Change has a well-established website and a large following on social channels.

5.1.2 The problem

The problems that The Shop for Change tackles are geographical and socio-economic trade barriers. Sellers reach out to potential buyers that lead to not being able to overcome poverty.

5.1.3 Technology

The Shop for Change uses the information communication technologies as part of their business proposition to tackle social problems.

5.1.4 How it works

In order to sell products, artisans need to become 'sellers' on the platform. A 'seller' can be a grassroots artisan, a co-operative or a non-governmental organisation. NGOs or co-operatives might help individual craftsmen or craftswomen with setting up online, processing payments, sending products to buyers, providing computers, providing access to the Internet or providing training for particular skills or crafts. To become a seller on the platform, individuals or organisations need to complete a qualitative survey to establish their level of disadvantage. Also, to become an eligible seller, individuals or organisations need to fulfil the following criteria:

"

1. More than 50% of profits are directly supporting a disadvantaged person or group – those struggling to access basic human rights.
2. Profits have a positive, measurable effect on at least one Social Impact.

3. Sale prices and profits will be disclosed to The Shop for Change if requested.
4. If you are based in Australia, you are a registered business with an Australian Business Number (ABN).
5. The items for sale are produced:
    1. Free of child and slave labour.
    2. In sweatshop-free, safe environments.
    3. While protecting and conserving the environment.
    4. In appreciation of the United Nations Declaration of Human Rights.

Social Impacts include: reducing poverty & hunger, increasing access to education, gender equality & empowerment of women, access to child health, access to maternal health, combating HIV/AIDS, malaria and other diseases, and access to safe drinking water."
("The Shop for Change", 2013)

At the moment most of the craftsmen or craftswomen are set up as sellers through NGOs or communities. The sales mark-up is a nominal 5%, enabling an optimal 95% of sales to be delivered to the sellers.

5.1.5 Founders and history

The Shop for Change was founded by Australian couple George Hiley and Alison Hughes in 2010. The founders had the idea for the business while travelling and volunteering in South East Asia. Through their experiences they met a number of artisans from South East Asian countries that were producing various crafts, including clothes, accessories or ceramics. The majority of them lived in poor conditions, with lack of sanitation, education, health care; existing hunger, poverty or even exploitation being common. However, despite their living conditions, George and Alison saw the skillful work and appearance of the products. The founders of The Shop for Change recognised the major challenge for the artisans and craftsmen – limited access to markets wide enough to sell their products – and identified an opportunity to help producers in developing countries connect with the buyers

in the developed world. Alison and George combined their skills of graphic design and development and created the website platform The Shop for Change. I have interviewed both founders for this research through Skype.

5.1.6 The seller

The seller is a social enterprise based in Cambodia and Australia. The enterprise tackles social problem of sex trafficking in Cambodia by providing employment opportunities to women who want to leave the sex industry or ones that are at a risk of entering it. The enterprise is managed and staffed by Cambodian women. These women produce a range of jewellery and accessories and sell them under the name of the enterprise. The Shop For Change allows them to sell their products online to the wider markets. The team, based in Phnom Penh, Cambodia, manufactures the jewellery and accessories and the team in Australia imports the products and sells them online via The Shop for Change amongst others, and to a number of offline stores. Due to English language barriers, Internet connection and mobile access, I interviewed the team in Australia via email.

5.2 KickStart

5.2.1 Overview

KickStart designs, promotes and mass-markets products and tools for smallholder farmers in rural areas of African countries. The tools provide solutions for farmers' most pressing issues and include water pumps to irrigate fields (MoneyMaker Hip Pump, MoneyMaker Max), and manual presses (Stabilized Soil Block Press, Cooking Oil Press). KickStart received an award from the Skoll Foundation in 2005.

5.2.2 The problem

The social problem that KickStart tackles is the lack of technology or tools to hand for smallholder farmers in Africa to address agricultural issues, and their resulting inability to lift their families out of poverty.

5.2.3 Technology

KickStart designs and sells agricultural technologies as part of their business proposition to tackle social problems.

5.2.4 How it works

KickStart uses a five-step process to tackle poverty amongst rural smallholder farmers in sub-Saharan Africa. The steps are:

1. Identify Opportunities - look for business opportunities that many thousands of people can start with initial investments of no more than a few hundred dollars and that are so profitable that entrepreneurs will recover their investment in the first three to six months. These business opportunities usually require some kind of equipment or tool.
2. Design Products - design a tool that will generate income. Then develop a solution that meets each of our design criteria. KickStart designs tools that will help a person maximise the cash income they receive in return for their investment of time and labor. The invention must be useful, productive, safe and durable.
3. Establish a Supply Chain - KickStart builds a supply chain from the existing private sector to create a permanent and sustainable way to make and distribute the products.
4. Develop the Market - build awareness, develop sales teams and market the product to the end consumer. KickStart has 120 sales representatives stationed in every major town, transit point and trading center in Kenya, Tanzania and Mali.
5. Measure and Move Along – KickStart measures impact that is influenced by their products by visiting farmers that bought their products immediately after sale, then 18 months later and then another 18 months later.
   ("Handouts will not solve poverty", KickStart, n.d.)

5.2.5 Founders and history

Nick Moon and Martin Fisher founded the company in 1991 by the name ApproTEC, which in 2005 was renamed to KickStart. The founders, both British, originally met while working for an aid organisation in Kenya. In the organisation Nick and Martin worked on various development projects, including building rural water systems, schools and creating job training programs. The projects were successful as long as the funding was active, but once the funding stopped, the founders of KickStart saw that all of the projects they had worked on ceased to be operational. Nick and Martin analysed the failures of the unproductive projects and found that they needed a new approach to tackle poverty in Africa. They understood that 80% of the poor in sub-Saharan Africa were rural farmers, and what farmers need in order to overcome poverty is a way to make money. To do so they needed to tackle existing agricultural issues, such as poor irrigation. Community-owned assets were usually left abandoned, as Nick and Martin found from their experience in the aid organisation. As a result KickStart was founded to design, mass-market and sell tools and products that help smallholder farmers productively work their fields and thus make money. Nick Moon was interviewed for this research via Skype.

5.2.6 The smallholder farmer

A smallholder farmer is based in Kenya. He bought KickStart's MoneyMaker Max in August 2013. He was interviewed during the field trip by one of KickStart employees, and the interview was sent to me through email.

5.3 The National Innovation Foundation – India

5.3.1 Overview

The National Innovation Foundation – India looks for technological innovations and people behind them in any field and on the condition that they are generated without any outside help. The NIF supports innovators by making sure they are rewarded for their innovations and helping those innovations diffuse through commercial and non-commercial channels. NIF and its predecessor partners have received number of awards, including Hermes Innovation Award in 2012 and National Award for Best Technology Incubator in 2003.

5.3.2 The problem

The social problem tackled by the National Innovation Foundation is that the poor are seen as the consumers of cheap goods. Useful innovations created at a grassroots level face many barriers, including lack of finances, mentorship and entrepreneurship skills, which prevent them from becoming available to the wider public. The National Innovation Foundation removes these barriers.

5.3.3 Technology

The NIF promotes innovation and diffusion of different kinds of technologies invented at a grassroots level, to help people overcome poverty.

5.3.4 How it works

The organisation achieves its objectives and mission through six major activities:

1. Scouting and documentation: looking for innovators and inventions among various rural or urban communities; searching for creative knowledge among non-mainstream communities; documenting the basic information about the innovator; describing the innovations during several field visits.
2. Value addition research and development: once the first step is complete, through partner organisations the NIF provides support, including prototype development, testing, design optimization and development of a concept proof model.
3. Business development and micro venture funding: building a value chain around the innovations and help facilitating the transition into self-supporting sustainable enterprises. This includes mentoring and financial support.
4. Intellectual property management: helping innovators with the patent applications; coordinating intellectual property institutions and attorneys; financial support; providing legal assistance to deal with any issues; coordinating with organisations to secure IP protection; disseminating information about the need of IP rights.

5. Information technology: maintaining the database of innovations in various languages, managing the archive of all communications and keeping up to date with the latest trends in technology.
6. Dissemination and social diffusion: helping innovations to spread through publications online and print in various newspapers, books, posters, etc. Organising and participating in workshops, seminars or exhibitions.

("National Innovation Foundation - India | in support of grassroots innovations", n.d.)

5.3.5 Founders and history

The National Innovation Foundation – India is an autonomous body of the Department of Science and Technology (India). It was established in 2000, with the objective to strengthen the country's technological innovations at a grassroots level. The mission of the National Innovation Foundation – India is to help India "become a creative and knowledge-based society by expanding policy and institutional space for grassroots technological innovators". The foundation's concept and values are based on the Honey Bee Network, which was created by Professor Anil Gupta. While looking to the poor India and Bangladesh as part of his consultancy work, Anil Gupta found a number of innovations and talents that were unnoticed because they lacked support. As a response, Anil Gupta started the Honey Bee Network, which focused on finding inventions that were developed out of inevitability and providing various types of support for it to become commercially available to the wider population who need it the most. Anil Gupta, who worked with the government to establish the National Innovation Foundation, now serves as its Executive Vice Chairman. I interviewed Professor Anil Gupta for this research via Skype.

5.3.6 The innovator

An innovation developed a device for making incense sticks and he was interviewed for this research through email.

5.4 eGro

5.4.1 Overview

eGro is an agricultural consultancy that educates smallholder farmers and village cooperatives in ecological and permanently sustainable approaches based on modern science and understanding of ecosystem design. eGro aims to create sustainable agriculture and uses video tutorials and animation to consult smallholder farmers and village cooperatives in intercropping techniques and farming principles. BushWeb, one of eGro's products, builds technologies that enable villages to connect with each other.

5.4.2 The problem

Smallholder farmers in developing countries, who lack knowledge in how to reach the full potential from their fields, usually use agricultural resources unproductively. Also, smallholder farmers in developing countries face barriers in connecting to potential buyers. As a result, farmers miss an opportunity to start building wealth.

5.4.3 Technology

eGro uses agricultural technology that helps farmers construct their fields so they reach full productivity. eGro's product BushWeb is a communication technology that enables villages to connect with each other.

5.4.4 How it works

eGro operates in developing countries around the equator. Firstly, eGro creates a connection between villages by using their product BushWeb. Through low-tech directional antennas, a wireless local area network is created that connects different villages. Each village has a storage facility on their local computer, which they can share with other villages. It then serves as a platform for educational purposes and facilitates visual e-learning of agriculture techniques, offered by eGro. This happens through visual media, live-streaming, and training farmers at a local central facility and giving them an agricultural course. eGro teaches local farmers how to collect the rain and select and plant a

variation of plants that do not exhaust their soil and increase fertility, allowing plantations to be harvested year after year. These methods are natural and do not require any pesticides or herbicides and essentially create a self-sufficient and self-supporting ecosystem. Any excess production is then given the opportunity to be exported. As a result, eGro connects farmers to potential buyers in developing countries by being the middle-man. Currently eGro buys the skin of lemons that is produced and processed by farmers, and sells them to a food ingredient company in Denmark. This creates a sustainable process of farmers utilising their resources at their fullest and in sustainable manner, and selling excess products to extended markets. In addition, the local area network, installed by BushWeb, acts as a communications device between partnering villages, which provides a number of advantages, including sharing knowledge, access to doctors and more.

5.4.5 Founders and history

The founder of eGro, Jacob Vahr Svenningsen, has been working in golf clubs in Italy and Denmark for over eight years. He was involved in maintaining, re-constructing and irrigating golf fields. After his trip to Gambia he decided to use his knowledge in creating social impact in developing countries. Jacob created BushWeb and eGro to achieve his goal, and has collaborated with number of researchers and universities to develop programs that teach sustainable agriculture methods. I interviewed Jacob for this research via Skype.

5.4.6 The farmer

A Gambian small-holder farmer, living in an area near capital of Banjul was interviewed through intermediary and his responses were sent to me through email.

6. ANALYSIS

This chapter presents the findings from the empirical data analysis. These findings will serve as a basis for in-depth analysis in the discussion part, where the main theories will be constructed. The findings aim to answer the sub-questions of the research:

- *How does social entrepreneurship arise?*
- *How can social enterprises and technology be theoretically and empirically understood?*
- *How do social enterprises leverage technology as part of their business proposition?*

Therefore I categorised the findings arising from the empirical data into three groups, which help answer the above questions. The categories are:

- The social entrepreneurship phenomenon: findings that describe social entrepreneurship as a phenomenon, including how it is perceived in the cases, and what the main characteristics and challenges of the phenomenon are.
- "Our social enterprise": discoveries that explain each case's point of view on why they are a social enterprise, what their business proposition is and what its outcomes are.
- Technology in social entrepreneurship: findings relating to the way technology is used as a business proposition in the cases, technology's advantages and disadvantages, characteristics and outcomes.
- Technology from the end-user's perspective: discoveries describing how the end-users or the clients perceive technology that is sold or offered by each case, including technology's benefits and potential use in the future.

The table below (Table 1.) provides the summary of the findings, indicating what discoveries were found in each case.

	Categories	The Shop For Change	KickStart	NIF	eGro
The social entrepreneurship phenomenon	Why there are social problems	✓	✓	✓	✗
	Social problems give rise to opportunities	✓	✓	✓	✓
	Characteristics of social enterprises	✓	✓	✓	✓
	Social enterprises and the environment	✓	✓	✓	✓
"Our social enterprise"	Our enterprise	✓	✓	✓	✓
	Our proposition	✓	✓	✓	✓
	Outcomes of our enterprise	✓	✗	✓	✗
Technology in social entrepreneurship	Defining technology in social enterprises	✓	✓	✓	✓
	Benefits of technology in social entrepreneurship	✓	✓	✓	✓
	Technology in different industries	✓	✓	✓	✓
	Technology in social enterprises: features	✗	✓	✓	✓
	Technology as a tool for collaboration	✗	✗	✓	✓
	Disadvantages and barriers of technology	✗	✓	✓	✓
	Open-source	✗	✗	✓	✗
Technology from end-user's perspective	Using the business proposition	✓	✓	✓	✓
	Benefits of technology used	✓	✓	✓	✓
	Future plans	✓	✓	✓	✓

Table 1. Summary of findings in each case.

6.1 The social entrepreneurship phenomenon

6.1.1 Why social problems exist

When talking about social entrepreneurship in general, four main themes arise in all four cases. The first is a discussion of why social problems exist. Obviously, there are a number of reasons, but the ones that emerge from the empirical data are sorted into three main patterns: unproductive use of human capital; lack of money; and lack of knowledge. I have found that all of them are interrelated and can escalate social problems individually or combined together.

In the case of KickStart, human capital in countries in sub-Saharan Africa is used unproductively. According to Nick Moon, it does not mean people there are not smart enough or they do not work enough. The problem is that individuals or communities in developing countries do not have enough of money, and the cost of money is too high, meaning that borrowing money is expensive. What people in sub-Saharan Africa have plenty of is time, despite not having resources or tools to spend their time on. Essentially this leads to the fact that people are focused on survival and use their human capital to live day by day, which in turn creates a vicious circle of staying in poverty, according to Nick Moon. This implies that enormous human capital is being underused and underserved: there is plenty of labour and time, but not enough opportunities to use it. Thus the needs of millions are unmet, from access to human rights to starting their own businesses.

At the same time, a lack of knowledge on these issues exists in the developed countries. *"If there is a child drowning next to me, I will not care about my brand new shoes that I am wearing, and my brand new outfit – I will jump into a pond and save that child, whereas if the child is on the other side of the world [and] I hear about that story I am not going to necessarily put five dollars into a bin to try and, you know, save that child. But of course you would if that is right next to you. And I love that idea of trying to create as high fidelity a kind of relationship as possible. And I mean there is millions of examples of where that is working and it is effective. From the social network point of view, it is the ultimate. And that is where it can really, really help."* (George Hiley interview, 2013). Here the founder

of The Shop For Change implies that if people in the developed world had more exposure to what social issues are pressing in the rest of the world, they would be more inclined to address those issues.

6.1.2 Social problems give rise to opportunities

What do these pressing issues mean to the social entrepreneurship phenomenon? Empirical data shows that understanding the problems gives rise to a number of opportunities. In the case of KickStart, the founders recognised that unproductive use of time and labour is essentially an unmet need and that there is a demand to reshape how human capital is used in sub-Saharan Africa. As a result, they established KickStart with a mission to design appropriate technology that helps people use their time and labour to utilise agricultural resources at hand. Similarly, eGro has recognised that farmers lack knowledge of how to efficiently design their fields to sustainably and environmentally increase productivity at low cost.

The Shop For Change has found that artisans cannot make a living from their production in developing countries because their audience is too small or they cannot access wider markets. Therefore they are forced to work in factories or sweatshops under pressing conditions or take additional jobs unrelated to their profession so they can survive. As a result, The Shop For Change founders recognised that this is an unmet need as well as an opportunity for a platform that allows people sell their goods to global markets.

Searching for people who address social problems with grassroots-level innovations and assisting them with the patenting and dispersion of the innovation is at the core of the National Innovation Foundation. Therefore recognising social problems and meeting unmet needs is a particularly apparent theme in this case.

Essentially, in the social entrepreneurship phenomenon, the social problems are an underlying entity that gives rise to opportunities for social enterprises to be created. Firstly, social entrepreneurs recognise a problem and then aim to confront it. In the analysed cases, the problems are addressed with the use of technology.

6.1.3 Characteristics of social enterprises

Furthermore, the findings demonstrate the characteristics and main features of social entrepreneurship, which will help answer research questions. Each case has its own definition of social entrepreneurship as well as a range of what can or cannot be considered as "social enterprise". The following patterns describing social enterprises were found.

All cases agree that the notion of and main focus on making a social impact defines an organisation as a social enterprise. Social impact, from the empirical research, means making people's lives better, as well as preserving biodiversity and the environment. The second emerging characteristic is that the social impact must be sustainable, which means delivering solutions to the problems in a way that *"there is a continuous and sustainable availability and delivery of those solutions for as long as they're relevant and work well"* (Nick Moon interview, 2013).

However two opposing opinions emerged. In the case of The Shop For Change, social entrepreneurs believe that any company could become a social enterprise if they carried out additional activities that make a social impact, in this way balancing their social "score" to positive. As a result, "double bottom line", a term that emerged from the empirical data, could be used to measure the success of organisations, according to Alison Hughes. Double bottom line is an assessment of business achievements, which takes into consideration the reaching of goals – financial, as well as social – in making a positive social impact (Wilburn and Wilburn, 2014). On the other extreme lies an opinion by Anil Gupta from the National Innovation Foundation, who believes that organisations charging the full cost for a product or service from an end-user cannot be considered social enterprises. This therefore dismisses a vast number of organisations as not being social enterprises.

The opposing thoughts imply that social entrepreneurship is a complex field and that there are many definitions of a social enterprise. However, what outlines a social enterprise is its main mission of creating a sustainable social impact.

6.1.4 Social enterprises and the environment

When acknowledged and challenged, pressing social problems give rise to a number of opportunities for social entrepreneurs to tackle those problems. As a result, social entrepreneurship is changing the business world and people begin describing what can be defined as a social enterprise. Further findings of this research show that when describing their social enterprise, the founders compare it to other types of organisations from other sectors.

All cases compare their organisation to a for-profit business. When this happens, the differences between the two are outlined. Firstly, for-profit businesses are by definition profit driven: companies are obliged to pay dividends to stakeholders and profit is the only measure of success or failure. This cannot be adapted to social enterprises, because the social goal must always be the main objective, otherwise it loses its purpose. Also, a view emerges from the National Innovation Foundation case that social enterprises should not charge full costs from an end-user. This is because we have social, professional or other duties, and we all have "*availed of lot of things in our life for which we never paid for*" (Anil Gupta interview, 2014).

However, the fact that a social enterprise is not profit driven does not imply that it is a charity, as empirical data shows. In fact, in the cases of The Shop For Change, KickStart and the National Innovation Foundation, charities are defined as unproductive because they do not pay taxes, are non-profit based and are not concerned with being efficient organisations. Although charities are seen as necessary in extreme conditions or cases of emergency when people need immediate support, it is found in all cases that simply giving is not sustainable and does not solve an actual social problem. Charities create dependability, weaken the sense of self-worth of those receiving and do not create senses of investment and ownership that are essential for sustainability.

From the eGro case it emerges that social enterprises operate in a "fourth sector" and reach their objectives through collaborating with other sectors. "*Fourth sector would be the free agent that is in the private sector but collaborates with all of the three other sectors and in*

a sense does not operate in a for-profit, as we do in a private sector, but works for social impact or any kind of impact such as the public sector and the voluntary sector" (Jacob interview, 2014). It implies that social entrepreneurship is a hybrid sector, combining elements from other sectors.

In each case social enterprises are compared to other types of organisations: conventional business and charities. Because social entrepreneurship is an emerging phenomenon, comparing social enterprises to other sectors helps to map them in the economic sector as well as to perceive their characteristics of social entrepreneurship. Empirical data implies that social enterprises are hybrid organisations, combining elements from other sectors.

6.2 Social enterprises as organisations

6.2.1 "Our enterprise"

When talking about their enterprise, interviewees indicated the reason their organisation is a "social enterprise": because it makes a social impact, whether it is opening up opportunities to new markets in The Shop For Change or National Innovation Foundation cases, or enabling people to use their time productively as is found in KickStart or eGro. For social entrepreneurs the only motivating factors that were found in the empirical data were receiving positive feedback from end-users or recognition of achievements from peers in the industry. It means that monetary motivations are not relevant for social entrepreneurs.

In all cases it is found that when starting a social enterprise, entrepreneurs apply the skills and knowledge they know the best from their professional experience and utilise the network and relationships they already have. For example, The Shop For Change founders are a graphic designer and a program developer, who met a number of artisans during their travels in developing countries. As a result, they applied their skills to create an online shopping platform and used their relationships with artisans to start selling their products.

6.2.2 "Our proposition"

In terms of business proposition, an important aspect of the social enterprises' products or services is that the end-users have a sense of ownership and a sense of commitment. For example, in KickStart's case it is the sense of owning produced water pumps and the financial investment that end-users commit to when buying the pump. This allows them to take full responsibility of the purchase and therefore use it to its full potential. For The Shop For Change it is the sense of controlling how many products should be produced and uploaded to the website, dispatching the purchases, tracking what products are most successful - the decisions that are made by the end-users (the sellers) and on which their road out of poverty or other social problem depends. In the case of the National Innovation Foundation it is the ownership of technologies belonging to the innovator, as well as the sense of ownership of the people who acquire the technology, which make them use it at full potential.

6.2.3 Outcomes of "our enterprise"

Another topic that emerges from the empirical data concerning "our organisation", which is the view interviewees see their organisation, is that of the outcomes of running a social enterprise. Besides the main outcome, the social change, empirical data shows that social enterprises facilitate building relationships and changing people's behaviours through these relationships. This comes as a "side effect" of the main goal of social enterprises.

Building relationships relate to interactions between people separated by culture, geography or social status – for example, the relationship between poor people and rich people, people from the developed world and the developing world, Indians and Australians, and so on. Through The Shop For Change, platform buyers and sellers communicate with each other regarding a product that the buyer is interested in. They communicate regarding details about product's delivery and in this way form a positive relationship. Due to the positive sentiment derived from the relationship, a person from a developed country changes his shopping behaviour and buys more products from the website or similar websites or shops. In eGro's case, through the development of an Intranet connection between villages, people

share information on how to solve certain problems. Therefore the relationship not only provides an opportunity to interact with one another, it also generates a change in behaviour, which in turn creates positive social impact.

When talking about their own social enterprise in particular, three major topics relating to interviewed social enterprises arise from empirical data: why we call ourselves a social enterprise; what our business proposition is; and what the outcomes of our enterprise are. I found that social entrepreneurs perceive that they create social impact through their products and services, which utilise technology and which develop end-users' sense of ownership and a sense of commitment. Besides creating positive social change, social enterprises facilitate in building relationships and changing people's behaviours. Now that the understanding about social entrepreneurship phenomenon and social enterprises is established, I will move on to uncovering the findings about technology in social enterprises.

6.3 Technology in social enterprises

In terms of technology in social enterprises, seven major topics emerge from the empirical data: characteristics of today's technology; benefits that technology brings to social entrepreneurship; technology as a major driver of social change in various industries; how technology is specific in social entrepreneurship; the disadvantages and barriers of technology in social entrepreneurship; technology and collaboration; and technology and open-source.

6.3.1 Defining technology in social enterprises

While analysing the empirical data I found that interviewees found it important to describe technology in today's world (Figure 2). While talking about technology's history, the fast speed at which it evolves, and the number of innovations and their availability, interviewees set the ground for discourse about technology and expressed the consciousness that there are many opportunities arising from that. Communication technologies, such as mobile and the Internet, are mentioned in particular, and therefore

these intermediaries are interpreted as being an important aspect in the discourse of technology in social entrepreneurship.

"*But that technology, the speed of it, it is insane."* (George Hilley interview, 2013)

"*And the very fact that these tools are now available, that these technologies are out there, and that they're more and more widespread and more and more people, particularly of the digital generation, are aware of them and are familiar with them, it is currently transformed the game, you know."* (Nick Moon interview, 2013)

"We have seen good come out of the Twitter revolution, but we have also seen that maybe it was premature, because technology has become accessible to these countries too fast" (Jacob Vahr Svenningsen interview, 2014)

"*The greatest thing that we're missing right now is universal kind of access to communications. Whether that should be one of the human rights? I mean, I would probably advocate for that. Universal access to the Internet should be something that we should certainly strive to achieve."* (Alison Hughes interview, 2013)

Figure 2. Defining technology in social enterprises.

6.3.2 Benefits of technology in social entrepreneurship

Interviewees define a number of benefits of technology in social entrepreneurship, making it the biggest category. Analysing the benefits helps to reveal technology's role in social entrepreneurship and answer the main research question, therefore I will go into more depth and describe them.

As established in previous chapters, people in developing countries face a number of barriers that prevent them from changing their existing pressing conditions such as poverty, hunger, etc. Empirical data shows that these people have plenty of time, but not enough resources and money, thus are using their human capital unproductively and are stuck in

survival mode. Due to lack of money they face barriers to acquiring capital and starting their own business, or acquiring tools to increase productivity; due to being stuck in survival mode they do not get an education and therefore face barriers to entering the job market; due to lack of access to communication technologies they face a barrier to reaching potential markets.

> *"So let us imagine a case where you have a woman giving birth in a Bush village 40km away, it is not possible for her to get to the hospital. So now you have the ability to use your cell phone to show what's going on during birth, and the local nurse at the hospital where's a coverage, she'd be able, as a midwife, she'd be able to say, 'Oh, so now you're so and so dilated, push push push'. There are so many applications that you could use."* (Jacob Vahr Svenningsen interview, 2014)

Figure 3. Benefits of technology.

Empirical data demonstrates that technology helps to break these barriers. Through the Internet platform of The Shop For Change, people in developing countries can start trading their products to developed countries. Through acquiring cheaper and specifically designed irrigation technology produced by KickStart, farmers can use their time more efficiently and start producing and selling more agriculture products. With the help of the National Innovation Foundation, innovators can easily spread their innovations to help people tackle a specific problem. Through eGro's educational Intranet platforms, farmers can learn how to design their fields to reach maximum sustainable productivity and can communicate to each other. With the help of these technologies, existing barriers are overcome and people can start using their time efficiently, increase productivity, start gaining ownership and creating wealth, which eventually leads them out of pressing conditions such as poverty, lack of health care or hunger (Figure 3).

It emerges from empirical data that communication technologies are particularly beneficial to social entrepreneurship. It provides better access and it works in three ways. Firstly, being connected to the Internet or mobile allows for the assimilation of information and knowledge that helps people change their pressing conditions. Knowledge varies from insights on how to design your fields so they reach maximum harvest, to identifying market needs and starting to trade in another village, to self-teaching various subjects. Secondly, it is through communication technologies that people build better relationships already covered in the previous chapter. And finally, communication technologies facilitate increasing awareness of social problems for people who have the ability to create social impact, in particular people in developed countries.

> *"Well, technologies can be hard and soft. Say we provide, let us say, in open-source, formulation herbal of pesticide to farmers, so they do not use chemical pesticides. It is a technology and make it open-source, people can make their own pesticides. If they do not want to make and buy it from me, I'm willing to sell it to them or let us say someone is willing to sell it to them."* (Anil Gupta interview, 2014)

Figure 4. Benefits of technology – 2.

Sharing knowledge between people as a preferred outcome is mostly present in the National Innovation Foundation case. Sharing knowledge refers to spreading knowledge or solutions to social problems so that other people with the same problem are able to use it too and start their journey out of poverty or other pressing issue (Figure 4). Solutions refer to products, tools or a combination of those. Sharing knowledge also conveys sharing common resources, such a mobile Internet connection to allow other people, who do not have it, access to and use of it.

According to Anil Gupta, technology allows people to extend themselves. In other words, technology, and in particular communication technology, makes it very easy to make social impact: anyone can share their mobile Internet with a certain community, for example. Through crowd-sourcing or crowd-funding platforms, anyone can lend a loan for someone

who needs it or offer an idea of how to solve a social problem. So through technology any individual with access to mobile or the Internet can start making a social impact.

6.3.3 Technology in different industries

Empirical data shows that technology is a tool for reaching social impact in a number of industries. Interviewees mention technology as tool for international development, as a tool in better quality education, sanitation, medicine or agriculture. The rapid development of technologies, their availability and accessibility globally is "transforming the game" in various fields, as Nick Moon implies in Figure 2.

6.3.4 Technology in social enterprises: features

Any desired social impact is going to be dictated by the way that the technology is applied and used, according to Jacob Vahr Svenningsen. Therefore technology can be a tool in creating social impact only if it is used in the right way, as empirical data suggests. For example, developing countries face different problems from developed countries, and technology cannot be adapted in the same way in those regions.

Firstly, technology must answer an existing social problem or meet an unmet need in a particular region, country or community. The technology should not be focused on the profitability of the company that sells or produces it. Also end-users should use the technology in the way it was intended, or in other words, not in an abusive way. It is important for a market to be mature enough to use the technology. For example, Jacob Vahr Svenningsen indicates that if a country is in a politically unstable condition, Twitter usage could potentially damage the state if used in abusive way, such as for organising riots or attacks. This can become a disadvantage if not managed properly.

6.3.5 Disadvantages and barriers of technology

Other disadvantages of technology in social entrepreneurship relate to external factors, according to empirical data. To make a social impact, technology must reach its full

potential, therefore it needs to be dispersed to the markets as much as possible, as the National Innovation Foundation and KickStart cases reveal. So the technology must be accessible, must be marketed, and must be perceived as useful by end-users.

> *"Now, you know, we have 500m users, 800m cell phones, and yet 60% of diseases, which are waterbound. And we do not have a 5 dollar device, which can be UV LED, UV – ultraviolet LED – which you can link and take charge from the cell phone, it is fitted into a cap, put it in a glass of water and the water becomes safe for drinking, in few seconds, in 3 or 4 seconds. It is simple technology. Why would not anybody invest in it? Because of what it will do to the need of a lot of medicines to be sold, lot of doctors will not have the need to have, will not have so many patients, government will have less work to do."* (Anil Gupta interview, 2014)

Figure 5. Disadvantages of technologies.

Technologies in social entrepreneurship are intended to solve existing problems as opposed to providing solutions that sustain them. As a result, if there is a group that gets financial or other benefits out of that social problem, then barriers for the technology's innovation can be created, such as institutional barriers or trade barriers (Figure 5). Another barrier identified from the empirical data is an inability to recognise a need for the technology by those people for whom the technology is intended.

Pricing technology in social enterprises emerges from the case of the National Innovation Foundation. Costs can be fully recovered by the end-user by charging them a full price. Other ways of pricing technology exist, for example, government subsidies as part of the cost, or price being determined for each individual specifically, depending on how much they are able to pay. However, the point here is that the quality of a service or a product provided should not suffer if the price is not fully covered by end-user.

6.3.6 Technology as tool for collaboration and open-source

Open-source is an emerging topic in the case of the National Innovation Foundation. It is very relevant to this case because the Foundation's mission is to help to facilitate the spread of innovations, and open-source can be used as an approach for this purpose. In social entrepreneurship, open-source allows people use the technologies at low cost and access them freely. Moreover, this leads to constant development and tailoring of technology, because each end-user can replicate and adapt it to their own needs. The open-source approach to technologies is particularly central for educational purposes – especially in countries where education levels are low, where access to open-source self-learning resources could make the change, according Anil Gupta. On the other hand, open-source means that the end-user of a technology will not get support from a producer if there is a fault, for example.

Collaboration is an element that helps technologies to be developed as well as disseminated and improved, according to empirical data. Collaboration happens at the individual and inter-organisational level. Inter-organisational level collaboration happens when enterprises collaborate with other organisations or institutions to increase their knowledge, impact or influence. Social enterprises collaborate so they can share, expand and increase their skill set, thus create a better proposition. eGro collaborates with universities to research better ways to structure farmers' fields; The Shop For Change collaborates to expand their knowledge and network amongst fair trade professionals.

> *"So I'm saying that technologies could be produced through a collaborative shared process. Technologies could be produced, shared, disseminated, all of those steps in the generation to diffusion of social needs, social solutions, innovations, technology plays a role at each stage, isn't it?"* (Anil Gupta interview, 2014)

Figure 6. Technology as a tool for collaboration.

Collaboration also happens to increase the impact of social entrepreneurship as such. The National Innovation Foundation collaborates with a number of organisations to provide better possibilities for innovators to protect and spread their innovations. Through collaboration, costs are reduced, as different parts of a technology can be produced by different providers (Figure 6). According to Anil Gupta, in this way barriers to scale up are lowered, as all ingredients do not need to come from one place if collaboration is used. At the individual level, technologies themselves facilitate collaboration, such as crowd-sourcing platforms or crowd-funding platforms, as mentioned previously.

6.4 Technology from end-users' perspective

6.4.1 Using the business proposition

When looking at the findings from the end-users' perspective, three main topics emerge from the empirical data: using the technology, benefits of technology used and future plans. All of the interviewees were using the business proposition of the analysed cases, namely a water pump (KickStart), an online shopping platform (The Shop For Change), consultations (NIF) and educational tools (eGro). The finding in this category is that these business propositions offer technologies that allow its users to utilise their local resources: either their own fields or materials for production.

6.4.2 Benefits of technology used and future plans

From the end-users' perspective there were no disadvantages of technology identified. On the contrary, interviewees recognised a number of benefits. First of all is that using the technology *"makes the life easier"* (KickStart end-user interview, 2014). Although making life easier can mean different things to different people, empirical data shows that technology reduces barriers that prevent people from leaving poverty or other oppressing social problem, including barriers to starting a business and reaching potential markets as is found in the cases of The Shop for Change and the National Innovation Foundation, as well as barriers of not being able to utilise time more efficiently, in the cases of the NIF and

KickStart. Technologies can create job opportunities if made easily accessible as people can start applying them and producing goods for sale (Figure 7).

Another finding is that relationships are built with the help of technology, and this is particularly the case for The Shop For Change. Access to the Internet enables people to contact each other in a way they could not before. It also allows for the sharing the knowledge, for example, the artisans researching new design ideas online (Figure 7).

"It has enabled me to increase twicefold the acreage where I was farming and also the proceeds I get have increased. I am able to do more, at a lesser amount of time. Since it is manual, I do not have to worry about extra cost of fuel and also maintenance costs." (KickStart end user interview, 2014)

"We use the Internet to contact new buyers, discuss new designs with suppliers, and sell our products via online shops. I use the Internet to research new design ideas and to watch tutorials on new techniques" (The Shop For Change end user interview, 2014)

"Yes, the machines made my business, we already sold more than 2500 machines. I do not know how it helps the other people. They told me that the machine makes their additional incomes." (National Innovation Foundation end user interview, 2014)

Figure 7. Benefits of technology used and future plans

Technology helps people to use their time more efficiently, thereby increasing their productivity and consequently increasing their income (Figure 7). When talking about the future, with technology's help people start having more ambitions to expand their assets and capabilities, as well as invest earned money in education (The Shop For Change and KickStart).

6.5 Summary of findings

To give a better understanding of the research's findings and help readers to illustrate their relatedness, I present them in Figure 8.

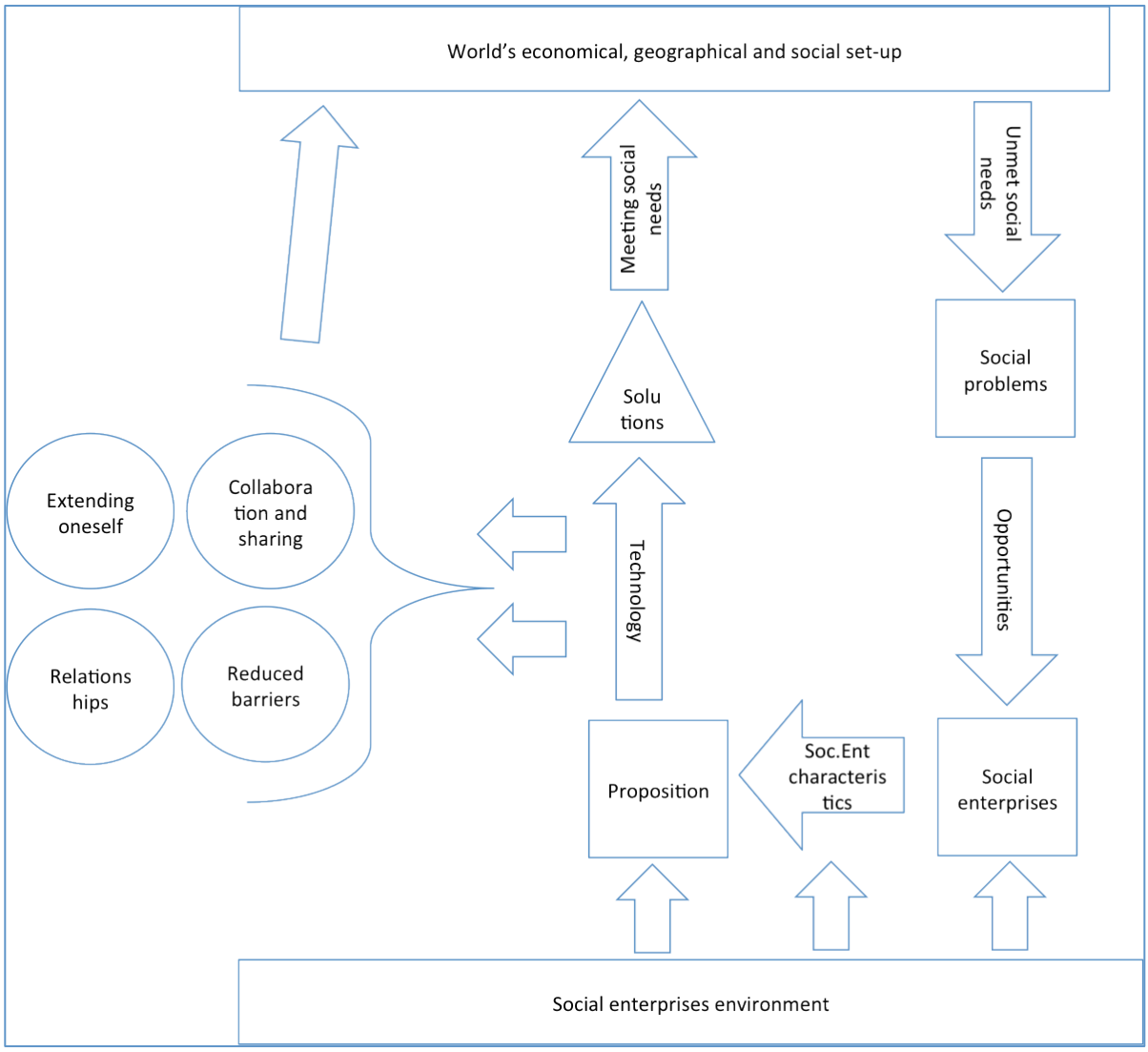

Figure 8. Summary of the findings.

The geographical, social and economical set-up of today's world generates reasons for social problems to occur. While the reasons for social problems exist everywhere in the world, the most pressing ones occur in the developing world.

What do these social problems mean in social entrepreneurship? Firstly, it uncovers the fact that there are unmet social needs. If recognised and confronted these unmet needs give rise to opportunities for entrepreneurs to address them through various organisational or business models. And this is where social enterprises come into play: they tackle social problems and strive to solve them, which is their main business focus. In this way new forms of organisations develop and a new sector is created: the fourth sector.

A number of the social enterprises use technologies as their main business proposition. In other words, social enterprises from various industries aim to achieve their goals and mission with the use of technology as their product or service. As a result, through their products or services, and essentially through the technology, social enterprises reduce barriers to exiting pressing conditions, build relationships between people who otherwise would not be able to connect with each other, enable people with the opportunity to extend themselves, share knowledge and collaborate towards the same goal: social impact. In turn, through the technology, social enterprises provide solutions that eventually tackle social problems and reduce them. How technology should be priced remains a question, as few different views emerge from the empirical data. Technology used in social enterprises should not be used in an abusive way or for the wrong reasons; it should be appropriate and used to create social impact. The innovation process of technology can be affected through institutional or trade barriers; therefore social enterprises collaborate together to make a bigger influence as well as to share and spread knowledge and skills.

7. DISCUSSION

In this chapter I will present the implications and meanings of the research findings. Also, I will revisit the literature review and compare it to the findings. The discussion will give a broader perspective of technology and its role in social entrepreneurship and thus eventually will answer the research question.

To begin with, I will outline the main findings that I have arrived at and which are the following. Technologies contribute to the reduction of barriers for people to exit pressing conditions; build relationships between people who otherwise would not be able to connect with each other; enable people to extend themselves; and share knowledge and collaborate for social impact. This occurs under the circumstances of technologies being used with the purpose of creating social impact, stemming as a result of an identified but unmet social need by social entrepreneurs.

However the findings of the research begin at a broader level: when defining social entrepreneurship. Murphy and Coombes (2009) uncover that various social circumstances – such as ongoing inefficiencies in communities, emergencies in the developing world, complicated environmental and economical issues, and natural disasters – give rise to social entrepreneurial opportunities. The study at hand finds the same: the way that today's world is set up generates social problems, which essentially are unmet social needs and from which opportunities occur for entrepreneurs to tackle these needs. At the same time, the definition of what is a social enterprise varies from case to case and this is due to the notion that social entrepreneurship includes elements of complexity and dynamic flexibility (Nicholls, 2008).

Despite that, according to the findings, it is agreed that an organisation is a social enterprise if it creates positive social impact and meets unmet social needs. Mair, Marti and Ganly (2007) argue these social needs are unmet by the private and public sectors, in failing to supply products or services to certain communities in order to create positive social change. Consequently social entrepreneurship becomes a distinctive sector consisting of hybrid

organisations that take elements from both the private and public sectors. As a result, social entrepreneurs tend to compare themselves to a conventional business and/or charity, and try to avoid associating themselves with either of them, as research finds.

The literature review on the concept of bricolage and the findings of this research are aligned. I debate that social entrepreneurs use bricolage when offering technology as their business proposition. First of all, the findings of the research suggest that when innovating or designing a technology, social entrepreneurs utilise the skills and the knowledge they already have and use the networks they know. It can be said that by these, entrepreneurs are recombining limited resources that are available at hand to create social value (Di Domenico et al., 2010), which refers to the making do process in the concept of bricolage. Secondly, the technology that social entrepreneurs create is intended to fill in the gap generated by the private and public sectors. It therefore can be denoted that social entrepreneurs refuse to be constrained by limitations and improvise to create social impact. Making do, refusal to be constrained by limitations and improvisation are the processes of bricolage (Di Domenico et al., 2010).

The findings of this research fill the gap described by Mair and Marti (2006), who have acknowledged that there is a lack of empirical studies exploring opportunities for social entrepreneurs and how these opportunities affect entrepreneurial process. The discussion below will demonstrate what using technology as a business proposition means in social entrepreneurship and how this technology should be applied.

As research finds, conventional business models (i.e. a focus on profitability) cannot be adapted to suit social enterprises, and nor can charitable models (i.e. giving out for free). Consequently, the same applies to technologies. Therefore firstly, technology in social enterprises must aim to create social impact. Profitability should be only an inferior goal of technology. Secondly, the technology must not be given away for free as in the non-profit charitable model, but acquired by an end-user by their investment in it. In this way, the process does not create dependability or undermine the self-worth of end-users; on the contrary, it increases their sense of ownership and sense of commitment. These enacted

senses, according to the findings, allow end-users to utilise the technology at full efficiency and therefore achieve maximum productivity.

Different opinions arise from the research regarding the pricing of technology. On the one hand, research finds that end-users should not pay the full cost of technology, but on the other hand it is found to be important that end-users fully finance the acquisition of a technology they want to obtain. Although the question of how social enterprises should price technology remains unanswered, it is found that end-users should invest in technology in one way or another and regardless of the amount of money invested, the quality of service or product should not suffer. This could be an important point in international development for policy makers, and as possible solutions to pricing technologies I would recommend governmental subsidies, paying by installments, or accessible credits to the buyers. However, there is scope for further research to study this topic.

Coming back to having a sense of ownership and commitment, this research reveals that when end-users acquire and use the technology profitably, it empowers them to become more ambitious and aim to expand their assets and capabilities. This finding is in line with Pless and Appel's (2012) view that a sense of responsibility and participatory decision-making are key elements of sustainable development and when projects are successful, people realise they can do even more and continue participating in other projects.

To conclude the above, when technologies are designed with the goal of creating positive social impact and end-users acquire these technologies by making an investment, the sense of ownership and sense of commitment in end-users is increased, which helps them to utilise their resources at their fullest and create wealth or even extend their capabilities to more projects. In this way, the vicious circle of pressing conditions is broken, and a social problem at a micro level is solved, which eventually changes the set-up of today's world. The main finding therefore is that **through technologies, which aim to create a social impact and which generate senses of ownership and commitment in end-users, social enterprises fill the gap that was created by the failures of other sectors and have a positive impact on economic and social conditions.**

Further I will discuss why the benefits of technology that are found in this research are important to social entrepreneurship. The main benefit is that through technology, social enterprises meet unmet social needs, for example a lack of agricultural education or a lack of access to markets, by creating tools for learning or by providing online platforms for selling products to wider markets. In this way, technology breaks trade barriers, barriers of entering the business market or entering a job market. This finding was explored and confirmed from the social entrepreneur's point of view and from the end-user's point of view. The importance of this finding is that essentially, **technology helps to break barriers, allowing people to escape the vicious cycle of an ongoing social problem.**

Granados and Gupta (2013) suggest that the Internet and mobile technologies brings us closer to a state of "perfect information". This research finds that if knowledge is spread and disseminated so that it reaches everyone, people would be able to educate themselves on how to overcome pressing social problems. Technology's role here is twofold: firstly, it is through technology itself – information communication technology – that the knowledge is shared. And secondly, the knowledge itself can be a technology that helps people to overcome obstacles. In either case, it creates opportunities for social entrepreneurs to develop solutions that make information communication technologies accessible to people worldwide so they can share knowledge, as well as create databases or tools that can be adapted for the sharing of knowledge.

However, simply being aware that a solution exists does not imply that a social problem can be challenged. Research finds that if the technology is a solution itself, it must be accessible to end-users locally, therefore it must be dispersed, distributed and marketed accordingly. The findings of the research suggest that potential end-users of a technology can be incapable of recognising the need for it and it becomes essential for social entrepreneurs to educate consumers. Technology faces other barriers, according to the findings, such as a lack of support from government or barriers to innovation due to high influence from the competition. The literature review also highlighted that there are cultural barriers and institutional voids that social entrepreneurs face, especially in developing countries (Mair and Marti, 2009). The literature review and the findings of this research

suggest that to overcome this, social entrepreneurs collaborate with each other or with other sectors (Montgomery et al., 2012).

According to this research, collaboration happens at individual and inter-organisational levels. The literature review suggests that collaborating is embedded into social entrepreneurship as, according to Mair and Marti (2006), social entrepreneurship is a process deriving from interaction between entrepreneurs as well as the context in which they operate. At an inter-organisational level, collaborations that are found in this research include cross-sector pooling (eGro collaborating with universities) and same-sector pooling (the National Innovation Foundation collaborating with other governmental organisations to help patent and spread innovations). According to Montgomery et al. (2012), these collaborations happen so that enterprises can share similar resources, have increased purchasing power, or develop new skills (Montgomery et al., 2012). **Therefore, in social entrepreneurship, inter-organisational level collaborations happen to overcome institutional or trade barriers, to spread the technology to wider markets, and to attain better knowledge of how to develop and improve a specific technology.**

The literature review outlines that catalytic innovations are disruptive innovations that have the primary goal of social change (Christensen et al., 2006). Therefore it is argued that technologies found in social enterprises that are analysed in this research are not only disruptive but also catalytic innovations. Disruptive or catalytic innovations can be defined as ones that apply to a new or less demanding market as they are usually cheaper, more convenient and simpler (Bower and Christensen, 1995), and often give rise to social change (Christensen et al., 2006). According to the findings, the open-source model allows each end-user to replicate the technology, which makes it even cheaper, and allows them to adapt it in a precise way that meets their specific needs, therefore the technology becomes even more convenient, simpler and even cheaper. **As a result it is suggested that using an open-source model has the capability of enhancing the disruptive innovations.** For example, if a water purification technology was made open-source, users could either buy it or construct it themselves. By constructing it themselves, they would be able to tailor the technology or the design of it, so it is adaptable for them specifically. Essentially, the

technology would face an ongoing development process by end-users themselves, making it cheaper, more convenient and simpler.

At the individual level, collaborations happen through information communication technologies, such as crowd-sourcing platforms or crowd-funding platforms, as research finds. At the same time, information communication technologies play an important role as a facilitator in relationship-building between people that otherwise would not communicate, according to the research's findings. These relationships may result in people's changed behaviours and points of view, and these in turn assist in mobilisation. This, according to the literature review, is a strong support of, or intensely shared orientation by the public towards, a social cause (Murphy and Coombes, 2009). It is important in bringing resources together, therefore through mobilisation, social impact can be made, according to Murphy and Coombes (2009). For example, mobilisation can give rise to institutional support, changes in the legal system, trade agreements and so on.

Another finding of this research is that technology, in particular information communication technology, allows people to extend themselves beyond their own needs and create social impact. This can be done by participating in crowd-funding platforms, platforms such as The Shop For Change or by collaborating with social enterprises and lending one's skills and/or knowledge – which means that in the end, anyone can participate in creating social impact through technology.

With the help of information communication technologies, the news or knowledge about world's social problems is shared steadily and increasingly. As mentioned previously, the Internet and mobile technologies create a state of "perfect information" (Granados and Gupta, 2013), which results in increasing awareness of social problems globally. This awareness results in companies and governments operating more transparently, creating fewer opportunities for them to pursue their own goals and more opportunities for creating positive social impact. **As a result, in social entrepreneurship, technologies increase transparency, mobilise people for social cause and enable anyone to make a social impact.**

8. CONCLUSIONS

The aim of this thesis is to explore technology's role in social entrepreneurship. I have approached the research by identifying three sub-questions: *How does social entrepreneurship arise? How can social enterprises and technology be theoretically and empirically understood? How do social enterprises leverage technology as part of their business proposition?* Applying the social constructivist approach and actor network theory, I did an initial investigation of the latest news and updates in the field of social entrepreneurship. I then studied relevant literature, collected data through interviews and analysed it, following the grounded theory approach. Throughout the process of the research I was able to formulate the findings, compare them to the existing literature and identify the significances of the findings.

The sub-question of *How does social entrepreneurship arise* is answered by combining the insights from the literature review and the findings from empirical data. The literature review identifies that social entrepreneurial opportunities arise from various social circumstances, including long-lasting inefficiencies in communities, emergent needs in the developing world, complicated environmental and economical issues and natural disasters, as well as resulting from new technologies (Murphy and Coombes, 2009). The findings of the research also imply that unmet social needs exist due to today's economic, geographical and social set-up. When recognised and confronted, these unmet social needs give rise to opportunities for entrepreneurs to address them through various organisational or business models.

The sub-question of *How can social enterprises and technology be theoretically and empirically understood?* is answered through blending the findings of the literature review analysis and empirical data. In summary, the literature review finds that social entrepreneurship is understood as a phenomenon that aims to achieve social change and meet previously unmet social needs (Barinaga 2012), which is in line with the findings of this research. In social entrepreneurship, enterprises generate revenues through trading; achieve social and environmental goals; generate benefits such as increased social capital or

enhanced community cohesion through stakeholder participation; and finally, work within communities that have limited access to resources (Di Domenico et al., 2010). The literature review and the findings agree that in being distinct from the private and public sectors, social enterprises face a number of challenges, such as institutional voids, cultural barriers, lack of support from the public and paradoxical conflicts (Mair and Marti, 2009; Smith et al., 2012). To overcome these challenges, social enterprises apply the concept of bricolage and collaborate with each other (Di Domenico et al., 2010; Montgomery et al., 2012; Mair and Marti, 2009) as the findings of the research and the literature review confirm.

Technology from a theoretical point of view is seen as a game changer of business structures, strategies, processes and capabilities, mostly by connecting people through digital, linking together products, services, processes, customers and stakeholders (Bharadwaj et al., 2013). Technologies are essential in social entrepreneurship, as it is through innovations that social entrepreneurs "disrupt the status quo and transform our world for the better" (Skoll Foundation, 2013). Specifically in social entrepreneurship, the technologies are disruptive innovations with the mission to achieve increased social wellbeing and therefore are defined distinctly as catalytic innovations (Bower and Christensen, 1995). From the empirical data, technology is seen evolving at a fast pace, with increasing accessibility and access to a number of innovations. Social enterprises from various industries aim to achieve their goals and mission with the use of technology as their products or services.

The *How do social enterprises leverage technology as part of their business proposition* sub-question is answered by analysing the findings of the research. After collecting and analysing the data from the four case studies, the findings were categorised into four groups: social entrepreneurship as a phenomenon; social enterprise as an organisation; technology in social enterprises; and technology from the end-user's perspective. The findings show that technologies contribute to reducing the number of barriers, building relationships between people who otherwise would not be able to connect with each other, enabling people with the opportunity to extend themselves, and sharing knowledge and collaborating for social impact. This happens under circumstances of technologies being

used with the purpose of creating social impact, stemming as a result of an identified unmet social need by social entrepreneurs.

It is discussed that technology's role in social entrepreneurship is the following. Through technologies that aim to create social impact and which generate senses of ownership and commitment in end-users, social enterprises fill the gap that was created by the failures of other sectors and have a positive impact on economic and social conditions. Technology helps to break barriers and this is important because it enables people to escape the vicious cycle of an ongoing social problem. In social entrepreneurship, inter-organisational level collaborations occur to overcome institutional or trade barriers, to spread the technology to wider markets, and to attain better knowledge of how to develop and improve it. It is suggested that using the open-source model has the capability of enhancing the disruptive innovations to higher degree. Finally, in social entrepreneurship, technologies increase transparency, mobilise people for social cause and enable anyone to make a positive social impact.

The findings of this research can be adapted in international development projects by policy-making processes, in developing or establishing business by entrepreneurs, in fourth sector by social entrepreneurs, and in further research by academics. This thesis is a collaboration between various of actors and networks, including academics in the field, whose work I used in literature review, social entrepreneurs and end-users who agreed to participate in the research, the conditions that gave rise to the question of this research, and me, a researcher.

9. FURTHER RESEARCH

As mentioned in the previous chapters, research on social entrepreneurship is still phenomenon-driven (Mair and Marti, 2006) and the field is a work in progress (Nicholls, 2008). Therefore there are various opportunities for further studies in the field of social entrepreneurship. In the final chapter I will identify the research possibilities that are originating from this thesis.

Firstly, as the findings uncover technology's role in social enterprises from the business proposition perspective, further research could take the direction of exploring technology's role in the social problems themselves. In other words, the questions like *does technology cause the social problems* and if so, *how this should be approached* need to be answered.

Secondly, it is found that technology facilitates in relationship-building, through which it is changing people's behaviours. Essentially, it means technology is changing the meanings that we give to things, and therefore alters how we behave towards them. Further social or behavioural studies are needed to explore this phenomenon and identify its causes and outcomes in more detail.

Thirdly, the research leaves the question of how to price technology unanswered. On the one hand, research finds that end-users should not pay the full cost of technology, but on the other hand it is found to be important that end-users fully finance the acquisition of a technology they want to obtain. Therefore further research is needed to fully understand the possibilities and best practices in pricing technology as a business proposition and, essentially, pricing products and services of social enterprises. Also, besides the senses of commitment and ownership I propose to explore other specific attributes of technology, as well as attributes of other products and services in social entrepreneurship.

The research finds that the definition of what is a social enterprise varies from case to case and this is due to the notion that social entrepreneurship includes elements of complexity

and dynamic flexibility (Nicholls, 2008). Therefore, further research could focus on defining social entrepreneurship as well as identifying the range of social enterprises.

And finally, interviewing as a data collection method gives a glimpse of large dynamics of technology's role in social entrepreneurship that could be investigated using other methods, such as fieldwork or observations, which do not rely exclusively on informants.

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APPENDICES

Appendix 1. Interview with The Shop For Change

Researcher: My first question would be, and I know it is a very broad question, what does social entrepreneurship mean to you personally?

Alison: To me social entrepreneurship means.. well I guess I first became interested in idea when I was reading about the work of Muhammad Yunnus. And how you could actually develop these ideas that had maybe a second bottom line, that is the terminology that he has used and other people have used. So to me it just came like a very a way to approach development that was more sustainable because it meant that the people that we're investing in time in it could actually make a living as well as producing something quite socially beneficial. And so I think to me it represents a more sustainable and realistic way of approach things like poverty or social injustice.

Researcher: And what about you, George?

George: Em, so what is social enterprise. Em Emm. I see social enterprises a number of different things. I have a slightly stricter kind of point of view than some people, but then a looser point of view than others. I believe a social enterprise is any business that creates a positive social impact through the course of trade. Through traditional market mechanisms, whatever that is. So for me a lot of this is about what I kind of consider social impact. And I would like to kind of think of a world where everything has as social impact score so to speak, if we narrow it down. So like a tricky example might be perhaps McDonalds. McDonalds might have a negative social impact kind of associated with them due to the types of foods they're selling. But in order to kind of get that social impact to be a positive one, maybe there are certain trading mechanisms we could use, kind of affect that. So at the bottom of it, there is this idea that a social enterprise through the course of trade and market economies creates a positive social impact as a nature of its business. I would kind of also extend it a little further because the purist kind of point of view would intrinsically link social enterprises with flaws in kind of contemporary economic system with the stock exchange. So if you bind a motivation to a set of stockholders if those stockholders do not have any constitution that prevents them from having a negative social impact then you create this kind of fundamental problem. Where in our economic system at the moment we have businesses that have stakeholders, eem stockholders and shareholders and a share holder has to be returned dividends, its bottom line illegal if they're not. So a social enterprise does not really fit in into these models. So it has to by nature create a positive social impact. And there are few mechanisms that can help it to be protected by other systems, like capitalism. But I do also believe that there is a couple of types. In looser definition of social enterprise I think people would encompass charity type organisations. Where the profits of a company are distributed to charity. For me that isn't.. I'm not comfortable with that so for example emm what's

a really easy example? Em there is a very good example "Who gives a crap" and by buying their toilet paper they donate money on your behalf, they donate their profits. That is a fine line between whether or not that is just charity, in my opinion. Although its very much a social enterprise by the standards at the moment.

Alison: I would agree that social enterprise is an alternative to charity, it is not a type of charity.
George: Yeah. Yeah I think that loosely kind of spells out how social enterprise works for me. Em, I also respect Muhammed Yunnus. His opinion is that a social business.. so for example, The Shop For Change our business would not fit into ..em Muhammed Yunnus would not consider us a social business. Because we do not .. we are directors, we are stockholders, of the company. We have a direct motivation and interest in the profits. So if we could do something to make more profit, at the end of the day, that system can fall to the ground. Whereas ideally we wouldn't be stockholders or shareholders or rather you'd be protected by constitution. Em and that would be what Muhammed Yunnus refers as a social business which is a much more strict kind of version. But yeah. I do not know if I actually touched on point there. Social impact, there is a point! Any business that aims to create a positive social impact.

Researcher: Ok, so are you saying that McDonalds could be a social enterprise as well?

George: totally.
Alison: Oh yeah.
George: They could.
Alison: They could but you've got to have an overall balance like, if you're like em basically you know, like a whaling company cannot be a social enterprise. You know like, you have to have like an overall balance of something that is ethically and socially positive. I think. And I think McDonalds is like overwhelmingly not that. [laughst]. And so by definition I do not think it can be. Coming from a medical perspective, I find it just offensive. [laughs]. To be honest.
George: They could. They you know can change. Everybody should be given an opportunity to change. Em. Probably another definition of social enterprise which I think needs to be a lot more talked about is that em.. oh I just read a fantastic kind of version of this the other day about fair trade. Really we should switch it around. You know we should be looking at this problem from the other way. That every company, every business should be a social enterprise. Everybody should be creating a positive social impact for society. And it should be the ones that are creating a negative social impact, we should be giving them a brand, giving them a name and saying: hey you're not a regular business, you're creating a negative social impact so therefore you know, you get labeled as such. Em.
Alison: or you know they have to imperative do more socially to balance out their impact.
George: Yeah.

Researcher: And how do you see technology in all that? For example, for the social impact indicator? And in general, how do you see technology's role in this? For

example how companies are they better seen in the world with technology, or how does technology help social entrepreneurship and in particular The Shop For Change?

George: So, em. I will give it a go first, Alison. I think, I mean there is probably about a thousand things that we could come up with that. Em, the biggest thing for me is about transparency. And transparency in communications, the ability for.. What it all comes down to is em the ability for people to communicate better, and in a higher fidelity way. So if eemm.. what's that story, Alison? About the Peter Singer? The story about the drowning child? If there is a child drowning next to me, I won't care about my brand new shoes that I'm wearing, and my brand new outfit, I will jump into a pond and save that child. Whereas if the child is on the other side of the world that I hear about that story I'm not going to necessarily put 5 dollars into a bin to try and you know safe that child. But of course you would if that is right next to you. And I love that idea of trying to create as higher fidelity kind of relationship as possible. And I mean there is millions examples of where that is working and it is effective. From the social network point of view, it is the ultimate. And that is where it can really really help. Em, that is one point.

Alison: I would also add that em as people generally get more and more access to the internet, it is really the internet that is the representation of the power of technology in this context. Because that is what it is breaking down a lot of barriers and allowing people to interact in a way that they never had before. Globally. And I think that is why the transparency is now its really coming to a front. And that it is good. There are positive aspects to that and there is negative aspects. It certainly puts a lot of power into the hands of people that were normally very isolated and therefore powerless. It also allows people to share ideas in a way that they weren't able before. Someone might invent a particular way of doing things whether it is a farming technique or whatever it may be. And I guess the internet allows that idea to be shared across the world. And as people have more and more access to Internet its really opening up that sort of consciousness thing. And I think in that way the ideas that they generated around the world in regards to social enterprise you know there are many people in different social context. One of the examples is microfinance that was something that started out that way, in rural areas. Not only through internet but that helped and now it is more accessible. And now you see things like Kiva, which is basically online version of that.

Researcher: And in terms of The Shop for Change, what are the main advantages of technology? Now I know it is based on Internet and without Internet it wouldn't exist?

Alison: It basically creates a window into a world that otherwise wouldn't be accessible. We creating like a little portal for you to be seeing this world and to be able to access things from this world that otherwise you would only see if you went traveling on an 8-hour flight. So you know, that it is basically the ability to travel and engage with people on the other side of the world. And in a way it gives benefit and hopefully educates that person that has taken that journey through our site. George, would you like to add?

George: Yeah. Totally. When we talked about this stuff in the beginning and actually somebody just reminded me of it when I was explaining what we do. They kind of said the same thing, but we have customers, well, we have sellers and buyers, right. And if you boil down the idea of trade to its core, you have a buyer and a seller. And what the beauty is of this shop and our ability to use technology is exactly was Alison just said. To build completely solid and transparent bridges between those two parties in much the same way that many other organisations do. But the greater that transparency the greater the ability for it to affect not so much emotional, but empathetic response. And I tend to believe that some of the greatest problems around the world are the result of us simply not having enough exposure. I like the idea that we should build the bridge between Australia and Africa. And funnel our kids over there when they're in grade 10, for a year. And then bring them back. And I think if you did something as simple as, conceptually as simple as that, I think you'd have a very different society that we'd be living in. And it is about these relationships and building these relationships. So yeah, our whole mandate of the show is the idea of changing the life of the sellers, giving the economic opportunity and enabling them to make it a better living. But not only sellers, also affecting change in the consumer, so in the buyers. And that is what see as one of the most awesome things about it. Even though our role objectively is to try and draw sellers out of poverty, you know, in it is core and actually the buyers is one of the most significant parts of the story as well. Because this is what we're seeing at the moment. It is frankly, the less buyers know, the more sweatshops we have, you know they find out, the more catastrophes that happens, the more response happens. So it is all about that word getting out there.

Researcher: Have you noticed the change already? The change in behaviors, or have you heard any feedback? Or have you heard anything from the sellers themselves?

George: From buyers, yeah, totally. And we're only in the beginning days. We have had some great awesome little stories. One of them, Indian provider, sends a product over to [buyer], and sent an email to them thanking for an order. And it was in this broken English that, obviously, they're from rural India. So they really struggled to get this email across. And they're [buyers] just in love with this seller. They never met them, but they really feel they've had this relationship with these rural Indian artisans. Like it is the buyer thought the products were amazing, the way that they were wrapped was just exceptional. Because the way that they do things there in India is just crazy. And awesome. So that was a buyer perspective. And from a seller perspective, and this is very nominal kind of evidences, certainly a work we need to look in terms of impact, but emm we have a s2ller in Cambodia. There is a couple a good examples, oh, yeah, that is a good one. A seller in Cambodia, her organisation does not have good photos. So and this is our plan, to use the technology, this is a pretty good story actually, basically, the photos are no good, so I posted a message on the Facebook account, to find out whether or not there are any photographers in Phnom Penh, that would be able to go and take photos of their work. In this situation I paid for it. So I paid like a nominal fee. And a local Cambodian guy, semi-professional photographer, went out and shot the shots for us. So that product development kind of thing is something we that want them, and the buyers, to actually provide that feedback.

Alison: There is been a lot of feedback on the site. And you know, all very positive about enjoying that interaction with the seller, communicating with them, from very unique and far a way place. And feeling quite satisfied, quite attached and could I guess relate to someone and understand where are they coming from. So I think that getting feedback, getting sort of reviews from customers, and we often get just emails from the sellers saying you know, thank you, they're really excited when they make sales, it is really rewarding when we see, you know, their positive responses like that. And I think for them it is very encouraging to have that interaction. Some of them haven't been seen internationally before. And you know they find it very exciting to be into more international market. It is quite rewarding for us to see that sort of response.

Researcher: So they can actually communicate, the seller and buyer, they can communicate via the platform, right? And then they can contact you?

Alison: Yeah, exactly.

Researcher: Ok.

George: So we have a lot of like low key components to the big picture that, you know, when we're millionaires, we won't, but one of the early on things we do, we really see our own practical area is product development and product design. That is kind of probably one of most important things that we're doing: we'll find very early on that we need to try and create relationships between the people that visit the site and the seller. So at the moment you can contact them directly, like a private messaging, and you can just have a chat. And you can get the basics across, like one buyer send a message suggesting that this bag that they sell, should have like an iphone holder, in the sleeve. You know, weird practical kind of, sensible things like that. Em, but really really common for us to have that sort of thing, but not necessarily over in a village, in, you know, in India.

Alison: Yeah, they're not going to be like: oh, iPhone!

Researcher: Yeah, exactly.

George: Yeah. So I recon, there is a huge amount of value inside the smallest kind of actions that we can take to provide that bit of advice, you know. So yeah..

Alison: And we have had people approach us and say we keep like, as a designer context, some people have offered their service in product development as well. And that is something we'd like to invest in. That would be sort of creating relationships between designer and artisans in more traditional, developing countries and take those kind of relationships that compete with sales in western markets. Again, that is just technology allowing us to make that kind of connections.

Researcher: so all the ideas for product development they come the experience, right, from what you see what's happening and where you can improve, in the whole process of a product.

Alison: It can be quite difficult for someone in rural India to know what someone in New York is going to buy. So, to have those relationships where you have local knowledge coming together can be a very beneficial relationship. But again, this is something that can go wrong, so you have to be careful with how you work.

Researcher: What do you mean it can go wrong?

Alison: Em, so a while ago we have been speaking with an academic in Melbourne, and he studies ethical relationships between designers and artisans and he's created kind of code of conduct. Because in the past sometimes designers can collaborate with others in than their traditional environment and can maybe promise too much, or create a relationship that is not sustainable or encourage investment in infrastructure that is not going to be used enough to pay off ultimately. And so these are sort of things that you know you need to make sure both parties are aware what they're getting themselves into when they form collaboration. And that something we have to be responsible when presenting those sorts of risks to people that may be naïve. So yeah, again we have a responsibility in that sort of way if we form a relationship or if we facilitate a formation of relationship I think we do have the responsibility to mediate it in some way as well. And that we are developing as we go along.

Researcher: George, you wanted to say something?

George: Yeah, I did actually. I was going to talk about I forgotten. But I was going to talk about what Alison just mentioned, that we're collaborating with this mob called Sangam. Its academic group headed by a colleague here in Melbourne, much like fair trade, that tries to make a system where Western designers or you know worldwide designers can collaborate with artisans in other countries and not create any friction. So we have got awesome history in Australia where southerner or international art studios have bought Aboriginal artworks and they'll go out, this is a horrific story, where they'll buy them for 50 dollars and sell them for a thousand. And it is a straight up exploitation. And they have no idea. So it is trying to work out some of those mechanisms. And working out exactly what those metrics are is quite a challenge I think. And again a lot of this stuff is never going to be right. And I think even examples like Bangladesh and the kind of reactions that come out from that, where fashion industries are signing up to various protocols. It is still never going to be right, the transparency that is around those protocols that enables us to get in and see the detail, that is where we, you know, you'll never create a full prove system. But so long as there some mechanisms in place to try and enables us to some more visibility, then hopefully we'll be able to raise problems and find the problems as they come through. Yeah.

Researcher: And how do you see, how could technology help facilitate that?

George: Em, there is a whole myriad of ways. There is.. Specifically that? I was actually was going to mention, I just read a pretty awesome story. So social media is one of the biggest components to this. There is a whole bunch of things, really that we could talk about. But particularly on the Internet, the Internet has become this kind of this real revolution where you can communicate to each other, you can change things, you can affect things. There is potentially another phase of the Internet. The social media has become such a significant thing, that corporations, businesses are not only responding to it, but they're investing huge proportions of their support, customer support and other budgets into social media management. And a great example of this, and simply something that never would have happened before and, never would have been able to affect the social change. There is a supermarket store here called Coles. That is the big company here in Australia, Coles Supermarkets. And some women saw somebody was in a wheelchair trying to access, trying to grab the bags in the vegetable sections and couldn't reach the bags in order to get a bag to fill with vegetables. So she wrote on Twitter and/or on their Facebook account that she told them about the story and she said I think this is really appalling that you know it is not a wheelchair high. And a week later Coles responded saying that they had bought new dispensers and that the stores throughout the country are going to be changed. And it is just kind of really peculiar result that can come out of some tiny tiny little thing. But you know, there is no reason for Coles to not do that. It is the same price but they need to have support and the transparency needs to be there, and the communication channels. So yeah, social media obviously can be really amazing.

Researcher: And when you think of the future of social entrepreneurship, and in particular The Shop for Change, how do you see how the role of technology? Would change in the future? Let us say in 10 years?

George: Ohhh.. Well..

Researcher: Big question!

George: [pause] Yeah. Em.

[Alison is gone due to connection problems]

George: I think em so technology for the. I'm trying to justify what I believe.

Researcher: Just say what you think!

George: Yeah. I tend to think that technology is probably.. In fact, maybe even just the Internet, that is getting a little bit far maybe. But frankly, these are the two the most powerful tools available to international development. And they will be the amongst the primary tools that are used for the removing kind of extreme poverty and getting towards the MDG, Millennium Development Goals. I think a lot of that will come through technology, either directly or indirectly. Whether it is through the economy growing as a result or not. There is two, couple of decent examples: and this is food supply. I cannot quote it, I cannot remember, but I just watched this, I just heard this

great quote the other day, I cannot remember figures, but there is something ridiculous like in the last 10 years, the yields they are seeing in harvesting in Australia – Australia has ACIAR, one of the world's leading agricultural research. They sell a lot of technology. Because we have very iron landscapes, it is a very isolated desert like landscapes. So they'll double work in maximising yields and a lot of it comes down to technology. Whether that is technological tools or timing around weather patterns and stuff like that, it is all managed by technology. And they've done something ludacris, like tenfold the amount of food yield in the last five years or something like that. You know, crazy. And the context I was watching it in was one around food security. And if this farmer basically said well, you do not really have to worry about that if your project that sort of advances in technology, if that could be continued, then major issues in world's food security will only come down to sharing the knowledge of technology. But that technology, the speed of it is insane. In terms of more directly about the Internet, which I do tend to feel is an extremely powerful tool, it is really hard to know what the future will provide, because we need the tools to do a lot of the design. In Australia we have got this big debate whether or not they should build a high-speed broadband network. And it is going to the election.

Researcher: Why not?

George: [laugs] Well because it cost 40 billion dollars.

Researcher: oh, ok!

George: Yeah, it really depends. And the conservatives, right wing party, want to build basically work solutions slower, to save the cash upfront basically. Long story short, all the people working in the industry and that have kind of any future nonce (?) like google has applauded the government on the, we all know the return is there, it is really a tool they just need to create. And there is a great, there is some really obvious simple examples like this conversation that we're having. It is all right, it is good, I kind of feel I'm getting to know you. But if you're high definition and full speed bandwidth, with Alison eventually not dropping of the call, you know, we could actually have a relationship that is something more compelling. So I mean there are some really easy examples. But there is this thing, the IBM, last years profits I think it could have been Australia, or revenue, last years revenue IBM.. let me get this right, 50% of IBM revenues from last year was achieved through products that have only been available for the last 2 years. So, all the money they're making next year or the year after will be based on technology produced today. And last year next year, so technology is advancing so fast that you know. That for me is a pretty important factor to just basically kind of put it to the mix that we do get economic returns from. The greatest thing that we're missing right now is universal kind of access to communications. Whether that should be one of the human rights? I mean I would probably advocate for that. Universal access to the Internet should be something that we should certainly strive to achieve. And people like Kayak, the founder, oh I cannot remember his name, but there is a little people trying to create a free mobile network across Africa.

Researcher: Yeah, I've heard about it, yeah.

George: Yeah. And some of these things are really powerful, I mean. And this is so close, 2 or 3 years away, what will happen in 10 years is a little more full-on, but just now we have got 50% of the developing world is covered by mobile, I think. And that simply means that those people cannot really have all these technological benefits. So that needs to go universal. And then we need to get smartphones, and smartphones have to be universal. Because there simply not enough benefits in a text based machine. So the again, and this kind of comes close to the point I was making, when we had dial-up computers, and when we had black and white computers, and dial-up internet where you dial up the stuff, and we had those old Nokia phones that you could text to people, we realised the benefits, you know. We realise the benefits were huge. And we got it. And it was great. But broadband came, and when broadband came it absolutely destroyed the charts (the internet). So people immediately got it on a level that they needed it. So dial-up was very slow growth, it was decent growth, but then broadband was amended, and it just shot through the roof. And we went from like 30-40% connectivity to up to like 90% connectivity in 5 years or something crazy. And for me it is all about the fidelity of that relationship. That immediacy of the relationship the way that you can have a really textural, you know conversation with somebody. You just cannot do it in all the technologies. So smartphones is a big deal.

Researcher: And coming back to The Shop For Change, how does your vision of the future and The Shop For Change come together?

George: Yeah em. Well that is the really interesting bit, because I do not think. Well, for example I think we are heading with technology's curve, so I think our business is entirely founded on technology, this all of our unique benefits, all of our operational benefits they are all intrinsically linked with digital, with technology. We do not need to have employees, because we have the website managing a lot of the logistical administration, we do not need to have warehouses, because we can enable a seller to post a product directly to the buyer. Same as e-bay, all those benefits come through. In the future we need much faster access to the Internet and we need everybody to have smartphones. Because the quality of photos of our product when somebody buys matter. If those photos are in really good quality, or are average, that is a difference between somebody buying, basically. And at the moment, in rural India it is pretty tough to get people with Android phones, it is growing in the next year or two, and I expect it to be over 50%. Yeah, so I mean, it is really exciting, there are companies that develop these products specifically for the markets, but again that is all about that fidelity of the product. The greater the technology, the greater quality of the connection speed, the phone and the cameras that they can use. It will have a direct impact on the social impact that we create. And they can get from other sources, you know like Etsy and e-bay. So it is fundamental.

Researcher: But the foundations are already there. The website that you have, the connection that you have with the sellers and buyers. It is just the matter of faster connections and other.

George: Yeah. But em are you familiar with the term user experience?

Researcher: Yeah, I am.

George: Oh yeah, you're in digital! I mean user experience is the other thing. That sort of design that sort of stuff, that is where your return is. And we have a lot to do in that space, so we haven't got a mobile website, for example. Even though I think it is a fundamental thing to have. We actually do not think that the market isn't really there yet. The market the village people that we speak to do not really quite get it yet. But their brother is in the neighboring village and they have Internet connection or they have a smartphone, and they get it. So, it is very very close.

Researcher: Well, thank you! Ok and the last question would be, how does this communication, like google hangouts or skype, how you are familiar with it? Is this your natural environment, or do you use it often?

George: Em. I do, but not that often.

Researcher: Ok. So you mentioned you have a person in Berlin, right? Who's doing your social media?

George: Yeah.

Researcher: How do you talk to her/him?

George: We use about 3,4,5 different technology tools to manage the collaboration between the team. We should, we should, it is probably just poor management. [laughs]. We really should have face-to-face conversations more often. But we use project management tools, so online websites, they do stuff really well.

Researcher: Which ones do you use?

George: I use Asana. It is project management software. That is a main way that we communicate on granular tasks. Email is still an enormous thing.

Researcher: Thank you very much, I think I've got it all covered!

Appendix 2. Interview with KickStart

Researcher: So the first question would be very broad: what does social entrepreneurship mean to you personally?

Nick: Well, social entrepreneurship for me is really the means by which one can confront and resolve and find and present solutions to a number of pressing social and economic challenges faced by so many of us on this planet. Em, and develop the delivery of those solutions essentially through the market place, so that there is a continuous and sustainable availability and delivery of those solutions for as long as they're relevant and work well. That is really what I would say. I do not know if you want me or you'd like me to expand a little bit more.

Researcher: No, that is fine. And if you could just briefly give me a quick overview of what does KickStart International do?

Nick: Yeah, well what KickStart does is develop technology specifically in the interest of people that are the base of the social economic pyramid. We do concentrate on the sub-saharan Africa specifically. And it just so happens that the poorest people in the poorest continent on the world for the most part are small-holder farmers. So we focus our interest especially on them. The challenges they face and the opportunities that are actually out there if a) they knew about them and b) they knew or could get hold of solutions or the technologies that they need in order to exploit or take advantage of those opportunities. So we develop the hardware, the technologies themselves and then we develop the market delivery system, or the channels by which the solutions reach the people that need them. More specific examples of the best known and most popular and impactful technology that we have yet designed and put out there is a human powered water pump which is known as the money maker. We call it the money maker perhaps for obvious reasons – that is it is brand. And it is really intended to allow people to make much much more productive use of their existing skills and their assets which in the case of small-holder farmers is a small farm and some farming skills. That is what they have. So we're very much concerned at KickStart about helping people to use what they already have and what they already know. Rather than necessarily just to sort of plug the gap for them. We do not believe in charity as of means to further economic and social development. Not that we discount charity completely. Charity does have a legitimate role where there are disasters or complete destitution or some kind of emergency where people require immediate material and emotional and other forms of support. Then it is only right that charitable reaction or response should be available to them. But if we're talking about the vast majority of the worlds poor or the so called the working poor, we see that the shame of it all or the pity of it all is that very poor people are working so hard, they're using all their smarts, they're using what they have, they're using what they know, they're using their ingenuity, their enterprise, their industry, their patience, their good humor – all the qualities that I'm sure that you would have seen in great abundance when you went on your trip to rural India. They're using them all just to stay in one place, you know. There is all this energy and intellect being used just to

survive from one day to the next. And that seems to me a real waste of human or social capital. And surely there must be ways of taking that social or human capital which is extensive. I mean there are billion of peoples in this situation. And identify and make available opportunities or places where that capital can be invested in such way that it brings a much greater or more attractive return. On the investment of that capital. And by capital I mean or human capital I mean sweat, much more than money. The problem is they do not have any money. That is the issue. So very few organisations that I'm aware of, but hopefully increasingly more, I'm happy to say, I mean KickStart is one of the original organisations to operate in this general area. And to the been dubbed a social enterprise. When we started KickStart we didn't know that term. It was somebody else that came along and said: you're a social enterprise. But we're happy with that of course, with that recognition of that title. Because I think what we have demonstrated in that particular corner of the world and with particular sector that we work is that there are enormous reservoir of capital, if I can go back to that term again. That lies at the bottom of society's pyramid. That is dormant, that is undervalued or under-recognised or under served. And the tendency has been certainly 20 years ago or 25 years ago when we were getting into [connection break]. So the general trend of sort of development or development initiatives in so called third world countries in the 70s and the 80s was well intentioned but ultimately ineffective and unsuitable because it was a charitable model. It was, I mean there were lots of variations and different nuances but it was an essentially a sort of give away program that if you go into a poor community and you see that they lack some important asset or skill – you give it to them. In a hope that you know they would take it up and run with it so to speak. That rarely happened and we wondered, back in 1989-1990, my colleague Martin Fisher and I, he's the co-founder of KickStart, and we were working actually, both of us, for a very large international charity, an NGO, and we had initiated a number of very good looking projects, you know, they were water projects, or school buildings or bridges across rivers or whatever it was. They looked good and we could take pretty pictures of them, we could send those pictures to the head office and they were able to publish them in the Sunday magazine, and say this is the work that we're doing, and solicit donor funds and contributions from the public and donor agencies to carry on with the work. And that was fine. Except that in almost every case, 3, 4, 5, 6 months after we had set up a project that look nice, we'd go back to find that it was in trouble od that it had collapsed. And we said well, there is something wrong here. There is nothing wrong with the hardware that we're talking about, although there actually was sometimes [laughs], some of the equipment wasn't as good as it should have been, but that wasn't the essential problem. It dawned on me that really our approach was not being recognised or valued by the recipients or by the so-called beneficiaries, in quite the way than maybe it had been intended. Because you know, Inga, when you give somebody something for nothing and that person may not be directly related to you or attached to you in some sort of emotional or familial environment, what you're saying without words is that you're the child of a lesser God and I feel sorry for you and I want to give you this thing. Christian or whatever other form of religious charity is not a necessarily a bad sentiment. But the effect of impact of that kind of approach is to demean or diminish the sense of self worth or self esteem that the recipient has. And if you do that often and everywhere and to lots and lots of people what you're inadvertently doing is creating or feeding into a situation

where people become increasingly dependent on the outsider or on the charity or on big NGO or in some cases the government to provide for them. And that of course ultimately not sustainable because you cannot give things away to everybody in the world that needs something. It'd be too expensive and it would be unfair, I mean how do you choose whom do give to. And it is not free in a sense that even if a recipient gets it for nothing, somebody else has to pay for it and point of fact, very expensive because of the kind of organisational processes and procurement systems that they use are expensive, unsustainable, unfair and diminishes self perception. All sorts of reasons why one shouldn't continue with that kind of approach even if your heart is clean and your intentions are noble. So we asked ourselves what are the characteristics of those projects, which work, which last. And we found that well in every case the project ,which continued without our further involvement was the one which was recognised by an individual within that community whoever he or she was entitled either legally or morally to take this action, saw the economic advantage that could accrue to him or her personally and basically took over or hijacked the project and continued with it.

So to give you a concrete example, you know the community water pump. Sub-Saharan Africa is littered with dysfunctional or broken down community water pumps. They look good, when you see the moving the U2 pictures or whatever of a little smiling children pumping water into a bucket and it is clean and it is potable and they go off home with it. But I do not know the statistics, but I'm sure that for every 10 pumps that have been installed, hardly 1 would actually continue to be working now for lots of reasons. And it is because most NGOs for that matter even government they have the word community in mind. And they go into a community, which after all is very difficult thing to define. And set this thing up, in this case the pump, and then with some training, with some advice they leave it to the community to maintain and to use. And so because the pump belongs to everyone but belongs to no one, nobody feels any sense of responsibility or ownership. Neither they have invested anything in the first place. So if they loose something, well they haven't lost any investment, it is just "oh that pump came and it was great, well it was here and it does not work anymore and now we're back to where we were before, but we haven't lost anything, we haven't moved backwards". So where such a pump happened to been placed lets say on an individuals land, or land of which they have control, and that individual comes and builds a fence around it and puts a padlock on a gate, and says if you want to use this pump, it is on my land and you'll have to pay. Then the chances are, some may say regrettably but the human nature being what it is, that that pump will be continued to maintained, continued to work. So we get an example of a social service, in this case clean water being supplied by a local private sector. It is all right even if they hijacked the pump. It is still working. And then we thought about this and we said, well, surely there is something important here. And that is that in any community, wherever you are in the world, there are meant to be certain members of it who are entrepreneurial in their outlook and in their behavior and they look for opportunities or they recognise them when they come their way and they use their intelligence and their energy and their smarts to take advantage of it and use that opportunity. And they have of course a clear agenda in mind, which is necessarily and understandably personal. However, here they are providing a service. So we looked at this and we though well why should we assume that among the rural, poor,

smallholder farmers of Sub-Saharan Africa, why should we assume that it is any different. Surely among them are a large number of self-starting, inquisitive, enterprising individuals ready to work hard. If we can develop solutions or take knowledge specifically for them, and then make them available through market channels, and advertise, promote and trade, they will invest, they will be the ones to invest and of course as soon as you invest or buy something, you've got a stake in it. You've got to work hard to make sure you protect that investment. You're going to, because it was not a casual decision that you made. And so simply by virtue of offering something for sale, all be it to a poor person in a very poor community and giving them the choice and then letting them to make the decision and acting upon that decision, we're far more likely to see that that particular technology is taken up and adopted and used for the purposes of creating value and creating wealth.
When we thought about this, as I said, it was about 24 years ago, we announced that we were then to set up KickStart. We called it a different name in the early days, we called it AproTech, which was a clever, well we thought it was clever, acronym for appropriate technologies for enterprise creation. Enterprise creation being the important part. And we said we're going to design machines for the poorest people on the planet, then we're going to make them, and we're going to sell them, and everybody laughed at us. At the time they said no, that is ludicrous. And then well, we carried on and we did what we said we're going to do, and then it is not that we new all the answers at the beginning. We knew a lot about how to develop a machine or a piece of equipment, or a hardware technology, pump and oil presses, block presses, special axels and wheel rims for donkeys and ox carts. We developed ferro-cement water tanks, low costs building materials, construction technologies, we were pretty good at that. What we were not good at and what we learned through the 90s was marketing. How do you make people aware of the existence of solution to their problems, and how do you make sure it is available to them, or readily available and affordable. Which is exactly the are of marketing. It is not just because somebody should know about or be aware of your product or your solution, but they should also understand what value it offers and promises them. And then you need to lower the barriers to entry as it were. Make it as convenient and easy as possible for them now to act on their decision. But it is so important that it is their decision. And that it is their investment. Even if they have to borrow money from somewhere else, that is ok, because you know, if they're indebted to somebody else, whoever that is, microfinance institution hopefully, rather than a local village loan shark. But again, you see, they have that strong strong sense of commitment and ownership when they're going to use this thing into the best effect that they can. So developing the solution specifically for the people that developing the market, marketing and branding strategies rounded, this is what we have, I do not know if we can say pioneered, but I suppose we did in a sense. Particularly with this segment of population.

Researcher: And how does technology come in this: what's its role and what advantages does it bring to the company and into social entrepreneurship as a phenomenon?

Nick: Sure. Well KickStart was indeed called in the beginning Appropriate Technologies for Enterprise Creation, so it would be key. But I guess one could answer

the question in a number of different levels. First of all, I think it is true to every technology: technology is only appropriate where it helps the user to make more productive use of their time or their energy or their skills or their smarts. And that is very important if you are spending your time and your energy unproductively. So in the case of very poor people, we have a very clear and simple definition of poverty. Some people do not like it, but it is that it is not having enough money. The truth is, with the collapse of communism, towards the end of the 80s and corporate globalism, or global corporatism, and the spread of so called free market this particular policy of allowing or permitting or facilitating the market as much as possible to generate wealth and provide the solutions. Everybody in the world is now kind of caught up in that. And the people at the very bottom of the pyramid are struggling enormously to find their way to survive. And it is not because they're incapable. It is just that technology for most people, who use the word, has been characterized, particularly in the developed or richer countries, as devices which save you time. Or save you labor. But they are almost always relatively capital intensive. You buy something, whatever it may be: whether it is a blender in your kitchen, or whether it is a car or a solar equipment. It can cost a lot of money upfront, but the benefit is that you use it and it will save you time, it will save you labor, and ergo over the course of time it will save you money. So that is the way it generally is, and in the same western countries, governments recognise that there is a real value to be obtained from investing public funds in research and development. Whether it is through grants to learning institutions, like universities, or whether its buying granting tax holidays to big companies that promise to use their money and research in developing new products. What the governments of the US and most of Western Europe and Japan and increasingly other places, realise is that these are worthwhile investments of public funds, because out of all that is going to come inevitably new innovations, new products and new solutions. Which are going to be seized upon and taken up, adopted and used by entrepreneurial people. And that is just great. That is exactly why it works and why it works pretty well. However in developing countries, or sub-Saharan Africa I should limit myself to this. The vast majority people, as we have indicated, are still currently living in rural areas and they're living off the land. And they do not have access to electricity, the other forms of physical infrastructure are very poor, very rudimentary. And technologies that save them time and labor are not that useful, because they've got plenty of time and they've got plenty of labor. And if it saves them money, that is also not useful, because they do not have any money to save. So their situation is almost diametrically opposite the situation of entrepreneurially minded people in the richer countries. What these people especially need is something which won't necessarily save them time, but give them something to do with that time, or something very productive. And if it is labor intensive, well that is probably not a bad thing either, because there are a lot of people with no jobs. They've got nothing to do! It is not that they're lazy, they might be standing around or sitting around under a mango tree doing nothing, because apparently there is nothing to do. So there is lots of labor there, even if it is not skilled. And there is lots of time. What they do not have is the capital. And getting it is hugely hugely difficult. And it is enormously expensive. The cost of money in Europe is very very cheap, all kinds of people want to throw money at you at very low interest or repayment rates. If you're rural African farmer, that is not the case. There have been more and more initiatives in the past 5-10 years,

or 15, in the realm of microfinance, actually developing systems and financial products, which take into consideration very poor rural people's economic and social circumstances. But even there, there is still going to be a question if you go to borrow money, somebody's going to ask you: fine, what are you going to do with it? What's your business plan? What activity do you have in mind for this money, so we can be assured that when we lend it to you, you're going to be able to pay it back. So there again this is where other forms of technologies, productive technologies come in. So I'm going to use this money to buy a water pump, or to buy that. They have to have a good cause in answer. So the wider the range of choices, the easier that those choices are to make an effect then the more chances or the more likely we are to get people in a positions where they themselves can start generating the wealth from the bottom up. Rather than expecting it to be expensed from the top as that is not sustainable. I was talking about technology in terms of products and solutions that we have developed and why and so on, to try to tackle this whole issue of poverty and economic development. Meanwhile technology within the organisation is of course crucial. This one way of using it is right now – Skype. We use it a lot to stay in touch with our colleagues in different countries or even to attend board meetings. You can do it remotely rather than clambering on airplanes and going half way round the world.

Researcher: So you have people in other countries in the world?

Nick: Oh yes. KickStart operates in Kenya, and Tanzania and in Zambia. And in Mali and Burkina Fasso. And we're currently opening up distributorships and partnerships with people in Mozambique and Angola. Our products are available across at least another 12 countries of Africa, this would be Ethiopia, Uganda, Rwanda, Burundi, Southern Sudan, various places. And we also have fundraisers, developing arm, who are based in United States. And we have a board of directors who are predominantly US based. So sure, we have to stay in touch. And this was just a small example, and here we can use Skype. Where of course 15 years ago that wouldn't have been an option. And it is helpful.

Researcher: Just a quick question. So the internet connection in those countries in Africa, is it well established or is it hard to find?

Nick: No, not in comparison. When I say no, I mean they're there. Often depending on which country. In Kenya actually we're quite fortunate. It is a question of bandwidth or speed of connectivity and costs and so on. But East Africa perhaps more than other parts of the continent, although that is perhaps unfair, has seized upon ICT particularly, information communication technologies. And is using them a lot. In fact, there have been incredible progress made as a result of ordinary peoples access, especially to mobile telephony. And all the wonderful innovations that actually come out of Kenya, with respect to the myriad of different applications that have been developed here for and which are used by people in rural areas. Not on smartphones, particularly. Smartphones are getting smarter and they are getting cheaper. But mostly people have what they call a feature phones. They're cheaper, the batteries last longer, they're a little bit slower in terms of processing and connectivity. But they do

data and they do voice. So that is put people in touch with one another and with their markets, with their suppliers, depending on who they are, all over the country, just by vulture of having the device in your pocket and a very strong network spread around a highly populated areas. So I'm answering your question sort of a lot of things at once here. In our business working out of a relatively largest cities and towns, we do indeed have access to the Internet. And in KickStart's case, we actually have quite a sophisticated enterprise resource planning system, or management system. Where our finance and our human resource operations and our payrolls and our inventory and our impact monitoring, all run through an integrated information system, passing through a big bank of servers in San Francisco. So I can sit here and I can send emails or talk to and swap big files, if I need to, with people in Lusaka or Bamako or New York or San Francisco, or wherever. And that of course has been immensely helpful, in terms of improving and streamlining our own business processes. And so yes, it does allow us to make more productive use of our time and our labor. Which is you know, we're a whole bunch of different professionals in different sectors. So information technology in one or another, has been enormously significant. Both in terms of our business and in terms generally of the economic leaps and bounds, that you probably hearing are being made in Sub-Saharan Africa, because it is everybody's favorite place, or nearly everybody's favorite place to talk about now: Africa rising, and the economic growth being so amazing, at least in relative times. So all of that is true, and I would say, for most ordinary people in Africa the most significant benefit has come not from the personal computer, but from increasingly smart phones. And the spread of network. So I do not know, does that answer your question?

Researcher: Yes, yeah, it does. But maybe just to clarify, so, in helping company be more productive, yes, technologies help, but does it differ from regular, any kind of business? And in particularly to social enterprise, does technology have any difference? And how does it help to achieve it is goal? Is it any different from any regular business?

Nick: Well, a tough question for me, because I do not think I've ever worked in a regular business. But I mean it is an important question and I would suggest that it is more by vulture of a social enterprises role or self recognised responsibility area, how do you take and make innovative and creative or adaptive uses of this technology in order to solve social or economic problems. And the very fact that these tools are now available, that these technologies are out there, and that they're more and more widespread and more and more people, particularly of the digital generation, are aware of them and are familiar with them, it is currently transformed the game. You know. Look for example, we can get information to our farmers, we have sold something like 250 000 money maker pumps to smallholder farmers scattered around remote rural areas all across East Africa, whether we're talking about Kenya or southern Tanzania, northern Malawi. And we have a system of tracking our sales through a guarantee form. When somebody buys one of our pumps, one of the ways in which we lower their perception of risk is to say, look, this pump is guaranteed, it has a serial number. Every single pump has it is own individual serial number engraved on it, and if you sign up at the point of sale we will give you a pin number, and you will go on a database, and whenever there is new information about what you can do to

your pump, in terms of operation, or with it, or if there're new complimentary products, we would like to be able to send it to you. And of course, almost everybody signs up for that guarantee. So we have a massive database. We know not every single one, but about 75% or 80% of the pumps we sold, we know how bought them, where, on what day, what dealership, what pump number they have, information about what it was that drove them to buy the pump in the first place and what were they going to do with it. Then, we take a randomized sample from that population and we visit them. We do a very elaborate sort of impact monitoring system with them, so we take a sample of people who bought the pump, let us say in the last month of so. Before they've had anytime to use it, before and while their memories are still fresh how they heard about it, and what they think about it, and what they plan to do with it. And we would go and see them. Very very quickly after they'd bought it. This we called a zero age survey. We take an economic snapshot if you want, if their whole situation, of their whole family, household, farm, ext., how many kids, do they go to school, do they own bicycles, or cows, or mobile phones, do they have semi permanent dwellings, or have they got brick houses, or you know, whatever. All sorts of stuff. Then we will go back and see them 18 months later. And then we will go back and see them after another 18 months, 3 years later. So we can now track the changes in their social and economic circumstances over a protractile period of time: 3 years. And then we can see the difference: and to what extent the differences, or the changes for the better are attributable to their investment in product or our solution. Now that is very very useful in terms of measuring the social and economic impacts, but it is also very useful in terms of marketing intelligence. Because now we can feed that information back down through our business process, so that when we're developing the next product, we have that information available. It helps us with the branding and marketing messages. What is it that you value about this thing, you know, the unique selling proposition. And we have learned a lot through that particular mechanism. And that, again, is through judicious use or application of technology X. So you know, I cannot think of any example where technology, assuming that it is appropriate, and I try to give a definition what I mean by appropriate, I cannot think of an example where technology wouldn't help or cannot help either a business or a user. If it is the right one.

Researcher: Yeah, the thing you just mentioned, kind of leads up to, maybe answers my next question. When you think about the future of the company, what technology's role is in the future? So as you mentioned, you know, the database that you have it really helps you to produce more products or see you know the trends and see the impact. Do you have any ideas what technology's role will be in the future, in terms of you company or social entrepreneurship in general?

Nick: Sure. Well I mean, in our universe, which is entirely focused around the fortunes of the smallholder farmer, erm, the same intelligence gathering capabilities that technology has allowed us to build up in the company, has generated information and data, which we analyse point clearly towards which area, or even more specifically which types of technology we should be concentrating on and developing in the future. So for example, you know a lot of people think of Africa as one big sort of place. But I mean, it is a very big place, which again a lot of people do not realise that you

could fit all of America, European area, Brazil, China, and Argentina inside Africa. And there is still room left over: it is big! But it is also very diverse. And as you go from north to south or east to west there are huge differences and the levels of degrees of development, whether that is infrastructural or economic or social or political. And so there is lots and lots and lots of different markets and submarkets and segments and sub segments. And it is too easy to talk about smallholder farmers in Africa and not realise that even among that very large constituency of people, there is huge variations in their levels of economic and financial literacy and their potential and their actual positions and their understanding of the market, the market opportunities around them. So Kenya, which where we started and where our biggest program is, has… Well it is a little further ahead, or a lot further ahead in some other countries with respect to economic and political development, still struggling, but even so. And our human powered pump in certain parts of Kenya may come less and less popular, simply because it is human powered. And the prevailing or sort of growing attitude towards whether or not that is an appropriate and acceptable form of energy to power a pump, so here in Kenya we're looking to develop, not necessarily by ourselves, with others, solar driven pumps. These may be not just necessarily photovoltaic but also thermal solar: they're using the heat and converting that energy. It is a real challenge, because we're talking about using whatever energy input we have in order to suck or pull water up from as deep as possible. And in a sufficient quantities, not just a liter or a glass of water for you to drink, but actually a lot of water, so you could irrigate 1-2 hectares of land. And having brought that water to the surface, we then need to pressurize it up a side of a hill or into a tank etc. And all of that to be done with some form of energy powering whatever motor or device you have there, machinery. So it maybe that in certain parts of Kenya or certain parts of other countries, people will now start, even if they're very poor, will start demanding or requiring those types of solutions. Because, for some reason, the human power is not socially acceptable anymore. If that happens, then of course we need to be ready with something else. However, there are many other parts of the continent, where those questions wouldn't arise. If you went for example, into the deepest parts of the northern Mozambique, or large tracks of the Democratic Republic of Congo, which is not without its governance and legal problems, then the treadle pump, the human pump has still got a huge huge role to play. So what I'm trying to suggest is that all the information that we receive whether we generate it ourselves from our own marketing intelligence impact monitoring or the way that we obtain it from third parties or other sources, in almost every case, of course, that is going to come to us through the internet or in some sort of web. Then it allows us to think about, analyse, brainstorm, debate, discuss, swap ideas, you know, which all feed into the thing. So you know, I cannot think of anything, any human activity, or business activity where technology of some sort isn't absolutely crucial. It just does depend on knowing that it is there and or developing or adapting to your own particular purpose. So I've kind of lost a thread a little bit (laughs).

Researcher: so yeah I was just wondering on your ideas of technology in the future, but that is kind of where you're heading at.

Nick: Ok, then in our case, I mean we're still somewhat focused, a bit preoccupied on water management in particularly or generally. And the reason is very very clear enough, if you know the facts. I will tell you the big dream if you want.

Researcher: yeah yeah! Of course!

Nick: There are 7 or 7.5 billion people on the planet now, of whom 1 billion or slightly more are African. By the yeah 2050 we're told there is going to be 10 billion of us, or 9.5 billion. And Africa's population is going to double. Actually maybe even more, you could follow up the work of professor or doctor Hans Rosling, he's near you, somewhere in Sweden I think, Stockholm. I forget the name of his institute. But anyway, so there is going to be a lot more people in a very short space of time. Because the population is going to double or more. Right now the demographic is.. I do not know the latest statistic, but I think it is something like 60% of Africa's population is less than 25 years old.

Researcher: Oh wow.

Nick: yeah. You know. You want to look that up and find it is even more than that, but the point is we have what some people call the youth bulge. Tens or hundreds or millions of young people who are going to, who are now or who soon will be of kind of working age, what in God's name are they going to do? Now looking at this, I think, actually this provides us in the broad sense with a huge opportunity. Because all these people are going to need to eat, they need food, how are we going to feed them. Other experts tell us that we have to increase food production by 60% or 70% in order to feed the people who are currently hungry and feed the people who are yet to be born over the course of the next 20 or 30 years. So. Where are we going to grow all that food? It seems to me that it must be Africa. Because a) we have seen how big it is, we also know that it has the highest proportion of arable land than any other continent in the world, and by and large it is let us call it fallow, it is not being used that arable land. Furthermore, Africa is struggling very hard and it can barely feed itself. I mean it changes from place to place but most Sub-Saharan African countries actually import food sooner or later, because they're not producing enough. And their productivity is low, it is terribly low. In fact the average productivity per hectare or acre hasn't really changed in the last 40 years. Whereas in Europe and America and India and China and Brazil and other countries, where they have deliberately invested and tried to accelerate or catalyse an agricultural or green revolution. They've increased their productivity by a factor of 4 or 5 or 6 in the last 50 years. So we wonder why. And there are a number of reasons. Africa gets a lot of rain, not all at the same place or evenly spread. But there is enough rain that falls on the continent to provide the water needs of 9 billion people. In fact the entire planet or the world. The problem is that it is not managed, it is not captured, it is not stored, it is not used it is not abstracted, you know. The rain falls, you get landslides and rivers spade and floods and topsoil and government Land Rovers are swept to the ocean and all sorts of horrors happen. We're just not doing anything sensible with respect to water management in this continent. Furthermore, only 4% of African agriculture is currently irrigated. In India it is 45%, in China it as more than 50% in other parts of the world it may not be

irrigated, but it is seasonal agriculture and the only thing that stops you growing something in Lithuania is that it gets too cold. Right, for 3 or 4 months of the year. So water is not necessarily a constraint in those areas, but they've learned how to manage it according to the seasons cycles to some degree. Here large parts of Africa only have one rain season in a year, so they only have one crop and that means that they're only active for 4 or 5 months out of 12. So what the hell are they doing for the other 8 months, sitting around waiting. And then they have to hope that in the one rainy season that they're going to produce enough food to last them whole year and to the next one, before the next rainy season comes. And in these days of climate change, and the increasing unpredictability of rainfall, that becomes and even riskier and greater game of chance. Because you can not predict the rainy seasons with the same level of accuracy or confidence that you used to be able to do 10 years ago. Climate change is real and it is having a really serious impact here. So the question arises, if we have got all this water, that we're not using, and yet you know with all this water we have got only 4% irrigation, surely, there is a partial answer here. We need to work more and more on water management technologies, and I do not mean just pumps. Capturing the water, storing the water, doing something with it, and abstracting it, pushing it for agriculture, because if you can guarantee the water supply, your crops get this right amount of water at the right time at the right place, then you can grow food all year round instead just once a year or twice a year. You can choose to produce a high value crops and make sure that they're ready at the times when the market prices are high. So you can increase productivity, you can increase profitability, we can achieve food security, we can not just feed Africa, but we could probably feed half of the rest of the world as well. So I do not see that as a problem, I just see it as a huge huge opportunity which nobody much, at least, very few organisations are really tackling. So there is no end of possibilities just in that one area alone, that one sector alone.

Researcher: Yeah, that is true.

Nick: I could get started on other things, like soil fertility solutions, you know, that is going to be another technology that must be developed in the future. A lot of people in Northern Europe forget where the food comes from, they go to the super market and there it is, and if you've got the money you pay for it, you come home, you heat it up, whatever. But somebody somewhere.. By and large American agriculture, which is highly productive but extremely expensive and heavily subsidized, is industrial mechanized agriculture. And heavily dependent upon the increasing application of synthetic fossil fuel based fertilizers to keep pumping into the soil. It is pretty much the same in most of Europe as well. However, there will come, there is a huge environmental cost to be paid to this sort of addiction to this synthetic fertilizers that will be paid maybe not by me or you but by, well I have a grandchild, and maybe I do not know if you have children or not yet, but it will be paid by future generations, that is what I mean. So the mess that we're making of the planet, whether it is though uncontrolled or irresponsible carbon emissions and the rest of it, now what I see is poisoning almost deliberately poisoning the earth or soil upon which we ultimately have to depend to grow the food. That is another area, we need to develop more and more let me call them probiotic sort of soil health and soil fertility solutions. Not

necessarily displace or substitute synthetics, although they maybe will in time. But to actually complement and make the synthetics go further and last longer, you know. And do something about using probiotic biotechnologies to replete the nutrients in the soil. So again, here I am, talking about farmers whether they're small or big, and the problems that they face, but at the same time, and the opportunities that these problems give rise to. And then the question of how to develop and disseminate technologies which allow us to turn a problem into an opportunity. My big point, I guess, I mean for you perhaps is that, we use the word technology very broadly, my only observation is that as much as information and communication technologies are vital and necessary, they're not sufficient of themselves in parts of the world or in economies which are not themselves information economies. You think of my smallholder farmer in slopes of Mount Kenya, he or she needs information, he would love to have that information to come on their feature phone. That the price of tomatoes in Nairobi is this. And that is important, but it is not enough. Where are the seeds, where are the irrigation pumps, where are the roads, where is the post harvest storage facilities, where are all the other technologies that he or she needs in order to really make productive use of that information that he's received through his feature phone or his smartphone. So as much as the economies of the west, particularly places like the UK or Switzerland, are you know, service based economies and it is all about financial markets and information in a touch of a button and stock market capitalism and trillions and trillions of dollars being invested in a stock markets everyday, all that is very well, but sooner or later, even the Zurich banker has to remember that he's going to go to dinner (laughs) and he wants to eat his steak and chips or whatever. And where's that coming from. And so here in this part of the world, it is got to be information technologies, but it is got to be so many other forms of let me call it three dimensional technologies, you know, that go together.

Researcher: Can we say, strangely it is just the beginning of.. if you want to change the world for better, it is just the early stage of increasing productivity, increasing all the things that you said, water technologies, irrigation technologies, agriculture technologies, it seems like it is just getting started.

Nick: I think, I mean agriculture if we look back over the 100 years, I am by no means an expert, I may sound like one, and I do have a small farm myself, but actually originally I'm a builder, a carpenter and a woodworker, that is how I trade. I have a business degree now, but eerm. You know everything evolves, everything changes, any form of human activity had evolved and changed and progressed on the back of some technology or other. The John Deer tractor company in America which you can now get satellite controlled combine harvesters, which are machines as big as a building moving through flat wheat cornfields, mixing the exact amount of the right mixture of fertilize for every square meter of land that they follow, you know. A special recipe is made within the machine and it does not even got a driver. John Deer himself developed plough share in 1840 or 1850, the original John Deer was making farm implements for share cropper farmers. And his innovation was a particular type of steel, or brightening of steel, so when the plough share went through the very very sticky sticky clay, in American mid-west, it would fall off the plough blade. Otherwise they couldn't plough. That is what he did, that was an amazing innovation at the time.

But it would be totally out of place now. They've gone now to their satellite, although there are few environmental costs we might still pay as a result of that, but that is what I'm saying. I cannot really say that we're at the beginning, but and I think is that we're never at the end. We'll never get to the end and we continually need to take what we know and what we understand and what we have learned from experience and improve upon it. I'm only saying that I think that there is a lot of excitement and I understand why, around let us say, with all the new digital communication technologies, so much information, whether it is data or whether it is pictures, visuals, whatever, that can get around so easily and so quickly and so cheaply, and we can use that information in all sorts of ways, we shouldn't forget in our excitement, that we also live on a physical planet and we have a responsibility not just to be more productive with the dwindling resources, but with resources that need to be better managed, because there are more of us. You know. Like water. There isn't anymore or less water on this planet earth that there is ever been. It is always exactly the same amount. It is just that there are now 7billion people to use it rather than 3 or 1. So we have to get a lot smarter at managing or conserving it. Same with pretty much any other natural resource. So you know machines and equipment and biotechnologies and ploughs and irrigation pumps and all sorts of things. We can make better and better ones, and use less and less energy, or it lasts longer and longer or that there are more conservative of this than the other resource, you know, it'll just continue, I hope it will continue. Otherwise we'll trip over ourselves.

Appendix 3. Interview with Anil Gupta

Researcher: My first question is what does social entrepreneurship mean to you, personally? How do you feel about did, how did you come to work in this field?

AG: There are 3 points on the spectrum. The most important point to my mind is those activities or those initiatives, which meet the unmet social needs, not necessarily making the users of the facilities pay for themselves. So for example if I create an open source solution for children, open source lessons for children, children do not pay for it, to me, it is certainly a social enterprise. Because it is meeting social unmet need. And there is a cause to it of course. Some of it might be born by someone who's creating it voluntarily, and sometimes it will be paid by somebody else: a channel partner, a public institution, or a private agency, or a combination of these. So the first point is where unmet social needs are provided by people, by individuals or group of them, without users having to pay for it.
The second extreme, the other extreme is where the users are expected to pay for services, but not necessarily the full cost. Maybe there is argument of underwriting some cost. This could be hybrid model, where some costs are recovered and some are paid for by again channel partners, or state, or market or whatever.
And then of course there are enterprises in which users recover full cost, although these costs are targeted at low margins, so therefore the investors in these activities do not get too much of return, but there is a balance sheet, positive balance sheet, which means some recovery is being made of the cost after meeting all the expenses. So there is a spectrum of mechanisms, I do not like and I do not approve that maximum investment should be made or maximum discussion should be had only the third approach, which is the most popular approach amongst the investors and scholars. But unfortunately who believe that an enterprise is enterprise only when the end users pay the cost. I and you have availed of lot of things in our life for which we never paid. For example, the time that I am spending with you and not being paid, and I would not like to be paid. But that is for my professional duty, I do that because I think the scholarship requires that. Just as this norm in our profession helps students to get benefits from scholars around the world, there are similar norms in every profession where people do extend themselves to meet the needs of those who may or may not have the capability to pay sometimes. So we should not exclude the initiatives, social initiatives, which meet the needs of elderly, children, physically challenged people, young people, people who want to bring more life and value to the social spaces, people who work on open art, people who work on open culture, people who work on open source material, who work on open education. So there is lot of effort being made to create open source content. And we should respect that. And we should make sure that the space is not carved out for those initiatives. Hope that makes sense to you.

Researcher: Yeah it does makes sense, it is really interesting. Because some of the other people that I spoke to they actually focus on the third approach, as in more business approach, but with the main goal of social impact. But it is very interesting. So how are the first ones (approaches) different from charities, are they charities, or..?

AG: Yes, yes, there is a difference in the sense that in charity you may or you may not be bothered about the consequences. You donate and you forget. You donate and sometimes you trust that it will be used properly. There is no balance sheet, there is no mechanism to keep track of a discipline of an enterprise where things happen efficiently. Many times in charity, because you're giving charity, somebody is taking charity, you're unaccountable to them for efficiency. So many charitable enterprises may not necessarily be efficient enterprises. But when it comes to social innovation, I prefer social innovation over social enterprise, I would not compromise efficiency, I would not compromise on quality. For example, in Aravind hospital 75% of people are treated for eye diseases not paying a penny. But they get the same quality of eye care as those who pay for it get. So just because you do not pay, does not mean you should get shorter quality or you should get bad service, or you should get less attention, or you should get substandard quality of services. The discipline that you have in an enterprise where the efficiency with which you deliver services, or expect to deliver services to those who pay for them, it should not change us because people do not pay. So in the example of Aravind, 75% patients get eye care without paying for them and yet they get the same quality of service. So we cannot dilute the quality of service because user is not paying for it.

Researcher: And in terms of technology, what does technology mean in social enterprises, does it have its advantages and how does it improve the processes?

AG: Well technologies can be hard and soft. Say we provide let us say in open source formulation herbal of pesticide to farmers, so they do not use chemical pesticides. It is a technology and make it open source, people can make their own pesticides. If they do not want to make and buy it from be, I'm willing to sell it to them or let us say someone is willing to sell it to them. So enterprises where technologies may be hard that means mechanical, let us say small device to clean the water. I can provide technology, you can make your own water filter. Or I can provide you water filter at a community level, or regional level, if someone is willing to pay for it. And then you're able to benefit from it. So there could be hard technologies, there could also be soft technologies. A platform, crowdsourcing platform, crowd-funding platform, crowd-collaboration platform, various mechanisms by which the value chain can be build, with distributed responsibility, distributed leadership and distributed provision of goods and services to complete the value chain. So we should think of new models actually speaking, and technology can help in using the societal spirit to go beyond the call of duty for meeting unmet needs of our society. And the HoneyBee network would not have been what it is if thousands and thousands of people within India and outside of the country, around the world, would have not extended themselves beyond the call of their duty and provided support to us. For example, those scientists who work with us to add value to the peoples' knowledge do not charge their commercial rate, they do not charge full cost, they do not charge for their time. Sometimes they do not even charge for research time. Sometimes they just charge for the chemicals, for consumables. So there're different conditions, and average cost is hardly 5000 dollar sometimes for experiment, whereas it would have cost us 50,000 dollars if we had to pay full market price. One tenth of the price at which we get research done for peoples' knowledge, because lot of people are not recovering full

cost from us. So I'm saying that technologies could be produced through a collaborative shared process. Technologies could be produced, shared, disseminated, all of those steps in the generation to diffusion of social needs, social solutions, innovations, technology plays a role at each astray, isn't it?

Researcher: Yeah, of course. And in terms of HoneyBee network, does collaborate with National Innovation Foundation? Or is it two completely separate things?

AG: HoneyBee network is absolutely voluntarily and independent. But institutions that have been supporting HoneyBee network have different degree of enterprises. For example, NIF is completely government of India institute now, every year it kept budget from Ministry of Science and Technology. And it has its' independent board, but very autonomous, very independent. So that is one level. GIAN ,Grassroots Innovation Augmentation Network, it is like an incubator, which kept some support from Gujarat government, some support from NIF, and like that. Sristi, which is the mother of narration, which gave rise to all these things, all initiatives and which is a support, anchor of narration of HonneyBee network has no funding from government, but has only some project based support. So it is completely autonomous, it is a voluntary organisation.

Researcher: Ok, so it is like a hub of organisations that work together for the same goal.

AG: That is right. Yeah, so Sristi dot org is the hub, which brings voluntary spirits. So social capital of Sristi actually is harnessed by entire network because Sristi has produced a lot of goods for example, more than 10,000 examples of peoples' innovation are available intentionally, are available on website. Nobody in the world has provided so much of content in open source, for people to improve their livelihood, for solving their problems as we have done over the last 25 years. So the fact that we have created this open source content, we have these walks every 6 months, Sodh Yatras, we walk in different parts of the country. And these walks have connected us to the communities at grassroot level where we search, we spread, we search unmet needs and we celebrate local achievement. These 4 functions which are also part of NIF clubs, and we do that in the Sodh Yatras. So all this process has helped create social capital, where people then extend themselves to meet these needs in different ways, in different roles, at different stages of the value chain.

Researcher: Ok. And thinking of technology, soft or hard technology, do you find any disadvantages of them in reaching social good? Or do you see only advantages?

AG: Sorry, could you repeat the question?

Researcher: When you think about technology, for example either soft technology or hard technology, whether it is software program or whether some sort of mechanic product, do you see any of disadvantages of those in social entrepreneurship?

AG: Well, basically, obviously, if I'm getting an open source tool, then I do not pay the cost or my cost of operation goes down and therefore I have to get less support for what I'm going to do. That is very obvious. But at the same time it is also true when sometimes I'm not able to pay the cost, I'm not able to diffuse my benefits of my solution, my technology as widely as possible. So technologies which cost a lot, but for some reason are not being paid for, or not being subsidized as by the state when need arises, then their diffusion gets affected. Even though there may be demand for them. At the same time, information technologies, communication technologies can create huge awareness about what we need to do, including films and radio and sms and mobile and all range of tools. And then the demand led mobilisation of social contribution can take place. So people can have for example a demand system, which will tap into our database and get distributed locally. Lot of time that happens. So technology makes it possible to disaggregate the transition cost and organise these transition costs in smaller bibs, smaller bundles, so that distributed management of those services or those goods becomes possible. That is the advantage of technology. The scale disadvantage can be overcome. I mean supposing technology requires 10,000 pounds, it is not necessarily the all 10,000 come from one place, or one institution or one community. The other side is not necessarily that everything should be done in one place and distributed. People can provide different modules, by different communities, begin assemble them and make it available. So it is possible that for a veterinary medicine some ingredients come from one region one, some come from region 2, some come from region 3, and each region which provides can also get some of the solution, aggregated solution, in lure of that. I see a possibility now, it is not happening to great extent now, but I see that in the future. We can reinvent barter. So lot of social communities, social innovation will start involving barter system and I will be happy about that. Because barter does not get determined the rate of exchange, does not get determined by international monetary policies in exchange, but gets determined by economy of affection. If you liked something, you will want to pay more for it, and you do not look at whether it costs so much for it. You think there is a good cause then you pay for it more. So economy of affection as a cause, as against economy of commodities values, or economy of only exchange or market exchange. We move from market exchange to affectionate exchange.

Researcher: This is kind of leading to my last, well, one of the last questions I wanted to ask you. When you think about the future of social entrepreneurship, where's technology? How do you see technology in the future, let us say 10 years, or 50 years. Where would you want it to be?

AG: I think there will be a lot of open source hubs of technological distribution as well as aggregation as well as adaptation. I mean I think moderasation is going to be the way, auto-policies, I call it auto-policies models of innovation. Auto-policies is the process of self design, self correction. So even if you design one module, it will undergo a lot of change in the hand of users. So one-way solution can design and evolve into different directions, depending upon what the local needs are. So mass customization that we talk about, actually will happen through a co-creating process, through collaborational process, through an auto-policies model, where not other design, other detail we will be worked out at a mass, at large corporations and people

become passive users of it. We'll see that people will be active users and not everything will need to be designed in one place. So we're expecting radical changes in the way society would like to oblige itself and meet its' need and I'm hoping this will happened through transformation of value chain management. I mean we have too much of centralisation, we have too much of concentration, and we have too much of commoditization. So centralisation, commoditization and concentration: all the three things will have to be dissolved, in my opinion.

Researcher: And do you think it will happen through communication technologies? Do you think communication technologies and mobile technologies will help to spread this?

AG: Yes! Yes it will, definitely it will. It will. I mean, I expect. Imagine for a minute that my cellphone, let us say, has 64GB, I'm using only 10 or 8 GB. So my cellphone can become a server and by becoming server, it can distribute a lot of content to my people through Bluetooth and at no cost to them. So this can become possible. Today we do not think that we're responsible for our communities. My cellphone is my cellphone, my unutilised memory is wasted on society and it does not matter to me. But should it be so? What's the harm if I carry on my cellphone and keep the Bluetooth on: a lot of people could join and download the content for school children. I can just be, even if I spend 15 minutes or half an hour, in a neighborhood of a school or schoolchildren, I tell them look, download as many lessons as you want, at no cost to you. I'm a server, I'm a library. Similarly there could be content for blind people, where they can download and it will speak itself, the books, and so on an so forth. So lot of things are there, that need to be distributed, and if the people who want them, physically challenged people, blind people, old people, sick people, women, pregnant women, children, who may not have the ability always of paying for them, why cannot think of distribution through individualized servers? Why phones cannot become servers? It is a simple technology. Through wi-fi I can distribute the content, let the people download whatever they want to. I just have to find 15 minutes or half an hour for that, that is it. And I do not do anything, I just have to be present, that is all. That will happen automatically. I do not disturb my work, I can continue do my work.
I would very much appreciate, Inga, if you try in your thesis to argue for such uses of technology, which democratizes, which opens up these technologies for larger use, which makes them accessible to people who deserve them, even if they can not desire them. You understand the difference?

Researcher: Yeah, they might not even know that this can help them, because they have never used it.

AG: Just one second.

Researcher: So I said those people they would not even know that this kind of technology would help them, therefore they cannot ask for it, but if they see its' advantages and if they see how it can help them, obviously, they will use it, so I agree.
AG: Exactly. Yes, apply it, this is called in economics we call it supply and users demand, if somebody has ever used an open source lesson for understanding, let me

give a simple example. Solar eclipse or lunar eclipse. All of us when we studied in the school we studied them on a diagram on a black board. We never saw an animation. I ask this question in my class many times, in a class at IIMA that I teach. How many of them had learned about a solar eclipse through animation? None at all. Why should it be so difficult? I can make it a 15kb animation of solar or lunar eclipse and people will understand, children will understand what happens when sun comes in between earth and moon and so on and so forth. Many times children get confused. So I'm saying that very simple things, when I've not seen, I do not ask for it, you're right. Absolutely right, that I've not seen an animation, so how can I know it can be made? For a schoolchildren in a municipal school or government school. But we must expose kids, now mobile phones are afforded by very large number of people, very poor people have also a very simple version of mobile phones. They should be able to have either a lone version, a small screen, costing maybe 1 pound or 5 pounds, and that should make it possible for children to share one screen among 5 children. And they can all see the content from one mobile of 3 inches of screen or 4 inches of screen. So we do not have to have a tablet or we do not have to have smartphone availability. We have a very cheap-end phone, but a player of kind, just a 5 pound or something like that, screen which can be shared between 5-10 children and they can see the content. And when they see it, you know multimedia content is always better remembered than just a text. Teachers know that and I do not think we have used what I call as multimedia multi-language content for teaching much. Even today if you look at multimedia multi-language content on net for students, you will not find too much. It will be there, but not too much. Bu why not? Why cannot we have in Hindi, Guajarati, Nepali, Urdu, Bengali, different languages of the world? You could create content, people they can all write content and the voice of that if necessary. And we could have an open source library of these things. It is true, there is no one library, there is no wiki of multimedia multi-language content for children. There is no single wiki. Just imagine. This world has billions of dollars for different things, but it does not have even a million dollar for meeting the needs of children. Educational needs of our children, who cannot pay for costly education.

Researcher: And that should be one of the most important things.

AG: Most important, I would say most urgent thing. First thing that you would recommend I would say that technology can play a role of creating open source multimedia multi-language content for our children.

Researcher: And it works the other way, as in these people wouldn't know about this kind of technology how it would help them. At the same time we wouldn't know what kind of technology can improve their lives. So we have to collaborate with them and take and learn from them as well.

AG: See you were in India, so let me just ask you a question, you saw that almost everybody has a cellphone, whom you must have met when you were there, isn't it?

Researcher: Yes, absolutely.

AG: Now, you know, we have 500M users, 800M cellphones, and 60% yet of diseases which are water bound. And we do not have a 5 dollar device, which can be UV LED, UV – ultra violet LED, which you can link and take charge from the cellphone, it is fitted into a cap, put it in a glass of water and the water becomes safe for drinking, in few seconds, in 3 or 4 seconds. It is simple technology. Why would anybody invest in it, because of what it will do to the need of a lot of medicines to be sold, lot of doctors will not have the need to have, will not have so many patients, government will have less work to do. Why would they do that? So all I'm saying is that social entrepreneurial space is very crowded with very market oriented solutions, even in the social innovation space we're not finding examples of democratic solutions. There is a problem. That is why I'm saying that we should now start thinking of how social enterprises, which provide low cost solutions to people, that they can replicate themselves if they wish to, and improve their life substantially. 63% of expenditure is on water bound diseases, 63% of expenditure on health. 60% of diseases are water born. Just one device for making water pure. And I'm not worried so much about minerals as about organisms, you know, bacteria or virus, and I do not even want to say ok check, even if its safe, by giving 2 minutes, 2 second or 15 seconds treatment of UV light, it wouldn't do any harm to the water. So I would say as a preventive measure also it makes sense. If have a slightest doubt, treat it with the UV light. And better by the small care, charge by the mobile phone and problem solved.

Researcher: Well, actually, that is a half an hour that we're speaking. I know we could speak forever and ever, there are so many things and it is very interesting to me. But thank you very much, it will really help in my research.

Appendix 4. Interview with Jacob Vahr Svenningsen

Researcher: So my first question is what does social entrepreneurship mean to you? How do feel about it, how do you define it, what are your thoughts about it?

Jacob: Let me start by defining it what it means to me, because there is a wide range of understanding on what it is. To me it is doing business not with the intent to maximise your profit, but to maximise your impact. And social enterprise, when you say social, it could also be environmental entrepreneurship. In some cases even a cultural entrepreneurship, if the impact that you want is to have a cultural impact. Because culture also has to do with people, and therefore social. Defining the word social is also up for discussion. What is social and how far can you stretch it. Because I believe it has to do with everything that encompasses our life as human beings and therefore also our biodiversity for instance. I think that is how I perceive of it. Until someone calls me environmental entrepreneur.

Researcher: Why do they do that?

Jacob: No, they do not. But they could at some point begin to do so. If they wanted distinction between social and environmental.

Researcher: Oh, I see, ok.

Jacob: I personally do not use the word social entrepreneur. When it is accepted, I do, so this means when I write a blog for Danish Social Innovation club, they do not have a problem with using the word social in their context and then it is fine for me to call myself a social entrepreneur. But when I talk to business people in general, I offer them value propositions, which are completely non-social impact, how do you put it, I offer them a value proposition that is basically for a long term strategy, and I do not mention any of my social impacts. I simply provide them with the insight that by doing business with my organisation in this way you ensure your strategic survival for many decades. Instead of maximising your profit within the next 2 quarters. That is basically what I'm trying persuade my clients into understanding. If I call myself a social entrepreneur, they will immediately start thinking of corporate social responsibility and then they close their budgets for thinking in joint ventures and partnerships which are for profit. And they begin immediately to think in how they can communicate that they are doing less bad in the world.

Researcher: Ok, interesting. So do you think there is a confusion between social enterprises and corporate social responsibility?

Jacob: I actually think that when you say confusion…

Researcher: Well it happens to me as well, when I say to people, oh I'm writing my thesis on social entrepreneurship, and they say, oh so that is corporate social responsibility, and I say no, and I have to explain.

Jacob: Yeah, exactly, you have to explain. And I think that is the whole point why we're having this discussion, is kind of because people just do not understand entrepreneurship in general. And when they do understand entrepreneurship, then they tend to not associate social entrepreneurship with the intention to do real business in a sense. So I see people as looking down upon social entrepreneurship as, I do not want to use these words but I'm going to force myself to, that these are young, utopian, hippie, youngsters who want to save the world and the way of doing it today is simply by framing it into a legal structure, which is like a company. And which is basically why I do not present myself as a social entrepreneur. Because I can see why they do that. I can see why people think that.

Researcher: Why?

Jacob: Because it is in many case true. Because it is in many cases true that people are social entrepreneurs but in matter of fact the benefits that they create could have been created just as well as a non-profit or NGO organisation. What I'm basically saying that social entrepreneurs are not thinking very globally, they're thinking in very short projects, usually event based. And not on what I would consider long-term businesses.

Researcher: Are your social enterprises different and if they are, how they're different.

Jacob: Yeah, I'd say that it is not… How can you put it. I'm a snob. In this sense, that I believe what I do is basic, healthy agriculture. But the impact that I have is to restore, completely restore biodiversity. And the method that I use is to engage with all, with stakeholders from all 3 sectors, which makes me like a 4th sector entrepreneur. And I usually engage with women's cooperatives in developing countries. So by definition people would see me as a social entrepreneur. And it is in fact true, but it is also the way that I believe that I can get an advantage in the market and produce something that others can not.

Researcher: You mentioned 3 sectors and you being the 4th. What are these sectors?

Jacob: The first sector would be the private sector, the second sector would be the public sector, and the 3rd sector would be voluntary or non governmental organisations sector. And the 4th sector would be the free agent, that is in the private sector but collaborates with all of the 3 other sectors and in a sense does not operate in a for profit, as we do in a private sector. But works for social impact or any kind of impact such as the public sector and the voluntary sector. Does that make sense to you?

Researcher: Yes it does, absolutely. So you do collaborate with different types of sectors.

Jacob: Yeah, I collaborate with everyone!

Researcher: Is collaboration important for social entrepreneurs?

Jacob: Yes it is important, it is extremely important. It is the DNA is to be able to see the win-win-win-win situation. For all of your partners. I get a profit and a happy life out of working with, satisfying the private sector, meaning the government, municipalities, etc., and also working with the NGOs who have more activist agenda, such as creating more democracy. Or advocacy on human right, or whatever it might be. And at the same time working with the business sector in creating revenue for them, but also creating a pathway for them to make private – public partnerships. Where I kind of become facilitator sometimes.

Researcher: Yeah, I wanted to ask, it sounds like your sort of a middle man, in joining them together for the social impact.

Jacob: Yeah. Normally the private-public partnerships happen only though research in universities. Which in essence helps the private companies make new products through research and development. Or through developing a product for a new market, through a new business model, which is when devised by students. Or they actually service the public sector with the product or service. But then it wouldn't really be a partnership, it would be more like they become clients. And what I basically do is that I solve the problems that the public sector is trying to eradicate by putting a business model on the problem, or putting a business model on the solution to the problem. And in doing so I also meet the services of the businesses. And therefore I create revenue for them and new business models. And because I'm also solving the problems of the NGOs, they begin to see the reason why they should work with the private companies. So an evil corporation could eventually become the helping hand of the NGO in democracy, activism, simply because it is good for the company. Wow, this is complex.

Researcher: Yeah, it is know! Could you just very briefly describe what is it that your social enterprises do?

Jacob: Yeah. How can I start best? We design agricultural systems, which are sustainable. In sustainable I mean that they re-generate fertility in the soil and they keep rainwater or torrential water in the soil, so that you do not need irrigation systems. And we consult in practical methods of agriculture, organic methods. That means you do not need fertilizers, or pesticides, or herbicides or fungicides for that matter. Because you have a self-sufficient and self-supporting eco system, when you have made a good design. The way that we make this design, or implement the design, is through the help of people living in rural areas of developing countries around the equatorial. So at present we are in Gambia, Ivory Cost, Cameroon. But were also present in Nepal, because they have access to water, because they're in such a high level. *And we have chose these places because they will always have access to water, even if the whole planet dries out, it will always rain on the equator. And they will always soil.* We educate the rural people that are illiterate not through building a school for them and hiring a teacher that will teach them in front of a black board, like they used to do in queen Victoria times in 1830. Instead we build them an internet connection to other villages. This means that we make a cluster of villages, of perhaps 15 villages, with each their storage facility on their local computer in their each village

that they can share with other villages. So it is essence an intranet. And this is where you most likely will understand the application of technology. I would also call my agricultural methods a technology.

Researcher: I think it is, absolutely a technology

Jacob: So it is another method of applying technology.

Researcher: So these two are different enterprises, right?

Jacob: I called it a BushWeb, I would call that a product, it is basically my company providing installation of the infrastructure. And Egro is a agricultural consultancy, which helps the people design their ecosystem for their local biodiversity re-fertilization and etc. Landscaping their soil. And our business model is to educate these people through visual media, so that means live-streaming, the training of model farmers at a local central facility for giving them an agricultural course. And our business model, as part of their ecosystem, is planting a species or variety of fruits, in this case lemon, that we have a customer for the skin of the lemon in the western country, in this case Denmark. So the lemon skin will be peeled of the lemon in the village, they will dry it in the sun in the solar dryer, and then they bake it in an oven, so that all of the eggs of the banana flies etc., that lay their eggs in the skin of the lemon, they completely dry. We vacuum pack the skin and then we put it on the road so to speak. But because it is so well treated, it can last for many months, which means that we do not have a problem with the infrastructure. The truck can break down and they can fix it and it can take them a month, but the product will still reach in good condition at the factory in Europe. Where the lemon skin will then be processed in a chemical process and the starch of the lemon skin is extracted, this starch is called pectin. And the pectin is used as a powder as a food supplement in food industry. And it is what makes your marmalade and jello stiff after you've cooked it. So it is very much a market where there are few competitors and it is a very stable market, and there are very few operators of lemon skin and once you have the connection with Christian Hansen, then in this case it is our customer, then you have a long term contract with them. And you are a steady supplier, you're at the very end of their supply chain and their interest in being a partner with us, for us to be their supplier is very simply that they trust our technology will be sustainable for ever, and this means that their supply chain is completely sustainable. Which means they do not have to run around the planet looking for new farmers that can make new lemon plantations for them, when the old die because of no more ground water or not enough powerful irrigation system and climate change etc etc. So from my point of view this is just permanent agriculture, that is how we call it, this technology. And it is basically the way that we have to produce food for this planet for ever and ever.

Researcher: It is very sustainable.

Jacob: It is sustainable in the essence of the word. And the only thing that we have really changed is that we have taken some technology, which existed for thousands of years and we have brought it back to life, so to speak. Within the past 60 years this has

been researched professionally, or academically, but nobody has used it on a large scale before. Nobody has used it in industry. Because it has only been used by small-holder farmers.

Researcher: So you kind of create the whole thing. For those farmers you create a product so that they always have water in the ground, then they can grow lemons, then you buy the lemons from them and then you sell the lemon skin to Danish company. So essentially technology is crucial for your business.

Jacob: In every sense of the word, it is crucial, crucial, crucial. I mean the technology, the hardware applications, the rural infrastructure, is the rural communication infrastructure, is fairly low tech. It is something that you can buy in any store in the Western market and you just hack it a little bit. When I say hack, I do not mean like breaking into a security system. What you basically do is you take your.. You would be able to build it at home, if you wanted to. But basically you just take a tomato can, and you put your 3G USB dongle into tomato can. And you drill a hole in tomato can, you put your USB stick, or you USB wire in the tomato can and you hook it up. And now your 3G network will only be able to shoot in one direction. And by doing that you make the signal very strong in that one direction. And now you can shoot 10km in one direction with your wi-fi network. And by doing so it means that you can make a big connection between villages. So if you have enough of these, you can connect all the different villages. And in other words you're going to be able to have a Skype conversation or a live stream of whatever you're doing from one village to another. So small computer or ipad or whatever, small solar panel, and then you're going.

Researcher: So it is basically connection between the villages, it is not connection to the Internet, for example.

Jacob: If you had one village, which is covered by a cell tower, you would be able to connect to a village through other villages 40km away and they would now be able to send you text messages, emails or read Wikipedia documents. But the connection itself would be over-crowded, you would have to prioritize your bandwidth if you wanted to get a YouTube video through. But it would be possible. So let us imagine a case, where you have a woman giving birth in a Bush village 40km away, it is not possible for her to get to the hospital. So now you have the ability to use your cellphone to show what's going on during birth, and the local nurse at the hospital where's a coverage, she'd be able, as a midwife, she'd be able to say oh so now you're so and so dilated, push push push. There are so many applications that you could use. And it is a really simple system to set up. And we basically just use it for teaching agriculture. Because we believe that is where you get most impact: by having an export market delivered to the rural farmer in Sub-Saharan Africa.

Researcher: Do you see any disadvantages of technology? Relating to social entrepreneurship.

Jacob: Yes, very much so. Many disadvantages. If I take my own case again, the real big issue is that I'm going to change a complete culture. And the impact that I am seeking,

which is sustainability, may in itself be the very reason why I do not get sustainability. If we imagine that they abuse the technology, in a sense that instead of watching YouTube videos with agriculture, they begin to watch YouTube videos with Shakira. Which is an actual case. Then you just imprint them with commercialism for instance. And that is the opposite of what I want to. So the method in which you apply your communications infrastructure, or technology in this case, is going to dictate the way that you achieve your social impact. It is going to dictate a change in your impact. And this is a concern. Well what I've done is that I've built the partnership with people who have studied what you call communication for development. Over the past 40 years we have been trying to change Africa, basically, with different methods. These researchers and academics have looked at what do people do in 1978 when they started studying it, what did they do 1987 when they implemented a new strategy, what happened in 1996, etc etc. And they've gone through the research and they've found what methods work and what does not work. So they're able to now distinguish whether or not technology would be good or bad. We have seen good come out of the Twitter revolution, but we have also seen that maybe it was premature, because technology has become accessible to these countries too fast. And it simply just created five or six nations, which are now in unrest and civil war, which they were not before and they were somehow governed and controlled. That is also a very controversial statement, because we do not know if that is what's going to happen or they actually are going to get democracy. But we'll have to learn in 30 years and then we'll see ok, democracy does not come with technology, democracy actually comes with internal social changes, which are brought on slowly instead of fast. But you know, that is for the future to tell.

Researcher: It kind of leads to my last question. When you think of the future of your social enterprises, and social entrepreneurship, where do you see technology? Where do you think it will be? And what's its' role going to be in the future? Let us say, take 10 years, or if you want, 50 years.

Jacob: I just need some time to contemplate where my business is going to be in 50 years and whether it is going to be absolutely crucial for business to survive with or without technology. I'm basing my entire scalability on technology. It is the backbone of my ability to move as a free agent, or social entrepreneur or how you want to call it. It wouldn't be possible for me without technology. Whether to be able to get on an airplane and fly to Gambia, or if it is to have Skype call with someone in Cameroon. There is no enterprise without technology. Basically. And that also calls for social entrepreneurship. It maybe it extends more to social entrepreneurship because social entrepreneurship is so much about communication. I'm trying to imagine if business could exist without technology simply because it is a regular business as enterprise and it would be able to exist. I believe it would. I have some friends that are doing a social enterprise, where they have a wooden sailboat, so they navigate as they used to do before we had a steam engine. And they're doing it because they want to export goods from the Caribbean and they want to sell it in Holland. And so basically they do business as you used to do 200 years ago. And their intent on trying to deal without technology, I'm very much in doubt that they navigate without a GPS, and I'm very

much in doubt that they do not use some sort of internet, they have to sell their good that when land with whatever they produced or bought,

Researcher: I mean technology as part of business is a different thing. I guess what I'm asking is technology as business proposition, so whether it is an online platform or whether it is a some sort of agricultural product, or agricultural technology.

Jacob: I would be bold if I said there is no business without technology, but I literally mean that. Do not I? No that is not true, because you could pick an apple, 2000 years ago and you could trade it to someone for 2 karats.

Researcher: I mean I sort of agree with you, you would have to take a car and drive to market, and you need to use some sort of weights to weight it.

Jacob: Well if you look at the root of the word and you say "techno" I believe it has to do with a machine, right. And "logic" is the knowledge basically.

Researcher: The way that I define technology is any innovation or any product that helps solve a social issue, so that is how I define my technology. But you basically answered the question: the future of social entrepreneurship is going to be not far without technology. I mean, technology is going to crucial.

Appendix 5. Interview with end-users

The Shop for Change end-user

1. What kind of products do you produce/sell (for example, jewelry, accessories)?
   Our organisation sells handicrafts made by artisans in Cambodia. Many of our products use locally sources materials such as silk, reclaimed timber, recycled buttons, recycled cotton off-cuts, cutlery, hardware and elephant poo!
2. How do you sell them through The Shop for Change (I mean, what is the process)?
   We upload the products and they sell themselves! The Shop for Change promote the store and individual products through social media. The website is very easy to use. We receive an email when someone has placed an order. We ship the order and then get payment at the end of each month.
3. What does this process and technology (the Internet in this case) mean to you? How did it change your everyday life, if it did at all? When you think about the artisans, how do you think it changed their lives?
   The internet has made our business possible. Without it, it would be extremely difficult to contact our suppliers and sell our products. We use the internet to contact new buyers, discuss new designs with suppliers, and sell our products via online shops. I use the internet to research new design ideas and to watch tutorials on new techniques.
   For the artisans, the internet brings their products to the rest of the world. Most of our producer partners have one or two contacts that speak English and use the internet. Not all of the artisans use the internet, but indirectly it is impacting their lives. This year we hope to raise money to assist some of our producers to undertake English and computer lessons to increase the interaction even further.
4. What are the advantages/disadvantages of this technology? When you think about the artisans, what are the advantages/disadvantages of the technology for them?
   There are so many advantages, as I have mentioned above – without the internet, it would make our business almost impossible. As far as our business in concerned, I cannot think of any disadvantages.
5. When you think the future (10 years, for example), what role does the technology play in it for your organisation? What role does it play in your life? When you think about the artisans and the future, what role does the technology play in their lives?
   We will continue to use the internet, in particular online shopping and social media, to run and support our business. The internet is an integral part of my life, through general use but even more so through my role in running our organisation.

KickStart end-user

6. What kind of technology from KickStart do you use?
   Owns a MoneyMaker Max pump which I bought in August 2013-
7. How do you use it?
   I use the pump together with my siblings to irrigate my one acre piece of land where I grow tomatoes, kales and capsicum

8. What does this technology mean to you? How did it change your everyday life, if it did at all?
   The moneymaker pump has made life so much easier for me because before then, I would use the buckets to irrigate which was not only time consuming but very tiring.It has enabled me to increase twicefold the acreage where I was farming ad also the proceeds I get have increased.
9. What are the advantages/disadvantages of the technology, in terms of your everyday life?
   I am able to do more, at a lesser amount of time. Since it is manual, I do not have to worry about extra cost of fuel and also maintenance costs
10. When you think of your future, what role does the technology play in your life?
    My future plan is to farm at an even bigger piece of land,buy an overhead tank, produce more so that I am able to take my kids to good schools

NIF end-user

Background from the end-user, that answers the following questions: What kind of technology did you invent and how? How do you use it? What are the advantages/disadvantages of the technology?

Bamboo is the most desirable material for making of splints for Agarbatti incense sticks. Heretofore all the bamboo splitting had to be done by hand which is a tedious and time consuming process and only workers with expertise can perform. Secondly, the problem is even more acute in the case of slicing the bigger slivers of bamboo which are used to make standard agarbatti incenses. In the conventional bamboo splitting process, user has to split each splint manually which involves high drudgery, is time consuming with high concentration and accuracy. Heretofore all the conventional bamboo splitting process are either operated manually or by cumbersome machines which are risky in nature and/or expensive.
None of the Technology has yet been developed to procure bamboo splint without risk at time of process. Secondly in conventional machine, user has to spent more working hours on multiple winding processes, to get average outputs.
Having understood the need for reliable, efficient, easy to operate, light and portable machines for making innovator sticks suitable for Rural areas for the growth of Bamboo Industry in Mizoram, with the aims of providing self employment for rural population having easy access to raw materials, and with personal encouragement from the Hon'ble Chief Minister of innovators undertake to invent and manufacture the required machineries since sometimes back.
After considerable financial investment, time and hard work, Bamboo working machines meeting the above mentioned requirements have successfully been developed at a low cost. The material have been trial tested on two occassions in the presence of the Hon'ble Chief Minister, his Cabinet colleagues and advisers, they welcome the success of the firm and put great hopes on this simple machines for rapid growth of Bamboo Industry in the state, consequently generating self employment for large number of jobless populations in the state.

The Present invention overcome the above mentioned disadvantages and provides a easy, cost-ffective machine for making Bamboo splints, strips and incense sticks.
To operate Bamboo splitting machine, an operator has to sit besides the machine and fill the split splint into the storage box which is safe from risk of harming the operators hand and does not require high concentration when operated and work with full accuracy to provide precise length and width of Incense Stick.
The advantage of present invention solves aforementioned problems and introduces a new technology for bamboo splitting for making incense sticks in similar size which is safe, easy in operation, cost-effective, eliminates the drudgery, increases the productions and does not require experts for the operation.

What does this technology mean to you? How did it change your everyday life, if it did at all? How do you think it changes other peoples lives?

The machine plays an important in my live because, by this simple machine we received nation award, which is the most remarkable moments for me and my families, and encourage me to ddevelop another machine. Today, we developed another new machine which will be shortly report to NIF. I do not know how it helps the other people. They told me that the machine makes their additional incomes.

When you think of your future, what role does the technology play in your life?
When i think my future, this simple machine will play an important role in my life. Yes, the machines made my business, we already sold more than 2500 machines.

eGro end-user

1. What kind of technology do you use? How do you use it?
   Am using 3g network an I use my mobilphone

2. What does this technology mean to you? How did it change your everyday life, if it did at all?
   It mean a lot to me because I have easy access to the net I know what happens to the world when u have network it change a lot.

3. What are the advantages/disadvantages of the technology, in terms of your everyday life?
   There are so many advantage one easy access two less expensive I do not see any disadvantage to the technology.

4. When you think of your future, what role does the technology play in your life?
   The future is looking bright has we are in the world of technology without technology work is hard.

Appendix 6. Codes and categories

End users

Category	Problem	
Code	Unproductive use of time	Identified need
No. of mentions	2	4

Category	Product		
Code	Product	Local resources	Easy to use tech
No. of mentions	11	8	2

Category	Using Tech					
		Removes barriers				
Code	Easier life	Removed barriers of unproductive use of time	Removed barrier to do business	Removed barriers to access markets	Creates job opportunities	Relationships
No. of mentions	4	4	4	3	2	2

Category	Using Tech				
Code	No extra knowledge needed for operating	Sharing knowledge	Increased productivity	Increased income	Low cost to maintain/aquire
No. of mentions	2	3	4	2	5

Category	Future plans			
Code	Plans to expand	Plan to use social media	Education	Important
No. of mentions	4	2	4	3

Social entrepreneurs

Category	Social entrepreneurship					
	Why there are social problems					
Code	Low productivity	Facts; and differences of georgaphies	Characteristics of the poor	Enormous capital is undervalued	Lack of money	Using human capital to survive
No. of mentions	2	8	3	1	3	1

Category	Social entrepreneurship				
	Why there are social problems			What happens because of social problems?	
Code	Unproductive use of time and labour	Lack of knowledge	The cost of moneytoo high	Confronting and resolving issues	Meeting unmet needs
No. of mentions	1	3	1	2	4

Category	Social entrepreneurship			
	What happens because of social problems?			
Code	Need to reshape the use of human capital	Many opportunities	Building relationships to solve problems	Increasing awareness
No. of mentions	2	5	1	1

Category	Social entrepreneurship				
	Where social enterprise stands in its environment				
Code	Comparing to businesses	Comparing to charities	Do not believe in charities	Failures of charities	Reasons for failures of charities: self worth
No. of mentions	1	3	3	4	2

Category	Social entrepreneurship				
	Where social enterprise stands in its environment				
Code	Reasons for failures of charities: lack of ownership	Reasons for failures of charities: lack of own investment	Charities creating dependability	Fourth sector	Comparing with culutral and environmental industries
No. of mentions	1	1	1	2	1

Category	Social entrepreneurship				
	What defines social entrepreneurship				
Code	Sustainability	Complexity of social entrepreneurship	SocEnt negativity due to short term focus	Social impact	Negative social impact
No. of mentions	8	5	1	5	1

Category	Social entrepreneurship					
	What defines social entrepreneurship					
Code	Social impact score	Do not believe in socent market approach	Balancing social enterprise's activities	Second bottom line	Misperceptions of social enterprise	Quality of service in social enterprise
No. of mentions	3	1	3	1	2	1

Category	Our social enterprise					
	How our enterprise is a social enterprise and how do we perceive it					
Code	Social impact of our SE	Helping people use what they have	Getting positive feedback: rewarding	Recognition: rewarding	Experience of creating SE	Network
No. of mentions	4	1	2	2	2	1

Category	Our social enterprise					
	What is our proposition and how do we implement it					
Code	Sense of ownership	Sense of commitment	Recognising SE opportunity arising from challenges	Recognising challenges of SE	Focus on the poorest	Perception of a product
No. of mentions	4	1	3	5	1	2

Category	Our social enterprise		
	What is our proposition and how do we implement it		
Code	Biodiversity	Developing product (through tech)	Tech is a part of bigger product proposition
No. of mentions	1	3	1

Category	Our social enterprise					
	What are the outcomes of our social enterprise					
Code	Building relationships: emotional connection	Buidling relationships: inspire	Buidling relationships and product development	Building relationships: risks	Building relationships: reducing risks	Changing behavior of people
No. of mentions	2	1	3	4	3	3

Category	Technology in social entrepreneurship					
	Characteristics/history/future of tech					
Code	Future tech benefits: reach and quality	Technology's evolution	Technology's future	Techs future: better data, better product	Coplexity of tech	Access to internet/mobile
No. of mentions	1	12	5	3	2	17

Category	Technology in social entrepreneurship					
	Benefits					
	Breaking barriers		Transparency	Better access		
Code	Breaking barriers thourgh tech	Breaking barriers thourgh social media	Transparency	Access the world	Access to your markets	Closer relationships
No. of mentions	9	2	3	3	2	6

Category	Technology in social entrepreneurship				
	Benefits				
	Sharing knowlegde	Crucial	Monetary benefits		Personal benefits
Code	Sharing knowlegde	Tech is crucial	Together with collaboration: saves money	Tool to start get ownership and generate wealth	Benefits of tech: allows exteding yourself
No. of mentions	18	4	2	1	2

Category	Technology in social entrepreneurship					
	Tool in different industires					
Code	Tool to international development	Tool to remove poverty & achieve MDG	Tech for Educating	Technology in food supply	Tech for sanitization/medicine	Tech for agriculture
No. of mentions	4	1	7	2	3	2

Category	Technology in social entrepreneurship
	Tool in different industires
Code	Tech transforming the game: education, business, socent
No. of mentions	5

Category	Technology in social entrepreneurship					
	Tech in SocEnt: characteristics					
Code	Appropriate tech	Pricing tech	Techs' unsuitability for the poor: capital intensive	Monitoring tech	Not recovering costs	End-users customize the design of the product or replicate the product
No. of mentions	6	3	2	3	1	1

Category	Technology in social entrepreneurship					
	Collaboration	Dissadvantages and barriers				
Code	Collaborating individual and interorganisational	Open source: Lack of support if reduced / no cost	If not supported, diffusion is affected	Outside barriers for innovation	Responsible use of tech	Not being able to recognising need of tech
No. of mentions	15	1	1	1	2	1

Category	Technology in social entrepreneurship
	Open source
Code	Open source
No. of mentions	5

Appendix 7. Research diary

2012	September	Initial research on the social entrepreneurship topic Anil Gupta agrees to be interviewed
	October - November	Looking for supervisor
	November	Anirudh Agrawal agrees to supervise my thesis
2013	June - July	Defining the research field Defining the research problem, with supervisor Signed the master thesis contract
	August	Methodology Searching for case studies Literature review The Shop for Change agrees to participate in the research Defining interview questions, with the help of supervisor Interview with The Shop for Change
	September - October	Transcribing interview KickStart agrees to participate in the research Interview with KickStart Transcribing interview Literature review, methodology - continued, Introduction
	November - December	Established that 2 more cases are needed for the research Analysis Transcribing interview
2014	January	Established that end-users need to be interviewed eGro agrees to participate KickStart's end-user emails answers Interview with eGro Anlysis - continued Transcribing interview
	February	The Shop for Change's end-user emails answers NIF end-user emails answers eGro's end-user emails answers Discussion Conclusions, Abstract, Further Research Editing, Appendixes Final thesis and submission