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SCHOOL OF BUSINESS, ECONOMICS AND LAW

Master's Degree Project in Innovation & Industrial Management

Open Minded Innovation:
A Case Study on Crowdsourcing for Social Innovation

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"None of us is as smart as all of us…

Crowdsourcing and open innovation for sustainability and social good is about returning agency, building resilience, and enhancing leadership and community competencies. It is the age of innovation meeting the age of imagination – *collaborative imagination.* It is about potential and possibilities, collectively dreaming about a better future and working together to manifest it. It is about community" (Rowledge, 2020, p. 339).

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Abstract

This master's thesis explores how crowdsourcing and, in particular, crowdsourcing contests can be utilized for the advancement of social innovation. Crowdsourcing contests are growing in popularity as a means for generating innovation across multiple sectors. They are being more commonly used in the social sector to find breakthrough solutions for complex and wicked problems faced by modern society. The utilization of the internet and web-based open innovation platforms to host crowdsourcing contests enables collective problem solving and solution development by inviting the participation of contributors from around the globe. In this thesis study the Early Childhood Prize (EC Prize) has been investigated as a representative case study to explore the phenomenon of utilizing crowdsourcing contests to support social innovation. While the EC Prize focuses on advancing innovation within the early childhood development field, this qualitative study aims to provide insight into this emerging phenomenon as a whole by presenting scholarly literature in the subjects of social innovation, open innovation, and crowdsourcing combined with empirical data gathered from selected actors from the EC Prize. Key findings from the study are presented through three primary areas of focus: tapping user innovation, facilitating the external search for innovation, and collaboration with a distributed network to create social innovation. Additionally, practical implications are presented along with suggestions for future research.

Keywords:

Open Innovation, Crowdsourcing, Crowdsourcing Contest, Crowdsourcing Prize, Social Innovation, Social Impact, Collective Intelligence, OpenIDEO, Early Childhood Development

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Lee Giove
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1 Introduction

1.1 Background

Over the first three years of a child's life, more than one million neural connections are formed every second, laying the groundwork for how the child will think, feel, behave, and learn for the rest of its life. While these early years are such a crucial stage of a child's development, early childhood education is only a small fraction of overall education funding, especially as this developmental process occurs before a child enters formal education (*Catalyzing Innovation in Early Childhood Development - OpenIDEO*, 2019). As a result, the support and resources that many children need to thrive during this critical stage of development, including affordable and quality childcare, support for parents, family friendly neighborhoods, and more, are not available (*Catalyzing Innovation in Early Childhood Development - OpenIDEO*, 2019). Additionally, millions of children under the age of five- including 250 million in low and middle income countries- are considered at risk of falling behind their developmental growth due to extreme poverty, a lack of early stimulation and learning, poor nutrition, and exposure to neglect and violence (*MIT SOLVE*, 2019). Even in developed countries such as the United States, a child who enters kindergarten unprepared is 25 percent more likely to drop out of high school and 60 percent more likely to not attend college (*MIT SOLVE*, 2019).

In the fall of 2017, Gary Community Investments partnered with OpenIDEO and launched the "Early Childhood Innovation Prize" (The EC Prize). The purpose of the five-month custom innovation challenge was to support the catalyzation of innovation within early childhood development through crowdsourcing the collective intelligence of innovators and community members around the world. This crowdsourcing contest brought together hundreds of innovators and experts to collaboratively solve the question: *How might we maximize every child's potential during the first three years of life?* (*EARLY CHILDHOOD INNOVATION PRIZE | Gary Community Investments*, 2020). The intention behind the prize was to build an innovation pipeline for investible solutions in the early childhood space, to accelerate the work of existing entrepreneurs, and attract new players to get involved" (*Catalyzing Innovation in Early Childhood Development - OpenIDEO*, 2019). Additionally there was an aim to foster collaboration among early childhood experts, entrepreneurs building new companies, those who could pair their expertise with existing approaches that have the potential for breakthrough impact, and investors with philanthropic and for-profit capital ready to invest in the most promising solutions (Clothier et al., 2017).

The EC Prize sourced ideas from new innovators whose concepts were in new development, early stage innovators who had at least one year of prototyping or piloting experience and advanced innovators with more than three years of experience. The solutions were asked to be focused within three opportunity areas:

1. Improving early experiences so they are healthy and constructive.
2. Supporting parents and families in giving children the best possible start.
3. Leveraging neighborhoods and communities to create safe and engaging early learning experiences.

Ideas that were outside of these areas but were considered to be particularly novel or breakthrough were also considered (*EARLY CHILDHOOD INNOVATION PRIZE | Gary Community Investments*, 2020). The outcome of the collaboration was an innovation prize and network that awarded more than $1 million in capital among 15 winning organizations and engaged more than 500 innovators (*Catalyzing Innovation in Early Childhood Development - OpenIDEO*, 2019).

Through this research study, the strategy of using crowdsourcing and particularly crowdsourcing contests, to generate innovative solutions to be utilized to improve the conditions of an underserved and complex large scale societal problem will be explored. The Early Childhood Prize will be investigated and used as a case study to explore this emerging innovation strategy.

With regards to driving innovation, historically, emphasis has been placed on how to turn advances in science and technology into commercialized products and services, leading to profit and competitive advantage (Dawson & Daniel, 2010). Although innovation efforts aimed to spur financial gain and increase business benefits is a prominent source of innovation drive, there is another important driver of innovation termed social innovation. In broad terms, social innovation can be described as "the development of new concepts, strategies, and tools that support groups in achieving the objective of improved well-being" (Dawson & Daniel, 2010, p. 10). As the traditional context of innovation drive tends to be characterized by profit maximization motivations, this tends to create winners and losers (Lee et al., 2019). Social Innovation on the other hand is more often characterized by redistribution of knowledge, discovery and co-creation, which alters the key assumptions and logistics of conventional innovation theory (Lee et al., 2019). According to Tanimoto (2012), while some of the concepts and frameworks of traditional business innovation are adaptable to social innovation, there are many unique characteristics to be found within social innovation. The author claims that this is primarily because social enterprises have a double and sometimes triple *bottom line*. Tanimoto (2012) explains that while the conventional bottom line refers to a company's measurement of fiscal performance, a double bottom line seeks to extend the conventional bottom line by adding a second bottom line to measure positive social impact in addition to economic performance. A triple bottom line extends even further to include economic performance, positive social performance and environmental impacts. These three bottom lines are often referred to as the three Ps: people, planet and profit (Tanimoto, 2012).

More and more frequently, for-profit organizations are interested in and paying attention to the social and environmental implications of their operations and are actively identifying strategies to maximize the positive impacts of their activities (Chesbrough & Minin, 2014). Peter Drucker (1987), claimed that it was becoming and will continue to become the key challenge for corporations and managers worldwide to prove their social legitimacy. Drucker also said that considering the long-term implications of their everyday and urgent actions and decisions that are in relation to the far-reaching social innovations now occurring, are management's new and most significant dimension. Over a decade after Drucker's remarks, Porter & Kramer (2011), called for the creation of shared values to rethink capitalism, focusing specifically upon the social impact of an organization's activities through cross sector collaboration.

According to Kramer et al. (2020), there is money to be made in meeting the world's challenges. There is an estimated $12 trillion in new business opportunities from advancing the United Nations Sustainable Development Goals (UNSDGs). The authors further argue that there is money that would be lost from not tackling these goals because societal failures can suppress corporate growth and profitability. Addressing social needs is no longer merely about strengthening a brand's reputation through reporting Corporate Social Responsibility (CSR) statements, it has become core to a company's future business performance and competitive advantage. By generating value for society and engaging in social innovation, a firm also provides value for shareholders. The authors also assert that despite the growing recognition of these opportunities, very few companies have figured out how to effectively and meaningfully address them. While business leaders know how to manage their *corporate ecosystem* of suppliers, distributors and related businesses, those approaches do not work for the *social ecosystem* that they are a part of- including governments, NGOs and local communities, over which the company has little control. Through their studies of over a dozen companies that have achieved economic success and social impact Kramer et al. (2020), have concluded that to create systemic change, collaboration must happen at a local level, where all relevant actors in business, government, and civil society are brought together.

Rowledge (2020) states that most of the grand societal and environmental challenges that we face are massive in scale and systemic in nature. They are considered *wicked problems* in that they are extremely difficult or nearly impossible to solve by an individual or small group of individuals because of incomplete, contradictory, or changing requirements that are often difficult to recognize and understand (Rowledge, 2020). Wicked problems contain numerous tradeoffs and contingencies that unfold as the problem is being solved, therefore, interdependent considerations must be taken into account when tackling them (Majchrzak & Malhotra, 2019). The authors also note that for these reasons it is extremely helpful to have the ability to harness multiple stakeholder perspectives and resources through the process of attempting to generate appropriate and innovative solutions. One of the foundational concepts underlying the theory and practice of open innovation is the idea that the sources of knowledge for innovation is widely distributed across the economy and society (Chesbrough & Bogers, 2014).

According to Palacios et al. (2016) finding new sources for ideas and solutions is central to the innovation process and organizations are increasingly using the crowd and crowd-based platforms to find novel solutions, raise capital, develop new products, pursue collaborative ventures, and develop outcome based services. Rowledge (2020) claims that one of the most prominent topics in management today is open innovation empowered by crowdsourcing technology. The author argues that the combination of open innovation and crowdsourcing is evolving as a powerful means for generating innovative solutions and that these innovations can be focused towards co-creating a more just and sustainable future through the generation of social innovations.

Chesbrough & Minin (2014) claim that traditionally, social organizations have treated the process of creating social innovation in a fashion that is like a one-way, linear pipeline that delivers the social innovations to passive beneficiaries. Meanwhile, the crowdsourcing process empowers the beneficiaries to co-create value in an open social innovation process (Chesbrough & Minin, 2014). Boudreau & Lakhani (2013) offer the idea that crowdsourcing contests are the most straight forward way to engage a crowd and that they have been growing

in popularity over recent years to the point that they have become a mainstream innovation methodology for companies to leverage the power of collective intelligence. Boudreau & Lakhani (2013) further state that crowdsourcing contests are especially effective for solving problems when it is not obvious what combination of skills or even which technical approach would be the best solution. Crowdsourcing competitions aim to generate high-value solutions to complex or novel problems and for these reasons, opening up the platform through crowdsourcing contests are becoming more frequently used to tackle grand and complex challenges and to find collaborative solutions to wicked business and societal problems (Majchrzak & Malhotra, 2019). Rowledge (2020) believes that we must mobilize our collective intelligence and collaboration of all stakeholders in discovering, developing, and deploying innovative solutions to combat the complex issues and challenges that we face. The author further declares that the redesign of our social-economic systems through open innovation is not only an opportunity but also an imperative for the next century. Crowdsourcing, managed effectively, is a powerful rising technology for achieving the needed engagement and deep innovation to drive business results and improve the state of our world (Rowledge, 2020).

1.2 Research Purpose

This research project will explore the trending managerial topic of open innovation empowered crowdsourcing technology but will take a specific focus on how this emergent strategy can be harnessed in the context of generating social innovation. Additionally, the crowdsourcing focus will be on how contests can be used to support social innovation. This is an important topic to explore because of the potential of this technology to be utilized to both generate greater opportunity for enterprising organizations to create and capture value, and the potential to co-create possible innovative solutions for some of the pressing wicked problems facing human beings and the planet in current times.

As the scholarly literature implies, there is some overlap between the theoretical and practical aspects of commercial focused innovation management and how it can be applied to the social innovation process and management. At the same time, there are some substantial differences and unique circumstances that require deeper insight if technologies such as this can be leveraged to their full capability to create positive social impact. While there is extensive academic research published, along with industry reports that explore and guide in the topic areas of social innovation, open innovation and crowdsourcing, there is a rather slim body of literature that focuses on the intersection of these three topics. This thesis project brings together these three areas of study into one research focus. Therefore, the purpose of this research is to explore how an open innovation platform enabled by crowdsourcing can facilitate social innovation. Additionally, the increasingly popular technique of using crowdsourcing contests will be focused upon through the lens of how they can be leveraged as one prominent type of crowdsourcing to facilitate social impact and social innovation.

1.3 Research Question and Scholarly Contribution

The scholarly literature that is emerging and focuses on this combination of subjects is rather new. The novelty of this combination of research subjects is due to the capabilities and use cases of this technology being vastly increased in recent years. There have been a couple of books on the subject published in the last couple of years, some of which have been referred to in this thesis. Although there is growing theoretical research in this field, there seems to be

little literature that puts the complete focus on the merging of these areas, especially with focus on social innovation. Often the articles do not take a specific focus on crowdsourcing for social innovation, but how the usage of forms of crowdsourcing can be a powerfully beneficial tool for enabling innovation in general, which could potentially be applied to the field of social innovation. The main contents of the academic publications on the subject of crowdsourcing that may or may not touch on social innovation generally tend to focus upon a few key areas. These areas include the motivations of *the crowd* and how to best incentivize their participation; how to best structure crowdsourcing campaigns and contests to engage the crowd to produce better results for those who are sponsoring the campaign to seek innovative solution; how to design a crowdsourcing platform for social innovation, and how to choose the right crowdsourcing platform. Other key areas include classifications of the various forms of crowdsourcing applications, managing intellectual property when using crowdsourcing, and best practices for managerial application. In seeing a gap in scholarly literature, this research hopes to contribute to academic research by answering the following:

Research Question
How can social innovation be supported by the utilization of crowdsourcing contests hosted by an open innovation platform intermediary?

1.4 Delimitations

While this thesis focuses on how open innovation enabled by crowdsourcing can be used to support social innovation, there are several different applications of crowdsourcing, all of which could potentially be used for supporting social innovation. In this thesis the scope is narrowed to exploring how the particular application of crowdsourcing contests can be utilized to enable social innovation, while other forms of crowdsourcing are not included. Crowdfunding is not a form of crowdsourcing addressed in this thesis. Additionally, even within the scope of crowdsourcing contests used for social innovation purposes, there are different crowdsourcing platform providers that each have different ways of carrying out the contests they host. Also, there are generally two quite different approaches for carrying out crowdsourcing contests. In the type of contest included in this thesis and the basis of the case study, the sponsoring organization is not the organization to implement the ideas. In the case of the contests in the type included in this thesis it is the idea provider/ contestants themselves, who are responsible to implement their ideas. The other typical type of crowdsourcing contests, which is excluded from this thesis, is when the sponsoring organization selects the top idea, pays the idea provider for that idea and then the sponsoring organization implements the idea with the opportunity to capitalize and benefit from the idea. Excluded from this thesis are crowdsourcing efforts sponsored or hosted that are initiated by the public or municipality sector. This thesis focuses on the implementation of innovation ideas driven by either for-profit or non-profit organizations. Also, this thesis focuses on crowdsourcing for social innovation through contests that are hosted by third party online open innovation platform hosts. Excluded from this thesis research are contests hosted over social media platforms or platforms created by the organization initiating the contest. Additionally, there are other related fields of study such as innovation contests, collective intelligence, collective awareness platforms (CAPs) that are relevant to the study of crowdsourcing that have been not focused upon for the scope of this thesis.

1.5 Thesis Disposition

Chapter 2 presents a theoretical overview on relevant scholarly literature with respect to the research purpose and question. It provides the reader with an additional theoretical basis to assist the reader's comprehension of the subjects being explored. The primary subject areas of academic literature covered in the theoretical overview are social innovation, open innovation and crowdsourcing.

Chapter 3 outlines the research methodology and explains the primary research approaches utilized throughout the thesis project, while justifying why these particular choices were made for the purposes of this research.

Chapter 4 displays the empirical findings and presents a collection of gathered primary and secondary data. The empirical research is utilized to develop a richer perspective of the phenomenon studied by conducting interviews and gathering additional information about the subject matter. Specifically, an in-depth case study is conducted focusing on the open innovation, Early Childhood Prize.

Chapter 5 consists of a comprehensive analysis of the empirical findings in relation to the research question posed and is conducted in correspondence to the theoretical contributions introduced in Chapter 2.

Chapter 6 finally presents a conclusion based upon the combined theoretical and empirical data collection and analysis. This leads to an answer to the research question with an aim to contribute value to academic research through the intended focus and also to offer some practical application value as well.

2 Theoretical Overview

This chapter serves to provide the reader with a robust knowledge of the theoretical foundation of this thesis project. It does this by presenting a collection of some of the previous academic findings on the primary subject areas of focus. The theoretical overview begins with an introduction of some key concepts associated within the field of social innovation relevant to this research focus. Then a brief introduction to open innovation is offered, followed by a concentration on the subject of crowdsourcing with an emphasis on crowdsourcing contests and their use in generating social innovation and positive social impact.

2.1 Social Innovation

According to Pol & Ville (2009), one of the extraordinary conditions of our modern society is the strong urge for the creation, adoption and diffusion of innovations. The authors claim that there are many forms of innovation, including: technological, organizational, social and artistic, to name a few. The authors argue that although business innovation is a prevalent generator of human well-being, there are other forms of innovation that significantly contributes to the increased improvements of people's well-being and living conditions that reside beyond the scope of business innovation. A class of innovations that the authors claim

need to be identified and robustly theorized is a class of innovation they refer to as social innovation (Pol & Ville, 2009).

Over the last decade there has been growing momentum and interest in research and policy regarding social innovation (Cajaiba-Santana, 2014; Eichler & Schwarz, 2019; Van der Have & Rubalcaba, 2016). This research increase is in part a response to a growing interest in social issues related to public management, entrepreneurship, and management (Cajaiba-Santana, 2014). Van der Have & Rubalcaba (2016) claim that other trends that drive the increased interest in social innovation are the engagement of citizens and organizations in innovation, the critical views of dominant bottom line business models, the decreases in public spending, and addressing the needs of developing economies. The authors further claim that in these cases, innovation is not only focused on technological development, but rather on solving pertinent societal issues.

With the fast growing body of academic research in the area of social innovation, the field has become characterized by fragmentation and a lack of consistency regarding the conceptual frameworks, definitions of key aspects, and research settings (Cajaiba-Santana, 2014; Lee et al., 2019; Rueede & Lurtz, 2012; Van der Have & Rubalcaba, 2016). According to Rueede & Lurtz (2012), part of the reason for this fragmentation could stem from the fact that contributions on social innovations are rooted and interpreted differently within different disciplines such as sociology, business and economics, social work and political science. The meaning of the term social innovation varies in these different disciplines and research fields. Additionally, there is a wide body of literature regarding social innovation that ranges from practical application focus to theoretical scholarly works, which can also add to the blurring of boundaries of social innovation as a study (Rueede & Lurtz, 2012).

While there are glaring discrepancies and fragmentated views upon social innovation, there seems to be three general views that emerge from the existing scholarly literature: *process, instrument,* and *outcome* based (Lee et al., 2019). Social innovation tends to be defined quite generally as the creation and implementation of new solutions to societal problems, with the benefits of these solutions shared with beneficiaries that are beyond the confines of the innovators (Tracey & Stott, 2017). The discrepancies regarding the definition and scope of social innovation do generate significant consequence. Lawrence, Dover, and Gallagher (2014) argue that social problems are socially constructed and explain how particular moral assumptions about who is and is not 'worthy' of support tend to reflect the values of the elites, and shape whether or not issues become categorized as 'problems.' They also claim that ideas around novelty and newness are embedded in distinct social and historical contexts and are therefore, rarely clearly defined. Additionally, the distribution of benefits is an inherently political process, which means that the impact of social innovations are never "ethically neutral" (Lawrence et al., 2014, p. 325).

Finding a definition of social innovation that encompasses its complexities is difficult and beyond the scope of this research focus. For the purposes of this thesis social innovation is defined as "a novel solution to a social problem that is more effective, efficient, sustainable or just than existing solutions, and for which the value created accrues primarily to society as a whole rather than private individuals" (Phills et al., 2008, p. 36). This definition has been selected amongst multiple possible definitions of social innovation because it touches somewhat upon all three of the categorical views commonly associated with the topic:

Process in that there is novelty, illustrating a progression of development, *Instrumental* in that it serves as a solution for social progress and *Outcomes* as there is value created to benefit society.

2.1.1 Who Creates Social Innovation?

According to Tanimoto (2012), social innovation does not have fixed boundaries. Rather, it is found in all sectors: the public, non-profit, and private. Much of the time, some of the most creative social innovation action is happening through collaborative action that connects these sectors. The author further argues that most social innovation does not occur through the acts of a single entrepreneur (producer) but rather in collaboration with multiple related stakeholders including customers, civil society organizations, local businesses, researchers, etc.

According to Eichler & Schwartz (2019), five types of innovators are primarily involved in developing and implementing social innovations: 1) social entrepreneurs and social enterprises 2) NGOs and non-profit organizations 3) public institutions 4) civil society (groups of citizens) 5) firms.

According to Murray et al. (2010), while there are a number of ways to consider the classifications around who is involved with creating social innovation, coalitions and networks are increasingly turning out to be key in generating successful social change. The authors further claim that whereas in business it is the firms that are the key agent of innovation, in the social field the drive is more likely to come from a wider network, often through the linking of, for example, representatives in the public sector, providers in social enterprise, advocates in social movements, and entrepreneurs or intrapreneurs in business. Murray et al. argue that this is one of the many reasons why it is misleading to simply translate business models directly into the social field similarly to translating business innovation models directly into social innovation. The authors claim that as an example, prominent focus on intellectual property protection and privatizing ideas that are commonly exercised within business innovation, is more likely to stall the social innovation process than to spur it. From another perspective, public structures can be equally inhibiting to social innovation progress if they try to squeeze an idea into the logic of siloed departments and bureaucratic processes that public institutions often adhere to (Murray et al., 2010).

Recognizing that it is generally through coalitions, networks and broad web collaborations that social change, especially on systemic levels, occur, the purposes of this research focus will primarily be upon social innovation initiatives that are driven from the for-profit and non-profit business and philanthropic sectors. While there are other studies and research settings that focus solely on the perspective of public or municipality initiated and driven social innovations, and also others that focus on social change and movements driven by civil society (groups of citizens), that is not the primary focus of this research and therefore this body of literature will not be included in this overview.

2.1.2 The Process of Social Innovation

The process of transformation through social innovation is likely to occur as an iterative process, with both planned and unplanned consequences, rather than a linear successive

process of pure planning and implementation of an intended strategy (Lawrence et al., 2014; Murray et al., 2010; Tanimoto, 2012).

Mulgan (2006), describes a four step process to social innovation. The first is that of generating ideas based upon understanding needs and identifying potential solutions. Second, developing, prototyping, and piloting ideas. Thirdly, assessing, scaling up, and diffusing good ideas. And lastly is learning and evolving. The author makes an interesting point in regard to the third step, in that during the process of scaling up and diffusing innovation, taking a good idea to scale requires skillful strategy combined with the ability to assemble resources and support. He says that often in this stage the inventive social entrepreneurs or inventors may need to find supportive big organizations with machineries and capabilities in place to make things happen on a big scale. That aspect may in turn require formal methods to persuade potential backers, including investment appraisals, impact assessments, and additional devices to measure success, such as Social Returns On Investment (SROI) (Mulgan, 2006).

According to Murray et al. (2010), the ultimate goal of social innovation is systemic change, a step of the process not mentioned in Mulgan's (2006) model. According to Murray et al. (2010), systemic change most often involves the interaction of several elements, for example, social movements, business models, laws and regulations, data and infrastructures, and entirely new ways of thinking and doing. Systemic change commonly involves new frameworks or architectures that are composed of several smaller innovations. The authors further state that social innovations often are confronted by barriers set by an old order, and sometimes hostile or fixed, preexisting conditions. Pioneers and innovators may overcome these barriers, but the extent to which they can grow will often depend on the creation of new conditions to make the innovations economically viable. These conditions can include new technologies, supply chains, institutional forms, skills, and regulatory and fiscal frameworks. Systemic innovation generally involves changes in the public sector, private sector, and household sector, usually over long periods of time (Murray et al., 2010).

2.1.3 Digital Social Innovation

According to Cangiano et al. (2017), digital social innovation serves as an emerging umbrella term to describe the budding field where digital technologies are used to address societal challenges and provide alternative models to the centralization of information, data, and resources that have been held mainly in the hands of a few big players in the tech industry. Digital social innovation enables people to collaborate using digital technologies to share knowledge and co-create solutions for a wide range of social needs, and this can occur at a scale that was unimaginable before the rise of internet enabled-platforms. The authors claim that the idea behind digital social innovation is that web platforms focused on social innovation enhance and promote value generating collaborations and social progress, which changes individual behavior for the better. The authors further claim that digital social innovation also supports the ability to scale-up best practices and transfer know-how cheaply and rapidly via the internet. While the goal of digital social innovation initiatives is to find new ways of solving social issues, they are not only intended to innovate a product or service, but also to affect the social relationships that characterize a social group or community structure (Anania & Passani, 2014). The overarching technology trend that supports the development of digital social innovation is based within the openness philosophy: open data, open networks, and open knowledge (Rodrigo et al., 2019).

2.1.4 Barriers to Social Innovation

Chalmers (2013) claims that innovative organizations may face a number of barriers when attempting to generate disruptive social innovation or creatively tackling social problems. First of all, both governmental and philanthropic organizations are risk averse and tend to reject more disruptive solutions that will alter social systems and structures in favor of incremental innovations. The author asserts that a second barrier is that there are existing deep relationships established between funders and service delivery partners and this contributes, at least in part, to the continuing cycle of incremental improvements to social problems. Chalmers argues that social innovators are failing to gain access to the needed networks that will help to enable their success. The lack of relevant network ties can hinder the innovative firm's access to valuable sources of knowledge that could feed the social innovation process. These identified barriers present a significant hinderance to social innovators and reduce the potential of disruptive social innovation (Chalmers 2013).

Chalmers (2013), further suggests that the field of open innovation can serve as inspiration on how to overcome deficiencies in both social innovation research and practice. Chalmers (2013) refers to the merging of social innovation and open innovation as *open social innovation.* The author claims that open social innovation is different from the traditional social innovation process in that it withdraws from the heroic individual approach to social innovation and identifies collaborative organizational structures and behaviors that are needed to systematically tackle social problems. The author notes that organizations that are engaging in open social innovation should be prepared to reveal parts of their knowledge and expertise to both competitors and customers/ service users in the pursuit of collaboratively solving messy cross-disciplinary problems.

2.2 Open Innovation as a strategy for social innovation

The term open innovation was coined by Chesbrough (2003), when he explains that there has been a fundamental shift in how many companies generate new ideas and bring them to market. With regards to innovation management, in the "old model" of *closed innovation*, companies assume the responsibility of controlling the entire innovation process from within the firm, meaning that they generate their own ideas which they then develop, manufacture, market, distribute, and service. The "closed innovation model" was based in self-reliance and was the dominant style of R&D operations of many of the leading corporations throughout the 20th century (Chesbrough, 2003). Chesbrough (2003) notes that, for most of the 20th century the closed innovation approach worked well, and internal R&D was a keen strategic advantage. However, towards the end of the 20th century there were some elements of change occurring in the US that challenged the closed innovation model and generated a movement to a "new model" of *open innovation*.

According to Chesbrough et al. (2006), there are three archetypal processes or main types described from the core of the open innovation concept: outside-in processes (also known as 'inward'); inside-out processes (also known as 'outward'); and coupled processes. Outside-in processes refer to how firms absorb and use external sources of knowledge and innovation and bring them into their in-house innovation developments. Inside-out involves companies exploiting internal knowledge externally. Coupled processes involve the usage of both outside-in and inside-out processes to bring new ideas to market (Chesbrough et al., 2006).

According to Chesbrough (2003), in the open innovation model, firms can commercialize both external and internal ideas and can bring them to the market by deploying outside or in-house approaches. Also, if a company comes up with an idea that they might not be in a position to commercialize, they can look outside of the company for partners to work with to bring the idea to market. Alternatively, a company could acquire and develop an idea that originates outside of the firm or might even co-develop an idea with another firm or organization. It can be said that with open innovation the boundary between a firm and its surrounding environment is more porous, allowing innovation to move more easily between, in, and outside of the firm (Chesbrough, 2003). According to Chesbrough et al. (2006), open innovation requires collaboration with other firms or organizations in strategic networks and facilitates knowledge creation within the innovation system. The definition of open innovation was refined in 2014 by Chesbrough to be, "A distributed innovation process based on purposively managed knowledge flows across organizational boundaries, using pecuniary and non-pecuniary mechanisms in line with each organization's business model" (Chesbrough & Bogers, 2014, Chapter 1, pg. 32).

2.2.1 Open Social Innovation

In an attempt to answer the question of what the concepts of open innovation can contribute to organizations whose aim is to create social change, Chesbrough and Minim (2014) developed the open social innovation framework and developed a definition of open social innovation. They define open social innovation as, "the application of either inbound or outbound open innovation strategies, along with innovations in the associated business model of the organization, to social challenges" (Chesbrough & Minin, 2014, Chapter 9, pg. 2).

According to Chesbrough and Minin (2014), the open social innovation framework can be applicable for not-for-profit organizations, public institutions, and for-profit companies. One element of the open social innovation framework is the potential usage of the outside-in branch of open innovation or the use of the inside-out branch of open innovation. The authors claim that the inside-out branch of open innovation strategy (outbound), where unused internal ideas and technologies are allowed to go to the outside of an organization, is in particular a potentially powerful part of the open social innovation framework. This is because the knowledge being offered beyond the scope of the firm or organization could dramatically boost the impact of social change. Another important part of the open social innovation framework is the need for a business model to sustain the delivery of services. The authors further claim that the open social innovation framework is particularly useful to accessing prototypes, sustaining innovation efforts, and scale-up activities, within either the current business model or a potentially novel business model to meet the needs of under-served target populations that pure market functions are not able to adequately meet.

According to Chesbrough & Minin (2014), at the heart of the open innovation framework is the idea that for a collaborative alliance to work, partners must align their business models. By doing this, incentives and goals are decided and the definition of the shared resources are codified. The authors claim that as in the business world, a comprehensive view of open innovation strategy can be relevant for social entrepreneurs for at least three reasons. First, because tapping into the resources of partners beyond a single organization's boundaries are imperative for accomplishing the mission of a social enterprise. Secondly, social entrepreneurs aim to solve a goal that is not possible to measure only through financial metrics. Therefore, aligning different objectives between the collaborators is an essential

competency. Finally, in order to achieve systemic change, models and practices need to be economically sustainable as well as socially sustainable, even when serving the needs of populations of people that the market is unable to address (Chesbrough & Minin, 2014).

2.3 Crowdsourcing

Multiple scholars claim that crowdsourcing is an important type of open innovation (cf., eg., D'Arrigo & Fachinelli, 2017; Estellés-Arolas & González-Ladrón-de-Guevara, 2012; Björn Remneland Wikhamn & Wikhamn, 2013; Wilson et al., 2018). Additionally, crowdsourcing is one of the most frequently occurring keywords within open innovation literature (Ebner et al., 2009). Bellini (2016) describes crowdsourcing as referring to a platform for online distributed problems and a network of coordinated human 'problem solvers,' to seek the generation of solutions to those given problems. According to Anania and Passani (2014), crowdsourcing can be an innovative and effective way to apply collective intelligence to solve various types of complex problems including the potential of generating social innovation. Crowdsourcing can leverage collective intelligence and develops an open source and decentralized infrastructure that can be used for connecting citizens and the internet in a decentralized open architecture (Anania & Passani, 2014).

Howe (2006) is credited for introducing the term crowdsourcing. Howe (2006) describes crowdsourcing as when a company or institution takes a function once performed by employees and outsources it to an undefined (and generally large) network of people in the form of an open call. In essence, companies can turn to "the crowd" to help curb the costs of corporate research.

According to Boudreau & Lakhani (2013), the fundamental differences between crowd-powered problem solving and traditional organizational models is that companies are generally well-coordinated environments that can utilize specialized knowledge and resources to address problems and innovation opportunities. In contrast, a well-functioning crowd is loose and decentralized. The authors assert that through crowdsourcing a problem is introduced to a wide variety of people with varying levels of skill, experience and perspectives. Thus, the problem can be exposed to an amount of people far greater than even the largest and most complex global organizations, bringing in more individuals to focus on a given problem or challenge. The authors further claim that in certain situations, crowdsourcing can lead to more effective problem solving.

According to Boudreau & Lakhani (2013) communities of innovators have played a key role in kick starting entire industries such as aviation and personal computing. The difference with crowdsourcing these days is with regards to technology. Crowdsourcing is more and more organized through the internet. The authors claim that over the last decade there has been huge improvement in tools for development, design and collaboration because they are continually becoming more powerful and easier to use. Just as important as these factors is that online crowdsourcing platforms have become much more advanced, making it easier to manage support and mediate the crowd and distributed workers. Essentially, the practice of crowdsourcing is become so frequently used that the crowd has become "a fixed institution available on demand" (Boudreau & Lakhani, 2013, p. 67). This flourishing ecosystem allows the opportunity for individuals to participate from all around the world. Some of these internet based intermediate crowdsourcing platforms claim that they can help to solve scientific and

business problems that even experts in R&D labs in large corporations can't solve (Hossain, 2012).

Although crowdsourcing has much attention from both practitioners and scholars, there remain several differing definitions of what exactly crowdsourcing is, hence, there are several misconceptions regarding the subject area. In an academic study conducted by Estellés-Arolas & González-Ladrón-de-Guevara (2012) of the existing scholarly publications in relation to crowdsourcing, the authors identified over 40 different and often opposing definitions of the term. According to the authors, the functions and use cases of crowdsourcing are wide and continue to evolve over time. This makes it a powerful and effective practice, but because of its adaptability, this also makes it difficult to define and categorize. With the blurred boundaries of what modern day crowdsourcing is, nearly any type of internet based collaborative activity, including user innovation and co-creation could be included (Estellés-Arolas & González-Ladrón-de-Guevara, 2012).

As the array of applications for crowdsourcing continues to grow, there has been a multitude of other terms that overlap and are similarly used when referring to crowdsourcing, which also leads to some misunderstanding about the boundaries and specifics of what is termed as crowdsourcing. According to Hossain & Kauranen (2015), some of these overlapping terms are: peer production, user-powered systems, user-generated content, collaborative systems, community systems, peer production, user-powered systems, user-generated content, collaborative systems, community systems, social systems, social search, social media, collective intelligence, wikinomics, crowd wisdom, smart mobs, mass collaboration and human computation.

In Estellés-Arolas & González-Ladrón-de-Guevara's (2012) research to find an encompassing and consistent definition for crowdsourcing, through the analysis of the more than 40 existing definitions of the term, common elements were extracted to establish the basic characteristics of any crowdsourcing initiative. The result, is the following integrated definition of crowdsourcing:

> Crowdsourcing is a type of participative online activity in which an individual, an institution, a non-profit organization, or company proposes to a group of individuals of varying knowledge, heterogeneity, and number, via a flexible open call, the voluntary undertaking of a task. The undertaking of the task, of variable complexity and modularity, and in which the crowd should participate bringing their work, money, knowledge and/or experience, always entails mutual benefit. The user will receive the satisfaction of a given type of need, be it economic, social recognition, self-esteem, or the development of individual skills, while the crowdsourcer will obtain and utilize to their advantage what the user has brought to the venture, whose form will depend on the type of activity undertaken (Estellés-Arolas & González-Ladrón-de-Guevara, 2012, p. 197) .

Although this definition maybe considered somewhat complicated, because the definition ties together the broad spectrum of crowdsourcing definitions and potentials of the many use cases and applications for crowdsourcing, for the purpose of this research this definition of crowdsourcing will be utilized. This definition is also selected because it distinguishes the

focus of online crowdsourcing activity and excludes offline crowdsourcing related activity, which follows the theme of this thesis research.

2.3.1 Applications of Crowdsourcing

Rowledge (2020) claims that many people are familiar and have engaged with various applications of crowdsourcing in some of its more general applications, even without being aware that crowdsourcing was an integral aspect of the offering of experience. The author gives the example of Airbnb, who disrupted the hotel and hospitality industry using a platform business model that crowdsources vacation homes from people all over the world. In less than ten years since the company's launch, Airbnb has grown to 150 million users and has 4 million listings in 65,000 cities (Rowledge, 2020). The author continues with some other well-known crowdsourcing examples such as, Wikipedia, a hugely popular crowdsourced encyclopedia of knowledge. Rowledge (2020) also highlights 'TED Talks' (Technology, Entertainment, and Design), which in 2012 exceeded one billion views and has initiated their "Open Translation Project" (OTP) in which they crowdsourced language translation services for their videos with more than 28,000 volunteers around the world and has completed over 120,000 translations of TED presentations in 115 languages (Rowledge, 2020).

Boudreau & Lakhani (2013) claim that at a high level crowdsourcing generally falls into one of four distinct categories- contests, collaborative community, complementor, or labor market. In order to take full advantage of crowd-powered innovation, one needs to understand what kinds of problems benefit the most from open innovation and why. They present the findings represented in the table below to identify the four main 'higher level' categories of crowdsourcing with a brief explanation of the purpose, challenges and best use cases of each.

	Purpose	Challenges	Best Use
Contests	Generating high-value solutions to complex or novel problems through large-scale and diverse independent experimentation	The problem must be generalized and stripped of company specific details	Highly challenging technical, analytical, and scientific problems; design problems; creative or aesthetic problems
Collaborative Communities	Accumulating a large number of diverse contributors into a value-creating whole	The crowd lacks the shared culture and cohesiveness of a company, making it harder to control; intellectual property can't be protected	Customer support communities; wikis; open collaboration projects for information and software products with complimentary assets inside the firm, FAQs
Complementors	Encouraging innovative solutions to users' many different problems with your core product	It can be technologically and otherwise challenging to provide access to the functions and information of the core product while protecting your assets	Open operational, product, or marketing data initiatives; content mashups; apps
Labor Markets	Efficiently and flexibly matching talent to discrete tasks	Identifying which problems to outsource and who in the organization will manage	Well established categories of work that can be clearly described and evaluated; human

		the labor pool may be challenging	computation; repeated tasks

Table 1, When & How to Crowdsource- 4 Main Categories, adapted from (Boudreau & Lakhani, 2013)

Rowledge (2020) claims that open innovation enabled by crowdsourcing is a widely discussed topic within management strategy today. The author notes that leading companies, NGOs, and foundations are harnessing our collective intelligence and ingenuity, by posing questions and seeking solutions generated by the crowd that can prove to be both key to their future business success and at the same time can serve in generating important social innovations as well. As the purpose of this thesis research is to explore the intersection of social innovation, open innovation and crowdsourcing it is important to understand the applications of crowdsourcing specifically that focus upon how it can be applied to environmental, social, and economic challenges.

2.3.2 Crowdsourcing for Social Innovation

While companies are increasingly utilizing the practice of crowdsourcing to facilitate commercial innovation, recent examples also indicate that crowdsourcing has the potential to be used to empower social innovation (Chalmers, 2013; Chesbrough, 2012). Crowdsourcing social innovation is defined as "the process that involves outsourcing social innovation tasks to a distributed group of people" (Kohler & Chesbrough, 2019, p. 357).

Rowledge (2020) identifies six major areas of application for crowdsourcing for driving social innovation, sustainability and social good. The first is called *grand challenges,* that search for technological and social breakthroughs. Second, *customer engagement,* obtaining customer input into product design, improvement, and behavior change. Third, *employee engagement,* engaging employees and partners in generating ideas for operational improvement, enhancing customer experience and developing new businesses. Fourth, *citizen input, governance and activism,* soliciting needs, information, policy recommendations and research from citizens, sometimes focused on giving a voice to people who are marginalized. Fifth, *student activation*- building student awareness and providing a venue for social responsibility and action for issues that students are passionate about. Sixth, *business and sustainability strategy formation*- involving the whole system in co-creating business and/or sustainability strategy (Rowledge, 2020).

Chesbrough & Minin (2014) claim that traditionally, social organizations have treated the process of creating social innovation in a fashion that is like a one-way, linear pipeline that delivers the social innovations to passive beneficiaries. In contrast, the crowdsourcing process empowers the beneficiaries to co-create value in an open social innovation process (Chesbrough & Minin, 2014). According to Kohler & Chesbrough (2019), the opportunities to utilize crowdsourcing to create social innovation can be outlined along three key features:

1) **Tapping user innovation:** By opening the social innovation process, organizations can *tap user innovation* as a source of innovative solutions. SI is grounded in the needs of beneficiaries. Crowdsourcing allows the beneficiaries to actively participate in the problem solving solution creation process, turning the beneficiaries into co-creators and co-innovators. This provides opportunity to take into account the opinions

and experiences that the beneficiaries have into the solution design process. This is similar to how companies are more and more using crowdsourcing to gain end user and customer insights for their product and service R&D purposes (Kohler & Chesbrough, 2019).

2) **Facilitating the external search for innovation:** Many solutions to social problems already exist and are available, it is just a matter of finding them. Closed models of proprietary innovation can have difficulty implementing knowledge intensive tasks that create social innovation when most of the important knowledge that is needed exists outside of the organization (Kohler & Chesbrough, 2019).

3) **Collaboration with a distributed network to create social innovation:** This refers to the benefits gained through the ability of bringing together a multitude of stakeholders to collaborate in the innovation process, even if they are spread out across disciplines, across fields or across countries.

There are multiple open innovation platforms featuring crowdsourcing that are dedicated to social innovation efforts around the world. Additionally, social media has enabled the process of connection and collaboration for individuals and organizations in a grassroots open format, to align actions around a purpose for social innovation (Velasquez & LaRose, 2015). Social Media while having the potential to effectively support social innovation through crowdsourcing, falls outside of the scope of this research focus. While there are various routes to generating social innovation through crowdsourcing, this thesis takes a particular focus on the use of crowdsourcing contests conducted through web-based open innovation platforms and how they can be leveraged to support social innovation.

2.3.3 Crowdsourcing Contests for Driving Social Innovation

Rowledge (2020) claims that one of the most prominent topics in management today is open innovation empowered by crowdsourcing technology. The author further argues that the combination of open innovation and crowdsourcing is evolving as a powerful means for mobilizing our collective intelligence towards generating innovative solutions and that these innovations can be focused towards co-creating a more just and sustainable future through the generation of social innovations. Within the past decade, crowdsourcing contests have become established in many fields as an innovative way to solve problems by giving the organization access to knowledge from the crowd, beyond the confines of the organization's boundaries (Javadi Khasraghi et al., 2020). This thesis project will focus specifically on the usage of crowdsourcing contests for driving social innovation. Therefore, a closer look will be taken regarding this form of crowdsourcing application, while the other three categories of crowdsourcing, indicated in Table 1 by Boudreau & Lakhani (2013), will not be concentrated upon in this research or theoretical framing. In crowdsourcing literature contests, prizes, challenges and competitions are often terms used interchangeably (Wasson, 2016). In this thesis the author will use these terms interchangeably as well to align with the various terms used through other scholarly literature.

According to Boudreau & Lakhani (2013), crowdsourcing contests are especially effective for solving problems when it is not obvious what combination of skills or even which technical approach would offer the best solution. Competitions aim to generate high-value solutions to complex or novel problems. For these reasons, unleashing the crowd through crowdsourcing

contests is becoming used more frequently to tackle grand challenges and to find collaborative solutions to wicked business and societal problems (Majchrzak & Malhotra, 2019). According to Boudreau & Lakhani (2013), of the four forms of crowdsourcing, *shown in table 1,* contests are the most useful for challenges that would benefit from multiple solutions and large-scale and diverse independent experimentation. The authors further argue that contests are also useful for solving design problems when subjectivity and creativity are influencers of the evaluation of solutions. Other best uses for competitions are highly challenging technical, analytical, and scientific problems; design problems; and creative or aesthetic problems.

Boudreau & Lakhani (2013) claim that crowdsourcing competitions or contests are the most straightforward way to engage a crowd. Crowdsourcing contests have been used in both the corporate setting and for a variety of social purposes as well. Contests have solved some of the most difficult scientific and technological challenges in history (Boudreau & Lakhani, 2013). The authors claim that crowdsourcing competitions have been growing in popularity over recent years and have become a mainstream innovation methodology for companies to leverage the power of collective intelligence. Through the utilization of the internet and social media, crowdsourcing has become somewhat of a global phenomenon. According to Kiran (2019), crowdsourcing competitions are based upon the practice of open innovation, which focuses upon engaging in collaboration and networking outside of the organization. The author further claims that commonly in a competition, sponsoring companies post a problem or challenge statement on a web-based platform and offer rewards to solvers whose ideas are selected. The author further claims that industry leaders like Google, Lego, Starbucks, and Netflix have sponsored competitions to generate innovative ideas. There have been cases where NASA has hosted competitions and the winning ideas have come from participants working in fields that are unrelated with the problem areas. Companies often engage supporting organizations and utilize the services of specialized platform intermediaries to run the process of the competition, including helping form the challenge statement, managing interactions, and screening submissions (Kiran, 2019). Some examples of these intermediary platforms are for example: InnoCentive, OpenIDEO, Nine Sigma, BrightIdea, etc. (Rowledge, 2020).

According to Rowledge (2020), solving complex societal problems through crowdsourcing contests typically incorporate a sophisticated process design that orchestrates the formulation of the challenge including developing specific judgement criteria, communication and enrollment, and a method for guiding the participants through the process. Sometimes the online process is complimented by in-person summits, workshops, and conferences. Because many of these contests often set out to solve scientific issues, there are often concrete performance requirements and criteria that solutions must meet (Rowledge, 2020).

Brown and Benedict (2018) claim that there has been a sharp rise in the use of crowdsourced prizes in the social sector. The authors further declare that prizes usually are rewarded for addressing one of two categories. *Awareness,* an aim to raise the profile of an organization or issue area to generate momentum; and *disruption* which incentivizes innovation, surfaces new solutions, or fundamentally brings change to an entrenched system. According to Suarez and Bingham (2017), foundations play a critical role in addressing needs not met by governments and for-profit companies. Achieving their mission requires not only money, but also requires access to new ideas and approaches that are previously unexplored, in other words,

innovation. The authors claim that by expanding their innovation capacities, foundations can accelerate their progress towards their mission. The authors suggest that crowdsourcing contests can be a valuable strategy for foundations to utilize to move towards their goals and objectives. The authors note that the main value in crowdsourcing contests for foundations lies in finding breakthrough ideas by gathering input from people outside of a small pool of experts. The authors say that tapping into the knowledge of people who are at the margins of a field can be especially valuable. Additionally, foundations typically work with approved non-profit organizations, whereas crowdsourcing makes it possible to reach all types of problem solvers.

Because the case study of this thesis research is a crowdsourcing contest that was initiated by an investment firm with a philanthropic foundation and a focused social mission, a closer look will be taken into crowdsourcing with regards to philanthropic foundations. Suarez and Bingham (2017) identify crowdsourcing as a tool with multiple uses and claim that foundations can utilize this tool with a focus on three particular use cases:

- Leveraging partnerships- foundations can team up with partners in their network for multiple benefits for example, achieving greater visibility for both the contest and their overall mission.
- Exhausting possibilities- crowdsourcing can help organizations tackle one of the toughest problems associated with innovation: how do they know when to discontinue a seemingly promising project that has not yet yielded results?
- Sharing resources- crowdsourcing can become another form of philanthropic currency. It can become an alternative form of grantmaking- the donation of a challenge, rather than money offered to a grantee.

Suarez & Bingham (2017) conclude that the primary benefits that foundations gain from crowdsourcing is that it helps them cast a wider net for ideas on how to further their mission. It is also an opportunity for individual solvers to share their ideas directly with a foundation and that kind of broad connection to the public can help foundations in tackling the tough and complex social and technical problems that they aim to address (Suarez & Bingham, 2017). Kalil (2019) claims that prizes and contests can especially be helpful in cases of problems that are underinvested in, both in the governmental and private sectors. A well-designed prize can enable the sponsor to set a goal without having to decide in advance which team or approach is most likely to be successful, pay only for results, and leverage an investment that can exceed the value of the prize purse. It can also shine a spotlight on a problem, encourage fresh approaches by reaching beyond the 'usual suspects,' and change people's views about what is possible.

Brown and Benedict (2018) offer four rules for foundations to embrace in order to collect the full value of hosting a prize. First, *clearly define the problem that needs to be solved or what issue requires more attention.* The authors say that if the challenge is not clearly defined and communicated, there is a high chance that it will take much community management effort in order to elicit useful entries. Second, *listen before you launch.* What can be learned from potential entrants can reveal new needs about which you were unaware, mechanisms to encourage participation, and pitfalls of those who have tried similar efforts before you. Third, *play to your strengths or be an enthusiastic newbie.* A prize in a particular field will gain the attention of influencers within that sector if it addresses their needs properly. And the host

often gains trust as the convener, even if they don't have prior experience. Fourth, *offer value after the awards are presented.* If an organizations goal depends on creating a network of long-term relationships- which they nearly always do- a ready-made prize approach is not likely to advance that aim. The authors argue that while digital services can help you target online communities, create a website, publicize your prize, and manage entries, they cannot grow and maintain the human connections that are needed for lasting impact. You need to engage entrants as long-term collaborators (Brown & Benedict, 2018).

Brown & Benedict (2018) declare that while initiating a prize can be a legitimate means of gathering highly innovative ideas from the fringes of a field to address a long standing difficult problem, there are also some risks involved if done inappropriately including potentially alienating or damaging trust with participants and hence, weakening the credibility for the host. In addition to the risks involved for the hosting organization there are other criticisms to the use of crowdsourcing contests for social innovation. One primary criticism stated by Wasson (2016) is that prize competitions are a waste of time for nonprofit applicants, claiming that hundreds or even thousands of organizations may enter the contests, but only a few of them (or maybe just one of them) will receive any funding. Another concern the author mentions is that prize philanthropy can lead an organization to drift from its mission and actually be more of an attempt for the sponsoring organization to gain attention. A third critique is that many prize initiatives rely on judging methods and those judges may lack expertise or have their own biases, which can lead to funders wasting resources on unqualified winners (Wasson, 2016).

Kiran (2019) argues that crowdsourcing competitions may hold great potential, but if not designed and executed properly, could fail in producing the desired results. For delivering desired results companies must have clarity in their strategy, considerable expertise, committed infrastructure and buy-in from leadership. There must be properly aligned motives and incentives for all involved stakeholders- Seekers, Solvers and Supporters (Kiran, 2019). Through Kiran's research of case studies and interviews with sponsoring organizations, platform intermediaries and participants, stakeholders involved with crowdsource competitions agree that it is important to have a well envisioned and executed plan to benefit most from the competition. Kiran (2019) offers the following '7 Ps,' model which he identifies as important elements to map out, manage and align between the different key stakeholders in the contest, to help enhance the effectiveness of these initiatives.

THE 7 Ps MODEL OF KIRAN (2019)

Purpose	Organizations need to be clear on the need for crowdsourcing solutions. Crowdsourcing contests or competitions are generally recommended for areas where there are not pre-determined solutions or wicked problems which call for collective brainstorming.
Problem	Problem statements put out in the competition should be crisp and properly defined. If they are too open ended, they could end up attracting random submissions, which are not of high quality. It needs to have the right mix of complexity and possibility.
Prize	Incentives are vital to attract and sustain the right crowd. The prize can be monetary or non-monetary or a combination of both. This can depend on the nature of the problem and the costs involved for the solver.
Promotion	Given the amount of clutter, positioning and branding the competition is important to create the right traction. Networking and getting the attention of the solver

	community enhances the prospects of idea submissions. The communication strategy should set the right expectation and "market" the contest well through the offline and digital channels, depending on the type of problem and kind of crowd the seeking organization wants to attract.
Platform Management	Interactions between seekers and solvers take place in various on-line and off-line forums. It is important to manage these encounters in a way the develops trust and gives confidence to solvers. User friendliness, transparent procedures and timely feedback increases the perception of fairness and can help the participants feel that their efforts and ideas are being valued.
Program Format	Contests can be purely competitive where the winner takes all or more collaborative where teams are allowed to partner or a hybrid. At different stages of the contest proper guidance and assistance is required for the participants to review and refine their submissions. Mentors, jurors and the selection panels can have a key role in shaping the ideas through their suggestions.
Partner	Crowdsourcing completion requires pooled efforts by diverse actors. Given the nature of the competition, companies are better off engaging the services of specialist intermediaries and enlisting supporting organizations for conducting the initiative efficiently and effectively.

Table 2, The 7 Ps Model of Kiran- Alignment of Critical Factors for Crowdsourcing Competitions, Kiran (2019).

While it may appear that open innovation and crowdsourcing contests can be a kind of magic key for innovation generation, Rowledge (2020) offers a reminder that crowdsourcing is not without its failures and risks. The author argues that there is a danger in viewing open innovation as a silver bullet and deploying it without adequate strategy, planning and resources. The author further claims that achieving success in crowdsourcing contests starts at the very beginning of the process, by integrating open innovation and crowdsourcing with the core business strategy and broader innovation strategy. It must follow through to every step from determining the focus area of the campaign, to visible participation in the executive management team in launching and supporting the process. There needs to be a commitment of adequate resources and attention to ensure success. Providing both financial and other resources to support implementation of winning ideas is also vital.

Rowledge (2020) argues that while open innovation and crowdsourcing has many inherent benefits- such as creating awareness about issues, engaging important stakeholders, generating commitment to action to change, building relationships- but ultimately the main purpose is to drive and enable innovation. Rowledge stresses that the benefit is not merely in idea generation but implemented solutions, ideally, solutions that lead to business results and a positive impact in the world. The author predicts that companies and organization will proactively build the competencies needed to manage successful innovation contests. He foresees that companies will get more sophisticated at designing innovation challenges, managing online communities, combining online and in person activities, and integrating this technique with core business strategy and organizational innovation goals.

2.4 Theoretical Overview Summary

Interest in the field of social innovation has been growing over the last decade both from an academic position as well as from a practical business management role and public policy perspective. This is due largely to an increasing urgent need to accelerate the development and implementation of breakthrough social innovations to generate impactful solutions to

assist in addressing the several complex and pressing challenges we face as a species and for our planet. By first introducing the definition and theoretical framing around social innovation, the processes for generating social innovation, exploring who creates it, and common barriers to social innovation, we gain a greater perspective around what the needs and difficulties are to actually create socially innovative and impactful solutions. Furthermore, digital social innovation is introduced to illustrate how through the rise of the internet and web-based platforms the co-creation of knowledge and solutions for a wide range of social needs is enabled at a scale that was unimaginable before. While several barriers to social innovation are presented, open innovation is introduced as a tool to help circumvent these barriers, particularly through the open social innovation framework presented here.

With open innovation offered as a tool for empowering social innovation, a particular form of open innovation, that of crowdsourcing is introduced. It is further defined and described. The different applications of crowdsourcing are presented, and crowdsourcing for social innovation is highlighted. In particular, crowdsourcing contests as a form of open innovation, are explored rather thoroughly as an innovation strategy to drive social innovation and generate actual implementable solutions. An additional focus on how foundations can leverage the opportunity of crowdsourcing contests is presented as it is relevant to the case study of this thesis. While exploring and presenting the literature surrounding crowdsourcing contests it is noted that for this innovation strategy to be successful, careful strategic planning and implementation is required. Several practical recommendations are provided to help in ensuring more successful crowdsourcing contest results. This theoretical background provides the reader with a brief but comprehensive understanding of some of the most relevant academic literature and research conducted to help in framing the case study and empirical environment that will be presented and analyzed in this thesis, from which a conclusion will ultimately be drawn.

3 Research Methodology

This chapter explains and justifies the methodological approaches used in this master's thesis in order to achieve the purpose and goals of the research focus. The chapter outlines the research strategy, research design, and describes the processes utilized while performing empirical data collection and analysis. It also addresses the research quality.

3.1 Research Strategy

According to Bryman *et al.* (2019), abductive reasoning is closely related to inductive reasoning, which is also often used for exploratory research, yet the abductive approach is proposed as a way to overcome the potential limitations that are associated with inductive and deductive approaches. One weakness linked to deductive reasoning, is that while it aims to follow a strict logic of theory and hypothesis testing, a problem arises because of the lack of clarity around what theory should be selected to test. A criticism about inductive approaches is that no amount of empirical data will necessarily permit theory building (Bell et al., 2019). While the proposed research of this thesis contains an essentially exploratory nature and, in an attempt to overcome the shortcomings of the alternative approaches as previously described, an abductive approach is used to be the logic in guiding this research. Another benefit to the

abductive approach is the ability for working iteratively between empirical data and theory to allow for a more evolutionary development of theory building (Dubois & Gadde, 2002).

Due to the nature and aims of this research, a qualitative research approach has been selected. The main reason for this selection is because qualitative research allows a researcher to derive theoretical concepts from collected data as opposed to testing an established theory, which would be too confining in this research focus. Additionally, a qualitative approach tends to be more of an open-ended research strategy than is typically the case with quantitative research (Bell et al., 2019). In comparison to a quantitative approach, qualitative research often strives to produce a more deep and rich data collection while the quantitative method may strive to produce more hard and reliable data (Bell et al., 2019). Furthermore, a qualitative method aligns well with abductive logic, which is the logic that guides this research (Bell et al., 2019).

3.2 Research Design

To address the selected research purpose and questions, a single case study has been selected as the preferred research design to carry the research forward. The case study design was selected as the emphasis of this study aligns with typical emphasis of case study research, which tends to focus upon intensive and detailed examination of a particular setting (Bell et al., 2019).

The case study of this research will focus not upon a geographic location limited to a single workplace or organization but will be set within the boundaries of a particular crowdsourcing campaign that occurred in 2017-2018, that involved multiple stakeholders involved in working together with the aim of generating social innovation within the early childhood field. It can be considered a representative or typical case in that the researcher aims to derive understanding and seeks to explore a case that serves as an example of an everyday situation or form of organization (Bell et al., 2019). The everyday situation and form of organization being explored through this case study is the trending application of using crowdsourcing to generate social innovation through an open innovation platform intermediary. The case chosen is the Early Childhood Innovation (EC Prize) that took place in 2017-2018 and was hosted by OpenIDEO, a leading open innovation platform in the social innovation space. Part of the reason this case was chosen is because the author believed the case would makes for a good representation of a complex issue that involves multiple stakeholders to create systemic change, as is the case with many other areas of grand and complex challenge. Additionally, the author of this thesis is interested in how some of the design thinking elements that IDEO and OpenIDEO are recognized for, might be interwoven into the crowdsourcing process.

Stake (1995) suggests that the selection of cases should primarily and firstly be based upon the anticipation for the opportunity to learn. The author distinguishes between three different types of case study. *Intrinsic* cases are selected to gain insights into the particulars of a situation rather than to gain insight into other cases or generic issues. *Instrumental* case studies focus on using the case to understand a broader issue or for allowing generalizations to be challenged. *Multiple or collective* cases are selected to explore a general phenomenon. Stake (1995) also mentions that the boundaries between the three types of case studies are often blurred. The author of this thesis classifies this study as an instrumental case, with the aim of collecting insight to understand a broader issue, namely social innovation creation by means of crowdsourcing through an open innovation platform.

Flyybjerg (2006) notes that one of the common criticisms about single case studies is that they cannot produce results that can be used to generalize and therefore a single case study cannot contribute to scientific development. Additionally, the author points out the critique often brought up that case studies are more suited for pilot studies or generating a hypothesis but not for conducting complete research or theory building. Additional criticism cited is that there is too much subjectivity, giving too much scope to the researcher's own interpretations (Flyvbjerg, 2006). While a single case study like all other research methodologies have their strengths and weaknesses, it is relevant to state that the intention of this research is not to produce theory that can be used to generalize any particular phenomenon. The purpose is to learn through investigation and gain insight into a process through a particular set of circumstances that can potentially add some value by offering some degree of academic and practical contribution.

3.3 Data Collection

The empirical data conducted in this research process has occurred through a combination of secondary desktop data collection and multiple interviews in connection to the case study. The processes involved are explained further here.

3.3.1 Secondary Data Collection

As the case study being researched is part of an open innovation challenge, there is much data that is freely and widely available to the public on the internet. Through the secondary data collection, I have rigorously researched online materials through a combination of several online sites. There were a number of documents related to the prize also researched. Utilized secondary sources have been cited and can be found in the references list in the bibliography.

3.3.2 Primary Data Collection

Interviews have been selected as the primary data collection method as they allow the opportunity to explore more in-depth topics with the subjects of the empirical setting. Semi-structured interviews were conducted with a total of 7 interviewees. The aim of the interviews conducted was to gain insights from the perspective of various positions in the chain of actors who were intimately involved with the EC Prize. Semi-structured interviews were selected as a means to collect the interviews to create both a structured approach to the interviewing, while at the same time allowing flexibility for the interviewer to digress from the planned questions as interesting or pertinent information was made available (Bell et al., 2019). Additionally, the questions were structured as open-ended questions and sought to give the participant a chance to answer them fully. The interview guides have been included in the appendix (see the table below that lists in which appendix the particular interview guide is located). The seven interviews that were conducted during this research include a representative from the sponsoring organization, the intermediary/ hosting organization, various winning innovators/ idea providers from the contest, and the organization that has carried on with the sustaining efforts and has continued to engage with several of the winning ideas through a digital accelerator program/ venture studio.

Sampling

In choosing the samples of the interviews, effort was always made to establish interviews with the most appropriate representative from the organizations, particularly persons most knowledgeable about the experiences from the organization's perspective throughout the duration of the EC Prize. Those who were interviewed in all cases were determined to be significantly important with regards to their engagement in their position of the case in study. For example, the representative from OpenIDEO interviewed was the managing director of the organization and was an integral person in the design and implementation of the EC Prize as opposed to someone else at OpenIDEO who may not have had as much direct knowledge and experience from the actual EC PRIZE. All of the prize winners who were interviewed were founders or co-founders of the organizations they represented and were profoundly engaged within the EC Prize process.

With regards to the prize winners, while there was a total of 15 top ideas and seven promising ideas, in order to establish interviews, the researcher attempted to make contact with all 22 of these organizations through the organization's website, personal email or LinkedIn. Of the 22 that were contacted seven responded with interest to participate in the interview, but due to time constraints and the coronavirus outbreak some of the contacted organizational representatives responded that they were not available at this time to participate, so the four interviews that were conducted represent those who responded and were available for an interview. All interviewees were asked for permission to publish their names and the names of the organizations they represent in the thesis document.

The table below provides information about the seven interviews conducted during this research. The last column in the table states where in the appendix the interview guide for that specific interview is located. During the research, interviews were conducted with stakeholders filling four different roles within the EC Prize. Therefore, there were four different interview guides created, all of which are found in the appendix.

Crowdsourcing Role (Abbreviation Label)	Organization Name (Type of Organization)	Position in Organization	Name Of Interviewee	Interview Duration (Date of Interview)	See Interview Guide in Appendix
SEEKER / SPONSOR (SPON)	Gary Community Investments (For-profit company & Non-profit foundation)	Investment Director, Child Development, Innovation team leader	Steffanie Clothier	37 mins (4-29-20)	1
INTERMEDIARY (INT)	OpenIDEO (Part of IDEO, a For-profit)	Managing Director	Jason Rissman	30 min (4-24-20)	2
SOLVER #1 (SOLV1)	Kinedu (Advanced Innovator, For-profit)	Founder & CEO	Luis Garza	38 mins (3-23-20)	3
SOLVER #2 (SOLV2)	Playful Learning Landscapes (Advanced Innovator,	Chief Science Advisor, Co-Founder	Kathy Hirsh-Pasek	32 mins (3-24-20)	3

	Non-Profit)				
SOLVER #3 (SOLV3)	First Teacher (Advanced Innovator, Non-Profit)	Co-Founder & Co-Director	Dinah Shepherd	62 mins (4-7-20)	3
SOLVER #4 (SOLV4)	TLC2/ ChildFolio (Advanced Innovator, For-profit)	Co-Founder & CEO	ZhiWen Tan	45 mins (4-10-20)	3
SUSTAINER (SUST)	Promise Venture Studio (Non-profit)	Co-Founder	Matt Glickman	28 mins (4-10-20)	4

Table 3, Interview Matrix from Actors from the EC Prize

Additional information about each of these actors from the EC Prize are presented in the empirical findings chapter, and in Appendix 5 more information about each of the innovators/ solvers is presented.

Interview Setting

As all interviewees were located in North America (U.S. and Mexico), interviews were conducted using the Zoom app, Skype or over the telephone. When the interviewee was available for a video enhanced interview (rather than audio only), this option was utilized to give the researcher additional ability to pick up on non-verbal cues as well.

Recording and Transcripts

Interviews began with requesting the permission to record the interview, and in all cases this permission was granted. When the interviews occurred with video, both video and audio was recorded, otherwise the audio only of the interviews were recorded. After the interview occurred, each interview was carefully transcribed and then sent back to the interviewee for validation.

3.4 Data Analysis

A thematic approach was utilized to analyze the collected empirical data set. This approach was particularly selected because it offers greater flexibility and relatively less commitment to a theoretical base compared to other methods. This allows for greater ability for the themes to emerge from the empirical setting rather than a heavier reliance on the theory that other methods encourage (Bell et al., 2019). With this kind of analysis approach the researcher was better able to isolate the patterns emerging through the empirical data to then compare and contrast with theoretical data to create a strong base to explore the research purpose and question (Bell et al., 2019).

After interviews were conducted the researcher became more familiar with the collected data by reviewing the interviews while listening to the recordings. The interview recordings were then carefully transcribed. While referring to the interview transcripts initial codes were created by noting words or phrases that represented the key attributes of the narrative. These

codes were then utilized to categorize the data into themes in order to observe patterns or other pertinent outstanding points of interest collected through the data. The themes were then assessed and renamed to be more closely linked to relevant theory. The resulting themes represent a framework that organizes the collected data in a way that identifies the key findings, which is used to present the data.

In structuring and presenting the empirical analysis, selected frameworks included in the theoretical overview chapter were utilized, in particular a theoretical framing from Kohler & Chesbrough (2019) that presents the three key features that outline the opportunities to utilize crowdsourcing to create social innovation. And the 7 Ps Model of Kiran, which depicts critical factors to align for crowdsourcing competitions, Kiran (2019).

3.5 Research Quality

According to Bell et al. (2019), while for quantitative research the most prominent criteria for the evaluation of business and management research are reliability, validity, and replicability, for qualitative approaches there are different set of criteria that are more relevant. The authors further claim that while there are different criteria suggested by different various scholars, a commonly used set of criteria for addressing the research integrity or trustworthiness of qualitative research are:

- Credibility: how believable are the findings?
- Transferability: do the findings apply to other contexts?
- Dependability: are the findings likely to apply at other times?
- Confirmability: has the researcher allowed his or her values to intrude to a high degree?

Credibility: To ensure the credibility and trustworthiness of the research, transcripts of all interviews were sent to all interviewees for their approval and to offer an opportunity for further clarification. Additionally, careful interview sampling occurred and those who were interviewed in all cases were determined to be significantly important with regards to their engagement in their position of the case in study.

Transferability: While the EC Prize is but one of more than 50 innovation challenges that have been hosted through the OpenIDEO platform and was selected to serve as a representative case, the findings of the research determine that each open innovation challenge through the OpenIDEO platform is unique requires some customized strategic implementation. Additionally, there are a multitude of different open innovation platform hosts that operate in different ways, and multiple different ways to structure open innovation prizes for social innovation, so it is difficult to say in confidence that this case is truly transferable. However, the author believes that conclusions derived from this research offer significant value both for theoretical use and practical application.

Dependability: It is suggested that to ensure dependability a process of auditing occurs, which ensures that complete records are kept of all phases of the research process. Peers then act as auditors, to establish how far proper procedures have been followed (Bell et al., 2019). Throughout the thesis project process all data was saved and stored on multiple digital formats in multiple locations. While I have not had a peer audit, access to the all data has been available upon request.

Confirmability: In qualitative research all interpretations and observations are filtered through the researcher, who brings his or her own values and identities to the process (Salkind, 2010). Salkind (2010) claims that because of this reality, qualitative research designs are more apt to require the researcher to make his or her role, position and influence transparent. This is unlike other approaches that attempt to neutralize the researchers presence, such as is strived for often in quantitative research. With the attempt to offer transparency, the researcher of this thesis recognizes that he carries his own values and experiences into and through this research process. These values and experiences do indeed influence the research in every step of the process. The researcher has attempted to exercise self-reflection to examine and honestly recognize the areas of subjectivity and personal values that might have influence upon the research.

4 Empirical Findings

This chapter offers findings from the empirical data collection. Primary and secondary data have been collected to gather a richer perspective of the research area of this study. Specifically, an in-depth case study is conducted and presented focusing on the open innovation, Early Childhood Prize (EC Prize). Excerpts from interviews are blended with secondary data to present a narrative that described the key findings from the empirical data collection. This chapter begins with some explorations regarding open innovation as a tool to drive social innovation, followed by an introduction to the case study in focus- the EC Prize. Next, the primary actors involved in the case study are introduced, the process of the contest is explained, some outcomes are presented, followed by additional key themes that emerged through the data collection process.

A NOTE ABOUT TERMINOLOGY

There is a variety of terminology used to describe the different actors and aspects involved during an innovation contest. There are varying terms used to describe the contest itself. Crowdsourcing contests are also called prizes, challenges, or competitions. Throughout this thesis these words will be used interchangeably, in part because when referring to theory, referring to secondary data, or using quotes- these different words are used to represent the same meaning. The same is true for the terms used when describing the different actors involved in crowdsourcing contests. The terms tend to change depending upon who the platform provider is that is orchestrating the contest or who the scholar is producing the research, so some terms will also be used interchangeably.

Because this particular case study involves the open innovation platform provider OpenIDEO, their terminology will be most utilized while describing the case, although as mentioned, certain terms will be used interchangeable. For the purposes of this research, the following terminology will be utilized and a focus will be maintained to primarily investigating the roles and perspectives of the following:

- The challenge provider/ sponsor/ seeker
- The platform provider/ intermediary
- The innovators/ idea providers/ contestants/ solvers
- The post challenge network provider/ sustainer

- The collaborators or other members of "the crowd." These are other individuals who participate in contests by means of offering feedback and other forms of support but who are not idea providers who intend to implement a solution.

4.1 Open Innovation for Social Change & the EC Prize

Open Innovation now plays a significant role in how organizations around the world develop new ideas, collect diverse perspectives, solve problems and innovate. Open innovation helps to break down the barriers that prevent the world's innovators from connecting and collaborating. Open innovation has stimulated new ways of approach within government, corporate and social innovation (*OpenIDEO - Exploring Open Innovation*, 2016). According to Tim Brown, the Executive Chair at IDEO, "Today's challenges require the creativity of entire networks. Open innovation allows people to collaborate at scale, and that's changing how the world solves problems" (*About IDEO's Open Innovation Practice - OpenIDEO*, 2020).

When asked about the promise of open innovation and crowdsourcing as a tool for facilitating social change, Jason Rissman, managing director of OpenIDEO responded that he believes it is a very powerful tool and that there are many different use cases. He says that in general it is about increasing inclusion by involving people that might not always be included in the innovation process. It can be designed in a way that it enables more collaboration within teams, or across silos, across disciplines, fields, countries, etc. He states that it is a powerful knowledge sharing vehicle and creates the opportunity for a shared learning experience for a field and has the possibility of strengthening innovation ecosystems. Expanding upon his final point about strengthening ecosystems, he said:

> *INT: "A lot of people think of innovation as purely a process to find ideas and then to maybe support some stand out top ideas. We've done a good amount of focusing on just getting a cohort or portfolio of promising opportunities, but I think the next stage is about strengthening innovation ecosystems. And what I mean by that is that you are improving the conditions not just for a small cohort to advance, but really for improving conditions for the field. So, we think of ways that we can provide benefits for all of the participants, not just the winners of an open innovation program. Ways that we can bring in a wide range of stakeholders as advisors, mentors, funders, media partners, other types of influencers who might follow the process and get involved in some way, learn from it and align action or have action that is more coordinated as a result."*

The statements above reflects the unique ability of open innovation and crowdsourcing to drive social change and support innovation.

In the fall of 2017, OpenIDEO in partnership with Gary Community Investments, launched the "Early Childhood Innovation Prize" (The EC Prize). The purpose of the five-month custom innovation challenge was to support the catalyzation of innovation in early childhood development through crowdsourcing the collective intelligence of innovators and community members around the world. This crowdsourcing contest brought together hundreds of innovators and experts to collaboratively solve the question: *How might we maximize every child's potential during the first three years of life?* (*EARLY CHILDHOOD INNOVATION*

PRIZE | Gary Community Investments, 2020). Please refer to Chapter 1 for additional background information about the EC Prize.

The intention behind the prize was the aim to bring together brilliant minds from around the country to foster collaboration among early childhood experts, entrepreneurs building new companies, those who could pair their expertise with existing approaches that have the potential for breakthrough impact, and investors with philanthropic and for-profit capital ready to invest in the most promising solutions (Clothier et al., 2017). The outcome of the collaboration was an innovation prize and network that awarded more than $1 million in capital among 15 winning organizations and engaged more than 500 innovators (*Catalyzing Innovation in Early Childhood Development - OpenIDEO*, 2019).

4.2 The Actors Involved in the EC Prize

Just as there are varying terminology to refer to contests and the actors involved in crowdsourcing contests, there are also a number of different formats and contexts that the contests can be orchestrated within, which can create a different mapping of who the different participating entities in the particular contest are. For example, contests that utilize internal crowds rather than external crowds would have a different construction and flow to the process. Similarly, a contest that is initiated by a firm that has hired an intermediary, to run the contest and will select a winning idea to then implement themselves, would look different than the contest winners implementing the ideas themselves. The point is the process can look very different in its execution because it is highly variable and there are different terms and formats that crowdsourcing contests occur.

In total, seven interviews were conducted with key representatives from organizations involved in the EC Prize. Please refer to Table 3 in section 3.3.2 to view relevant interviewee information and section 3.3.2 for more detailed information regarding the methods used in conducting the interviews. For ease of understanding throughout the remainder of the thesis there will be an abbreviation used to label each of the interviewees, presented below.

SPON = Sponsor, Steffanie Clothier, investment director at Gary Communiuty Invetsments
INT= Intermediary, Jason Rissman, managing director of OpenIDEO
SOLV1= Solver/ Innovator, Luis Garza founder and CEO of Kindeu
SOLV2= Solver/ Innovator, Kathy Hirsh-Pasek, Co-Founder of Playful Learning Landscapes
SOLV3= Solver/ Innovator, Dinah Shepherd, Co-Founder of First Teacher
SOLV4= Solver/ Innovator, ZhiWen Tan, Co-Founder of ChildFolio/ TLC2
SUST= Sustainer, Matt Glickman, Co-Founder at Promise Venture Studio

In the coming subsections we will introduce briefly each of the actors involved in the EC Prize that are focused upon in this thesis.

4.2.1 OpenIDEO- “the intermediary” (INT)

OpenIDEO aims to utilize design thinking and open innovation to solve the world’s toughest problems. OpenIDEO is a web-based open innovation platform with the goal of connecting people to solve a wide range of high impact global problems. It was created in 2010 by parent company and a leading product design firm, IDEO. The purpose of OpenIDEO is to allow more people to collaborate at scale, and change the way the world solves problems (*OpenIdeo*

– *Using Open Innovation to Tackle the Biggest Societal Issues*, 2018). As an open innovation platform, one of the unique features that OpenIDEO provides is the integration of human-centered design thinking throughout the crowdsourcing experience. While parent company IDEO did not invent design thinking, they have become known for practicing and applying it to solve large and small problems (*IDEO Design Thinking*, 2020).

By the beginning of 2018, OpenIDEO summarized their impact as: 58 open innovation/ social issues tackled, over 16,200 ideas generated, more than 60 sponsors and partners, 202 countries with OpenIDEO participants, awarding more than $ 4.2 Million USD in funding to both new and established organizations, and hundreds of thousands of community members who have rallied around their global efforts (*Open Reflections*, 2018)

When asked about the significance that the role of the platform provider plays in innovation challenges for social innovation, Jason Rissman responded:

> *INT: "I would separate the platform from the program designer. Sometimes program designers use multiple platforms or sometimes they use just one. And there are a lot of different platforms out there. Generally, the platform needs to be about creating a space for supporting the innovation process [..] Beyond just the piece of technology that creates the space for this, is the challenge/ program designer- the process of managing an open innovation experience. And so, the role of that is really developing a strategy and we think of our programs as each custom designed to the needs of the problem space and to the needs of our partner.*

This statement distinguishes the importance that the intermediary platform provider plays not just in providing the technology and supporting the communications and innovation process, but also the important role of actually designing and managing the challenge and open innovation experience as well; which is unique and different for each challenge.

4.2.2 Gary Community Investments – "the sponsor" (SPON)

Gary Community Investments, which includes the Piton Foundation, is based in Colorado in the USA. They are a registered B-Corp and are comprised of a for-profit company and a non-profit philanthropic foundation. They invest in for-profit and philanthropic solutions for Colorado's low-income children (mainly prenatal through 5 years old) and their families. Their investment strategies aim to support the families, communities and systems that foster young children's development (*Who We Are | Gary Community Investments*, 2020).

The EC Prize is part of a broader strategy from Gary Community Investments for catalyzing the best solutions to challenges that exist within early childhood. They believed that there were more solutions available waiting to be discovered and an open innovation prize presented the opportunity to bring together big thinkers from diverse backgrounds to create a truly transformative impact on the learning and development of young children (Clothier et al., 2017). Gary Community Investments offered a prize of $1 Million that would be awarded and divided amongst the winning innovators of the EC Prize. In addition, a promising set of ideas would receive recognition, helping to set them up for continuing to develop their solutions and increasing their chance for investment. (Clothier et al., 2017).

When asked about the significance that the role of the challenge sponsor plays in innovation challenges for social innovation, Jason Rissman responded:

> *INT: "Often, they bring really in-depth knowledge of a problem space and that expertise is very helpful for framing the program. Additionally, they usually bring funding to support impact following the open innovation experience. Either providing the funding directly to organizations coming through the challenge or being able to fund others to move things forward. Or in some cases an organization wants to move the ideas forward themselves. And so, the sponsors are ones that have a plan and have a really clear way for how to go from the open innovation process to implementation."*

This statement reflects the key role the sponsor plays in driving the social impact both by bringing their expertise and knowledge to the challenge and also by having the plan and supplying funding to carry forward the momentum generated through the contest.
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4.2.3 The Innovators – "the solvers" (SOLV)

Both US and internationally based innovators were able to submit their ideas and solutions for the EC prize and enter into the contest with a possibility to share in the awarding of the one million dollar prize money plus additional contest award benefits. Types of innovators who entered the contest included program providers, researchers, entrepreneurs, teachers and parents within the early childhood field. Some innovators were existing organizations (both for-profit and non-profit). Some had mature ideas while others were just initial sketches of an idea. New talent from sectors such as technology, business and finance were encouraged to bring their unique experience to the field (Clothier et al., 2017).

Innovators were classified into three categories:

- New Innovators: with a very early concept in development could receive a share of $100k in funding.
- Early Stage Innovators: with at least one-year prototyping or piloting experience could receive a share of $400k in funding.
- Advanced Innovators: with 3 to 10+ years of experience could receive a share of $500k in funding.

In total there were 567 innovator ideas that were entered into the contest. Of those, 15 were selected as top ideas and another 7 were selected as promising ideas.
Top ideas split the share of $1 Million in funding capital and both top ideas and promising ideas received the invitation to join an early childhood innovation network that creates a marketplace to further support and connect innovators, experts and investors for even greater impact (*OpenIDEO - Early Childhood Innovation Prize*, 2018).

(View Appendix 5 for more detailed information about each of the specific innovators who were interviewed for this thesis)

When asked about the significance of the role that contestants play in innovation challenges for social innovation, Jason Rissman commented:

INT: "The idea generator is someone who has a concept that they are willing to share and put out to the world to try to drive towards impact. The real question is, do they want to be and are they in a position to be in the driver's seat to make that idea happen? Or depending on how you setup the open innovation program is it more about handing off that idea or through the open innovation process finding collaborators to move the idea forward."

Here credit is given to the innovators and idea generators as the ones who drive towards impact through the implementation of their ideas. However, a key question arises: Are they in a position to implement their idea? The aspect of feasibility is crucial for impact and considered in the awarding of prizes from the contests.

4.2.4 Promise Venture Studios- "the sustainer" (SUST)

Promise Venture Studio is a nonprofit venture studio that attracts, supports, and connects promising entrepreneurial talent, capital, and ecosystem stakeholders including experts, researchers, and policy makers to pave the way for the sustainable growth and impact of social entrepreneurship in Early Childhood Development. Through building a diverse community of social entrepreneurs and a healthy ecosystem of early childhood ventures, they aim to inspire change, accelerate impact and improve child outcomes (*Promise Venture Studio*, 2020).

All of the idea providers from the EC Prize were invited to join the Venture Studio after the contest ended. The term of "the sustainer" is not generally found within crowdsourcing prize literature, it is however a term that the author of this thesis brought in to describe this key role within this case study. Promise Venture Studio is referred to as "the sustainer" because they took onboard and provided tailored services for approximately 80% of the top and promising ideas from the EC Prize and also have offered additional support for around 100 of the other collaborators that participated in the EC Prize- many were experts, practitioners or other community members, not all were ventures. Therefore, to some degree they are serving to sustain the innovative momentum that was originally generated through the EC Prize contest experience. It is important that the sustaining force has specialized knowledge in the field of specified impact focus.

4.2.5 Collaborators – other members of "the crowd" – citizens, researchers, etc.

This set of actors was not included in the interviewing process due to time constrains, but they represent the general public, who might often engage in open innovation contests by giving feedback on ideas presented in the contest. They might also be people who have in-depth knowledge in the space, including perhaps, being end-users or have other perspectives that can add value to the crowdsourcing experience. They are contestants who are presenting original ideas that they intend to implement.

When asked about the significance of the role that these types of collaborators and the role that crowd members play in innovation challenges for social innovation, Jason Rissman explained that often people who are just posting comments on the platform have actually been intentionally recruited by OpenIDEO or the sponsoring organization because of their expertise, so they would not consider themselves as part of the crowd. Additionally, he explained that there is an important role for people who are not presenting ideas to the

contest. These people, even if part of the general public, might have extensive experience or first-hand knowledge that can be very valuable in the form of feedback and comments. One of the main ideas with crowdsourcing is that by gathering this feedback, we can accelerate progress and iteration by getting more feedback from more sources. Essentially, everyone can contribute.

4.3 The EC Prize Process

This section explains more about the process involved in the EC Prize- starting with the design of the challenge, then during the Open Innovation Contest, and then the events and network opportunities that occurred after the contest finished. Throughout these explanations, quotes and insights gained through the primary data collection are highlighted.

4.3.1 Background Challenge Development/ Pre-Prize Launch

Gary Community Investments has a focus area of Early Childhood Development and decided to engage in the open innovation strategy of crowdsourcing to empower their social mission. They partnered with OpenIDEO, aiming towards the progress of their objectives. To kick off the project, OpenIDEO engaged in three months of intensive research to inform the design of the contest. In considering the different stakeholder groups involved both in the contest and most closely affected by early childhood development, the team spoke with caregivers, educators, parents and other experts to gather important insights from those who are keenly aware of the many surrounding issues.

In asking about the most important elements leading to the success of the EC Prize, Jason Rissman implied that the time period leading up to the actual launching of the contest and the designing of the particular challenge is very important. Additionally, he said that because Gary Community Investments provided $1 Million in prize money, it gained a serious level of participation.

With regards to the partnering of GCI and OpenIDEO and the development of the EC Prize, Steffanie Clothier from GCI said:

> *SPON: "We did a whole exploration around what kind of innovation tool we would want to use. What we knew was that we had challenges we wanted to solve in the EC space and we knew that there would be a variety of tools we could use. […] We designed it to be a co-designed opportunity. OpenIDEO often will work with a funder and just run the whole thing and we really wanted to build internal expertise around this as a strategy. We had a significant point of view around content and had work of our own that we brought to the table. We definitely came at it more as a partnership with them, rather than just hiring them to do the whole thing."*

The statement made by Clothier reflects the careful decision in choosing to engage with the strategy of hosting a contest to drive social innovation amongst several other options. She also mentioned in the interview that they conducted a lot of research by interviewing other organizations who had launched prizes and examined academic articles (some which are included in the theoretical overview chapter) to build and design their strategy for helping them achieve their internal and external goals through co-creating the EC Prize.

4.3.2 The Open Innovation Experience / During The Contest

After three initial months of strategy building and designing the challenge, on October 25, 2017, the submission phase opened and the open innovation EC Prize launched. To attract the participation of a broad range of skilled innovators it was decided that in addition to prize money funding, the contest and the innovation efforts would be greatly enhanced by offering opportunities for innovators to gain mentorship and opportunities for collaboration (*Catalyzing Innovation in Early Childhood Development - OpenIDEO*, 2019).

The figures below present a visual guide to show the timeline and key deadline dates associated with the EC Prize, open innovation experience. It shows the amount of idea submissions at various stages and when the different stages occurred. This is provided to give the reader a better frame of reference for the EC Prize process.

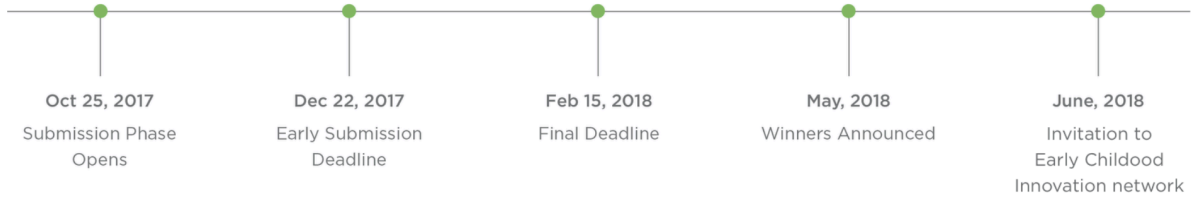

Figure X, The EC Process & Timeline, (*Early Childhood Innovation Prize| OpenIDEO*, 2017)

Figure X, The EC Prize Idea Submissions, (*OpenIDEO - Early Childhood Innovation Prize*, 2018)

Submitting by the Early Submission Deadline –December 22, 2017– would give contestants access to feedback from a panel of expert mentors, amplifying the evolution of their concept before the final deadline. Throughout the Prize, innovators were encouraged to collaborate and leverage feedback– from peer participants, experts in the early childhood development field, and the OpenIDEO team – to evolve and refine their idea. The open and transparent process of the Prize allowed participants to gather and incorporate feedback at multiple points throughout the Submission Phase, and before the final deadline (*Catalyzing Innovation in Early Childhood Development - OpenIDEO*, 2019). The importance of transparency and openness in the strategy of this contest was highlighted during the interview with Steffanie from Gary Community Investments, who said:

> *SPON: "Using the OpenIDEO platform allowed us to basically be fully open and transparent around what ideas are coming in, so even if we didn't fund them we could let them know, if you are a funder you don't have to join in the prize, but anytime you want, you can look at who has applied and if there is something of interest to you, you can fund them yourself. […] And it was also important for us for the innovators to be able to find each other too."*
>
> .

The comment presented in this statement shows that as part of the strategic thinking involved in choosing to utilize an open and transparent format for innovation management, thought was put towards how to allow other funders an opportunity to find investable opportunities and also to help various innovators around the world find each other, not only during the contest

but also at any time after the contest, as the transparent process is made, recorded, and available on the web. Even now in 2020, one can go to the OpenIDEO website and from there find links that give in-depth information about the various idea submission. We can view comments from "the crowd" and other participants for the various ideas and gather a lot of additional information about this contest and the participants. That is how I performed a lot of the secondary data collection and found ways to establish connection with the different interviewees to find out more about their various innovation efforts.

During interviews with the innovators/ contestants, several comments were made about a wide range of benefits gained through participating in the OI experience. These included the mentorship opportunities, the helpfulness of the design thinking tools included as part of the process, the ability to connect with other innovators or contestants, and the value in receiving feedback from other community or crowd members, as suggested in some of the following quotes. One of the responses mentioned a couple of times by innovators made reference to a high level of quality in the questions included in the application itself, and that once answered there, developed an ability to reuse the answers in the future as described in the following quotes:

> *SOLV1: "The application process forced us to understand and ask ourselves about our model of the impact that we are doing and putting it into writing. We got to ask ourselves questions that we don't usually in the da- to-day operations of the company. This was helpful to have that and now we gained a stock framework that we can use when applying for other funding."*

> *SOLV3: "The process was really helpful. They asked different kinds of questions than other grant applications ask. The questions were really comprehensive and not the regular ones. Usually I can bang out a grant in a couple of hours, but this one I had to really stop and keep going back, thinking about it. They got at really having to define your model and your work and why you do what you do. I've used a lot of that writing that I did for years afterwards, explaining First Teacher for other grant applications."*

The two statements above illustrate the benefits gained for contestants through the open innovation process by actually taking the time to write out some of the apparently more in-depth questions asked in this applications process. Those answers provided stock frameworks that the applicants could use in future grant applications as well. Similarly, innovators expressed their ideas being strengthened in part through feedback from participants in the crowd, as described in the following quotes:

> *SOLV1: "The impact from the feedback was more about the questions raised. It was helpful Both in terms of what things to think about but also again in terms of putting it into writing and trying to put a hypothesis behind it. Some feedback was more of a catalyzer into action and other feedback was more thought provoking."*

> *SOLV4: "I think the OpenIDEO challenge provided us with a platform where we can test our idea and get the feedback from fellow educators or fellow stakeholders to see if this is a challenge that everybody is experiencing and also if there is enough drive or force behind the challenge that everybody sees that is worth solving. Going*

through the OpenIDEO process helped us to see whether our value proposition was viable [...] I think a big impact is that it inspires a lot of these innovators and founders to really stick with their process and asking questions while designing their products or delivering a service and going through that iteration helps them to formalize their thinking and have a more mature idea or product or business plan."

The statements above present some examples of the value gained through the opportunity of getting direct feedback about the contestants' ideas from "the crowd" including valuable feedback for market validation. It also gave insight into how to improve the solution ideas to the beneficiaries who will be the end-users. The statements also relate to the following statement made from the challenge sponsor:

SPON: "Particularly in the for-profit side it has been a challenge for a company that wants to figure out how do you break into the market, and if there is a big enough market for a company that wants to go to scale, particularly a startup that wants to get venture capital, they have to decide is this an area where you can really generate revenue and break into the market and will have enough customers."

In addition to valuable feedback from crowd participants, part of the unique offering of the EC Prize was the opportunity to be matched with a mentor for those innovators who submitted their ideas by the early submission date. According to a case study presented by OpenIDEO, mentorship turned out to be a key offering and helped drive two thirds of the innovators to submit their ideas early. More than 200 innovators were matched with mentors. The mentors included a range of early childhood experts, industry leaders, designers, and entrepreneurs that CGI and OpenIDEO sourced through relationships with over 1,000 organizations. Mentors were paired with Prize participants using a custom built algorithm that matched innovator needs with mentor skill set. The mentorship program received a 90 percent satisfaction rating from participating innovators (*Catalyzing Innovation in Early Childhood Development - OpenIDEO*, 2019). The quote below reflects a contestant's appreciation for being matched with a mentor:

SOLV3: "Regarding collaboration the best thing that came from it was at the end when we made it to a later stage of the process, they asked if we wanted a mentor. I met a guy who also had a project in the OpenIDEO EC prize contest. We met twice and he ended up becoming a monthly supporter. So, this global contest ended up connecting me with someone who was 20 minutes away and that was probably the most helpful thing."

While the mentor matchmaking seemed to be a very impactful and appealing aspect of the EC Prize, the intermediary representative mentioned the following:

INT: "In the EC program we scaled a mentorship program and offered to over 200 participants in the program the chance to be matched with a mentor. And this wasn't just for if they won, it was just if they were interested and got their application in on time. This really points to the idea of providing value not just to the winners but to an entire field or to many participants in a field."

The statement above reflects the benefits and being matched with a mentor and some of the collaborations that emerged from the contest, not only for the 22 top and promising ideas, but

for many participants, with the aim to strengthen a field and connect people. These connections with mentors in some cases continue to this day.

Another helpful and unique aspect of the OpenIDEO hosted EC Prize according to some of the innovators was the inclusion of the design thinking methodology included throughout the process. This benefit was expressed in the following statement:

> *SOLV1: "During the EC Prize challenge is when we first started to get involved with design thinking. It was one of the toolboxes that we got from being a part of the challenge. It has continued to be helpful and some of it we use in our company processes now. Not full design thinking but some of it."*

While all innovators interviewed reported benefits from participating in the EC Prize and some particularly regarded the mentorship and crowd feedback as very helpful, there were also some comments made that suggest less of a profound impact through that part of the process as the following quote demonstrates:

> *SOLV3: "I never went into the OpenIDEO thing thinking that we should partner with people in Senegal or Austin. It was just, let us get some visibility and get some money. I'll be honest and say that whenever we are applying, and I think this is true for a lot of the applicants, I'm only trying to get money from it. We have our idea, we're always interested in building upon it and talking with other people who do similar work, but this was straight up, can we get a million dollars. We already knew our idea and had been working on it for a few years."*

The quote above presents another theme that emerged in the interviews with some of the innovators. While it wasn't a primary focus of the interviews or this thesis project's research focus, the motivations of why some of the innovators who entered the contest were revealed, and for some of them it was purely about going for the prize money to move their projects forward.

After the Final Submission Deadline, GCI, OpenIDEO, and a panel of Judges representing expertise in the early childhood development field evaluated submissions using the Prize Evaluation Criteria. Innovators from more than 100 countries submitted nearly 570 ideas, and more than 260 innovators received mentorship support and feedback from 135 experts in early childhood and a number of other fields (*EARLY CHILDHOOD INNOVATION PRIZE | Gary Community Investments*, 2020). After review, they jury announced the 15 Top Ideas –a set of solutions that represent the most promising innovations in the topic area. Only the 'Top Ideas' received a funding award and in addition, a set of seven 'Promising Ideas' also received recognition (*Early Childhood Innovation Prize| OpenIDEO*, 2017).

4.3.3 Post Prize & the EC Network

The open innovation Early Childhood Innovation Prize was part of a broader strategy for catalyzing the best solutions to existing challenges in early childhood. After the close of the contest, the community of innovators were invited to attend a summit gathering in Colorado. In November 2019, Futurebound (launched by Gary Community Investments) partnered with Uncharted to host a four-day summit in Denver, Colorado that brought together ventures, investors, leading experts, policymakers and more for a series of events and workshops that

focused on innovation in ECD. There were 500 summit registrants, 24 investors who attended, and an average of 14 new connections made by ventures (*Summit| Futurebound*, 2019). Two of the innovators interviewed did not attend the summit and two did. The innovators who did attend had this to say about how it benefited their venture:

> *SOLV1: "The summit was really interesting because we went to Colorado and met with the Gary committee and other projects that won and we got to see the ecosystem, and being from Mexico and seeing the US ecosystem coming together and seeing the interesting things happening was really eye opening in terms of what could be done individually through different projects, but also systemically when things get put together. Most importantly it was eye opening of what we could accomplish."*

> SOLV4: "*One of the main reasons I was applying was for funding and another reason was to look at how OpenIDEOs ECE network can help with really building the relationships with others. We actually built a few relationships with some of the other folks who got recognized with the OpenIDEO grant funding opportunity. I was there in Colorado at the award recognition event and built a few connections with some of the folks at the event. And then some of the relationships turns out to be lasting. And we still have some contact with some of the other founders and there might even be some partnerships this year."*

The statements above express the value in a physical gathering of stakeholders in the early childhood space, especially for network building and meeting others for future collaboration. It was also said to be eye opening as to what is possible when working together in the field of early childhood.

In addition to the summit event, innovators from the EC Prize were invited to continue on through the early childhood innovation network, a joint initiative of OpenIDEO and Gary Community Investments, meant to continue fostering the collaboration and impact in the sector. (*Catalyzing Innovation in Early Childhood Development - OpenIDEO*, 2019). This network, which was hosted on IDEO's "Shape Platform" was a six-month experiment to continue the high level of engagement from the Prize and test designs for an ongoing community network. The network aimed to help innovators connect with each other and other key stakeholders in the early childhood ecosystem. Through the network more than 225 innovators and advisors were able to connect and move their ideas closer to launch. It supported skill sharing and idea development through webinars and small group sessions focused on topics such as prototyping techniques, raising capital, and more. 77 percent of innovators using the network reported some form of progress as a result of the experience (*Catalyzing Innovation in Early Childhood Development - OpenIDEO*, 2019). This early childhood network was later transferred to Promise Venture Studio who provided additional support to EC Prize participants. Additionally, Gary Community Investments launched Futurebound Acceleration Lab, to further build up and strengthen the early childhood ecosystem within Colorado and to continue supporting Colorado based ventures, including several of the EC Prize participants (*Catalyzing Innovation in Early Childhood Development - OpenIDEO*, 2019). Only one of the innovators interviewed actively participated in the Promise Venture Studio network and had this to say about it:

SOLV1: "Part of the winning was to get into the Promise Ventures Studio Accelerator, which has been door opening because Promise Ventures has given us access to investors, to networks, to other participants, to other entrepreneurs."

The statement above describes the importance of the continuing opportunity for coaching and networking within the EC space for a venture to grow and scale. The sponsoring organization had this to say about the post contest activities:

SPON: "It was a perfect synergy. We needed someone who could manage the network of innovators and have a place for people to be and get the kind of support that they need. So, we couldn't have had a better outcome than to have PVS fill the space. And we made sure that all of the participants from the prize were invited to be a part of PV's network. The Prize in a lot of ways lived on through the people who are now a part of their network."

The statement above reflects the foresight involved in the design of the EC Prize, not ending at the close of the open innovation experience but continuing the momentum into the future. Of the three innovators who were interviewed only one of them was a "top idea" contest winner and was awarded prize money. Here are the thoughts about the prize money award:

SOLV2: "We got $100,000 prize money. It wasn't really a big grant. So just trying to cope with the fact that it is not a lot of money. A lot of people don't want to fund up to the proof of idea, and they don't want to fund any infrastructure, and we were able to get some stuff so that we could point things forward all of which is really invaluable. But honestly to do some of this stuff, you need a million dollars not a hundred thousand and that is what makes it so challenging."

This statement was made by an advanced innovator, who has decades of experience in the early childhood space, is highly reputable, and who brought a rather developed idea to the contest. The prize money did help her in advancing the project she is involved in, but much more funding is required to scale the impact of that project.

Some of the benefits occurred during the actual contest, while other benefits continued after the contest ended. The benefits experienced were variant for the different innovators and ranged from being able to validate their business idea, to gaining new partners to collaborate with, to gaining access to additional funding, to gaining thought provoking ideas about how their solution concepts could be adjusted to serve more profoundly.

4.4 The EC Prize Outcomes

According to a case study released by OpenIDEO (2019), the majority of top and promising idea organizations attribute their participation in the EC Prize to helping them advance their ideas and in gaining the recognition needed to propel their solutions. More than half have gone on to receive additional funding. Sparkler (one of the top ideas) used prize funding to pilot an upgraded mobile app experience, ultimately increasing their impact and leading to an acquisition by Nickelodeon. Wildflower Schools (another top idea) credits the Prize with helping the school system secure a new anchor funder after more than a year of cultivation, as well as reaching projected 50 percent year-over-year growth with the launch of 20 new

schools (*Catalyzing Innovation in Early Childhood Development - OpenIDEO*, 2019). Luis Garza, founder of Kinedu (a promising idea) claims:

> *"The Early Childhood Prize was the first step for us to connect with the wider early childhood development community in the US and Worldwide. The Prize opened doors for us that otherwise, we wouldn't have access to. The Prize was important in helping close our Series A investment round and opened up new partnerships. Being part of a select group was good validation for potential investors"* (*Catalyzing Innovation in Early Childhood Development - OpenIDEO*, 2019).

Luis Garza, founder of Kinedu also expressed during his interview that at the time of the Prize they were bringing on approximately 40,000 new users per month and now they are bringing in around 250,000 new users per month.

The above few examples only highlight a handful of nearly 570 innovators who entered the contest. In addition to the impacts and outcomes achieved by the individual innovators and participants that were supported through the contest, helping them to envision, refine, or scale their solutions and impact efforts, several interviewees offered insights about how the contest gathered and strengthened the EC community and ecosystem both nationally and internationally, supporting the hope of generating even greater social impact on a systemic level, reflected in some of the statements below:

> *INT:* "*One of the really difficult and sometimes impossible things to do when you are trying to have impact at an ecosystem level is to follow the more distant impacts. For instance, if we inspired someone to get involved with the issue, maybe change careers or support an organization, we often never hear about that. And so, the more widespread the intention of the impact is, the harder it will be for you to keep track of it. We can absolutely keep track of the organizations that were funded through the program."*

The quote above illustrates the difficulty and to some degree impossibility of actually knowing and being able to measure all of the social implications and outcomes of a crowdsourcing contest for social innovation. While it is easier to conduct measurements focusing upon the innovative organizations that participated during the contest, the ripple effects and broader implications of the contest are largely unknown. The following quote further addresses some of the less tangible outcomes of the EC Prize.

> *SPON: "This strategy of challenges and prizes brings out the best in people and really fosters people's imaginations. Through the challenge we changed the conversation around innovation in early childhood. The EC space is challenging because there is a lot of decentralization at the government level. But through the Prize we engaged a variety of partners- philanthropy, research institutions, venture partners, national organizations, all kinds of folks around participating in the prize. We were getting people to see that there are other people who are aligned with what they are trying to do, to reduce the isolation around being an innovator or being an entrepreneur in the space."*

The statement above presents the idea that a strategy of running an innovation prize is effective in bringing together a community of like-minded problem solvers and perhaps even inspiring and encouraging them, by becoming more aware of an existing potential team of support to help them in their social mission. This might be of exceptional importance if the particular area of focus is rather scattered and decentralized as the EC field has been described. Innovators from the EC Prize also commented to the contest's ability to bring together the disjointed community, as reflected in the following statements:

> *SOLV1: "They catalyzed the community. There is a lot of people doing EC stuff in the US and worldwide. They brought it together, I would say for the first time, at least that I have heard about. The EC community is very small and so getting them together first and then on the side, GCI funded Promise Venture Studio which has carried it and nurtured it. So, I think that the main role of the contest itself was to spark the flame, not really to carry it on. And they did a really good job at sparking the flame but in terms of maintaining that ecosystem and keeping alive that collaboration, it was with mostly with Promise Venture Studio."*

This statement by SOLV1 clearly presents a differentiation of the contest's effects through the different phases of the open innovation experience or contest time period versus the post challenge time period. He notes that the contest was designed to spark the flame and bring the community together, but it was the momentum of the movement that flowed through the contest to the sustaining nurturing of Promise Venture Studio that kept the movement alive and continues to nurture the ecosystem. An additional important role that the Promise Ventures Studio is filling is the continued attraction of funders into the early childhood ecosystem, addressed in the statement below:

> *SUST: "…The part that I have been talking about is social entrepreneurs, and how we attract, support and connect innovators but we are also working on the other side with funders so that we attract, support and connect funders, impact investors and philanthropists. And they have a different set of needs as far as what attracts and supports them."*

This sustaining aspect of the EC Prize is said to be an important piece to carry the progress in the early childhood development field forward. The statement above reflects the importance of bringing funding sources together with innovators to create the synergy needed for development in this traditionally underfunded field. Another example of how the EC Prize may have further strengthened the early childhood field is reflected in the following statement.

> *SPON: "Since the Prize we have seen a lot more interest from others in the EC space. For example, MIT solve last year launched a challenge around EC. That probably wouldn't have happened if we hadn't already started to get momentum around the first prize. It is fun to see other people using prizes as a strategy. We're not sure if them seeing us do this prize made them do it or not, but we started to see more interest in using this strategy in this EC space. "*

The statement above indicates the ripple effect that the EC Prize has had within the early childhood field. Perhaps the EC Prize has encouraged others to bring focus into the early

childhood field by running their own innovation challenges or other means of driving innovation in the field forward. A statement made by the sponsoring organization describes their developing of internal competencies as an impact investment foundation, as well as an additional beneficial outcome of the Prize undertaking.

> *SPON: "One advantage we got from participating in this was building competencies. During the challenge we also set our own internal goals around internal capacity and growth and understanding and testing ourselves and also external goals with what we wanted to accomplish. We set some parameters around that."*

The statement above describes how the sponsor strengthened their own competencies as an organization. This can point to their ability to also make greater impacts within the early childhood field as an organization into the future. Another point of interest brought up regarding how the prize may have kindled the EC field is presented in the quotes below.

> *INT: "We see it as there are many entrepreneurs that participated that otherwise were not going to focus on early childhood, so just from drawing entrepreneurial energy into the space I think there was an impact. So, what's great is that we brought more density into the innovation ecosystem. We also improved diversity within the ecosystem, both demographic as well as stages of entrepreneurs and innovators and disciplines that were focused on the issue. So, I think generally we helped strengthen the ecosystem at the moment when it was kind of just starting to take off."*

> *SPON: "Part of what we were thinking about is how do we do two things.*
> *One, how do we attract more capital into the EC space? And two, how do we attract more entrepreneurs into the EC space? The only way you are going to do either of those things is by getting people to have a sense that there is a "there" there? Both in terms of other capital players who might want to invest in this space and that we have a high caliber of entrepreneurs in the space. And so, we've basically started to build that. And then we'll need to continue to do that."*

The statement above reiterates the effect of the EC Prize in strengthening the ecosystem but takes the claim further by asserting the idea that the prize may have actually attracted entrepreneurs to the space who might not have otherwise engaged. Additionally, it notes the importance of increasing diversity in the space by ways of demographics and also different phases of the entrepreneurial solutions.

While the aim of these innovators and the prize was to collaboratively solve the question of: *How might we maximize every child's potential during the first three years of life?* The question arises around how to not only generate social innovations, but how can impacts on a systemic level occur and how can a contest like this support that level of impact? The interviewed representative of the sponsoring organization of the EC Prize had this to say on the subject:

> *SPON: "Every field benefits from people who are asking really hard questions about why things are the way things are and trying to understand the root of the problem. Which is where I think the use of innovation tools like understanding your end user and building with them can be really critical. That's part of how innovation can be*

part of reaching solutions that might not have been come up with before. Either because people are too busy implementing what they already came up with before or because there is a lack of funding to test and pilot new ideas because there is limited amount of funding for that. All sectors have challenges with existing approaches to things and needing to have people looking for breakthroughs rather than incremental improvements. This kind of prize idea can create those opportunities. Through the EC Prize I would say that we touched on a systemic change, but I don't think we're there yet. We have a long way to go."

The above statement reflects further how open innovation prizes can bring people together to create breakthrough solutions that are much needed to make positive impact in various fields where complex challenges exist. A statement by one of the innovators presents a barrier to break into the market presented below:

SOLV4: "…We want to change that system. To be honest this is not getting a whole lot of support in the current professional development, because if this truly works, it potentially undercuts the higher ed's revenue stream."

The statement above describes a challenge met by one innovators who aims to potentially disrupt the established governing systems of the incumbent forces in place within the system. The notion of the difficulty of making systemic change and how the deeply rooted and multi-layered problems that are embedded into a specific context like that of early childhood development are reflected by the following statement from one of the innovators interviewed.

SOLV3: "To reach systemic change everything would need to be different. The fucked up relationship between philanthropy, higher education, non-profits and schools. We are impacting parent's lives and kid's lives and our own lives, but without criminal justice reform and food access and better schooling, we are not under any false pretense that we are the answer. In fact, we really fight against that. Systemic change like burn all the shit down and start over? I don't know any one organization that can really say that they are making systemic change. It's white people unlearning everything we have ever learned, it's black people unlearning everything they have ever learned. That's more of a beer conversation."

The statement above shines a light on an important underlying issue in regard to generating grand levels of social impact and actually solving deep-rooted problems occurring within society as well as environmental grand challenges (which are also greatly impacted by human social behavior). The problem is that there are engrained systems and surrounding interconnected issues that heavily influence whatever field area targeted for change. The findings presented through this chapter have revealed some insights as to how crowdsourcing contests, through open innovation platforms, can serve in the facilitation of generating social innovation, with a particular focus on the Early Childhood space through this case study.

5 Analysis

Chapter 4 provided a description of the key empirical findings. In this chapter, I analyze those findings in reference to the established theoretical frameworks while focusing on the research question of this thesis project:

How can social innovation be supported by the utilization of crowdsourcing contests hosted by an open innovation platform intermediary?

According to Kohler & Chesbrough (2019), the opportunities to utilize crowdsourcing to create social innovation can be outlined along three key features: *tapping user innovation, facilitating the external search for innovation,* and *collaboration with a distributed network to create social innovation.* The framework proposed by these authors will be utilized in the structuring of this analysis, as it will be applied to a particular type of crowdsourcing, that of a crowdsourcing contest. After these sections are presented Kiran's (2019) 7Ps model will be used as a framework to more practically look at and analyze some important aspects to consider for helping to ensure the desired results from a crowdsourcing contest for social innovation.

5.1 Tapping user innovation

Kohler & Chesbrough (2019) argue that social innovation is grounded in the needs of beneficiaries and that crowdsourcing allows the beneficiaries to actively participate in defining the problem and solution solving processes of innovation, turning beneficiaries into co-creators and co-innovators. This provides opportunity to take into account the opinions and experiences of the beneficiaries into the solution design process. The authors claim that this is similar to how companies are increasingly using crowdsourcing to gain end user and customer insights for their product and service R&D purposes.

5.1.1 Idea Strengthening through feedback and iteration

For the EC Prize, while the primary target beneficiary group is children between the ages of 0-3 who are not able to communicate direct feedback through this crowdsourcing process, the *end users* who are the most directly involved with caring for those children, including parents, childcare providers, pediatric professionals, etc. gained the opportunity to actively participate in the processes of defining the problem space and exploring the solution space as well, thus confirming the validity of this theory. In the EC Prize, this end beneficiary user group was engaged in the innovation discovery process by either commenting and providing feedback on the solution ideas presented by contestants or they could actually submit their own solution ideas into the contests.

Several scholars claim social innovation is characterized by an iterative rather than linear process (Lawrence et al., 2014; Murray et al., 2010; Tanimoto, 2012). Multiple innovators who were interviewed drew attention to the importance the contest played in giving them an ability to have greater direct contact with end users to be able to fine tune their offerings through multiple iterations to better suit their beneficiaries' needs. It also helped to get a general sense of the viability of their solution idea, as in being able to confirm if there was a big enough need for the idea and resources available to pursue it. This led to helping the

innovators improve and produce better quality and mature ideas or solutions. Therefore, by engaging user feedback through the contest, the iterative process of social innovation was supported. In addition to being able to gain insight through crowd participants, both the sponsoring organization and the platform host both put significant efforts into inviting members of their own communities and networks who have expertise in various areas of the early childhood field to participate in the crowd space by giving feedback. They also had the chance to serve hundreds of the contestants as mentors to provide further feedback and guidance for their idea development. This proved to be very valuable for the innovators in shaping their ideas.

Two of the rather well established interviewed innovators mentioned more specifically that although feedback during the contest did not significantly impact their solution, the contest would be beneficial for new innovators, or people without such a mature idea, to help them in formulating their idea. In this way crowdsourcing can prove beneficial and in alignment with theory pertaining to various important aspects for social innovators to address as they move through different phases of the social innovation process (cf., eg., Mulgan, 2006; Murray et al., 2010; Tanimoto, 2012).

5.1.2 Greater inclusion

While the EC Prize had an intention to generate innovative ideas to support the healthy development for all children between 0-3 years, there was a strong focus and steering of the ideas to address the needs of low-income and more at risk families. According to the sponsor and platform intermediary interviews, this focus was integrated into the design of the prize challenge. Implementing this focus gives a greater degree of inclusion within the innovation process. While social innovation literature tends to be defined quite generally as the creation and implementation of new solutions to societal problems, with the benefits of these solutions shared with beneficiaries that are beyond the confines of the innovators (Lee et al., 2019; Tracey & Stott, 2017), the importance of including end user perspective in designing social innovation is clarified in the research by Lawrence et al. (2014). The authors argue that social problems are socially constructed and explain how particular moral assumptions about who is and is not worthy of support tend to reflect the values of the elites, and shape whether or not issues become categorized as problems. They also claim that ideas around novelty and newness are embedded in distinct social and historical contexts and are therefore, rarely clearly defined. Additionally, the authors claim that the distribution of 'benefits' is an inherently political process, which means that the impact of social innovations are never "ethically neutral" (Lawrence et al., 2014, p. 325). Crowdsourcing contests allow greater inclusion through tapping user innovation by opening up the contests so that the beneficiaries can engage as contestants themselves, providing solutions and/ or by offering their feedback through commenting on ideas and engaging as participants in the process.

5.2 Facilitating the external search for innovation

According to Kohler & Chesbrough (2019), many solutions to social problems already exist and are available, it is just a matter of finding them. The potential high value of searching externally for innovative ideas is not limited to crowdsourcing, it is also a foundational core principle of open innovation theory and practice (Chesbrough & Appleyard, 2007; Hossain, 2012; Hossain et al., 2016; Bjorn Remneland Wikhamn & Styhre, 2019).

5.2.1 Overcoming the barrier of incremental social innovation

While crowdsourcing contests are growing in their popularity of use across several sectors, a series of articles published by the *Stanford Social Innovation Review* emphasize a stark increasing trend of philanthropic foundations using the strategy of sponsoring or hosting a prize contest to facilitate the external search for innovative solutions that could be applied within their area of social mission (cf., eg., Brown & Benedict, 2018; Kalil, 2019; Suarez & Bingham, 2017; Wasson, 2016). The described phenomenon is exemplified in the case of the EC Prize. The sponsor and co-designer of the EC Prize, which is a philanthropic investment group, chose to use this innovation strategy to find breakthrough solutions that could be applied in their mission scope, that of supporting improvements in the early childhood field. Through the EC Prize, nearly 570 potentially innovative solutions were gathered and submitted in a matter of four months from when the prize was launched to when it closed.

The rise of this strategy used by philanthropic foundations is in direct contrast to social innovation literature that describes certain aspects of the nature of foundations as leading to one of the biggest barriers to generating disruptive social innovation. According to Chalmers (2013), a barrier for disruptive social innovation is that of a tendency towards a preference for incremental social innovation, as both governmental and philanthropic organizations tend to be risk averse. The author further argues that the pre-existing deep relationships established between funders and service delivery partners also contribute to an incremental approach. In the case of the EC Prize, there was a deliberate decision made on behalf of Gary Community Investments to break the norm and take an alternative path to get more outstanding results. The intentions of the sponsor in teaming up with OpenIDEO were clearly to seek out and support disruptive and creative innovative solutions that could be implemented in the early childhood space. The sponsoring organization in this case aspired to change the system through alternative means. Suarez and Bingham (2017) claim that foundations typically work with approved non-profit organizations, whereas crowdsourcing contests makes it possible to reach out to all types of problem solvers. This was part of the aim with the EC Prize, to engage different types of problem solvers than traditional grant distribution approaches allow. This is also embedded into the structure of the sponsoring organization in this case, whose corporate structure is a combination of a philanthropic foundation and a for-profit company, which allows greater flexibility in how they make their impact investments.

While the act of Gary Community Investments launching a prize contrasts the claims made by Chalmers (2013) with regards to foundations typical risk aversion and their established relationships with service providers, there were also statements from multiple innovators from the contest who spoke to the difficulties of breaking through the deeply engrained systems that hold the more incremental approaches in place, which confirms Chalmers's (2013) findings. One innovator described the lack of support he felt in the market due to the effectiveness and disruptiveness of his solution challenging the revenue streams of the well-established system providers and its governmental stakeholders. This proves the attempt to draw more disruptive innovative ideas into the early childhood space was achieved as it was also intended according to the sponsor.

5.2.2 Gaining attention & developing internal capabilities for the sponsoring organization

Wasson (2016) says that for a sponsoring organization, hosting a prize can bring much attention not only to the cause of the prize but also to the sponsoring organization as well, which can be beneficial. The author claims that by hosting a prize a certain level of authority from within the field tends to be granted, whether it is legitimate or not. Through gaining increased attention in the early childhood space, other actors in the early childhood field or those who want to engage in the field can establish contact with Gary Community Investments to network and further enhance their mission. Another benefit mentioned by Wasson (2016) is that the sponsoring organization can develop new internal capabilities through initiating the hosting of a prize. This statement from the literature was confirmed by Steffanie Clothier from the sponsoring organization, when she mentioned that they had been receiving a lot of attention since initiating this prize, including several other organizations approaching them and asking for guidance in how to initiate their own crowdsourcing contests. Additionally, Steffanie said that Gary Community Investments had set and achieved specific goals for their own internal capability development they wanted to gain through their participation in prize.

Steffanie described the importance of choosing the right type of innovation tool for different kinds of problems. Her statement reflects the important recognition that hosting a crowdsourced open innovation challenge is not necessarily the right solution for all problems, in fact multiple scholars warn that crowdsourcing contests have the potential to be detrimental to the sponsoring organization if not planned and executed well(Brown & Benedict, 2018; Hofstetter et al., 2017; Kalil, 2019). As theoretical literature states, there are certain contexts when contests tend to be a good innovation strategy fit. A contest may be a good strategy when the purpose is to generating high-value solutions to complex or novel problems through large-scale and diverse independent experimentation (Aitamurto et al., 2011; Boudreau & Lakhani, 2013; Rowledge, 2020). This was the case in the EC Prize, and a crowdsourcing contest proved to be a successful approach. Through the combination of recognition gained as an authority within the early childhood field and internal capabilities developed, Gary Community Investments participation in the EC Prize has further strengthened their ability to drive social innovation forward in the early childhood space, aiding their social mission.

5.3 Collaboration with a distributed network to create social innovation

This refers to the benefits gained by bringing together a multitude of stakeholders to collaborate in the innovation process, even if they are spread out across disciplines, across fields or across countries (Kohler & Chesbrough, 2019).

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5.3.1 Brining attention to a cause while gathering and nurturing an ecosystem

According to Chesbrough & Minin (2014), organizations with a social mission can either host a collaborative innovation challenge or participate as a contributor to generate social innovation. This is exactly the case with the EC Prize. Gary Community Investments teamed up with OpenIDEO and their 100,000+ community members from around the world to enable co-innovation in the field of early childhood, which resulted in several outcomes.

Brown and Benedict (2018) claim that the goals of crowdsourcing contests hosted by foundations usually fall into one of two primary categories. One of the categories, *awareness*, is primarily to raise awareness of an organization or an issue to generate momentum. The other primary category, *disruption,* is to incentivize innovation, bring about new solutions, or

fundamentally bring change to an entrenched system. The case of the EC Prize displays some discrepancy with the scholarly literature, in that the literature says a prize usually falls into one of the two categories, while the EC Prize was designed to and achieved both agendas.

It has been claimed that there has been a greater awareness given to the early childhood space since the contest occurred. The sponsor even noted that since the EC Prize, there have been more prizes offered around the EC space by other organizations, which may signify that there has been greater awareness generated for the early childhood field in part through the EC Prize. This confirms the literature claiming that contests can be an effective way for foundations to generate awareness about a particular field (Brown & Benedict, 2018). It has also been said that the conversation around the early childhood space has been changed since the EC Prize.

In multiple interviews it was mentioned that prior to the EC Prize, the early childhood field was disbursed and disjointed. It stated that the contest brought together many different actors in the early childhood field in a profound way, never done before, according to some of the interviewees. The EC prize collected and engaged a variety of partners including philanthropic, research institutions, venture partners, social entrepreneurs from both the for-profit and non-profit sectors, national organizations, and many more. The ability for contests to bring together such a diverse and broad range of key stakeholders from within a particular field, and to allow them to connect in a way where they can better exchange knowledge and resources with each other, is an important aspect of nurturing the ecosystem of a space, and increases the ability to generate social innovation within a particular field. This reflects one of the foundational and underlying concepts of open innovation theory and practice, that of harnessing multiple stakeholder perspectives and resources through the process of attempting to generate appropriate and innovative solutions (cf., eg., Chesbrough & Bogers, 2014; Hossain, 2012; Subtil de Oliveira et al., 2018).

Multiple scholars argue that for social innovation to produce change on a systemic level, the participation and collaboration of multiple stakeholders within the field is required (cf., eg., Murray et al., 2010; Porter & Kramer, 2011; Tanimoto, 2012). According to the sponsor of the EC Prize and the intermediary organization that co-designed the challenge, there was an intention of bringing together and nurturing the disjointed early childhood field as a targeted outcome of the EC Prize. The accomplishment of this intention was confirmed through statements of multiple innovators, and by the interview with the sustaining organization, who was able to invite all participants from the EC Prize into the specialized early childhood development Venture Studio space, to continue nurturing the gathered community after the EC Prize officially ended.

5.3.2 Overcoming the barrier of a lack of access to capital and other key resources

According to scholarly literature, innovative organizations attempting to generate disruptive social innovations or creatively tackling social problems face a number of barriers. One such barrier is that social innovators often lack the relevant network ties needed to gain access to resources of capital and knowledge to enable the success of their mission (cf., eg., Chalmers, 2013; Chesbrough & Minin, 2014; Mendes et al., 2012). Part of the criteria for contestants in the EC Prize was concerning the innovativeness of the solutions provided, and there was a clear aim through the prize to attract disruptive solutions to the contest. In addition to the $1 million prize money offered through the contest, it was stated in several interviews that a

major objective to both the prize and the post prize network was connecting other additional funders and social entrepreneurs. This aim would provide the social entrepreneurs support in overcoming this identified barrier of lack of financial capital and access to specialized knowledge, which the contest also attracted through the engagement of a broad range of stakeholders. The sponsoring organization said that part of the idea in choosing an open and transparent process like this contest was so that investors could find out about these innovative solutions through the internet anytime into the future and fund them directly if they wanted to. One innovator interviewed stated that the prize was important in their fundraising success and opened up new partnerships that would otherwise not be there.

5.3.3 Strengthening social innovators and their innovation impacts

Whether it be being granted prize funding, forging partnerships with other contestants from the prize, gaining increased recognition for their projects, generating a stock framework of high quality descriptive writing that has been utilized for other grant applications, successful idea verification and development, and/ or the recognition of a need to pivot one's idea discovered through community feedback and mentorship; all of the interviewed innovators claimed benefit from their engagement in the EC Prize for their proposed solution. These benefits have to some degree been reported to help strengthen the impact efforts of each of the innovators. This was achieved through collaboration with a distributed network, bringing together an early childhood field that is distributed across the country and internationally as well.

There seems to be a gap in scholarly literature regarding the perceived benefits experienced by contestants who participate as innovators in crowdsourcing contests. There have been relatively few studies that have examined the participation of solvers in crowdsourcing conceptually and empirically, and the prior research has mainly focused on the extrinsic or intrinsic motivations on why solvers participate in crowdsourcing (Ye & Kankanhalli, 2017). While there is little theory to draw from during this section of the analysis, the empirical findings will be presented to help in answering the research question.

According to interviews with the innovators there were some common benefits that were reported and these benefits have helped to strengthen the impact efforts of each of the innovators. Of the innovators interviewed, only one was a top idea winner and received funding of $100,000 through the contest to use for her organization's concept development. She did say that the funds were helpful, but also said that it wasn't that much money and that her project requires much more funding to make a more scaled implementation and impact. Across the board one benefit reported from being selected as a top idea or promising idea through the EC Prize was that of increased recognition for their projects. Multiple innovators said that the increased recognition helped in their ability to receive additional funding, even if not through the EC Prize itself. Another benefit reported by half of the innovators interviewed was the formation of lasting relationships and potential partnerships with other innovators who entered the contest. The idea of providing the contestants an opportunity to connect with and collaborate with other contestants was an intention of the EC Prize from the start according to the sponsor. The summit event in Colorado and the EC Network both occurring after the challenge period ended was intended to support that networking and connecting with each other to nurture the possibility of sharing resources and forming collaborative partnerships. The importance of nurturing collaboration opportunities with participants and potentially offering in person meet-ups is highlighted by Brown & Benedict (2018).

Another benefit reported by two of the innovators was that the questions asked in the EC Prize application were of an exceptionally high level of quality. It was reported that this application required more in-depth digging and clarifying the description about the projects, compared to many other grants and after completing the EC Prize application, they had compiled a good stock of answers to questions that the innovators could use for other grant applications. It was also said by some of the innovators that by going through the application process, gaining feedback, thinking about their projects in different ways, and asking questions that they don't tend to ask in the day-to-day business, that they were able to refine their ideas and improve them in various ways. Some of the interviewees credited their participation in the EC Prize as having profound positive impacts on their innovative idea or solution. Given that all of the interviewed innovators claimed benefit from their engagement in the EC Prize for either their organization or their proposed solutions, it is likely that several of the other hundreds of solution providers who entered the contest also received some significant benefits that have strengthened their individual impact efforts, further showing how crowdsourcing contests can contribute to supporting social innovation.

Throughout the previous sections of this chapter a description of multiple ways in which crowdsourcing by the means of a crowdsourcing contest, effectively support social innovation. However, just because a crowdsourcing contest is launched, that does not mean that social innovation will occur. There are some practical considerations that need to be considered to help increase the likelihood of successful impact through this innovation strategy.

5.4 Considerations for improved crowdsourcing contests results for social innovation

Multiple scholars argue that a crowdsourcing competition may hold great potential but if not designed and executed properly then it could fail in producing the desired results (cf., eg., Brown & Benedict, 2018; Kiran, 2019; Matzler, 2020). These authors argue that for delivering desired results, organizations that host a crowdsourcing contest must have clarity in their strategy, considerable expertise, committed infrastructure and buy-in from leadership. There must be properly aligned motives and incentives for all involved stakeholders- Seekers, Solvers and Supporters. Kiran (2019) offers the following 7 Ps Model, in which he identifies seven important elements to map out, manage and align between the different key stakeholders involved, to help enhance the effectiveness of these initiatives. While Kiran's model is not specifically designed for crowdsourcing for social innovation, it will be used as a tool for exploring and analyzing the use of crowdsourcing contests in the social innovation setting for the purposes of this research and to analyze empirical findings.

Purpose: The choice to use a crowdsourcing contest was carefully selected by Gary Community Investments. They explored several innovation strategies and deemed that an open innovation, crowdsourcing approach would be the preferred technique for what they desired to accomplish within the early childhood field. In choosing this strategic approach Gary Community Investments did a lot of research and got very clear on deciding what their purpose was in enacting the EC Prize and deriving their multitude of goals and targets. Their reasoning was aligned with theoretical recommendations that state that contests are generally recommended in areas where no pre-determined solutions exist or for wicked problems which

call for collective brainstorming (cf., eg, Kiran, 2019; Majchrzak & Malhotra, 2019; Malone et al., 2009; Rowledge, 2020).

Problem: Problem statements put out in the competitions should be crisp and properly defined. If they are too open ended, they could end up attracting random submissions, which are not of high quality. It needs to have the right mix of complexity and possibility (cf., eg, Kiran, 2019; Majchrzak & Malhotra, 2019; Malone et al., 2009). For the EC Prize, before the contest launch, three months of time were allotted for intensive research to inform the design of the contest. In considering the different stakeholder groups involved both in the contest and also who are most closely affected by early childhood development, the team spoke with caregivers, educators, parents and other experts to gather important insights from those who are keenly aware of the many surrounding issues. Through the careful exploring of the problem space, a challenge statement was produced. Gary Community Investments also brought deep levels of expertise into the co-designing of the challenge.

Prize: Incentives are vital to attract and sustain the right crowd. The prize can be monetary or non-monetary or a combination of both. This can depend on the nature of the problem and the costs involved for the solver (cf., eg., Aitamurto et al., 2011; Majchrzak & Malhotra, 2019; Mörk & Eriksson, 2014; Ye & Kankanhalli, 2017). When asked what led to the success of the EC Prize, according the interview with Jason Rissman of OpenIDEO, one important aspect was the $1 million prize that drew a high level of innovators into the contest. There were other incentives as well beyond the prize money, such as opportunities to receive mentorship, working with the OpenIDEO design team, and the potential to receive recognition.

Promotion: Given the amount of clutter, positioning and branding the competition is important to create the right traction. Networking and getting the attention of the solver community enhances the prospects of idea submissions. The communication strategy should set the right expectation and market the contest well through the offline and digital channels, depending on the type of problem and kind of crowd the seeking organization wants to attract (Kiran, 2019). One of the advantages in partnering with OpenIDEO is that they have an existing community of over 100,000 members globally, which helps in promoting the EC Prize. Additionally, their parent company, IDEO is highly reputable with a large global reach. Additionally, Gary Community Investments invested in promotional efforts and reached out heavily to their network to promote and engage a multitude of stakeholders to bring more awareness to the contest.

Platform management: Interactions between seekers and solvers take place in various on-line and off-line forums. It is important to manage these encounters in a way that develops trust and gives confidence to solvers. User friendliness, transparent procedures and timely feedback increases the perception of fairness and can help the participants feel that their efforts and ideas are being valued (cf., eg., Billington & Davidson, 2013; Daiberl et al., 2019; Kiran, 2019; Kohler & Chesbrough, 2019). When discussing a platform manager, it can be valuable to separate the piece of technology, as in an online platform such as the OpenIDEO information technology infrastructure that hosts the open innovation experience, and the actual designing and managing of the challenge. Proper design for both aspects is critical to success. The technology needs to allow smooth and engaging interactions and each contest has unique circumstances and requires a customized challenge design and a management team that can handle the hopefully high level of engagement potentially from around the globe.

Program format: Contests can be purely competitive where the winner takes all or more collaborative where teams are allowed to partner or a hybrid. At different stages of the contest proper guidance and assistance is required for the participants to review and refine their submissions. Mentors, jurors and the selection panels can have a key role in shaping the ideas through their suggestions (Kiran, 2019). In the EC Prize, collaboration between contestants was encouraged and even part of the aim of the contest designing. Additionally, there were many activities that took place throughout the open innovation experience contest period such as design thinking workshops and opportunities for mentorship that added to the shaping of the results of the contest. A very important aspect of the program format was actually what occurred after the contest itself ended. It was reported that the early childhood network and the opportunity to engage with the continuing network through Promise Venture Studio was a very important part of continuing to build the momentum for social innovation after the early childhood field was gathered through the contest.

Partner: Crowdsourcing competitions require pooled efforts by diverse actors. Given the nature of the competition, organizations are better off engaging the services of specialist intermediaries and enlisting supporting organizations for conducting the initiative efficiently and effectively. This option can result in reducing the funders' overall costs (cf., eg., Kiran, 2019; Wasson, 2016). Gary Community Investments and OpenIDEO partnered to launch the EC Prize and together their combined efforts helped in generating significant improvements and innovation sin the early childhood field. Choosing the right partner was important to the sponsoring organization as they offered a lot of time to the process. They interviewed many potential options, then flew out seven finalists to interview in person and selected OpenIDEO. This was a co-designed opportunity. Sometimes OpenIDEO will work with a funder and run the whole process, but Gary Community Investments had a significant point of view around content and brought a lot to the collaboration. It was truly approached as a partnership.

6 Conclusion

The purpose of this master's thesis has been to explore how an open innovation platform can facilitate social innovation through crowdsourcing. A particular focus on crowdsourcing contests as a form of crowdsourcing has been applied to explore this research area. This chapter is divided into three sections. First, I will summarize the key findings from my master's thesis project in relation to my research question. This summary includes theoretical concepts as well as practical implications. In the second section of the chapter, I address some of the limitations of this study. Finally, in the third section, I outline a series of suggestions for future research topics.

6.1 Key Findings & Answering the Research Question

Through the exploration of scholarly literature on the subjects of social innovation, open innovation and crowdsourcing with an emphasis on literature pertaining to crowdsourcing contests; combined with an in-depth phase of empirical data collection and analysis focused upon a single case study representative of this research topic; key findings have been derived to answer the guiding research question of this thesis project, presented below.

Research Question:
How can social innovation be supported by the utilization of crowdsourcing contests hosted by an open innovation platform intermediary?

Through this research process it is concluded that crowdsourcing contests particularly held through an open innovation intermediary can be a powerful strategy for supporting social innovation. Some specific areas of interest have been determined and highlighted through this investigation that are useful in understanding the answer of this research question and related phenomenon. The opportunities to utilize crowdsourcing to support social innovation through online contests will be outlined along three key features as suggested by Kohler & Chesbrough (2019): *tapping user innovation, facilitating the external search for innovation,* and *collaboration with a distributed network to create social innovation.*

Tapping user innovation
Kohler & Chesbrough (2019) argue that social innovation is grounded in the needs of beneficiaries and that crowdsourcing allows the beneficiaries to actively participate in defining the problem and solution solving processes of innovation, turning beneficiaries into co-creators and co-innovators. Lawrence et al. (2014) argue that social problems are socially constructed and explain how particular moral assumptions about who is and is not worthy of support tend to reflect the values of the elites, and shape whether or not issues become categorized as problems. Crowdsourcing contests can allow greater inclusion of people who aren't usually involved in the innovation process through tapping user innovation by opening up the contests so that the beneficiaries can engage as contestants themselves by providing potential solutions and/or by offering their feedback through commenting on other solution provider ideas or participating in the problem definition process. This shows that crowdsourcing contests provide opportunity to take into account the opinions and experiences that the beneficiaries have into the solution design process.

Social innovation is characterized by an iterative rather than linear development process (Lawrence et al., 2014; Murray et al., 2010; Tanimoto, 2012). Crowdsourcing contests can support the iterative process of social innovation because innovators or solvers gain a greater ability to have direct contact access with end users to be able to fine tune their offerings through multiple iterations to better suit their beneficiaries' needs and also to get a general sense of the viability of their solution idea, as in being able to confirm if there is a big enough need for the idea and if resources are available to pursue the idea. This leads to helping the innovators improve and produce more viable and mature ideas or solutions. This opportunity applies to solution providers in various phases of their solution development but some findings from this study suggest that this direct feedback may be most beneficial to those solution providers in earlier stages of their idea development as more mature ideas seem to have already more clearly defined who they serve and how the solution functions.

Facilitating the external search for innovation
The potential high value of searching externally for innovative ideas is not limited to crowdsourcing, it is also a foundational core principle of open innovation theory and practice (Chesbrough & Appleyard, 2007; Hossain, 2012; Hossain et al., 2016; Bjorn Remneland Wikhamn & Styhre, 2019). During the time of carrying out this thesis project, the global coronavirus initial outbreak occurred. During this time, the Swedish government in collaboration with several Swedish organizations initiated and launched "Hack the Crisis,"

which was basically a crowdsourcing contest searching for innovative solutions in response to the Covid-19 virus crisis (*Hack the Crisis – Sweden*, 2020). While crowdsourcing contests are growing in their popularity across several sectors, there has been a stark increasing trend of philanthropic foundations using the strategy of sponsoring or hosting a prize contest to facilitate the external search for innovative solutions that could be applied within their core area of social mission (cf., eg., Brown & Benedict, 2018; Kalil, 2019; Suarez & Bingham, 2017; Wasson, 2016). That was the situation in the case study from this thesis project, which focused in the particular area of early childhood development and was initiated by a philanthropic foundation. While foundations typically work with approved non-profit organizations, crowdsourcing contests make it possible to reach out to all types of problem solvers, casting a wider net in the search for innovative solutions. Through this wider scope of innovator and innovation access combined with the intention and designing of contests for searching specifically for more breakthrough and disruptive solutions, contests can help in overcoming the tendency towards an incremental approach to social innovation. Additionally, by a foundation hosting a crowdsourcing contest they can develop valuable internal capabilities that can enhance their ability to generate further social impact within their focus area.

Collaboration with a distributed network to create social innovation

Kohler & Chesbrough (2019), claim that organizations with a social mission can either host a collaborative innovation challenge or participate as a contributor to generate social innovation. Multiple scholars argue that for social innovation to produce change on a systemic level, the participation and collaboration of multiple stakeholders within the field is required (cf., eg., Murray et al., 2010; Porter & Kramer, 2011; Tanimoto, 2012). Crowdsourcing contests if appropriately planned and executed, have the potential to gather various stakeholders in a disbursed and disjointed field and then help in developing and nurturing a network and ecosystem of those gathered stakeholders. This network development can allow the sharing of necessary knowledge and resources to enable social impact within that field and potentially help in generating impact on a systemic level. An important note here is that according to this research the crowdsourcing contest itself serves more in the ability to gather the distributed field of stakeholders and that it is vitally important in designing a prize to have some kind of preferably specialized organization that can carry the momentum gained through the contest forward in a more sustaining role, to further nurture the network and ecosystem of that field.

According to scholarly literature, innovative organizations attempting to generate disruptive social innovations or creatively tackling social problems face a number of barriers; one such barrier is that social innovators often lack the relevant network ties needed to gain access to resources of capital and knowledge to enable the success of their mission (cf., eg., Chalmers, 2013; Chesbrough & Minin, 2014; Mendes et al., 2012). By bringing together various actors within the field it is also possible to bring together funders and innovators, helping to overcome this common barrier of generating social innovation. A key finding from this research was that of the possibility for crowdsourcing contest to actually attract social entrepreneurs into a particular field by allowing entrepreneurs the opportunity to test and validate their ideas at low cost and also by attracting investors to the space who might be looking for investable solutions

Additionally, there were many benefits reported by participating in the crowdsourcing contest, some of which include: being granted prize funding, forging partnerships with other contestants from the contest and gaining increased recognition for their projects. Participants also were able to generate a stock framework of high quality text that can be utilized for other grant applications. Some received successful idea verification and development and/ or the recognition of a need to pivot one's idea discovered through community feedback and mentorship. All of these benefits and more were received by the problem solving contestants participating in the crowdsourcing contest, further strengthening their individual impact efforts.

This section of this chapter has described a multitude of ways in which crowdsourcing, by the means of a crowdsourcing contest, effectively support social innovation. However, just because a crowdsourcing contest is launched does not mean that social innovation will occur. There are some practical considerations that need to be considered to help increase the likelihood of successful impact through this innovation strategy.

6.1.1 Practical implications

Multiple scholars argue that a crowdsourcing competitions may hold great potential but if not designed and executed properly then it could fail in producing the desired results (cf., eg., Brown & Benedict, 2018; Kiran, 2019; Matzler, 2020). These authors argue that for delivering desired results, organizations that host a crowdsourcing contest must have clarity in their strategy, considerable expertise, committed infrastructure and buy-in from leadership. There must be properly aligned motives and incentives for all involved stakeholders- Seekers, Solvers and Supporters. Kiran (2019) offers a 7 Ps Model, in which he identifies seven important elements to map out, manage and align between the different key stakeholders involved, to help enhance the effectiveness of these initiatives. While Kiran's model is not specifically designed for crowdsourcing for social innovation, it can prove helpful when applied to the social innovation sphere.

Purpose: Contests are generally recommended in areas where no predetermined solutions exist for wicked problems which call for collective brainstorming (cf., eg, Kiran, 2019; Majchrzak & Malhotra, 2019; Malone et al., 2009; Rowledge, 2020). Contests are not the solution for all problems and if deciding to host a contest, do sufficient research and know that it can be a huge, resource intensive undertaking. It is wise to consider various options of social innovation generating strategies before jumping into a crowdsourcing contest. There are risks involved in hosting or sponsoring an innovation contest including the potential of damaging the reputation of the sponsoring organization if the contest is not implemented well.

Problem: Problem statements put out in the competitions should be clear, concise and properly defined. If they are too open-ended, they could attract random submissions, which are not of high quality. The statement needs to have the right mix of complexity and possibility (cf., eg, Kiran, 2019; Majchrzak & Malhotra, 2019; Malone et al., 2009). Adequate time should be offered for exploring the problem area and gathering information from those who are most impacted and have great amounts of expertise in the problem space.

Prize: Incentives are vital to attract and sustain the right crowd. The prize can be monetary or non-monetary or a combination of both. This can depend on the nature of the problem and the costs involved for the solver (cf., eg., Aitamurto et al., 2011; Majchrzak & Malhotra, 2019;

Mörk & Eriksson, 2014; Ye & Kankanhalli, 2017). In addition to adequate amounts of financial funding opportunity, mentorships and high levels of recognition can be very incentivizing.

Promotion: Given the amount of clutter in the marketplace, positioning and branding the competition is important to create the right traction. Networking and getting the attention of the solver community enhances the prospects of idea submissions. The communication strategy should set the right expectation and market the contest well through the offline and digital channels, depending on the type of problem and kind of crowd the seeking organization wants to attract (Kiran, 2019). Significant resources should be allocated to allow sufficient promotion. Engaging partners can also help in extending the network and generating greater promotion.

Platform management: Interactions between seekers and solvers take place in various on-line and off-line forums. It is important to manage these encounters in a way that develops trust and gives confidence to solvers. User friendliness, transparent procedures and timely feedback increases the perception of fairness and can help the participants feel that their efforts and ideas are being valued (cf., eg., Billington & Davidson, 2013; Daiberl et al., 2019; Kiran, 2019; Kohler & Chesbrough, 2019). When discussing platform management, it can be valuable to separate the piece of technology, as in the online platform information technology infrastructure that hosts the open innovation experience, and the actual designing and managing of the challenge. Proper design for both aspects is critical to success.

Program format: Contests can be purely competitive where the winner takes all, or more collaborative, where teams are allowed to partner, or a combination of both. At different stages of the contest proper guidance and assistance is required for the participants to review and refine their submissions. Mentors, jurors and the selection panels can have a key role in shaping the ideas through their suggestions (Kiran, 2019). Additionally, it can be that specialized tools or methods can be embedded into the program format. For example, design thinking tools throughout the contest process are included in challenges hosted by OpenIDEO. A very important aspect of the program format is actually what occurs after the contest experience itself ends. While the open innovation contest experience can bring together a wide range of stakeholders and draw a great deal of attention, it is vitally important to have a post contest strategy in place to carry the momentum forward, especially to drive social innovation.

Partner: Crowdsourcing competitions require pooled efforts by diverse actors. Given the nature of the competition, organizations are better off engaging the services of specialist intermediaries and enlisting supporting organizations for conducting the initiative efficiently and effectively. This option can result in reducing the funders' overall costs (cf., eg., Kiran, 2019; Wasson, 2016). Additionally, partner organizations may have large existing communities of solvers, which can be very beneficial. OpenIDEO, for example, has a community of over 100,000 members and can reach out to their network to recruit people with expertise to participate in various ways by entering as contestants, serving as mentors or by providing feedback to contestants.

6.2 Limitations

The master's thesis research scope is rather limited in comparison to heavily resourced research undertakings. This research was limited in both the sample size and profile. Ultimately, if the given time and resource constraints were not in place, a mixed method of qualitative and quantitative approach would be useful in gaining a greater degree of breadth and generalizable findings available through quantitative research in addition to the depth of research characterized by qualitative research. Just within the EC Prize there were nearly 600 innovator contestants who could potentially offer insightful information to the study. During this thesis contact was limited to attempting to establish interviews with contest winners identified as top or promising ideas. It would be very interesting to explore the perspectives of some of the hundreds of contestants who were not selected as contest winners. Additionally, of the 22 contestants who were contacted for interviews, only four ended up being interviewed, which is not a large sample size from this population of actors involved with the prize. The smaller sample size was in part due to the coronavirus outbreak. There were some contest winners who responded saying that they were too impacted from the situation to be available for an interview at that time. Of those four who were interviewed only one was identified as a top idea provider and was awarded prize money. In investigating the impacts of participating in the contest the difference of being awarded $100,000 as a top idea versus no financial reward as a promising idea offers potentially quite a different perspective. Secondary data collection helped to supplement the smaller sample size and profile limitations but is still different than what could be gathered through primary data collection.

Another limitation of this study is that I focused the interviewing on contest winners, the sponsoring organization, the open innovation platform provider, and the sustaining organization in charge of maintaining the momentum gathered through the contest itself. This has some limitation in scope as it excludes the perspectives of the beneficiaries receiving the solutions of the contestants participating in the contest. It is missing the perspective of municipalities whose citizens have been impacted through the solutions. It does not include the perspectives of the mentors or jurors involved in the contest, and it doesn't incorporate the perspectives of other members of the general public or the crowd who also offered feedback to the contestants. All of these perspectives would add a more robust and comprehensive view to this case study.

There are other open innovation platform providers that have run crowdsourcing contests within the field of early childhood development. One of these platforms is called InnoCentive and there was an attempt made to include them and the challenge they ran within this research project. However, I was not able to gain their participation. That would have been quite interesting as InnoCentive is one of the other major open innovation platform providers and has a rather different crowdsourcing approach than OpenIDEO. In this way, this study is limited as a single case study. It would make for interesting research to conduct this designed as a multiple case study to attempt to answer the same research question while perhaps adding further research questions. This research design would allow the opportunity to compare and contrast the process and results between the different contests and platforms and offer a more complete perspective to the research question posed.

6.3 Topics for Future Research

There are generally two quite different approaches for carrying out crowdsourcing contests. In the type of contest focused upon in this thesis and the basis of the case study focused upon, the sponsoring organization is not the organization to implement the innovative solutions. In this type of contest, it is the idea provider/ contestants themselves, who are responsible to implement their ideas. The other typical type of crowdsourcing contests, which is excluded from this thesis, is when the sponsoring organization selects the top idea, pays the idea provider for that idea and then the sponsoring organization implements the idea with the opportunity to capitalize and benefit from it. An area of interesting future research would be to compare the outputs and social impacts regarding these two primary types of crowdsourcing as applied to social innovation.

There have been relatively few studies that have examined the participation of solvers in crowdsourcing conceptually and empirically, and the prior research has mainly focused on the extrinsic or intrinsic motivations for solvers to participate in crowdsourcing (Majchrzak & Malhotra, 2019; Sheeran & Webb, 2016; Ye & Kankanhalli, 2017). An interesting future research area would be regarding the perceived benefits experienced by contestants who participate as innovators in crowdsourcing contests.

In general, there is an extensive amount of research in each of the fields of social innovation, open innovation, and crowdsourcing, but the research focus combining the three subjects seem to be an emerging trend within academics. The vast amount of existing literature tends to focus on business innovation use cases and not social innovation regarding open innovation and crowdsourcing. There is an increase however in recent years of articles published combining crowdsourcing and open innovation with social innovation and at the same time there is a lot of room within academics to put more rigorous research focus into this important subject area.

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8 Appendix

8.1 Semi-Structured Interview Guides

APPENDIX 1

8.1.1 For The Sponsor, Gary Community Investments

NAME:
POSITION IN THE COMPANY:
HOW LONG AT THE COMPANY:

1) Please explain the corporate structure of GCI. It is a B-Corp (public benefit company)

2) Can you explain please your business model?

3) "Partnering with OpenIDEO allowed us to meet our goals for transparency and open innovation—the ability to share the Prize with the whole world to attract and connect innovators was just what we were hoping for." — Steffanie Clothier, Program Director, GCI
    a. Can you tell me more about these goals of Transparency and Open Innovation?
    b. Why were these goals and how did they become primary goals?

4) How did the idea come about to collaborate with OpenIDEO in the Early Childhood Innovation Contest that you ran with them?
    a. And where you already aware of the concept of Open Innovation & Crowdsoucing?
        i. Did you have any previous experience with any other crowdsourcing initiatives previously?

5) There are many ways that your investment group could spend $1 Million, why was it decided to be spent through engaging in the OpenIDEO Challenge?
    a. Why was it decided to go with OpenIDEO a "third party crowdsourcing platform" rather than build your own platform to use?
        i. Did you consider building your own platform?

6) What as the most significant role of the Sponsors of innovation Challenges sponsoring especially for social innovation?

7) What do you see as the most significant role that "the crowd" (not innovators) played in the EC Prize?

8) What do you see as the most significant role of the innovators in EC Prize Challenge?

9) What is the most significant role of OpenIDEO as a platform and program managers in the EC Prize?

10) What do you believe are the greatest strengths and promises of using OI crowdsourcing platforms (like OpenIDEO) to solve "grand challenges" that we face and specifically in supporting social innovation?

11) What were the greatest benefits you experienced while collaborating with OpenIDEO through the process, especially that you don't think you would have accessed if you did not use them but instead used someone else or built your own platform?

12) What were the biggest challenges that you experienced through this process?
    a. Looking back, do you believe they could have been avoided?

13) How much and what was your involvement during the actual campaign and post campaign?

14) Do you conclude that this was a successful undertaking for the investment team?
    a. Why or Why not?

15) How did this campaign help to move innovation forward within EC space?
    a. What have been the key outputs and social innovation results of this campaign?

16) Have you developed some kind of ROI and SROI Report for the EC Prize?
    a. TIGR Transformative Impact Grid?

17) How do/ will you measure your ROI from this campaign?
    a. Is this the same way you measure ROI for other investments?
    b. My understanding is that you take 0 equity in the companies, so how do you reap reward through this campaign and return investment to your investors?

18) Do you believe that the effects of this campaign have caused any systemic change?
    a. Any examples?

19) What is needed to achieve systemic change in the EC space?

20) With such a local Colorado focus with GCI why was it decided to have such a national and somewhat international focus in this Prize?

21) Can you tell me more about future bound and how that will be utilized to continue the momentum built from the EC Prize challenge?

22) Do you plan to continue to use crowdsourcing into the future?
    a. If so, what would you do similarly or different next time?
    b. Would you use OpenIDEO's platform again or alternative options?

APPENDIX 2

8.1.2 For the Intermediary, OpenIDEO

NAME:
POSITION IN THE COMPANY:
HOW LONG AT THE COMPANY:

1) Exploring Open Innovation, "How might we better understand and improve open innovation together?" & The open innovation report. Is it possible to get that report sent to me?
    a. Were there any particular ideas from that Challenge that have been implemented into OpenIDEO?

2) Approximately how many OpenIdeo community members are there currently?

3) On average how many community members participate in Challenges (both innovators and "the crowd")

4) What do you see as the most significant role of "the crowd" in OpenIDEO Challenges?

5) What do you see as the most significant role of the innovators in OpenIDEO Challenges?

6) What is the most significant role of the Challenge sponsor in OpenIDEO Challenges?

7) What is the most significant role of OpenIDEO as a platform and team in a Challenge?

    a. Comment: all 4 innovators I have interviewed from the challenge have had positive things to say about participating in the contest and how it has helped their progress and also that the process was very smooth.

8) What do you believe are the greatest strengths and promises of using OI crowdsourcing platforms (like OpenIDEO) to solve "grand challenges" that we face and specifically in supporting social innovation?

9) What are the main differences in crowdsource enabled OI platforms specifically for social and environmental issues as opposed to other forms of business innovation?

10) How do you see these types of platforms evolving in the coming 5-7 years or so?
    a. Are there any particular trends either social, technological or other that are significantly impacting this space?

11) How did the EC Prize Challenge, move innovation forward in the early childhood development field?
    a. What have been the key outputs and social innovation results of this campaign?

12) For the EC Prize Challenge, what were the most important elements of ensuring an impactful outcome?
    a. Was there anything special for this challenge compared to other challenges in these regards (like industry specific)?
13) What were the main goals of the EC Prize Challenge and were those goals met?
    a. Were there any unmet goals?

14) How has OpenIDEO tracked and measured the outputs and Social Impacts achieved through the Innovations in Early Childhood Development Campaign?
    a. Is this the same process used for other campaigns?
    b. You released a great Impact Report from 2017 "Open Reflections." Do you plan to release any other reports like this that highlight your social impacts again soon?

15) What other OI crowdsourcing platform that address social and environmental issues would you consider as really strong and effective platforms, and what are the greatest benefits that OpenIDEO's platform provides, that makes it so effective?

16) If I would like to work with OpenIDEO or in this type of area of Open Innovation for social good, what would you recommend to me to be learning and focusing on experience wise?

APPENDIX 3

8.1.3 For the Innovators / Solvers:

Kinedu, Playful Learning Landscapes, First Teacher, TLC2 (ChildFolio)

NAME:
POSITION IN THE COMPANY:
HOW LONG AT THE COMPANY:

Congratulations on being one of the selected winners of the challenge.

1) Can you tell me a bit about the company history about 6 months before your engagement in the contest? (Paint a picture of what the general situation was)
    a. What were your biggest challenges at that point?

2) How was your solution idea further developed or changed through the process of going through this OpenIDEO challenge?

3) What are the greatest benefits you have experienced by going through this process?

4) What were the biggest challenges you faced during the OpenIDEO challenge process?

5) Have you had direct contact with the Gary Investment Fund?

6) Have you had continued communication with OpenIDEO?
    a. How about any of "the crowd" members who were participating during the challenge?

7) How important was “the crowd” through the process?
    a. Did the crowd help to re-shape or adjust at all your solution idea?
    b. How?

8) How have your implementation efforts been going, to bring your idea to market?

9) How has participating in this OpenIDEO challenge helped you to achieve your social impact focus?

10) How do you measure your social impact?
    a. How much of your actual social impact would you credit to your participation in the OpenIDEO challenge?

11) What advice would you give to other companies that are considering entering into an OpenIDEO contest?

12) What stage of the innovation process were you in when you entered the contest and where are you now?
    a. Did participating in the OpenIDEO Challenge help you move from one process stage to another?

APPENDIX 4

8.1.4 For the Sustainer, Promise Venture Studios

NAME:
POSITION IN THE COMPANY:
HOW LONG AT THE COMPANY

1) What were the origins of PVS and the collaboration with GCI and OpenIDEO?

2) Who are the main stakeholders involved with PVS and in the ECD Space that you engage?

3) What do you believe are the keys to creating systemic change in this field?

4) What does systemic change look like?

5) What geographic scope do they have?

6) How about using other challenges? Do they do this? Thoughts on this?

7) How about specifics on those that came in through the openIDEO/ GCI challenge? Any special treatment? What are they provided with?

8) How does PVS measure Social Impact?

9) Why do you think that GCI invested the $ in this way?

8.2 Innovator Background Information

APPENDIX 5

8.2.1 Solver #1- Luis Garza, Founder & CEO at Kinedu

(Advanced Innovator/ Promising Idea) www.kinedu.com/
Kinedu has the potential to become the largest database of early childhood development, filled in by millions of families who want to understand how their children are doing. Our reach is now in the millions, and we have the potential to understand, compare, and contrast how children develop across the world. Also, Kinedu can truly become a tool from which parents get the best insights and ideas on ECD worldwide at a marginal cost (even free of charge in some places) (*OpenIDEO - Early Childhood Innovation Prize - Kinedu*, 2018).

Type: For-profit
Geography: Based in Monterrey, Mexico- but goal is a global reach
Stage of Development: Advanced Innovator with 3 to 10 + years in ECD
Selected Innovation Target: Technology-enabled: Existing approach is more effective or scalable with the addition of technology.

8.2.2 Solver #2- Kathy Hirsh-Pasek, Co-Founder at Playful Learning Landscapes

(Advanced Innovator/ Top Idea) https://playfullearninglandscapes.com/
Playful Learning Landscapes: By 2050, over 70% of the world's children will live in cities. With less opportunity to read or play spatial/math games with caregivers, children from under-resourced neighborhoods enter school far behind their more affluent peers. In this context, public spaces hold immense potential to provide learning opportunities from infancy onward. Enter Learning Landscapes, an innovative project where city rejuvenation meets early education. By demonstrating the power of infusing learning into public spaces, we make a compelling case for cities to integrate these installments into their normal budgets (*OpenIDEO - Early Childhood Innovation Prize - Learning Landscapes*, 2018).

Type: Non-Profit
Geography: United States ● Philadelphia, PA ● Chicago, IL ● Pittsburgh, PA South Africa Switzerland
Stage of Development: Advanced Innovator with 3 to 10 + years in ECD
Selected Innovation Target: System design: Solutions that target changing larger systems.

8.2.3 Solver #3- Dinah Shepherd, Co-Founder & Co-Director at First Teacher (FT)

(Advanced Innovator/ Promising Idea) https://www.firstteacherboston.org/
First Teacher: First Teacher is a game-changer on three levels: 1. Our youngest citizens from our most oppressed, dismissed communities will be prepared for school because their parents are supported to teach and learn together. We will simultaneously... 2. Shift people's mindsets from a social-service model to a social-capital model, while offering... 3. An effective and sustainable solution to a problem that circumvents the major policy/resource constraints facing the early childhood education field. We are tapping the most valuable and untapped

stakeholders, parents! (*OpenIDEO - Early Childhood Innovation Prize - Learning Landscapes*, 2018)

Type: Non-Profit
Geography: Boston, United States
Stage of Development: Advanced Innovator with 3 to 10 + years in ECD
Selected Innovation Target: Platform: Creating a community or market that facilitates interaction between users and resources.

8.2.4 Solver #4- ZhiWen Tan, Co-Founder & CEO at TLC2 / ChildFolio

(Advanced Innovator/ Promising Idea) https://www.childfolio.com/
Transformational Learning for Child Care (TLC2)/ ChildFolio: Transformational Learning for Child Care (TLC2) will create a model of competencies and dynamic learning pathways on a technology platform including micro-learning, gamification, adaptive learning, micro-certifications, digital portfolios, trained coaching, and a peer community to transform the family child care workforce into professional caregivers empowered to deliver high quality services to children and families as well as lead to provider certification from Johns Hopkins University (*OpenIDEO - Early Childhood Innovation Prize - Transformational Learning for Child Care (TLC2)*, 2018).

Type: For-Profit
Geography: California Based in the United States & China
Stage of Development: Advanced Innovator with 3 to 10 + years in ECD
Selected Innovation Target: Technology-enabled: Existing approach is more effective or scalable with the addition of technology.