

# Accepted Manuscript

Applying design thinking method to social entrepreneurship project

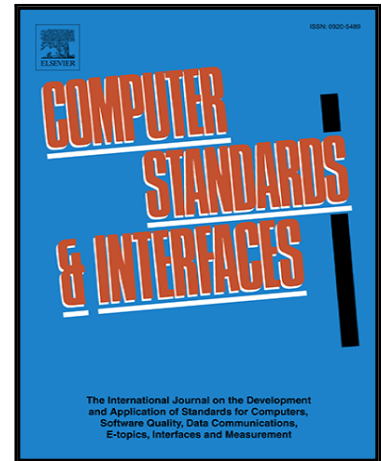
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PII: S0920-5489(17)30038-7  
DOI: [10.1016/j.csi.2017.05.001](https://doi.org/10.1016/j.csi.2017.05.001)  
Reference: CSI 3219

To appear in: *Computer Standards & Interfaces*

Received date: 20 January 2017  
Revised date: 3 May 2017  
Accepted date: 8 May 2017

Please cite this article as: David C. Chou , Applying design thinking method to social entrepreneurship project , *Computer Standards & Interfaces* (2017), doi: [10.1016/j.csi.2017.05.001](https://doi.org/10.1016/j.csi.2017.05.001)



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**Highlights**

- Analyze the theories of social entrepreneurship.
- Identify the details of design thinking method.
- Identify the process of social entrepreneurship project design.
- Identify the interrelationship between social entrepreneurship and design thinking method.

ACCEPTED MANUSCRIPT

## APPLYING DESIGN THINKING METHOD TO SOCIAL ENTREPRENEURSHIP PROJECT

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### ABSTRACT

A successful social entrepreneurship can make a positive contribution to the society. In order to generate an optimal outcome of performing social entrepreneurship, adopting an innovative project design method would reach the goals of planned social entrepreneurs. The purpose of this paper is to introduce the design thinking method and also to apply it into social entrepreneurship projects. It provides detailed review to both social entrepreneurship theories and the methodology of design thinking. Standard issues are discussed in the paper. Case studies are also illustrated to support the new methodology of designing social entrepreneurship projects.

**Keywords:** social entrepreneurship, design thinking methods, standards, system and project design.

### 1. Introduction

Social entrepreneurship is a newly developed research field. Its research is not united and convergent. For example, its early research was related to “social entrepreneurs and the personalities, qualities, values and visions of individual change.” (Pless, 2012, p. 317; Bornstein, 2004). Another group of research emphasizes the process mechanism, such as “a process involving the innovative use and combination of resources to pursue opportunities to catalyze social change

and/or to address social needs.” (Mair and Marti, 2006, p. 37). Short et al. (2009), however, suggested that social entrepreneurship should focus on the strategic issues, based on the principles such as contingency theory, discovery theory and resource dependency theory.

A successful social entrepreneurship would make a positive contribution to the society. A valuable social entrepreneurship could provide constructive thoughts and motives that moves the society onto the right track and arrives at a harmony state. For this reason, it is worthwhile to seek a method of achieving successful social entrepreneurship. Social entrepreneurs usually desire to solve a social problem or need, which is similar to those entrepreneurs who create non-profit and charity organizations. The main difference between traditional business and social entrepreneurship is their motivation of solving social problem and needs.

In order to generate an optimal outcome of social entrepreneurship implementation, this study applies a new approach of building up valuable implementation mechanism for social entrepreneurship projects. This new approach is the design thinking approach. The purpose of this paper is to introduce the design thinking method and also to apply it into social entrepreneurship projects.

Design thinking is “a methodology that imbues the full spectrum of innovation activities with a human-centered design ethos.” (Brown, 2008, p. 1). It is different from traditional way of handling processes in social entrepreneurship, in which social entrepreneurs could decide the way they would do.

This paper starts with literature and issues of social entrepreneurship. It then discusses the implication of design thinking methodology. A new way of building up social entrepreneurship is then proposed. Standard issues are discussed next. After that, case studies are presented to illustrate the new social entrepreneurship approach. A conclusion is provided at the end of this paper.

## 2. Social entrepreneurship

### 2.1. Social Entrepreneurship and Its Development

Social entrepreneurship is a young research area. Researchers in the field of social entrepreneurship showed diversified focuses and a unified definition was not found (Pless 2012, p. 317; Short et al. 2009, p. 161; Dacin et al. 2011; Dacin et al., 2010).

The development of social entrepreneurship includes a series of research streams. At early stage, the dominant research was focused on “social entrepreneurs and the personalities, qualities, values and visions of individual change agents” (Pless, 2012, p. 317; Bornstein, 2007).

Another research stream was on the process mechanism. In this research path, social entrepreneurship was based on “a process involving the innovative use and combination of resources to pursue opportunities to catalyze social change and/or address social needs.” (Mair and Marti, 2006, p. 37). Short et al. (2009) suggested that social entrepreneurship should focus on the strategic issues, based on the principles such as contingency theory, discovery theory and resource dependency theory.

Mort, et al. (2003) illustrated social entrepreneurship through a multidimensional construct, which included the following components: entrepreneurially virtuous, social opportunity recognition, risk tolerance, proactive-ness, innovativeness, and judgment capacity. They described social entrepreneurship as the following:

*“Social entrepreneurship, the entrepreneurship leading to the establishment of new social enterprises and the continued innovation in existing ones, ... social entrepreneurship as a multidimensional construct involving the expression of entrepreneurially virtuous behavior to achieve the social mission, a coherent unity of*

*purpose and action in the face of moral complexity, the ability to recognize social value-creating opportunities and key decision-making characteristics of innovativeness, proactive-ness and risk-taking.” (Mort, et al. 2003, p. 76)*

Another scholar, Light (2006), argued that social entrepreneurship should not just be focused on individual entrepreneur’s vision and activity (such as starting a new organization to create dramatic social change), but also it needs to recognize “thousands of other individuals, groups, and organizations that are crafting solutions to troubles around the globe.” (Light 2006, p. 47). Light (2006) defined a social entrepreneur as “an individual, group, network, organization, or alliance of organizations that seeks sustainable, large-scale change through pattern-breaking ideas in what or how governments, nonprofits, and businesses do to address significant social problems.” (Light 2006, p. 50).

Lately, Dacin et al. (2011, p. 1211) pinpointed the importance of social processes in the pursuit of social entrepreneurship. They also indicated that social entrepreneurship theory should be constructed based on the following disciplines: institutions and social movements, networks, culture, identity and image cognition. A successful social entrepreneurship would contribute positively to the society. A valuable social entrepreneurship could provide constructive thoughts and motives that move the society onto the right track and arrive at a harmony state. Social entrepreneurship should broad social, cultural, and environmental goals, reach a high social satisfaction, and enhance social innovation. Social entrepreneurs would seek to transform societies at large. In order to reach a maximum outcome, social entrepreneurship must utilize information technology such as the Internet for facilitating communication capability. For these reasons, it is worthwhile to seek agreeable methodology of building social entrepreneurship projects. Designing a social entrepreneurship project needs to identify the objects of stakeholders and the environment

of social entrepreneurship projects. We discuss the implications and elements of each object in the next two sections.

## *2.2. Stakeholders of Social Entrepreneurship*

A major stakeholder of social entrepreneurship is social entrepreneur. Social entrepreneurs are those persons who have interests in solving social problems. For this reason, social activists, philanthropists, environmentalists, and other socially oriented practitioners belong to this group. Social entrepreneurs are also called social innovators by Bornstein (2007) since they are creative while solving social problems.

Other stakeholders of social entrepreneurship may include citizens in society, their roles consist of customers, users, clients, and others who are working closely with social entrepreneurs. Governments in different levels, communities, corporations, and non-profit organizations also interact with social entrepreneurs while performing social entrepreneurship projects.

An exemplary non-profit organization that work closely with social entrepreneurs is the [thesedge.org](http://thesedge.org). The mission of [thesedge.org](http://thesedge.org) is to “help organizational and individual social innovators connect with each other to access education and community” ([thesedge.org](http://thesedge.org), 2016). [Thesedge.org](http://thesedge.org) serves as agent’s role to “bring together the global community of change makers who are embracing a socially entrepreneurial mindset and using social enterprise to advance their social missions.” ([thesedge.org](http://thesedge.org), 2016). They use collaboration network to educate their members how to access to the resources to build successful social entrepreneurship projects.

## *2.3. Environment of Social Entrepreneurship*

Social entrepreneurship environment includes a variety of entities and subjects that interact with each other to achieve social missions and objectives. Specifically, these components are:

1. *Social entrepreneurs*: persons who are eager and active to solve social problems.
2. *Social environment and its potential problems and needs*: social environment exhibits a community in which citizens live or interact with each other. Social environment displays a specific culture that citizens were educated and demonstrated in it.
3. *Culture in society*: Tylor (1907) defined culture as complex whole which includes knowledge, belief, art, morals, law, custom and any other capabilities and habits acquired by man as a member of society. Culture in society affects citizen's life and also shapes and challenges the motivation of social entrepreneurs.
4. *Social capital*: Social capital is a form of economic and cultural capital. Inside social capital are social networks, which are interconnected, trusted, and cooperated. Also, market agents produce goods and services not mainly for self-interest, but for a common good (Adler and Kwon, 2002).
5. *Ideas*: Ideas are important to the practice of social entrepreneurship since a new idea can lead to social changes, problem solving, and also innovation to society.
6. *Expertise*: Expertise is a characteristic of individuals and is a consequence of the human capacity for extensive adaptation to physical and social environments (Ericsson, 2006). Expertise is needed when social entrepreneurs conduct projects to solve social problems.
7. *Knowledge*: knowledge is the understanding of facts, information, or skills for a specific area or field. In order to conduct social entrepreneurship activity or project successfully, knowledge of the related and applied areas is needed.



8. *Innovation*: Innovation is simply a new idea or method to be developed in a specific area.

Innovation was also defined as something original and more effective and, as a consequence, new, that breaks into the market or society (Frankelius, 2009). Most social entrepreneurs are also called social innovators since they intend to find new ways of solving social problems.

9. *Resources*: Each social entrepreneurship activity or project needs sufficient resources for facilitating process. Resources used for social entrepreneurship projects include funding, social capital, social infrastructure, human resources, technologies, and intangible resources such as institutional image and branding, value and recognition, and intellectual property that involved in social entrepreneurship operations.

10. *Collaboration*: Social entrepreneurship projects usually involve numerous staff or volunteers to work together. These project participants must collaborate with each other to make their projects successful.

11. *Technologies*: Modern social entrepreneurs need data communications technology to implement their projects. For this reason, the Internet and social network websites are the must technologies for advancing social entrepreneurship's accomplishment.

### **3. Designing social entrepreneurship project**

#### *3.1. Social entrepreneurship design*

Social design is defined as a design process that contributes to human well-being and livelihood's improvement (Holm, 2006). It is clear to see that social design is a way to move the society into a positive direction with needed changes. The main purpose of social design thinking is to create a better society and improved life quality of the human-beings in the world. Social entrepreneurs hold the same ideology with the effort on improving the human life through social

development activities. For this reason, social entrepreneurs are always called social innovators.

The process of transforming societies at large rather than focusing on profit boundary is the project that social entrepreneurs intend to do. Social entrepreneurs utilize a variety of components in the environment of social entrepreneurship to create projects that could bring societies into a better state of comfort, including life quality, community development, environmental quality, social justice and equality, etc.

Three types of business models of social enterprise have been identified by Elkington and Hartigan (2008), they are:

1. *The Leveraged Non-Profit*: This social enterprise model leverages resources in order to respond to social needs.
2. *The Hybrid Non-Profit*: This social enterprise model is distinctive because it is willing to use profit to sustain its operations.
3. *The Social Business Venture*: This type of social enterprise model is taking business form that is designed to create change through social means.

Based on the [thesedge.org](http://thesedge.org) ([thesedge.org](http://thesedge.org) website, 2016), social enterprises include the following business models:

1. *Cross-compensation*: A group of users (or customers) should pay for the services they received to subsidize the service for underserved group.
2. *Fee for service*: Recipients pay directly for the good or services received from the social enterprise.
3. *Employment and skills training*: Employees receive wages, skills development and training.
4. *Market intermediary*: The social enterprises act as an intermediary, or distributor, to an expanded market.

5. *Market connector*: The social enterprise facilitates trade relationships between beneficiaries and new markets.
6. *Independent support*: The social enterprise delivers a product or service to an external market that is separate from the beneficiary and social impact generated. Funds are used to support social programs to the beneficiary.
7. *Cooperative*: A for-profit or non-profit business who are owned by its members who also use its services.

These business models have been used to classify a variety of social enterprises in the world by thesedge.org (2016). Social entrepreneurship's business models have been implemented in a variety of formats within different industries that intend to meet diverse purposes and the needs in societies. For example, social entrepreneurship projects can be created to solve social problems in environmental, foods distribution, water safety and distribution, textbook allocation, cooking, job creation, etc. Table 1 lists twenty-two (22) social entrepreneurship types, its corporations/projects examples and business models.

### 3.2. *Concerns and drawbacks of Traditional Social Entrepreneurship design*

Social entrepreneurship projects can be fulfilled through the following enterprises forms: community-based enterprises, socially responsible enterprises, social services industry professionals, and socio-economic enterprises. Although these projects and created enterprises can contribute to societies with good intention, they benefit only to a specific sector in society. A more comprehensive design process to solve social problems would result in a better project outcome.

It can be inferred that a project design process should involve more participants who have diverse backgrounds, knowledge, and expertise to solve a social problem. Since social

entrepreneurship projects involve social change as a needed part of their design process, the new and innovative thinking becomes one of its success factors. Most social problems are people based, therefore, human centric design approach would strengthen the quality of such projects.

A new approach to design social entrepreneurship projects is through the “design thinking” methodology. This paper intends to integrate design thinking methodology into social entrepreneurship project’s design process to make the project a better solution.

#### **4. Design thinking methodology**

##### *4.1. Methodology implication*

Brown (2008) is a known practitioner of design thinking methodology. He is the CEO and President of IDEO, an innovation and design firm located in Palo Alto, California. His company promotes and utilizes the idea of design thinking to all corporate projects. IDEO’s website displays their core approach as:

*“Design thinking is a human-centered approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success.”* (IDEO, 2016)

Lockwood (2010) proposed a similar definition to design thinking as “essentially a human-centered innovation process that emphasizes observation, collaboration, fast learning, visualization of ideas, rapid concept prototyping, and concurrent business analysis, which ultimately influences innovation and business strategy.” (Lockwood, 2010, p. xi). Design thinking is a methodology that has been used in product design, branding design, service design (IDEO, 2016; Lockwood, 2010) and other areas such as information systems design (Vetterli et al., 2016). Based on these studies, it

shown that design thinking methodology can be used to generate new and innovative products and systems.

IDEO (2016) described the design thinking process as a system of overlapping spaces rather than a sequence of steps. Brown (2008) defined the design thinking process through three spaces, they are inspiration, ideation, and implementation. Inspiration is the cause of searching for solutions, such as social problems or possible opportunities appeared to surface. The second space is ideation that is the process of identifying ideas, developing and deepening targeted ideas and then testing them through experimentation or simulation means. The final space is implementation, which puts selected project into the realization stage. Individual projects will loop back through these spaces; particularly the first two spaces, more than once as ideas are refined and new directions will be taken and refilled after debates.

Design thinking methodology is “scalable and can be applied incrementally to improve existing ideas or it can be applied radically to create disruptive solutions that meet the needs of people in entirely new ways” (Brown, 2016). Design thinking methodology can integrate technologies, innovative thinking, design process, and available resources into human’s desire to build up a new and innovative product. Design thinking is a thoughtful human process that taps into abilities we all have but get overlooked by more conventional problem-solving practices. It relies on our ability to be intuitive, to recognize patterns, to construct ideas that are emotionally meaningful as well as functional, and to express ourselves through means beyond words or symbols.

A design thinker’s personality profile, according to Brown (2008), should include the following characteristics: empathy, integrative thinking, optimism, experimentalism, and collaboration. It is clear that a successful design thinkers must be able to observe the world and feel the need of people fast and respond quickly, having innovative thinking and idea that match the

insights of novel alternatives, trying various way of solving problem, and be able to work with others.

#### 4.2. Detailed design thinking process

Design thinking process can be classified into three spaces, that is, inspiration, ideation, and implementation, as discussed earlier. Specifically, these three stages can be further expanded into detailed procedures below (Brown, 2008):

- What is the business problem? Where is the opportunity? What has changed for soon may change?
- Look at the world: Observe what people do, how they think, what they need and want.
- What are the business constraint (time, lack of resources, impoverished customer base, shrinking market)?
- Involve many disciplines from the start (e.g., engineering and marketing).
- Pay close attention to “extreme” users such as children or the elderly.
- Have a project room where you can share insights, tell stories.
- How can new technology help?
- Are valuable ideas, assets, and expertise hiding inside the business?
- Organize information and synthesize possibilities (tell more stories!).
- Brainstorm session.
- Make many sketches, create scenarios.
- Build creative frameworks (order out of chaos).
- Apply integrative thinking.
- Put customers in the midst of everything: describe they journeys.

- Prototype, test, prototype, test....
- Tell more stories (they keep ideas alive).
- Communicate internally – don't work in the dark!
- Prototype some more, test with users, test internally.
- Execute the Vision: Engineer the experience.
- Help marketing design a communication strategy.
- Make the case to the business – spread the word.
- Move on to the next project - repeat.
- Expect Success: Build implementation resources into your plan.

##### **5. Building social entrepreneurship projects through design thinking**

Social entrepreneurship's building structure contains the features of social collaboration, human-centered innovative activities, visualized idea, and social strategy determination. The features of these building structure matches design thinking's development process. This study intends to identify such a new methodology for building social entrepreneurship projects.

Social entrepreneurs seek to create innovative projects and to incorporate transformational changes into under-represented and under-served communities. Based on social entrepreneurs' desire, the project team must fully understands the lives of people who needs such help. It also involves the knowledge of culture and socio-economic conditions. We can compare the attributes between social entrepreneurship and design thinking methodology and then decide the fitness of adopting such an integrated project design approach.

###### *1. Human-centered focus:*

Social entrepreneurship deals with social problems, therefore, it is always related to people's lives. As indicated in the earlier section, design thinking is a methodology of

human-centered practice. Both entities are highly related to the attribute of human-centered focus.

2. *Strategy and goals:*

Social entrepreneurship seeks specific goals to be achieved and its solution should apply to specific strategies. Design thinking also seeks social entrepreneurs' goals with specific design strategy in the process. Both entities are highly related to the attribute of strategy and goals.

3. *Innovation approach:*

Social entrepreneurs are always described as social innovators since they pursue innovative idea and venture for social development. Design thinking methodology also applies innovative approach into its design process. Both entities are highly related to the attribute of innovation approach.

4. *Altruism:*

Social entrepreneurs, in their deep mind, are to solve social problem and to improve the life of human-being. Design thinking methodology applies new idea to create new product in society. Both entities are highly related to the attribute of altruism.

5. *Collaboration approach and brainstorming:*

Social entrepreneurship involves a variety of stakeholders such as social entrepreneurs, users, citizens, governments, communities, etc. to collaborate together to solve the social problems. Design thinking methodology also needs project team members from diversified backgrounds to collaboratively solve the design concerns. Both entities are highly related to collaboration and brainstorming approaches.

6. *Technology usage:*



Social entrepreneurs use technologies such as the Internet, social networks, and mobile devices to promote and communicate their idea and philosophy with users and the general public in societies. Design thinking methodology also needs computer technologies and tools for carrying out its design process. Both entities are highly related to the attribute of technology usage.

7. *User involvement:*

Social entrepreneurship's projects success is based on the amount of user adoption in the society. More user involvement means better success of the social entrepreneurship project. Design thinking methodology also seeks users' involvement to design a product that will meet users' desire and need. Both entities are highly related to the attribute of user involvement.

8. *Prototype usage:*

Social entrepreneurship's project may start with an initial plan or prototype for seeking further project's improvement. Therefore, continued development will enhance the quality of social entrepreneurship's project. Design thinking methodology also emphasizes the process of experimentation and prototyping process in order to identifying the opportunities of improvement. Both entities are highly related to the attribute of prototype usage.

9. *Test:*

In order to seek a better social entrepreneurship plan and project, test or assessment to such plan and project is needed. Design thinking methodology also applies test stage to assess the quality of designed product for approval purpose. Both entities are highly related to the attribute of test.

10. *Experimentation:*

While social entrepreneurs are not sure about their desire for solving social problems, the practice of experimentation is always implemented. Social entrepreneurship's project experimentation allows such project to be accurately identified. Design thinking methodology also applies experimentation to test the accuracy of the designed products. This way will assure the quality of the designed products. Both entities are highly related to the attribute of experimentation.

11. *Resources need:*

Social entrepreneurship's project consumes a variety of resources such as social capital, funding, human resources, and others. Some social entrepreneurship costs a tremendous amount of resources to make it comes true. Design thinking methodology also applies needed resources such as funding, human resources, technologies, expertise, tools, and others to accomplish the projects. Both entities are highly related to the attribute of resources need.

The above discussion indicates the high relevance between social entrepreneurship project and design thinking methodology. Therefore, we can argue that design thinking methodology can be used in social entrepreneurship's project building practice. The outcomes of these attributes' intensity comparison between the social entrepreneurship and the design thinking is listed in Table 2.

Brown (2016) suggested five (5) stages of designing social entrepreneurship projects through design thinking approach, they are:

1. Ask a good question
2. Get close to the lives of those you are trying to serve

3. Build to think and launch to learn
4. See the entire business system as a design opportunity
5. Teach a person to fish

Brown (2016) indicated that the Bill and Melinda Gates Foundation funded a project to create the Human-Centered Design Toolkit that can be a field guide for NGOs and non-profit organizations to use for innovation. This toolkit has been downloaded over 60,000 times. It has been used for projects such as “the design of a maternal hospital in Nepal, a cooperative of weavers in Rwanda, water distribution management systems in Malawi, and hand washing stations in Vietnam.” (Brown, 2016).

## **6. Standard issues in social enterprise and project design**

Standard is a commonly accepted process about doing thing in organizations, industry, society, or government. Also, standardization is the process of implementing and developing technical standards based on the agreement of different parties that include companies, users, interest groups, standards organizations and governments (Xie, et. al, 2016). This study encompasses two disciplines, social enterprise and design issue, that standards does exist to support their operational processes. We will explore these two separate standard issues next.

International Organization for Standardization (ISO) launched the ISO 26000 standard in 2010. ISO 26000 is the standard for social responsibility, in which it shows the guidance on how business and organizations can operate in a socially responsible way. This standard guide organizations to act in an ethical way for supporting the health and welfare of society (ISO, 2017). This standard provides guidance that helps users (such as social entrepreneurs) and organizations (such as social enterprise) to “translate principles into effective actions and shares best practices

relating to social responsibility, globally” (ISO, 2017). This standard took five years of meetings and discussions among a variety of stakeholder across the world before it was announced in 2010. Parties involved in the standard development include governments, NGOs, industry, labor organizations, and consumer groups among countries (ISO, 2017).

The creation of ISO 26000 followed a long term (five years) of design process, 500 experts in the world from different background to participate in the development activities. This task of this standard creation is similar to the practice of design thinking methodology. Some of imperative attributes of design thinking methodology to be adopted in such standard creation process were human-centered focus, strategy and goals, innovation approach, altruism, collaboration approach and brainstorming, technology usage, and user involvement.

Social entrepreneurship project heavily depends on ethics principle and practice. Institute of Electrical and Electronic Engineers (IEEE) announced “Project defining model processes for addressing ethical concerns during system design” in 2016. This was IEEE P7000 standard that targeted to directly address ethics throughout the design process (IEEE, 2016). The IEEE P7000 standard defines “a process model by which engineers and technologists can address ethical consideration throughout the various stages of system initiation, analysis and design” (IEEE, 2016). The purpose of this standard is to make sure that any system design project can create value-based products and services. Design thinking method has been applied to many value-based projects. The application of design thinking into social entrepreneurship projects ensures the promise of value creation to the society.

## **7. Cases of building social entrepreneurship projects through design thinking**

### *7.1. Stanford University case*

Currently, the real cases of apply design thinking into social entrepreneurship are rare. This study provides a Stanford University's case to illustrate such practice.

In 2007, a team of Stanford University used design thinking approach to design a simple and portable device (that is, sleeping bag for newborns) to help 22,000 low-birth-weight babies around the world to stay warm (Soule, 2013). The project of "The Embrace Baby Warmer" adopted an innovative phase-change material to maintain its temperature for six hours after heating for newborn babies.

This social entrepreneurship project started by a group of Stanford students who had been building a low-cost incubator for their class project. Later on, while this group of students visited Nepal to present their project outcome, they figured out that their project outcome wouldn't help Nepal's residents. During their visitation in Nepal, this group of students observed the need in the community, that is, "low-birth-weight babies often develop fatal hypothermia in homes, many of which lack electricity." (Soule, 2013).

This group of students turned to a different goal to their social entrepreneurship project, which they stated it as following (Soule, 2013):

*"How might we create a baby-warming device that helps parents in remote villages give their dying infants a chance to survive?"*

Students then applied "Design Thinking" method to develop an innovative product, The Embrace Baby Warmer, to help needed families in the world (Soule, 2013).

The process of designing such product was complicated. At first, their ambitious goal of helping low-income resident's baby captured everyone's heart and mind in the project team. The team applied rapid prototyping process to create prototypes and then seeking feedback from the

users quickly. The new prototypes have been created to respond to the feedback from the users. This approach made a better version of the product.

The prototype finally went through the test stage. The project team brainstormed after receiving the outcomes and feedback from the test. The designed project went through readjustment again to refine the product. This process went on again and again until the test result approved their ultimate goals.

### *7.2. Heifer International and Bill & Melinda Gates Foundation*

Heifer International was founded by Dan West in 1944. Its mission is “to work with communities to end world hunger and poverty and to care for the earth (Heifer International, 2017 a). Dan West’s thought to found this organization was based on the philosophy of “teaching a man to fish.” His idea has been carried on in the organization to end hunger and poverty in the world. It is a successful social entrepreneurship organization. Its projects help to reduce poverty and generate more sustainable agriculture and commerce in some African countries. Heifer International partners with public and private sectors around the world “to put the entrepreneurial power of self-reliance in the hands of small-scale farmers by connection them to markets and their local and national economies (Heifer International, 2017 a).

Heifer International received a grant of \$42.8 million from the Bill and Melinda Gates Foundation in 2008 to start the East Africa Dairy Development project. The project goal was to help about 179,000 small-scale dairy farmers to double their incomes (Heifer International, 2017 b). Years later, Heifer International received another \$8.5 million grant from the Gates Foundation to continue the project. This project intended to assist small dairy farmers to increase their milk productivity and to sell more milk by connecting to markets (Heifer International, 2017 b). A team

of IDEO participated in this project to understand the processes and design new products, services and programs with design thinking methodology (Brown and Wyatt, 2010). This project became one of the leading market oriented agro-livestock development initiatives in East Africa Heifer International, 2017 b).

### 7.3. *Social Enterprise Institute at Northeastern University*

Northeastern University applied design thinking methodology into their Social Enterprise Institute (SEI) students' projects for solving social problems in the field. A team-student project developed a hybrid enterprise and micro-saving program for the South African Red Cross Society in 2012. (Social Enterprise Institute at Northeastern University, 2013). SEI students at Northeastern University decided on July 29, 2013, to conduct a ten-day design driven project. Their projects were to identify innovative solutions to some difficult social problems in South Africa, through design thinking methodology, for their client organizations (Social Enterprise Institute at Northeastern University, 2013). Students adopted design thinking methodology to conduct this project since students can create innovative solutions through inductive and deductive reasoning approaches.

The 2013 team applied empathic design in South Africa, presented convincing ideas of a "pay-it-forward" student engagement program for their client. It is "a training and micro-franchise model to engage women to upcycle billboards into bags, and a platform for fostering community engagement and mitigating the effects of high leadership turnover in youth-focused urban farming projects". (Social Enterprise Institute at Northeastern University, 2013). The outcomes of student projects indicated a positive feedback from student participants who have learned social subjects

through real practice. On the other hand, SEI's clients also showed their satisfaction of these student's work. (Social Enterprise Institute at Northeastern University, 2013).

## 8. Conclusion

A successful social entrepreneurship would make a positive contribution to the society. In order to generate an optimal outcome of implementing social entrepreneurship, this study applied a new approach, that is, design thinking, to build up valuable implementation mechanism for social entrepreneurship projects.

Design thinking is a human-centered innovation process that emphasizes observation, collaboration, fast learning, visualization of ideas, rapid concept prototyping, and concurrent business analysis, which ultimately influences innovation and strategy. Social entrepreneurship project and design thinking methodology are highly related to their attributes and therefore can be proved to be integrated together.

A Stanford University's case study fully exhibited the use of design thinking to implement social entrepreneurship project by creating an innovative product – the Embrace Baby Warmer – to help needed babies in the world. Heifer International and Bill & Melinda Gates Foundation's case study showed the successful collaboration between design experts and social entrepreneurs to reduce poverty in the society. The Social Enterprise Institute at Northeastern University case demonstrated the effect of learning design thinking methodology in the classroom and practicing in the real world to solve social problems.

We expect more social entrepreneurs to use design thinking methodology to build their comprehensive, human-centered, and innovative products or projects to improve the life of human-being.



**Table 1: Examples of social entrepreneurship (Source: thesedge.org, 2016)**

<b>Social enterprise types</b>	<b>Organizations examples</b>	<b>Business models</b>
Social Supermarket	Community Shop	Fee for Service
Used Textbooks for Social Change	Textbooks for Change	Cross-compensation and Independent Support
Online Socially Conscious Marketplace	eBatuta	Market Connector
Sustainable Water	Water Health International	Fee for Service
Micro Lending	Kiva	Market Connector
Social Crowdfunding	Start Some Good	Market Connector
Baking/Cooking for a Social Cause	Edgar and Joe's	Employment and Skills Training
Efficient Wood Stoves for Developing World	Bio Lite	Cross-Compensation
Innovative Information Product	Information Blanket	Cross-Compensation
Micro Power Generation	Husk Power; Totus Power	Fee for Service
Socially Conscious Consumer Electronics	Fair Phone	Fee for Service and Market Intermediary
Education Books on a Social Topic	Chef's Collaborative Network	Fee for Service and Independent Support
Ultra-Modern Technology to Attract Economic Development	O-Net	Fee for Service and Cooperative
Beauty Products to Support a Social Mission	Bottle 4 Bottle	Independent Support
A Virtual Factory of Computer Workers	Cloud Factory	Employment and Skills Training
A Marketplace for Social Good	Do Good Buy Us; Ten Thousand Villages	Market Intermediary
Exercise Equipment for Social Outreach	Rubber Banditz	Fee for Service and Cross-Compensation
Educational Travel Company	Think Impact; Evoluzion	Fee for Service
Food for Philanthropy	Newman's Own; Late	Independent Support
Social Products and Employment for the Underserved	Livelihoods	Employment and Skills Training, Fee for Service
Water for Everyone	Soma Water	Cross-compensation
Micro-Giving for Easy Philanthropy	B1G1	Cross-compensation or Independent Support

**Table 2: Comparison of intensity between Social Entrepreneurship and Design Thinking**

<b>Attributes</b>	<b>Within Social Entrepreneurship</b>	<b>Within Design Thinking</b>
Human-centered focus	High	High
Strategy and goals	High	High
Innovation approach	High	High
Altruism	High	High
Collaboration approach (also brainstorming)	High	High
Technology usage	High	High
User involvement	High	High
Prototype usage	High	High
Test	High	High
Experimentation	High	High
Resources need	High	High

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