

SOCIAL INNOVATION THROUGH APPROPRIATE TECHNOLOGY: WHAT IS THE INITIATIVE OF BUSINESS MODEL?

ABSTRACT

There is a growing concern all around the world about faltering economy that doesn't seem to pick up for the time being. Professor C.K. Prahalad suggested BOP (The Bottom of Pyramid) theory and said targeting socially vulnerable groups, which have been out of focus in a capitalist society, would revive a current weak economy. How can businesses help them who have relatively less money to spend? Appropriate Technology is in the spotlight now for such a reason. This paper introduces appropriate technology and social innovation and suggests how social enterprise business models can improve through social innovation.

Keyword: Social innovation, Appropriate Technology, BOP (The Bottom of Pyramid), Social enterprise, Business model

1. INTRODUCTION

More and more social services are necessary in various parts of the world as the world economy remains sluggish, which makes social enterprises more important. With socially meaningful values as its motto, social enterprises make a profit and reinvest it to grow. To achieve a variety of social goals, social enterprises focus on innovating society with creative ideas. European countries have already suggested cooperative models to support and finance social enterprises. Recently, moreover, as IT industry advances and businesses with high technology take part in the move, social entrepreneurship is rapidly spreading. In Korea, however, a small number of personal social enterprises were founded from the late 1990's but the trend is steadily on the rise since the bill was enacted to foster social enterprises in 2007. In addition, many conglomerates are making efforts to do their part as corporate social responsibility has become more important. However, a few businesses use appropriate technologies both in Korea and abroad. Consequently, society as a whole is looking for innovative activities to use them and to tackle social problems. This paper introduces technology-intensive social enterprises and suggests social business models based on technology and innovation.

2. SOCIAL INNOVATION AND APPROPRIATE TECHNOLOGY DEFINITION OF SOCIAL INNOVATION

Social Innovation is about new strategy, concept, idea, and organization that seek to deal with every kind of social demands and problems such as environment, education, or healthcare based on individual ability. Young Foundation (2011) examines individual welfare in current situations and defines it as a new business mechanism which can be improved. In a broader context, it is a process in which social goals are designed, developed, and advanced to new ideas. It generally means progressive activities and services which are powered by goals to meet demands society has (Mulgan, 2007). It can be also defined as strategy, concept, idea, and structural pattern broadening and strengthening the role civil society takes (Yuko Harayama, Yoko Nitta 2010).

2.1. CHARACTERISTICS OF SOCIAL INNOVATION

According to TEPSIE (Theoretical, Empirical, Policy Foundation for Social Innovation), social innovation has four characteristics. Firstly, hierarchical order does not exist among different fields as it is cross-sectional. Second, it is mainly focused on open cooperation. Third, it is user-centered and user-oriented, which means users lead innovation as producers themselves. Forth, it is mutual and cooperative and, thus, emphasizes that each sector should be aware of the relation and work together.

2.2. Social Innovation and Appropriate Technology in BOP

BOP (Bottom of Pyramid) means a market for a low-income bracket of society. Franklin Roosevelt used the concept first in 1932 and it came to mean the bracket at the bottom of the Pyramid as C. K. Prahalad defined it. To satisfy new expectations and demands from society, governments and businesses are recently stressing the importance of welfare spending and corporate social responsibility. Now, appropriate technology is drawing low-income people's attention not only from developed countries but also all over the world. Many Western developed countries are already engaged in a variety of businesses, mostly led by social enterprises, and it has helped local residents to achieve economic success. Using Appropriate Technology and producing goods are useful for the poor, those countries are successfully fighting poverty and making companies take corporate social responsibility. "Appropriate Technology" is more than just technology here. Rather, it has broader meaning in an economic sense including culture, social characteristic, economic size, and sustainability. A British economist E. F. Schumacher said human-scale, decentralized, and appropriate technologies are more helpful for better quality of life, naming it Intermediate Technology. The term was renamed as Appropriate Technology after a long debate later.

3. SOCIAL BUSINESS MODEL

Many different kinds of business models have been suggested to create new opportunities

through appropriate technology. Elkington and Hartigan (2008) classified social business model into three business types.

3.1. Leverage Nonprofit Venture Model

Until recently, governments and nonprofit organizations have supported and run social business models and the United States has been leading the trend. The most pronouncing trait of such a model is that it uses available resources as leverage for public good and the main purpose is to bring the resources to an economically vulnerable group. Entrepreneurs provide Human resources and technological infrastructure so that economic advances can last for a long period.

3.2. Hybrid Nonprofit Venture Model

This model comes with a certain level of profit, compared to Leverage Nonprofit Venture Model, and is popular among many social entrepreneurs because novel forms of social and environmental values can be created through the model. The model is quite similar to the previous model in that both are designed to help minority groups in the market but the latter does not guarantee profit. With Hybrid Nonprofit Venture Model, governments or businesses develop marketing strategies for the poor and provide the goods and services, and, in the end, they can collect part of their initial investment.

3.3. Social Business Venture Model

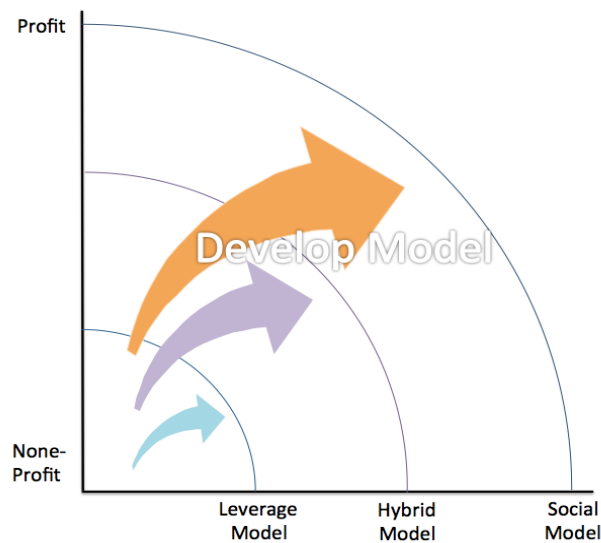
This model is independent profit-seeking unit whose main focus is on social mission. According to the model, enterprises are founded to yield profit and they do certain activities to bring change to society and environment. Such businesses exist to make profit or maximize shareholders' earning. In addition to it, they distribute part of profit to provide better welfare programs to the poor in developing countries and to bring balanced development of local communities. Or they reinvest part of profit to make their products consistently available.

<Table 2> Examples of Social business model

Business Model	Examples
Leverage Nonprofit Venture Model	Kaymac Rotomoulders and Pioneer Plastics South Africa : Q drum PLAYPUMPS International : Play Pump Institute for One World Health : Medicine
Hybrid Nonprofit Venture Model	DELIGHT : Low price Hearing-aid PHILIPS : Chulha SCHEFFLER : Scheffler Reflector
Social Business Venture Model	GE : Eco-magination Vestergaard Frandsen Group : Life Straw

As Initial Leverage Nonprofit Venture Model brings a certain level of profit, along with part of initial investment, the model develops gradually into Hybrid Nonprofit Venture Model.

Profit from the process goes to product development for social purpose and the second model advances to the third model, Social Business Venture Model. The shift is shown as follows.

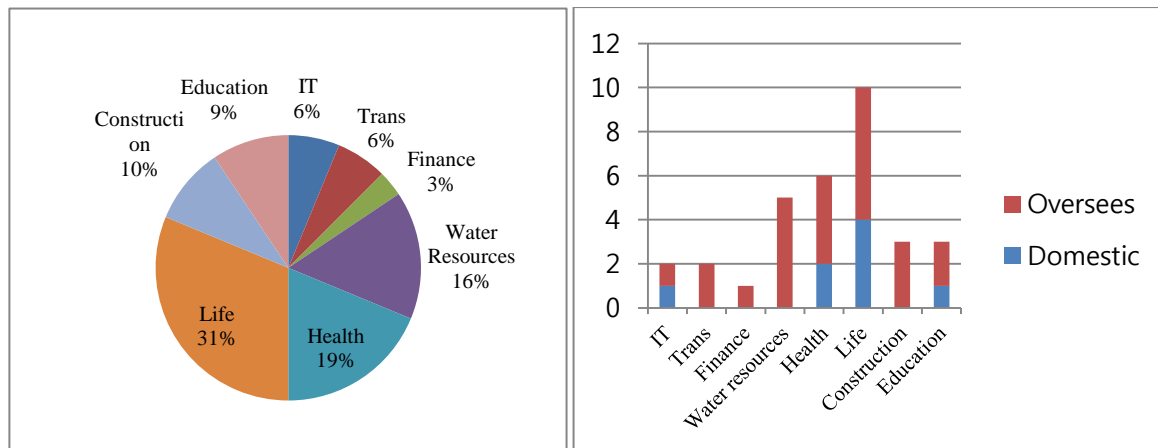


< Figure 1 > Development processes of Social business Model

Case analysis shows that Korea is at an early stage in the process, with most businesses in between Leverage Nonprofit Venture Model and Hybrid Nonprofit Venture Model. Foreign countries have more advanced version of venture businesses which are either Hybrid Nonprofit Venture Model or Social Business Venture Model.

4. A VARIETY OF PRODUCT BASED ON APPROPRIATE TECHNOLOGY OF SOCIAL ENTERPRISE

Plenty of case analysis of Korea and other countries shows that diverse goods and services are produced using appropriate technology including IT, transportation, finance, water, health care, and living. Most products made by social enterprises with appropriate technology and technology-based services are personal care products and medical supplies. Appropriate technology itself is targeting the poor in developing countries and many businesses are highly interested in fields which benefit marginalized groups in developing countries. According to Professor C.K. Prahalad's BOP (Bottom of Pyramid) theory, the world's low-income population account for more than half of the globe and goods made with appropriate technology are expected to become more diverse as demands for such products are expanding even among those who are in the upper parts of the Pyramid. Appropriate technology can be also used in every part of the world including construction, food, transportation, education, and communications. Appropriate Technology in Korea is being used in a small number of limited sectors since Korean businesses mostly develop skills and make products with major consumers in their minds.



<figure2> A graph of a variety of products

5. COOPERATIVE SYSTEM

Case analysis of foreign countries suggests different types of cooperative system using appropriate technology. It can be grouped into two large categories, one between private businesses and the other between private businesses and government organizations. The former includes cooperation between non-governmental organization and social enterprise and between non-governmental organization and commercial enterprise. The latter includes cooperation between government organization and social enterprise, between government organization and commercial enterprise, and among government organization, non-governmental organization and commercial enterprise. The system can be summarized as follows.

< Table3> categories of cooperative System

Category	Cooperative System	Definition	Example
Private – Private Partnership	NGO-Social Enterprise	NGOs and social enterprises work together in partnership; Both manage joint projects or NGOs establish and run local social enterprises. They generally do not seek commercial profits.	·G-Saver(GoodNeighbors-Good Share) · Life straw, PermaNet (Vestergaard Frandsen-UN)
	NGO-Commercial Enterprise	Commercial enterprises develop appropriate technologies for goods and services and distribute or sell them in local areas.	·Chulha(Local NGO-Philips) · Care-stick(Korea Food for the Hungry International-Hyundai Hysco)
Private – Public Partnership	Government Agency-Social Enterprise	Social enterprises do business of appropriate technologies while seeking social goals with the help and support from government.	·Q-Drum(Government-Kaymac Rotomoulders and Pioneer Plastics South Africa ·Solar Cooker(Global Green Growth Institute-Energy Farm)

	Government-Commercial Enterprise	Commercial enterprises are in partnership with government and return profits to society to fulfill social responsibility.	·Korean Intellectual Property Office-Samsung Electronics
	NGO-Government-Commercial Enterprise	Three separate groups fulfill their own duties with NGOs' expertise, commercial enterprises' technologies and governmental support.	·Photovoltaic Industry(Good Neighbors-GS Caltex-KOICA)

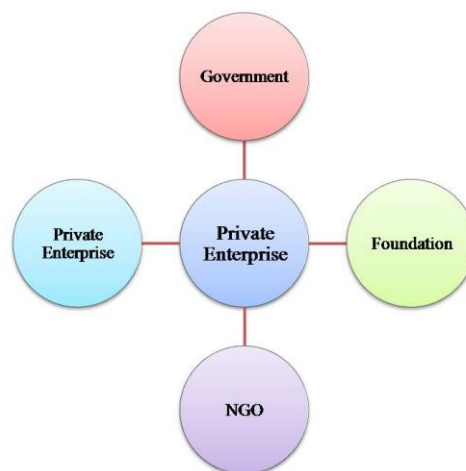
Partnership members cooperate to make up for each other and aim to make the most of their ability to produce the best results. Among those cooperative systems, Korea lack active partnership between private and public sectors. Jeong Yu a, team manager of Official Development Assistance Institute in KOICA, says “Korean government’s partnerships with other governments only are not enough. We need to build up more diverse partnership channels. Government needs more cooperation with the private sector and private businesses will have to contribute to society for broader international partnership.”

6. FINANCING STRATEGY

There are many available financing strategies to utilize business models for social enterprises that use appropriate technologies. In a survey of financing trends by Skoll Foundation, most respondents said appropriate technology business would need enough finance that could last five to ten years. As mentioned above, businesses raise funds in many ways; a private enterprise personally prepares financial resources and run a business: two private enterprises work in partnership to secure money: government finance private enterprises: foundations finance private enterprises: donors help private businesses. Nonprofit social enterprises or social venture capitalists prefer the way in which foundations or government support private enterprises. As referred in the project, “A study of effective ways to assist official development using appropriate technology,” several developed countries like Germany and the Netherlands have been using appropriate technologies for official development assistance for a long period and systematic ways and programs to raise funds are already in place in those countries. In Korea, on the other hand, official development assistance systems are at an early stage and the country does not have any related government body that helps developing countries with appropriate technologies. Because those systems in Korea have been heavily dependent on government and its funds, new social enterprises have difficulty finding financial resources while it is one of the important factors in social business.

As an alternative to the problem, Korea has a government-owned organization, Korea Social Enterprise Promotion Agency, to help social enterprises. The agency was established in accordance with Article 1 of Social Enterprise Promotion Act and takes charge of tasks as follows; fostering social entrepreneurs, finding social enterprise models and supporting them: monitoring and assessment: building and running social enterprise network by industry and area, both regional and nationwide: managing integrated information systems and websites for social enterprises: helping social enterprises with management, technology, tax, labor, and

accounting: international exchange and cooperation. Korea Social Enterprise Promotion Agency has authorized 774 social enterprises in Korea and 20 abroad for now. Among them, few uses appropriate technologies and they are rather related to job creation in Korea such as environment, social welfare, culture, art, and sightseeing. Koreans have poor knowledge about appropriate technology and government agencies are not willing to help with it. Two corporate bodies, ‘Christian Forum in Science and Technology’ and ‘Sharing and Technologies Incorporated,’ first started to talk about appropriate technologies in 2005, and, now, a number of organizations including ‘Scientists and Engineers without Borders,’ ‘KOICA,’ ‘Good Neighbors,’ ‘Korean Intellectual Property Office,’ and ‘Ministry of Environment’ are working on researches and projects to find a way to efficiently provide appropriate technology. While other developed countries actively develop new products, KOICA only send emergency aid teams or service teams. Accordingly, organizations or enterprises engaged in appropriate technology will have to try to achieve long-term goals rather than to seek short-term results as financing alone cannot do much to promote social enterprises based on appropriate technologies. Advanced countries that help developing countries do joint projects with governments and local private enterprises of those developing countries and acquire financial resources from them or international organizations, either bilateral or multilateral. In Korea, however, financing belongs exclusively to the government. Therefore, it is important for the Korean government to raise public awareness about appropriate technology and strengthen ties with private enterprises, international organizations, governments of developing countries and other related organizations to have more diverse financial resources.



<figure3> Dynamics of financing strategy of social enterprise

7. RESEARCH IMPLICATIONS AND CONCLUSIONS

As technology becomes more closely related to social issues, social enterprises are becoming more important when it comes to fixing social problems. Social enterprise, sitting between nonprofit group that seeks public value and profit-seeking business, not only provide social services but also hold its position in society by producing profit at the same time. Social enterprise can last only when it achieves public interest and makes profit at the same time. However, according to a three-year achievement analysis of social enterprises by Ministry of Employment and Labor, only 72 social enterprises out of 297 recorded surplus in 2009 and 71 out of 491 in 2010. Recently, many businesses are showing interest in appropriate

technology as a way of coping with the situation. Therefore, social enterprises have to come up with new business models more aggressively than current leading economies so that they can achieve economic success and provide social services.

Here are four ways for social enterprises to adapt to a rapidly changing market and technological environment.

7.1. Convergence of technologies to research and develop new products

All around the world, a variety of technologies are being used in various fields in a new way. As we can see in the fact that the world is paying attention to the combination of appropriate technology and design, a simultaneous use of technology and something else is now shown as a radical technology paradigm that changes personal ability, social structure, national technology and even social system. Therefore, for Korean companies to have a competitive edge in the market with a strategy, they need to do more research and use different technologies along with appropriate technologies to make diverse products.

7.2. Promoting cooperative project that seeks a long-term goal

To overcome the limitations appropriate technology has, the problem of unsustainability, organizations and companies working on the technology have to pursue success in a long-term point of view. Also they will have to work together with groups like Christian Forum in Science and Technology or Sharing and Technologies Incorporated to foster appropriate technology business. SK Happiness Foundation and Good Neighbors hold a festival of social enterprise for appropriate technology annually. Such an active promotion activity will draw more attention from people and encourage technology development.

7.3. Establishment of strategies using CSR (Corporate Social Responsibility)

Many large companies abroad are well aware of their social responsibility. They are playing an important role in leading activities that contribute to society and encouraging consumers to join. However, it is not easy to find such a company in Korea. Although Korean companies also have mission slogans such as environmental management, ethical management, or social responsibility, they haven't suggested any specific ways to fulfill it. With inefficient support from the government, Korean social enterprises staying at Leverage Nonprofit Venture Model or Hybrid Nonprofit Venture Model face huge financial problems when they try to move up to Social Business Venture Model. In addition, they find it hard to look for investors as Koreans are not familiar to giving back to society. Therefore, the government has to make a better use of social systems to improve the environment and form a social network that is helpful to find and introduce investors.

7.4. Building online and offline platform

Germany's GTZ and the Netherlands' SNV have been building partnerships by connecting interested parties to organizations in charge of appropriate technology and development assistance. Such a cooperative system is helpful for them to do the business more efficiently.

Likewise, now, Korea also needs to organize professional institutions for appropriate technology business and build online business platform using social network. Korean government needs to form an interconnected network cooperation system with social enterprises and foster them with appropriate technologies. Various social business platforms are starting to come out to support the network. Kopernik is an online platform that links fund providers and developing countries which are in need of appropriate technologies and other technologies. It was established for social enterprises with appropriate technologies to share, exchange, and provide them. Through such a platform, Solar Ear is providing hearing-impaired people with goods at affordable price and contributing to job creation at the same time. Users also participate in innovation through an open platform, which has been a frequent topic in open innovation, and it has created a totally new market environment focused on hearing-impaired people. What Kopernik, an open innovation platform, has been doing conveys important lessons to potential social enterprises.

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