



**RECYCLE BUSINESS AS A SOCIAL ENTERPRISE**

**BY**

**MISS NAPAE TERAPIGITERA**

**AN INDEPENDENT STUDY SUBMITTED IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR  
THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION  
(GLOBAL ENTREPRENEURSHIP)  
INTERNATIONAL MASTER IN BUSINESS ADMINISTRATION  
FACULTY OF COMMERCE AND ACCOUNTANCY  
THAMMASAT UNIVERSITY  
ACADEMIC YEAR 2017  
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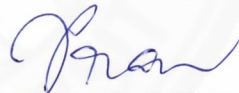
ENTITLED

RECYCLE BUSINESS AS A SOCIAL ENTERPRISE

was approved as partial fulfillment of the requirements for  
the degree of Master of Business Administration (Global Entrepreneurship)

on August 20, 2017

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### **ABSTRACT**

In this paper, we would discuss recycling as a social enterprise. The waste problem in Thailand has always been on a top national priority list that needs to be deal with intensely. Over decade people learned that it is a big issue and it is not solely a government responsibility. The research method that will be used is an interview and online survey. The interview is conducted to get a deeper understanding on the mindset and idea towards waste problems solving. We look at social enterprise as a way to ease out waste problems. We studied what are the social enterprise problem as well as how to make it more successful in Thailand.

**Keywords:** Solid Waste, Recycle, Social Business, Social Enterprise, Communication

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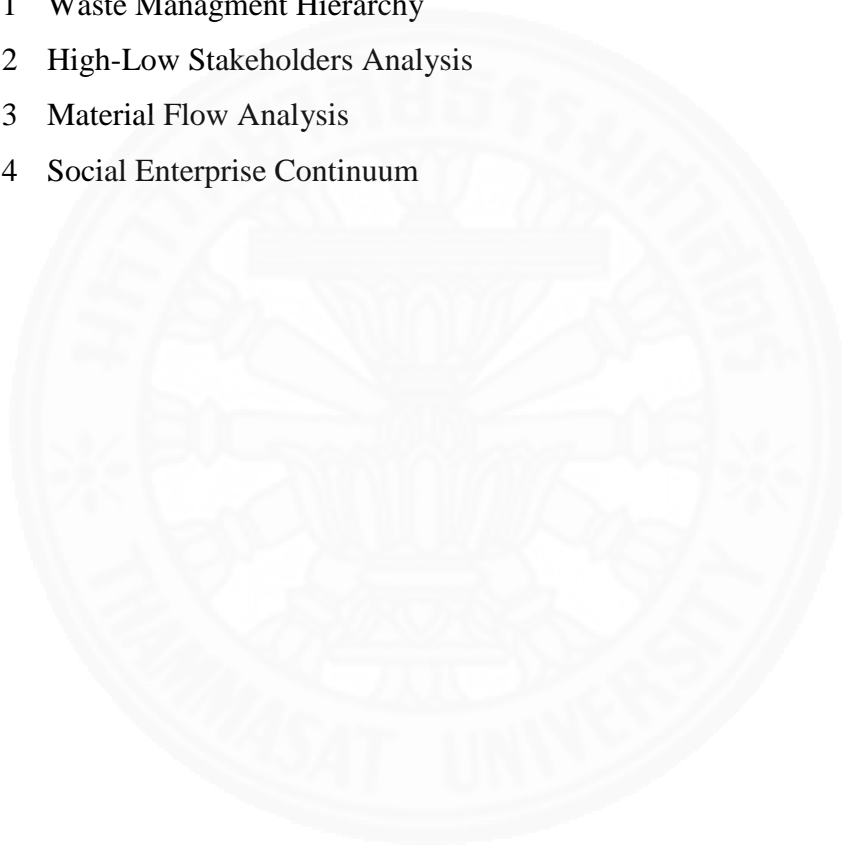


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## **CHAPTER 1**

### **INTRODUCTION**

Thailand faces waste severe problems in the past few decades. The waste is tremendously increasing year by year that it seems so difficult to reduce. As a country becomes more industrialized, it followed by more economic consumption and waste are being generated.

As usual, Thailand has its own way of creating waste and unique way of waste management. In the past, people are still using recyclable packaging such as pandan leaves, as a country become more developed, we are moving towards more convenience way of consumption. Hence, we are no longer collect rainwater for consumption but rather we are using bottled water only as it has a better image of cleaner. However, people are not looking at these problems seriously. Apart from the consumption that is already one issue, we should also look at the problem from waste collection process in Thailand. It is not sufficient and very few improvement since the past few decades. If we saw collection trucks in a particular way, currently, it still looks the same. People have a negative view of the waste truck and its collection process.

Thailand economy depends largely on agriculture. Recently, Thailand is faced with severe environmental problems such as droughts and global warming. The economic product of country such as rice is badly affected as the farmers could not predict their products volume and could not plan how to get more goods. The rain reason is no longer valid from mid-May to end of October. It rains unpredictably. When it rains too much, it could also cause flooding that always gets worse than it involved with municipal waste. The waste such as plastic bag often clogs the waterway causing water accumulation and cause flash flooding.

Many people in Thailand still believes that it is the government responsibility to solve the waste problem. It is certainly insufficient if we are only waiting for the government to solve this issue for us. The private sectors have a role to mitigate this issues too. The environmental problems need many stakeholders to deal with. For example, non-government organizations (NGOs), communities, schools, housewives, cleaners, students, and government.

## 1.1 Waste Situation in Thailand

One of the biggest environmental issues in Thailand is waste management that leads to many health issues such as Atopic dermatitis. Also, it could lead to many forms of pollution such as air and land pollution. Thailand ranked 6 from 192 countries with ocean shorelines. Based on 2010 data, we have dumped almost 1.03 million tonnes of plastic waste into the oceans. The table below shows top ten marine polluters.

Table 1.1

### *Waste Situation around the world*

Country	Units (Millions of tonnes)
China	8.8
Indonesia	3.2
The Phillipines	1.9
Vietnam	1.8
Sri Lanka	1.6
Thailand	1.0
Egypt	1.0
Nigeria	0.9
Malaysia	0.9
Bangladesh	0.8

*Note. International rankings of Thailand: Environment, by Wikipedia, n.p., Retrieved from [https://en.wikipedia.org/wiki/International\\_rankings\\_of\\_Thailand](https://en.wikipedia.org/wiki/International_rankings_of_Thailand)*

Waste refers to an unwanted material left over from a production process, or output which has no marketable value. It also refers to inefficient or non-essential activities. It can be divided into seven types which are an electronic waste, medical waste, household waste, industrial waste, marine debris, river dumping and municipal waste (MW). In this report, we will mainly focus on municipal solid waste (MSW). The municipal solid waste (MSW) is defined to include refuse from households, non-

hazardous solid waste from the industrial, commercial and institutional establishment (including hospitals), market waste, yard waste and street sweepings.

Under Municipal Solid Waste (MSW), there are subdivided into four categories, which are a compostable waste, recyclable waste, hazardous waste and general waste. In this report, we are particularly concerned about solid waste that can be recycled such as glass, plastic and etc.

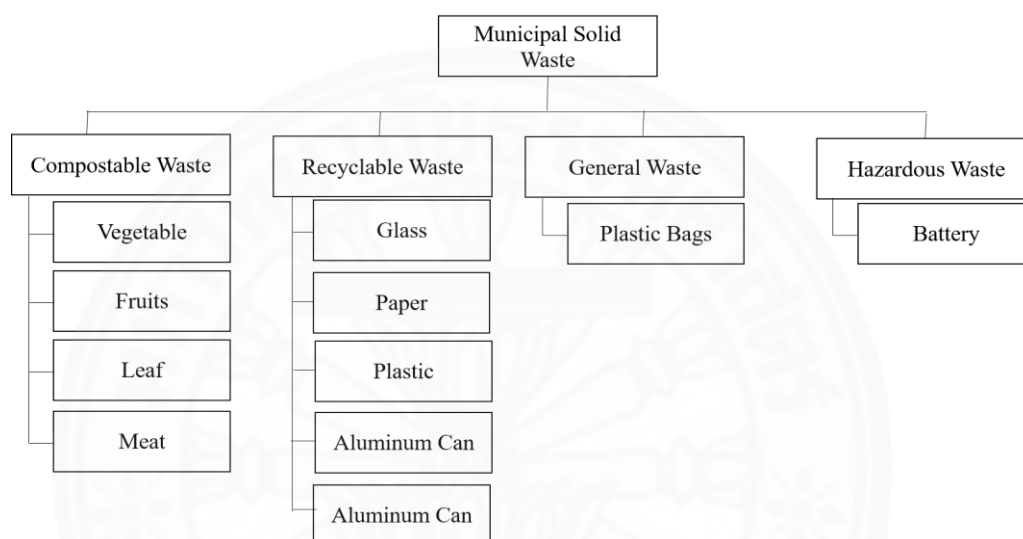


Figure 1.1 Type of Solid Waste.

Hazardous waste (HW) refers to waste that contains or contaminates with hazardous materials or exhibit the hazardous characteristics (Jiaranaikhajorn).

Infectious waste (IW) refers to body parts or carcasses, sharps items, discarded materials and wastes from wards.

These problems affect both animals and human. As for human, it could affect our health. And as for animals, it could affect the water quality and animals die because it lacks oxygen.

The waste management in Thailand is done by the government. There is regular collection from people home. And people would pay monthly fees for the waste to be collected. The problems lie in on the fact that there are not enough landfills and the amount of waste increase every year. The table shows waste volume from 2006 – 2016. It is about 46% increment within ten years..

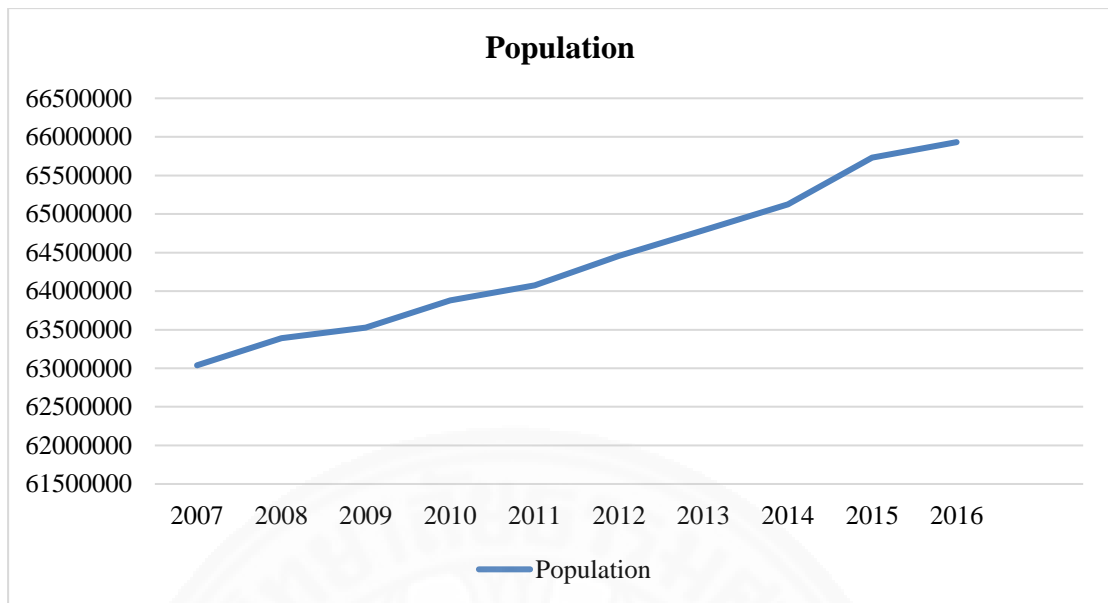
Table 1.2

*Volume of waste per day*

<b>Year</b>	<b>Amount of waste per day (tonnes per day)</b>
2006	40,012
2007	40,332
2008	41,064
2009	41,410
2010	41,532
2011	43,779
2012	65,577
2013	73,355
2014	71,778
2015	73,560
2016	74,130

*Note. Waste Generation 2005-2010*, by Pollution Control Department, 2011, Retrieved from [http://www.pcd.go.th/info\\_serv/waste\\_wastethai48\\_53.html](http://www.pcd.go.th/info_serv/waste_wastethai48_53.html), 01/05/12

From 2007, Thailand population has grown tremendously from 63,389,730 to 65,931,550 in 2016 (Official Statistics Registration System, 2017). It followed by fast growth and development in both rural and urban area, that results in increasing in higher consumption and results in increasing amount of waste.



*Figure 1.2 Thailand Population Growth from 2007 – 2016. From Official Statistics Registration System, 2017, by Countrymeters, Retrieved from <http://countrymeters.info/en/Thailand>*

These lead to the problem of insufficient waste management facilities such as incinerators and landfills. During 2013, when the country undergoes major flooding in more than decades, people are concerned more about waste issues. There is some movement from both public and private sectors. For public sectors, they encourage people to separate waste through 3R programs. On the other hand, private sectors are considered how to make good use out of waste. Despite the effort of both parties, it is still insufficient. In 2016, only 5.80 million tonnes are brought to recycle or turn into the usage (Environmental Report, 2016).



### 1.1.1 Solid Waste Separation Flow Diagram

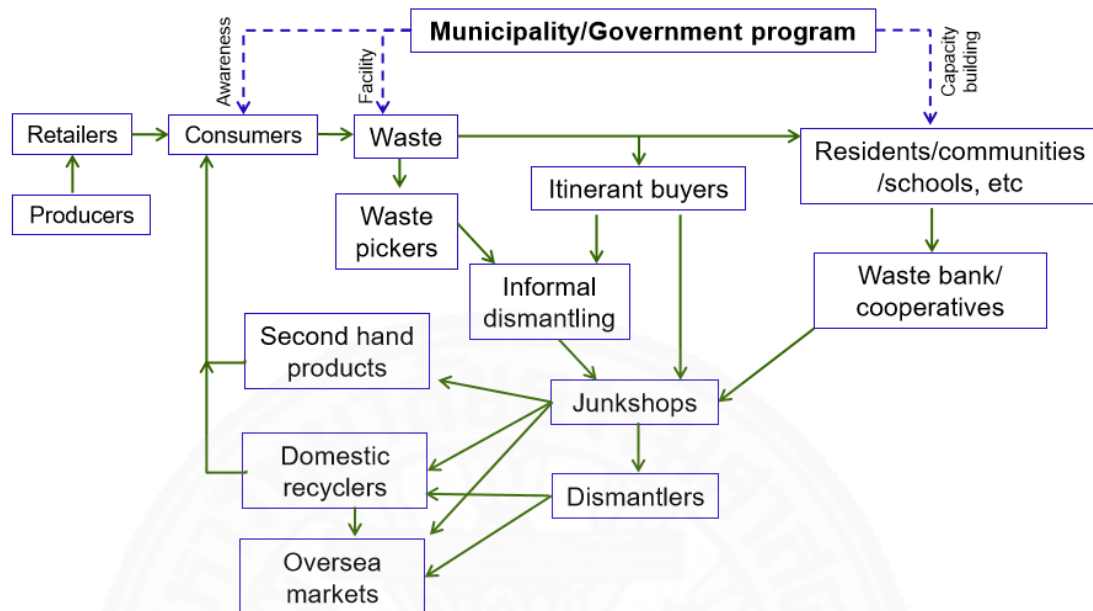


Figure 1.3 Flow of recyclables in Thailand

The diagram above shows that producers produce products then sell it to retailers. The customers bought and use the product. It then becomes waste. Some people feel that their second-hand products are still in good condition, so they are willing to sell it at the junkshops. The products from the junkshops that are being thrown away will be sent to the domestic recyclers that will dismantle the products. The excess amount of waste will be sent to overseas markets. The waste bank is set up to support the waste issues.

### 1.1.2 How to reduce Waste(3R)

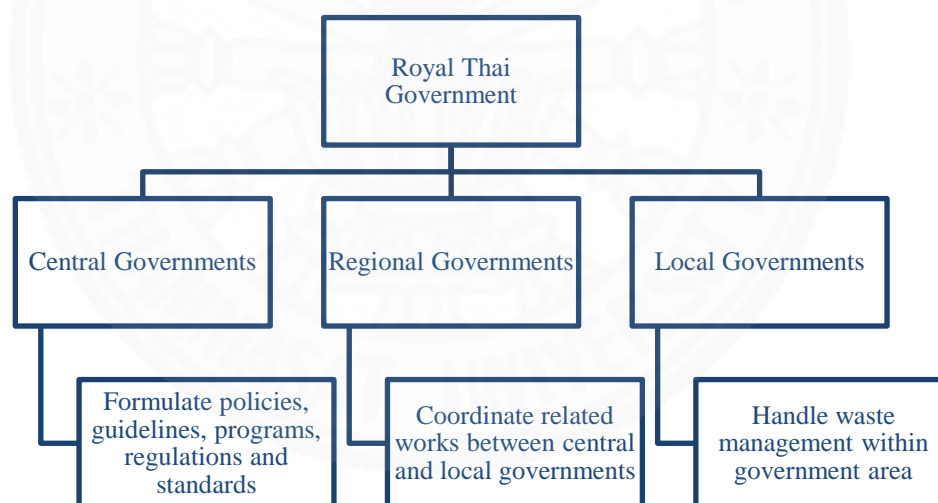
#### 1. Thai style recycling business model

When waste is coming out from household, people will place an unseparated waste in a plastic bag and place it outside their home. As a routine, the saleng or three-wheeler will take this bag and separate waste into recyclable and non-recyclable. The recyclable product will be further categorized into material types such as plastics, papers, aluminium can and etc. The non-recyclable will be left at where it is and wait for the government waste truck to dispose. The saleng waste collected will be put into their three-wheel and sell into small recycle shop. The small recycle shop will

further categorize and compile it into a larger volume and sell it to authorized dealer that will be further sent to the factory to complete the whole recycle process. From the information given, it can be conclude that the waste that saleng pick up is considered to have value and those that are left behind are often less value or non-value at all. According to Pollution Control Department, the recyclable material are increased every year as shown in the diagram.

## 2. Organizational Roles Related to MSW Management

The diagram below shows the Thai government units that are responsible in dealing with waste management. There are three units that are responsible; central governments, regional governments, and local governments. The local governments consist of four categories, which are Municipality, Sub-district Administrative organization (SAO), Provincial Administrative organization (PAO) and Special Administrative Areas (Bangkok and Pattaya City).



*Figure 1.4 Roles and responsibility of the Royal Thai Government. From Overview on Waste Management in Thailand, by Taweechai Jiaranaikhajorn, n.d., Retrieved from [http://infofile.pcd.go.th/mgt/overview\\_waste.pdf](http://infofile.pcd.go.th/mgt/overview_waste.pdf)*

## 1.2 Social Enterprise in Thailand

Social Enterprise refers to an organization that maximizes improvements in human and environmental well-being or problems. The problems that could be underlooked by the government or an issue that no one has successfully solve it. Therefore, social entrepreneurs play an important role to support development as well as the well-being of the societies (Abu-Saifan, 2012). The enterprise could be for-profit or non-profit. The term social enterprise is always confused with Corporate Social Responsibility (CSR). Social enterprise has become well-known after the establishment of Grameen Bank by Muhammad Yunus. The bank that offers micro-financing to the poor in Bangladesh and it becomes a role model for many fellow social enterprises around the world. Currently, there are many social enterprise models available. There are service subsidization model, market intermediary model, organization support model, employment model, and cooperative model.

Table 1.3

### *List of Social Enterprise*

<b>Country</b>	<b>Social Enterprise</b>
Cambodia	Digital Divide Data
India	Aravind Eye Hospital and AuroLab SKS India
Bangladesh	Grameen Bank XayanIT
Africa	Playpumps
Kenya	Kickstart

Note. *List of Social Enterprise*, by Wikipedia, n.d., Retrieved from <https://en.wikipedia.org/>

### **1.3 Research Scope**

This research will have limitation on the information of what is social enterprise as there is no clear definition and the research does not have consistency in common research topics. Also, the number of social enterprise in Thailand is not accurate as there is no evidence of how many enterprise are there in Thailand. In the past, there is a business unit that handle this issue, however, it was closed down in 2014. Therefore, there will be no consistency in the information given in the research.

1. Although deliberate effort, we face unavoidable limitation in trying to find the official data on the numbers of social enterprise in Thailand and the number of recycle business in Thailand. Also, we encounter the limitation on the resource of waste business concept in Thailand.

2. Our research collection process is focused through personal interviews but often we could not arrange a match time, which result in email and telephone surveys.

3. The response in some questions are missing as there are some changes in questions during the survey collection period. Therefore, we can only able to draw only limited inference for individuals.

### **1.4 Research Objective**

The objective of this report is to determine what are the factors that impact the opening of a green environment social enterprise and which communication mode we should use.

### **1.5 Research Questions**

1. To design marketing communication on waste recycled.
2. To explore possibilities of establishing a recycle SE in Kanchanaburi
3. To explore the answer to the research questions, a combination of primary research and secondary research would be conducted. The survey and in-depth interview will be used for primary research. The newspaper articles and the official report will be used for secondary research.

## **CHAPTER 2**

### **LITERATURE REVIEW**

In this chapter, definition of social enterprise and communication literature would be discussed to understand further about the problems.

#### **2.1 Solid Waste**

##### **2.1.1 Definition of solid waste**

According to The Resource Conservation and Recovery Act (RCRA) has stated the definition of solid waste as follow;

“any garbage or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, resulting from industrial, commercial, mining, and agricultural operations, and from community activities.”

##### **2.1.2 Types of solid waste**

###### **2.1.2.1 Plastics**

1. There are many types of plastics that are used in different applications. They can be naturally made from petrol or synthesized from inorganic and organic raw materials. Based on their physical characteristics, plastics can be divided into two types such as thermosetting and thermoplastics. Thermosetting plastic has many cross-linked chains of polymers, and this plastic is produced into many structured products. It cannot be recycled. Thermosetting plastic consists of epoxy, melamine, urea, phenolic, and unsaturated polyester. Thermoplastic is strong as their structures are linear and branched chain structures. It is be melted by heat and at approximately 120 0 180 C, thermoplastic become a pastry/liquid mass. Thermoplastic is more popular than thermosetting as it can be recycled and produced in large amount. Because it can be melt, the product will come in the form of liquid and pellets. The plastics types are polyethylene (PE), low-density polyethylene (LDPE), high-density polyethylene (HDPE),

polypropylene (PP), polystyrene (PS), polyvinylchloride (PVC), and polyethylene-terephthalate (PET).

2. Types depending upon Manufacturing and Recycling (SPI Codes): The Society of the Plastic Industry (SPI) introduced plastics classification for recycling purpose in 1988. The codes are known as SPI codes, and the number within the recycling arrows refers to different types of plastic resins. There are seven types of thermoplastic that are recycled as new products. The table below shows the code, characteristics, product, and recycled product. (Rewlutthum, 2013)

Table 2.1

*Code, characteristics, product, and recycled product*








Type of plastic	Polymer Name	Characteristic	Product	Recycled product
	Polyethylene terephthalate (PETE or PET)	Clear, hard, tough, barrier to gas and water, and resistance to heat and grease/oil	Thermoformed sheet, strapping, soft drink bottles, tote bags, furniture, carpets, paneling and (occasionally) new containers	Carpet in textile industry, jackets, bedding, packaging and bottle or container
	High-density polyethylene (HDPE or PE-HD)	Barrier to water, chemical resistance, hardtop semi-flexible, strong, soft waxy surface, low cost, permeable to gas	Bottles, grocery bags, milk jugs, recycling bins, agricultural pipe, base cups, car stops, playground equipment, and plastic lumber	Pipe, household appliance, flower vase, bin, furniture, bottles (not for food)
	Polyvinyl chloride (PVC or V)	Transparent, hard rigid, good chemical resistance, long term stability, electrical insulation, low gas permeability	Pipe, window profile, siding, fencing, flooring, shower curtains, lawn chairs, non-food bottles, and children toys	Trough for agriculture, water supply pipe, traffic cone, cable, cassettes, plastic chair, furniture, artificial wood

Table 2.1

*Code, characteristics, product, and recycled product (cont.)*

Type of plastic	Polymer Name	Characteristic	Product	Recycled product
	Low Density Polyethylene (LDPE or PE-LD)	Tough, flexible, waxy surface, soft-scratches easily, good transparency, low melting point, stable electrical property, moisture barrier	Plastic bags, six pack rings, various containers, dispensing bottles, wash bottles, tubing, and various molded laboratory equipment	Waste bag, carrier bag, furniture, plastic slab, agricultural plastic sheet
	Polypropylene (PP)	Excellent chemical resistance, high melting point, waxy surface, translucent, strong	Auto parts, industrial fibers, food containers, and dishware	Plastic broom, brush, buffer and battery case
	Polystyrene (PS)	Clear to opaque, glassy surface, rigid, hard, brittle, high clarity, and affected by fat and solvent	Desk accessories, cafeteria trays, plastic utensils, toys, video cassettes and cases, clamshell containers, packaging peanuts, and insulation board and other expanded polystyrene products	Ruler, panel power switch, thermal insulation, thermometer bulb, egg tray
	Others (O) Others plastics, such as acrylic, nylon, polycarbonate, and polylactic acid (a bioplastic), and multilayer combinations of different plastics	Produced by many kinds of plastics (one plastic consists of more than two monomers)	Bottles, plastic lumber applications, headlight lenses, and safety shields/glasses	Flexible pipe, case of electronic appliance, office devices

Note. *Resin identification code*, by Wikipedia, n.d., Retrieved from [https://en.wikipedia.org/wiki/Resin\\_identification\\_code](https://en.wikipedia.org/wiki/Resin_identification_code), and *Evaluation of Plastic Waste Management in Thailand Using Material Flow Analysis*, by Rewlutthum, K., 2013, Bangkok: AIT.

### 3 Plastic Recycle Process

Step 1: The plastics are collected from the bin outside of our home and it is sorted by waste truck pickers.

Step 2: The sorted and unsorted plastics are sent to the recycling factory.

Step 3: The unsorted plastics are separated again, according to plastic types and color. After sorting, the plastics are cleaned to remove dirt.

Step 4: After it is being cleaned, it will become the ground and the new products are now called plastic pellet.

Step 5: The plastics are sold to the factory to manufacture into a new product.

#### 2.1.2.2 Paper

1. Type of paper: Paper can be divided into many types. For example, there are newsprint, bank paper, bond paper, art paper and etc.

Table 2.2

#### *Paper types, characteristics and uses*

No	Types	Characteristics	Uses
1	Newsprint	It is low cost and produced by using wood pulp. It has an off white cast and distinctive feel.	Newspaper and flyer
2	Bank Paper	A thin strong writing paper of less than 50g/m <sup>2</sup>	Typewriting and correspondence
3	Bond Paper	It characterized by high permanence and durability, high surface strength to withstand writing and erasing, and high stiffness. The weight is greater than 50g/m <sup>2</sup> .	Letterheads, other stationary and as paper for electronic printers
4	Art Paper	It has coated smooth surface.	Art or craft paper project.
5	Woodfree Paper	It is made from pulpwood which uses cellulose fibres during processing.	Use in book paper and printing paper.
6	Kraft Paper	A natural bio-material, low density, unbleached, biodegradable and recyclable. It is made from the fibres of maritime pine.	Packaging and paper bag



Table 2.2

*Paper types, characteristics and uses (cont.)*

No	Types	Characteristics	Uses
7	Card Board	It has various strengths. It can be arranged from a single thick sheet of paper to multiple layers.	Corrugated fiberboard, playing cards, post card, hardcover books, business cards in a case
8	Box Paper	It is made from card board.	Boxes
9	Hard Board	It is made from material like waste admixture papers and paper pulp.	Used in textile manufacturing, electrical and stationary industry.
10	Fancy Paper	Sometimes, it is known as gift wrap paper or wrapping paper	To wrap presents or use for decoration.

*Note.* *Paper Type*, by SupremePrint, n.d., Retrieved from <http://www.supremeprint.net/index.php?lay=show&ac=article&Id=538771416>, *Bond Paper*, by PrintWiki, n.d., Retrieved from [http://printwiki.org/Bond\\_Paper](http://printwiki.org/Bond_Paper), and *A natural material*, by Gascogne, n.d., Retrieved from <http://www.gascognepapier.com/environment/natural-material.html>

2. Paper Recycling Process: According to public practices on paper recycling process around the world, there are seven steps. However, we will use recycling guide as a reference in this paper. (Recycling Guide, 2017)

Step 1: The paper is collected from many bins and is sent to a large recycling container.

Step 2: The collected paper is taken to a recycling plant and it is separated into types and grades.

Step 3: The separated paper is washed with soapy water to remove inks, plastic film, staples and glue. The paper is then mixed with water to create 'slurry'.

Step 4: Other materials are added to the slurry, and different kind of paper is created. For example, cardboard, newsprint or office paper.

Step 5: The slurry is spread using large rollers into large thin sheets.

Step 6: The paper is left to dry, and then it is rolled up ready to be cut and sent back to the shops

### 2.1.2.3 Metal

1. Type of Metal: According to the American Iron and Steel Institute (AISI), steel can be categorized into four different groups.

Type 1: Carbon Steel is steel with carbon component. According to AISI classification, it can be further categorized into three groups.

Table 2.3

*Type of carbon steel, characteristics and uses*

Type of Carbon Steel	Steel Percentage	Characteristics	Uses
Low Carbon Steel	0.04 % - 0.30 %	Can be in different kinds of shape; from flat sheet to structural beam	Structural steel
Medium Carbon Steel	0.31 % - 0.60 %	It is more difficult to form	Large parts, forging, and automotive components.
High Carbon Steel	0.61 % - 1.50 %	It is difficult to cut, bend and weld.	Springs, swords, high strength wires

*Note. Carbon Steel*, by MetalSuperMarket, n.d., Retrieved from <https://www.metalsupermarkets.com/carbon-steel/>

Type 2: Alloy steel is a steel that consists of one or more alloying elements such as manganese, silicon, nickel, titanium, copper, chromium, and aluminum added. It can be formed into six shapes, which are round bar, flat/rectangular bar, square bar, hexagonal bar, plate and round tube.

Type 3: Stainless steel is a steel with iron alloy with a minimum of 10.5% chromium. Chromium is used to create a thin layer of oxide to prevent corrosion of the surface. The elements such as nickel and molybdenum are used to enhance formability and increased corrosion resistance..

#### 2. Type of stainless

Stainless steel Uses: The stainless steel is used in many application as shown in the table below

Table 2.4

*Stainless steel application*

Domestic	Cutlery, sinks, saucepans, washing machine drums, microwave oven liners, razor blades
Architectural / Civil Engineering	Cladding, handrails, door and window fittings, street furniture, structural sections, reinforcement bar, lighting columns, lintels, masonry supports
Transport	Exhaust systems, car trim/grilles, road tankers, ship containers, ship chemical tankers, refuse vehicles
Chemical/Pharmaceutical	Pressure vessels, process piping
Oil and Gas	Platform accommodation, cable trays, subsea pipelines
Medical	Surgical instruments, surgical implants, MRI scanners
Food and Drink	Catering equipment, brewing, distilling, food processing
Water	Water and sewage treatment, water tubing, hot water tanks
General	Springs, fasteners (bolts, nuts and washers), wire

*Note.* *Stainless steel application*, by British Stainless Steel Association, n.d., Retrieved from <http://www.bssa.org.uk/>

They are carbon steel, alloy steel, stainless steel and tool steel. The steel can be classified by seven factors.

Table 2.5

*Steel Factors*

No	Main Factors	Detailed Factor
1	Composition	<ul style="list-style-type: none"> <li>• Carbon range</li> <li>• Alloy</li> <li>• Stainless</li> </ul>

Table 2.5

*Steel Factors (cont.)*

No	Main Factors	Detailed Factor
2	The production	<ul style="list-style-type: none"> <li>• Continuous cast</li> <li>• Electric furnance</li> </ul>
3	Finished method used	<ul style="list-style-type: none"> <li>• Cold Rolled</li> <li>• Hot Rolled</li> <li>• Cold Drawn</li> </ul>
4	Form or shape	<ul style="list-style-type: none"> <li>• Bar</li> <li>• Rod</li> <li>• Tube</li> <li>• Pipe</li> <li>• Plate</li> <li>• Sheet</li> <li>• Structural</li> </ul>
5	De-oxidation process	<ul style="list-style-type: none"> <li>• Killed</li> <li>• Semi-Killed Steel</li> </ul>
6	Microstructure	<ul style="list-style-type: none"> <li>• Ferritic</li> <li>• Pearlitic</li> <li>• Martensitic</li> </ul>
7	Physical Strength	
8	Heat Treatment	<ul style="list-style-type: none"> <li>• Annealed</li> <li>• Quenched</li> <li>• Tempered</li> </ul>
9	Quality Nomenclature	<ul style="list-style-type: none"> <li>• Commercial Quality</li> <li>• Drawing Quality</li> <li>• Pressure Vessel Quality</li> </ul>

*Note.* *Steel Factors*, by MetalSuperMarket, n.d., Retrieved from <https://www.metalsupermarkets.com>

### 3. Metal Recycling Process

Step 1: Collect metals, put metals in a container and send them to recycling centers.

Step 2: The recycling center will further sort into different kind of metals.

Step 3: The separated metal will be crushed so that it will take less space.

Step 4: The metal is crushed and broken into small sheets or pieces. The smaller pieces will be melted. The steel will be processed into a steel blocks or ingots. The aluminum is processed into sheets.

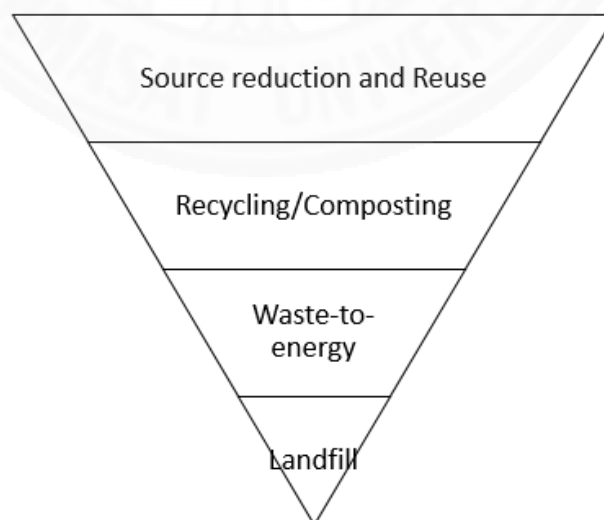
Step 5: Melting and Purification. Electrolysis is used as purification methods.

Step 5: Transport back to mills to process into other products.

Step 6: Transport back to mills to process into other products.

## 2.2 Solid Waste Management

### 2.2.1 Waste Management Hierarchy



*Figure 2.1 Waste Managment Hierarchy*

Due to the scarcity of material during the oil crisis in 1973, it creates a new society perception of the term 'waste', waste handling and waste management (Kemp and van Lente 2011). Ad Lansink, a Dutch politician developed a waste management methods call 'Lansick's Ladder' in 1979. It is a five-step hierarchy. At the first level of the pyramid are the source reduction and reuse. The second level is recycling and composting. The third level is waste-to-energy. And the last level is landfill. In Thailand, we also practiced this framework as a way to solve waste management problems. It specifies what is best for the environment (UK Department of Energy and Climate Change and Defra 2011). It enables people to handle waste through waste management planning, qualified waste collection, and treatment (Neubauer,2007). Under this framework, it encourages practices that reduce the amount of waste needing to be disposed of, such as waste prevention, recycling, and composting (U.S EPA 2013b).

### **2.2.2 Waste Generation**

According to Sujauddin et al (2008), waste generation depends on family size, educational level, and monthly income. Zhuang et al (2008) believes that the attitude of the household related to waste separation is affected by the active support and investment of a real estate company, community residential committees' involvement for public participation and fee for collection service based on the waste volume or waste (Schienberg, 2011). The waste utilization and separation behavior depend on gender, peer influence, land size, a location of household and membership of environmental organization (Ekere et al,2009). The unsuccessful factor of waste collection system can be affected by improper bin collection systems, poor route planning, lack of information about collection schedule (Hazra and Goel,2009) and insufficient infrastructures such as road and waste trucks (Moghadam et.al). Sharholy et al suggests that by organizing the informal sector and promoting micro-enterprise could be another way to make waste collection services more affordable. Tadesse et al (2008) concludes that the supply of waste facilities significantly affects waste disposal choice. The inadequate waste collection truck and bin increase the probability of waste dumping in open area and along the roadside. The higher disposal price allows more recovery of waste generated, that goes to the value chains or beneficial reuse of waste. Gonzalez-Torre and Adenso-Diaz (2005) mentioned that social influences, altruistic and regulatory factors are the reasons for more strong recycling habits. It also that if they established those habits, they are more

likely to recycle waste product at home. When the distance of household to the recycle center are reduced, the number of fractions that people separate and collect at home increases too. To increase the recycling rate, Minghua et al. believes that the government should encourage markets for recycled materials and increasing professionalism in recycling companies. Other factors that could help promote these issues would be to gain more financial support for recycling projects and infrastructure (Nissim et al, 2005), recycling companies in the country (Henry et al, 2006), and drop-off and buy-back centers (Matete and Trois, 2008). The factors that facilitate the performance of the systems are technical (Hazra and Goel, 2009), environment, financial, socio-cultural, institutional and legal. The financial problem could be ease if there is more budget that allocated to provide more services (Sharholy et al) and the public are willing to pay for the services. Ekeret al believes that the involvement of the public is necessary to have better systems. The public refers to people who have more community awareness and societal apathy for contributing solutions. (Moghadam et. al, 2009). The people under the waste management system such as the waste workers are often regarded as a low profile in the social status (Vidanaarachchi et al, 2006). As the society gives them this status, it results in a low motivation among the solid waste employees. The politician gives low priorities of waste management compared to other municipal issues (Moghadam et al). Hence it result in limited trained and skilled personnel in the municipalities (Sharholy et al, 2008).

### 2.2.3 Waste Collection

The waste collection is done by the local government office. They use the waste truck to collect waste around the area that they are responsible for.

Table 2.6

#### *Waste Collection*

<b>Amount of MSW</b>	<b>Collection Fee</b>	<b>Frequency</b>
< 20 litres/day	20 THB/month	Every 6 months or yearly
< 500 litres/day	40 THB/month (every 20 litres by amount of MSW)	Every month or every year

Table 2.6

*Waste Collection (cont.)*

<b>Amount of MSW</b>	<b>Collection Fee</b>	<b>Frequency</b>
>1000 litres/day	2,000 THB/1000 litre/month	Every month or every year
Remarks: BMA has assigned employee under the Cleaning Service and Public Park Section, e.g. garbage bin carriers, collection truck drivers, to collect the fee from household, those entrepreneurs or source owner.		

Note. *Solid Waste Management City Profile*, by Climate & Clean Air Coalition, n.d., Retrieved from [http://www.waste.ccacoalition.org/sites/default/files/files/bangkok\\_-\\_city\\_profile\\_final\\_draft\\_03102015\\_0.pdf](http://www.waste.ccacoalition.org/sites/default/files/files/bangkok_-_city_profile_final_draft_03102015_0.pdf)

## **2.2.4 Solid Waste Management Stakeholders**

### **1 Government Office**

1.1 Pollution Control Department (PCD): The unit is set up to provide recommendations on the technical preparation of MSW Management policy. As a part of their unit, they also develop guidance and guidelines and processes.

1.2 Department of Environmental Quality Promotion (DEQP): The unit is responsible for promoting and disseminating information pertaining to MSW management.

1.3 Office of Natural Resources and Environmental Policy and Planning (ONEP): The unit is responsible to prepare policies and plans. It is responsible for administering the Environmental Fund

1.4 Department of Local Administration (DOLA): The department is set up to administer and support local issues.

1.5 Public Health Department: The department is set up to concern about health-related rules and regulation.

2. Ministry: Ministry of Natural Resources and Environment Thailand (MNRE). MNRE is established in 2002. It responsible for protecting and restoring the environment. In 2015, it launches a program to encourage people to use less plastic bags.



3. Department store: The main source of waste generation is plastic bags and plastic glass cup. The food waste is also another source of waste that is needed to be dealing with.

4. Recycle Company: The recycling company bought solid waste from the small shops or big waste agent according to the waste type. If the recycle company focuses on plastic material, they will only purchase the plastic material. The plastics may transform into small pellets that can be further used in production process. Or if the recycle company focuses on paper, they will only purchase the paper. And they reprocessed and become a new paper pulp.

5. Small shop: Small shop acts as a place that collects the waste together, then sell it to a recycle company.

6. Waste Picker/ BMA waste collector: Waste pickers or scavengers act as an informal waste sector to deal with waste. They collect waste from many areas that people often neglected such as streets, landfills, or dumpsites. The collected waste is then brought to the small recycle shop, which further will be brought into new production. Since waste pickers have no social recognition, the safety and welfare of waste pickers are often neglected. They live in a poor living condition, which only has food and shelter as their main concerns.

7. Waste Factory/ Plant: SCG Packaging focuses on producing quality paper from paper waste. They have many products such as glassine paper, machine glazed paper, printing and writing paper and copy paper. For packaging, they focus on food safety packaging, industrial packaging, consumer packaging, logistic packaging, green packaging and flexible packaging.

### **2.2.5 Importance – Influence Matrix in Stakeholder Analysis**

After research on plastic stakeholders, I found out one significant matrix that enables me to have an overview of stakeholder analysis. The matrix is called Importance-Influence Matrix. It is used to map out stakeholders and their relation to the issue. It generates insights on the importance and influence of each stakeholder. It is then used to further analyze and find a specific approach and strategy for the identified stakeholders. The matrix consists of the importance and influence. The importance is divided into high and low. The influence is also divided into high and low. The importance refers to the priority given to satisfying the needs and interests of each stakeholder.

The influence refers to the power a stakeholder has to facilitate or impede the achievement of an activity's objective. The extent to which the stakeholder is able to persuade or coerce others into making decisions, and following a certain course of action. (MSP guide, 2017)

	<b>A</b>	<b>B</b>
<b>High importance</b>	*PIT                      *Oil recovery plants *Waste pickers        RDF producers *Waste shops        *Local administration *Pelletizing factory *Garbage banks	*MNRE                      *TBIA *PCD *Ministry of Energy *DIW
<b>Low importance</b>	<b>D</b>	<b>C</b>
	*PTIT                      *NGOs *NIA	*Waste generators
	<b>Low influence</b>	<b>High influence</b>

Figure 2.2 High-Low Stakeholders Analysis. From *Evaluation of Plastic Waste Management in Thailand Using Material Flow Analysis*, by Kamala Rewlutthum, 2013, (Master's thesis). Retrieved from <http://faculty.ait.ac.th/visu/public/uploads/images/pdf/2013/kamala.pdf>

From the above diagram, we can conclude that

1. Group A: High Importance – Low Influence

The key stakeholder that have high power and high leadership, which can highly affect the plastic waste management. For example, MNRE, TBIA, PCD, Ministry of Energy and DIW.

2. Group B: High Importance – High Influence

The stakeholders have the leadership and medium power, and this group plays the role of moderate supporters or moderate opponents such as PIT, TPIA, TBIA, and local administration.

3. Group C: Low Importance – Low Influence

This group has a lot of resources, but do not have the leadership to influence plastic waste management by themselves. For example, RDF producers, waste shops, pelletizing factory, oil recovery plants, and NGOs.

#### 4. Group D: Low Importance – High Influence

The stakeholder has fewer resources and may or may not have leadership, Most of them play the role of information providers, disseminators such as PTIT, NIA, waste generators, waste pickers, and garbage banks.

### 2.2.6 Plastic Waste Management Network

The network shows the role and importance of various stakeholders. It draws three level of power; low, medium and high.

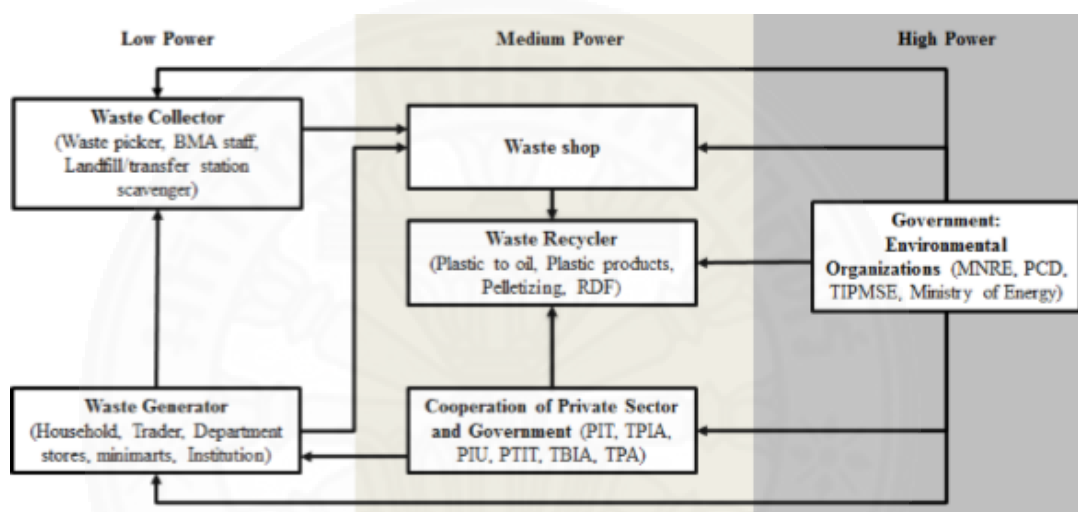


Figure 2.3 Material Flow Analysis. From *Evaluation of Plastic Waste Management in Thailand Using Material Flow Analysis*, by Kamala Rewlutthum, 2013, (Master's thesis). Retrieved from <http://faculty.ait.ac.th/visu/public/uploads/images/pdf/2013/kamala.pdf>

From figure, the high power group belongs to the government. This is because they can cause a high effect on other stakeholders. They implement policies, rules, and regulations and control other stakeholders. Waste shop acts as collect agents that collect waste from many sources. It is controlled by the high power groups. Therefore, they only gain medium power. The waste collector acts as a first contact point on the solid waste recycle chain. Its role is to collect waste from the waste generator such as household, trader, department, stores, mini-marts, and institution. It has a low power. The waste generator also has a lower power but there are the most important part of the chain and improve the waste collection process in Thailand.

### 2.2.7 Example of recycle business in Thailand

Wongpanit Group: Wongpanit recycles business is the most successful recycling company in Thailand. The shop buys and sells more than hundreds of kinds of wastes. It engages cooperation from private individuals to the government. Some of the waste such as plastics are export to China as there is not enough material within the country. The most collected plastic types are PP, PS, PE, and PVC. After they are collected, the plastics waste will be separated into different colors and being washed to crush them into smaller pellets.

### 2.2.8 Solid Waste Price

According to dictionary.com, commodity refers to an article of trade or commerce, especially a product as distinguished from a service. (Dictionary, 2017)

The investorwords.com has defined it as;

“A physical substance, such as food, grains, and metals, which is interchangeable with another product of the same type, and which investors buy or sell, usually through the futures contract. The price of commodity is subject to supply and demand” (InvestorWords, 2017)

Also, Investopedia has described commodity as;

“A commodity is a basic good used in commerce that is interchangeable with other commodities of the same type; commodities are most often used as inputs in the production of other goods or services” (Investopedia, 2017)

The table below shows the commodity price (Wongpanit.com, 2017)

Table 2.7

#### *General Commodity Price, Thailand*

Commodity	Price (Baht/KG)
<b>Paper</b>	
Brown Hard Board	6.40
Color Paper, Shoe Box, Fruit Box	3.80
Book Paper	3.90
Art Paper	3.80

Table 2.7

*General Commodity Price, Thailand (cont.)*

<b>Commodity</b>	<b>Price (Baht/KG)</b>
Cement Bag Paper	3.80
Black-White Paper	6.90
Notebook Paper	6.90
Computer Paper	6.90
Newspaper Paper	5.80
Milk Box Paper, Fruit Box Paper	2.30
Laminated Paper	2.20
<b>Plastics</b>	
PET bottles (Pepsi, Miranda, AquaWest)	7.50
No. 1 Clear Pet Bottle	3.20
No. 3 Color Screen Pet Bottle	2.00
Unclear Bottle (HDPE)	15.00
Big Round Water Container (HDPE)	5.00
Mixed Color Plastic Bottle	7.00
Color PET bottle (7Up, Moutain Dew)	4.20
<b>Metal</b>	
Nail	7.00

*Note. General Commodity Price, by Wongpanit, 2017, Retrieved from <http://www.wongpanit.com/wpnew/images/1502084846.pdf>*

## **2.2.9 Solid Waste Management Policy**

### **2.2.9.1 Roadmap**

In Thailand, part of the plan to improve on solid waste management depends on the government roadmap. The roadmap can be divided down into three periods, which are urgent, medium and long. The roadmap that dedicated to urgent plan is set for six months. The medium plan is set ahead for a year. The long plan is set more than a year.

### 2.2.9.2 Strategies

Thailand's waste management has become more serious year by year. Therefore, the government has implemented four pillars strategies; social, economic, legal and supportive.

Table 2.8

#### *Government 4 pillar strategies*

<p><b>Social Strategies</b></p> <ul style="list-style-type: none"> <li>• To promote participation between public sectors, private sectors and public awareness to reduce waste.</li> <li>• To increase the utilization of organic wastes and recyclable wastes</li> </ul>	<p><b>Economic Strategies</b></p> <ul style="list-style-type: none"> <li>• To promote the investment of private sectors in using clean technology for goods production, waste treatment and disposal management.</li> <li>• Increase tax to reduce waste generated from production process</li> </ul>
<p><b>Legal Strategies</b></p> <ul style="list-style-type: none"> <li>• To revise rules and regulation to make waste management more effective.</li> </ul>	<p><b>Supportive Strategies</b></p> <ul style="list-style-type: none"> <li>• To support the research and development to produce environmentally friendly products and products that made from recycled materials.</li> </ul>

### 2.2.9.3 Acts

1. The Consitution
2. Public Health Act. B.E. 2535 (A.D. 1992) This is a law regarding the public health and the law to use fetal as a fertilizer. The act has the aim to point out procedures, rules, measuring and controlling any action under this act. Enhancement and Conservative of National Environmental.
3. Quality Act. B.E 2535 (A.D. 1992) This act is based on the law on the National Energy Policy Council.
4. Municipality Act. B.E.2496 (A.D. 1953) This act is to allow each municipality responsible to clean up its area of responsibility and dispose of waste in its own area.

5. Sub-District Council & Local Administrative Organizations Act. B.E. 2537 (A.D. 1994) This act is the revised the law on the organization of Sub-District administration.

6. Provincial Administrative Organization Act. B.E. 2542: This act is called the ‘Determining Plans and Process of Decentralization to Local Government Organizational Act’.

#### **2.2.9.4 Rules and Regulations**

1. No More Open Dump: The open dump refers to a place that is filled with garbage, appliances, and unused material that are harmful to the humans, animals and the environment. An open dump is an illegal place to do waste dumping. Therefore, there is a law to protect it.

2. Wrong management to the old solid waste landfills: In Thailand, the landfill is used instead of incinerators. The waste in landfill needs scavengers to sort the waste out. It causes a lot of problems. Firstly, there is no value added to the waste that being sent to the landfills. Secondly, the scavengers face health and safety problems. The solid waste could instead be sent to the waste plant to create electricity.

3. The Province Mayer takes a lead responsibility in dealing with solid waste management: There is a lot of efforts going on the in the waste separation campaign.

4. The waste is separated from the origins: The waste separation should be done from the waste source, for example; school, household, hospital and other sources.

5. New solid waste management plan; one single point and turn waste into energy: The collection point should be set up to allow the system to turn waste into electricity without having to transfer it to another place to generate electricity

6. Develop hazardous waste management system: The hazardous waste should be separate for safe management.

7. Give an option to private company to set up a waste management plant if it can be dealt with better than government or cheaper.

8. To instill a disciplined waste community, for example, as a part of a curriculum, zero waste concept, waste bank and reduce plastic bag usage. To create sustainable and consumption and production

### **2.2.10 Strategy of Waste Management**

Thailand

1. Promote waste minimization and waste separation at sources.
2. Provide regular waste collection service in order to make Bangkok clean.
3. Develop the system of collection and disposal for hazardous and infectious waste
4. Establish a network center on waste management
5. Increase the efficiency of waste disposal by adapting technologies and encouraging private sectors participation on waste management.

## **2.3 Social Enterprise**

### **2.3.1 Origins of Social Enterprise**

In the U.S., the origins of social enterprise can be dated back to 1970 as a part of non-profit activities that allow job opportunities created for disadvantaged groups. (Alter, 2002) The growth of social enterprise came after a reduction in government funding for the non-profit organization and from an impact of the economy recession. The social service organization moved to become a social enterprise to find a new method to keep up with their business. According to data from the National Center for Charitable Statistics at The Urban Institute conclude that social enterprise revenue comes from program service, sales of goods, fees from events and activities and membership.

However, in Europe, the social enterprise concept came later. It focused on the different method of earning revenues and new services development. Similar to the U.S., the social enterprise concept came in the 1970s and 1980s as a result of economic recession and unemployment. The government suffered inadequate fund to give support for the country social needs. The social enterprise is then set up as part of the third sector to aid these social problems. There are many new models. For example, there is a model to deal with the shortage of home for marginalized groups, a new method to deal with



aging populations and etc. The social enterprise was founded in the 1980s by social workers, civil society actors, third sector representative and associative militants.

### **2.3.2 Social Enterprise Definition**

The SE term has gained fast popularity among the academics and non-academic. It leads to confusion and certainty of what the term really means. It is ill-defined, fragmented and no clear theoretical framework (Barendsen, Gardner, 2004). Hence, it varies from country to country. Many would be confused that Corporate Social Responsibility (CSR) and Social Enterprise (SE) are the same. However, it is different.

In general, social enterprise refers to an organization that applies commercial strategies to maximize improvement in human and environmental well-being. (Wikipedia, 2017)

However, to fully understand the definition of social enterprise, we will look at the meaning from different reliable sources.

The definition of SE given by NesST is

“a social enterprise is a business created to further a social purpose in a financially sustainable way.” (NesST, 2017)

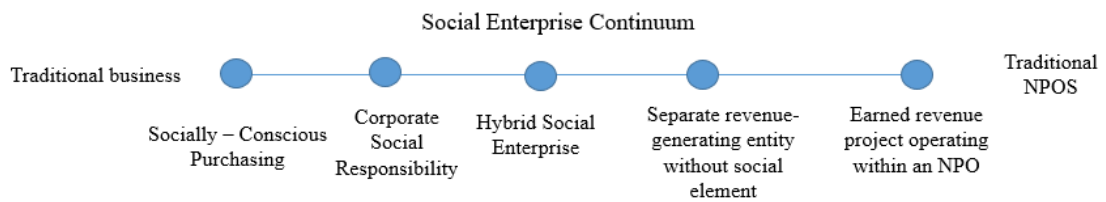
The government of Canada has defined SE as

“an emerging dynamic business model that: a) has social, environmental and/ or cultural goals; b)trades in competitive markets; and c) reinvents profits for community benefit.” (Mendell, 2007)

The Thai government has defined SE as

“a business which as a clear objective to develop a community by solving its social or environmental problems. It must have central revenue from producing a service or product which is parallel to its social objective and must not concentrate solely by maximizing profit for its partners or stakeholders” (Kanjanaipul, 2011)

As the definition of SE is vary and complicated, in this report, the definition of SE refers to an entity that operates businesses in order to generate revenue fulfilled their mission. The social enterprise could be for both profit and non-profit. Therefore, SE could lie in the middle of the continuum.



*Figure 2.4 Social Enterprise Continuum.* From *Social enterprise – Do definitions matter?*, by BC Center for social enterprise, n.d., Retrieved from <http://www.centreforsocialenterprise.com/what-is-social-enterprise/>

### 2.3.3 Characteristics of Social Enterprise

As the definition of SE varies, the characteristics of SE are varied as well. Through comprehensive research by David Bornstein, it is mentioned that there are six characteristics of a highly successful social entrepreneur (Bornstein, 2003)

1. Willingness to Self-Correct
2. Willingness to Share-Credit
3. Willingness to Break Free of Established Structure
4. Willingness to Cross Discipline Boundaries
5. Willingness to Work Quietly
6. Strong Ethical Impetus

### 2.3.4 Benefit of Social Enterprise

SE allows people to be employed, and it affects lower unemployment rates. Some SE relies itself on outside support such as external funding as they do not have enough money to support themselves. It could hinder them from consistency work and help the societies. The SE increase tendency to adopt an innovation. With the two improvements, at the end of the result, it could lead to economic growth. Entrepreneurship offers new competition and promotes productivity plans to give a competitive edge over the traditional company. (UNCTAD, 2014)

### 2.3.5 Social Enterprise Stakeholder

#### 2.3.5.1 Non-Profit Organization (NPO)

Non-profit organization or NPO refers to an organization that largely depending on donations to sustain their organizations. It is sometimes known as charities. The following non-profit organizations play a significant role in the development of social enterprise in Thailand; ChangeFusion (CF), Ashoka, and Oxfam.

ChangeFusion is a non-profit organization under the Thai Rural Construction Movement Foundation under the Royal Patronage. It supports and invests social enterprises, which enables the social enterprise to be sustainable. The three pillars of support are mentoring, investing and networking. As part of social development, social enterprises are divided into three groups, according to the development stage, which is seed, startup, and growth. Some of ChangeFusion well-known work is Local Alike.

Ashoka is an international organization established in 1980 that aims to develop leaders to be a change maker. The organization has expanded to Thailand in 1989. The four elements of a framework to live and work together are empathy, teamwork, new leadership and change making. However, the four factors that enable ones to be a leader are social entrepreneurship, empathy, lead young and the team of teams. The organization's interest areas are children and youth, environment and sustainability, health and fitness, civic engagement, human rights and equality, peace and harmonious relation, development, and prosperity and business and social enterprise.

Oxfam is also an international organization that has a goal of reducing poverty. Its vision is to make people become valued and treated equally, enjoy the rights as a citizen and can influence decisions affecting their lives. To achieve the organization, it uses development programs, public education, campaigns, advocacy and humanitarian assistance in disasters and conflicts.

### **2.3.5.2 Employees**

The social enterprise is a small business that may not have all the skills required to do business. Therefore, their employees is an important role in the success factor of the business. Therefore, the SE has a huge potential to create a job for the unemployed. According to the study, the employees in SE can be divided into three types; the profit sector employees, college graduate and just want to be involved in the SE (Pick, 2015). The group profit sector employees are those that have at least worked with the non-profit sector, they strongly believe that it is a way to solve social issues. For college graduates, they see social enterprise as a career option. The youngster has a lot of potential and energy and eagerness to learn new things. After they get bored or have learned everything, they are more likely to leave for a better opportunity. For the last group, they are likely to be better at communication skills and soft skills.

### **2.3.5.3 Clients**

The social enterprise engaged many clients, which range from local communities and suppliers.

### **2.3.5.4 Shareholders**

The shareholders refer to a law of company shares. The ownership could be private, public or collective. The public shareholders could be a board of directors. As for social enterprise shareholders, it could be parents' organization, partners or donors.

### **2.3.5.5 Volunteers**

As social enterprise relies on funding to carry out their activities. It draws an interest from volunteers who want to help out with the project or to learn more about social problems or issues. There are many skills that the volunteers could bring to develop the SE projects. The volunteer could receive skills relevant to their career and build up their personality.

### **2.3.5.6 Partners**

Social Enterprise could be carried easier if they have a good partner. There are several things to be considered. For example, they need to know who they are a partner with, what they do and their value. The new partnership could lead to new conflict and new policy. Therefore, those problems need to find a way to deal with. The good partnership could lead to the good connection for future grant or funding with a trusted charity.

### **2.3.5.7 Funders**

The project could receive fund even before or after the project has started. There is much organization that supports the early stage of social enterprise. For example, in Thailand, ThaiHealth and Ashoka are the examples of funders. The funders could make their decision based on credibility, planning, and progress. xample of funders. The funders could make their decision based on credibility, planning, and progress.

### **2.3.5.8 End Users**

The end users refer to people that use or experience your products or services. For green business, the end users may be people who find value in separating waste or people who use the new innovative services.

### 2.3.5.9 Local community

As social enterprise main goal is to find a solution for the community. It will involve the local community in their project. It could bring about employment, improved existing skills for a future career. Also as the community are becoming more spread out, there is no true connection between people and their community. With SE concept, it could bring the community and people closer together. The SE needs to make sure that the money earned is given back to the community.

### 2.3.6 Examples of Social Enterprise in Thailand

The social enterprise in Thailand is set up mainly to improve the quality of life in Thailand. The three famous social enterprise in Thailand are; Doi Tung Development Project, Open Dream, and Abhaibhubejhr.

Table 2.9

#### *List of Social Enterprise in Thailand*

<b>Social Enterprise</b>	<b>Function</b>	<b>Established year</b>
Doi Tung Development Project	Doi Tung project was first led by HRH Srinagarindra with the aim to stop hill tribes from planting opium and end the mountain area as drug channels. Therefore, the project gives hill tribes the opportunity to develop a sustainable method to live their life. The project can be divided into two projects; business unit with profit and business unit to develop community and it is non-profit. The profitable business unit will be selling agricultural products such as plants, flowers and macadamia nuts. It earns revenue of 465 million baht with 23 million baht grant from the government.	1987
Open Dream	Open Dream is a social enterprise that specialize in writing web application, mapping and data visualization. It supports social, business and government sector. It works with Thai Health Promotion Foundation (ThaiHealth) to create media that encourage happiness and creative usage of internet to teenagers.	2007

Table 2.9

*List of Social Enterprise in Thailand (cont.)*

Social Enterprise	Function	Established year
Abhaibhubejhr	Abhaibhubejhr is a government led hospital with a goal to research on Thai herbs. The hospitals' activities are knowledge center for Thai herbs, Thai herbs garden, Thai medical knowledge, Health Tour and provides health training to health related workforce. The centre could help government to reduce the import of western medicine and earns two or three millions baht on selling medicines and herb products.	1941

### 2.3.7 Example of Social Enterprise in South East Asia

With the public awareness and availability of seed funding and publicity from beneficiaries, it has resulted in more Social Enterprise. We will scrutinize social enterprises in South East Asia; Vietnam, Cambodia, and Thailand.

#### 2.3.7.1 Zo Paper

Zo Paper is a Vietnam social enterprise that uses “Do” Paper to create products such as lamps, notebooks, envelopes and greeting cards. The project employs rural villagers and preserves what was a dying tradition. The Zo Paper shop is in Hanoi that sells handcrafted supplies to locals and tourists. (meed.net, 2017)

#### 2.3.7.2 FunkyJunk

FunkyJunk is a Cambodia social enterprise that addresses pollution issues and provides opportunities for disadvantaged communities. They use plastics to create beautiful, functional, and long-lasting treasures. (meed.net, 2017)

#### 2.3.7.3 VietTrang

VietTrang established in the 1970s by a group of craft women Nag Son district, Thanh Hoa province, the company has more than 40 years of experience operating in the industry. It operates from generation to generation. It aims to be the most trusted natural fibers handicraft manufacturer in Vietnam that contributing to the development of sustainable lifestyle. Its mission is to empower local women and

disadvantaged groups, protect natural resources and preserve traditional craftsmanship through our master creation of high-quality and sustainable natural fibers handicraft products.

### **2.3.8 Example of Social Enterprise in the world**

#### **2.3.8.1 Green Collect**

Green Collect is established in Melbourne, Australia in 2006 to solve social, environmental, cultural and economic problems. Its founders are Sally Quinn and Darren Andrews. The idea is generated when Quinn worked in women's crisis housing in St. Hilda, Melbourne. She realized those women who have no jobs would face difficulty in securing a house loan and access the private rental market. Andrews has a background in environmental policy and planning. He is conscious about how much waste is being generated in the cities. They started their business by becoming a waste auditor to get an idea of what is being dumped in the landfill. He realized that CD, toner cartridges, stationery and electronic waste and folders are not being recycled. They are items from the offices. Its offices are located in the office tower that collects material that is difficult to recycle. Their employees are those disadvantaged people that collect waste and turn it into the more valuable product and sell it back to the company that they collect. Such items are a notebook that made from discarded binder folders, which have a PVC cover and metal rings. The company aims to put at least 50% of company profits to be put back to the social enterprise and to be self-sustaining. Currently, the company has about 30 full-time employees and earns revenue of \$800,000 and is 85% self-funded, while the rest relies on philanthropy and government funding. Green Collect has its own shop in Yarraville and Braybrook.

#### **2.3.8.2 Enactus**

Enactus is a social enterprise from Ireland that has a goal to reduce the amount of food going to landfills and provides an individual with enough food resources so that they can be worry-free about their next meal. The opportunities arise when they realize that the problem lies in how the food is being distributed and accessed. Therefore, they created a network of businesses willing to provide surplus food to charities that provide meals to the hungry. The food is transferred from Honest 2 Goodness Market to Bosco House and from the Trinity College Café to Teen Challenge. The foods are transferred multiple times a week. In order to engage to a larger pool of

people, it creates an application that allows businesses to advertise the type of food they are looking to contribute. The interested charities will voice out and get the food base on first come, first serve. The transaction will be recorded in a database for research and analysis purpose.

## 2.4 Solid Waste Management

1. Waste Generation
2. Waste Collection Process
3. Waste Collection Fees

In Thailand, BMA is in responsible for waste collection. There is information given that we have a high cost of waste management. (Jungrungrueng)

Table 2.10

### *Waste Fee*

<b>Waste Fees</b>	<b>Cost (per ton)</b>	<b>Percentage</b>
Waste Management Cost	US\$ 32	
Waste Collection Cost	US\$ 20	63 % of Management Cost
Waste Disposal Cost	US\$ 12	37% of Management Cost
Waste Collection Fee	US\$ 3	9% of Management Cost



## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **3.1 Research Procedure**

With reference to IMBA course outline, this report uses MetaMo process as part of the research method. They are based on 3E; Explore, Experiment and Execute.

As a business research, this report would only concern Explore and Experiment process.

The primary research will be conducted through qualitative research. The research will be interviews and online surveys with 60 respondents. The target is people who concern about the waste and people who are not environmentally conscious. The survey process lasted about six months.

The secondary research will be collected on reports and newspaper articles. The research statistics in this report will be based on the report from the Pollution Control Department from 1996 to 2016.

#### **3.2 Primary Research**

##### **3.2.1 Survey**

Survey related to social waste was done through Google Form to determine people knowledge, perception and awareness regarding the solid waste. There are 65 respondents. The research expects people to see that it is really a problem in Thailand and which action should be implemented to raise the awareness. The questions are as followed;

1. Demographic
  - 1.1 Sex
  - 1.2 Age
  - 1.3 Qualification
  - 1.4 Salary
  - 1.5 Material Status

- 1.6 Occupation
- 1.7 Home Type
2. Waste Perception
  - 2.1 Do you think Thailand should improve on environmental issues?
  - 2.2 Which environmental issues are your most concerned and your reason?
  - 2.3 Which material do you use the most in each day?
  - 2.4 Do you think there are enough bin in public?
3. Waste
  - 3.1 Do you separate waste?
  - 3.2 Waste bin color understanding
    - 3.2.1 Which color is a “recyclable waste”?
    - 3.2.2 Which color is a “hazardous waste”?
    - 3.2.3 Which color is a “decomposable waste”?
    - 3.2.4 Which color is a “general waste”?
4. Manage waste at home
  - 4.1 If you have space at home, would you want a waste compressor at home? If your answer is “no” please give reason
  - 4.2 Why do you do not separate waste?
5. Waste Promotion
  - 5.1 Do you think waste separation communication or promotion is sufficient?
  - 5.2 What media do you think would greatly promotion the understanding of waste separation?
6. Waste Segregation Reward
  - 6.1 Would you be interested if it allows you to get some extra money?
  - 6.2 If there is a recycle machine, where do you think it is suitable?
7. Price
 

How much do you think it is suitable?

### 3.2.2 In-depth interview

The interview will be taken as part of this research. We aim to target the main stakeholders of the problems. For example, recycling business, shops, consumers and social enterprise.

We collected data from founders and/or CEOs of SEs through face to face contact and through email.

For a social enterprise, the social enterprises involve are TP Project, Tool morrow and Hand Up Network (HUN), and Ruammit 2011. TP Project is a social enterprise that received an award from Banpu Champions for Change. It is known for providing solutions for environment-friendly packaging, packaging industry. Tool morrow is a social enterprise that emphasized on solving the wrong understanding of the societies through an online platform such as video. Their popular work is the video clip of the proving that teachers only want to teach at the tuition center rather than teach students after school for free. This demonstrates that there is still a good teacher in Thailand. Hand Up Network see the opportunity that sometimes Social Enterprise lack of necessary skills to grow their project. Therefore, if Hand Up could supply them with a skilled volunteer to work along with them. It can create a better society. For example, Handsup helps Folkcharm to market their clothes products.

#### 3.2.2.1 Social Enterprise

1. General Information
  - Name of Social Enterprise
  - Interview Date
2. Background
  - What are founder's background?
  - What's make you got interested?
  - What problems do you see?
  - What do you do?
  - In your opinion, what do you think is Social Enterprise?
  - What are your objectives of doing Social enterprise?
3. Starting Point
  - What is your beginning point?

- How did you get started?
- Who did the same as you in Thailand?
- Which companies are you role model?

#### 4. Marketing

• It seems that Social Enterprise is not very popular in Thailand, how did you get people to know about what you are doing?

- Which methods do you use?
- How do you promote your project?
- How did you get income?
- How did you reach to first customers?
- How do you promote your sales?

#### 5. Human Resources

- How many people are there in your organization?
- What are the job roles and position?
- What are the main skills that you need?
- Do you plan to get more staff?

### 3.2.2.2 Waste Shop

#### 1. General Information

- Date interviewed
- Shop Name
- Number of worker
- When did you start this business?
- Why do you start this business?

#### 2. Recycle Waste

- What kind of waste do you buy?
- Who do you buy waste from?
- How do you buy waste from?
- Who do you sell waste to?
- How do you sell waste to?
- Do you prefer customers to segregate waste before reaching

your shops?

### 3. Other related questions

- Does your shop cause any environmental problems?
- What kind of waste management policy can you recall?
- Do you register your shop?

## 3.3 Secondary Research

We are using official reports from Pollution Center Department that concludes all the aspects of waste that we are concerned. The information is used to define the research questions and set up as an initial method to do primary research.

### 3.3.1 Pollution Center Department

The report offers an overview of the solid waste situation in Thailand since 1996. It allows us to narrow down what is the waste problem in Thailand. The evidence has clearly shown that the volume of waste in Thailand has increased tremendously over the year. The terms related to solid waste are used in this report.

### 3.3.2 Newspaper Articles and Magazine

The newspaper articles are used in this reports are Matichon and Thairath. The information given in the articles allows us to get an up-to-date overview of the solid waste situation in Thailand. It allows us to learn more about the social enterprise.

## CHAPTER 4

### RESULTS AND ANALYSIS

#### 4.1 Survey

The survey is done online to target people who lives in Kanchanaburi that are concerned about environmental problems. Using the survey data collected from individual, we evaluated on waste perception, waste management at home, waste promotion and waste segregation reward.

##### 4.1.1 Survey Demographic

Under demographic sections, there are eight specific areas, which are; sex, age, qualification, income, marital status, occupation, housing and province. Below is a summary of the key demographics of the 77 surveys individual.

Table 4.1

##### *Survey Demographic*

Demographic		Frequency	Percent	
1	Sex	Female	53	68.83 %
		Male	24	31.17 %
2	Age	Below 18	10	12.99%
		21 – 30	40	51.95%
		31 – 40	20	25.97%
		41 – 50	6	7.79%
		Above 50	1	1.30%
3	Qualification	High School	12	15.58 %
		Diploma	26	33.77 %
		Degree	35	45.45%
		Higher than Degree	4	5.19 %

Table 4.1

*Survey Demographic (cont.)*

<b>Demographic</b>			<b>Frequency</b>	<b>Percent</b>
4	Income	9,000 – 15,000	49	63.64 %
		15,000 – 20,000	19	24.68 %
		20,000 – 25,000	2	2.60 %
		25,000 – 30,000	1	1.30 %
		30,000 – 35,000	4	5.19 %
		35,000 – 40,000	1	1.30 %
		Above 40,000	1	1.30 %
5	Marital Status	Single	46	59.74 %
		Married	31	40.26 %
6	Occupation	Civil Servant	12	15.58 %
		Private employee	36	46.57 %
		Self – employed	13	13.68 %
		Housewives	2	2.60 %
		Students	14	18.18 %
7	Housing	Single House	49	63.64 %
		Commercial Building	15	19.48 %
		Townhouse	6	7.79 %
		Flat	4	5.19 %
		Condominium	3	3.9 %
8	Province	Kanchanaburi	77	100 %

### 4.1.2 Waste Perception

Table 4.2

#### *Waste Perception*

Waste Perception			Frequency	Percent
1	Do you think Thailand should improve environmental issues?	Yes	74	96.1 %
		No	3	3.9 %
2	Which environmental problems do you concern or annoy the most?	Solid Waste	50	64.9 %
		Air Pollution	24	31.2 %
		Deforestation	1	1.3 %
		Others	2	2.6 %
3	Which kind of solid waste do you throw the most each day?	Paper	29	11.5 %
		Food Waste	44	17.5 %
		Plastic Bag	54	21.4 %
		Plastic Bottle	37	14.7 %
		Plastic Cup	28	11.1 %
		Styrofoam	30	11.9 %
		Food Box	30	11.9 %
4	Do you think there are sufficient bins in the public area?	Sufficient	25	32.5 %
		Insufficient	51	66.2 %
		Not specify	1	1.3 %
5	Do you separate waste?	Yes	50	64.9 %
		No	27	35.1 %
6	Which color determines 'Recycle Waste'?	Green	23	29.9 %
		Red	1	1.3 %
		Yellow	47	61.0 %
		Blue	4	5.2 %
		Purple	2	2.6 %



Table 4.2

*Waste Perception (cont.)*

Waste Perception			Frequency	Percent
7	Which color determines 'Dangerous/Hazardous Waste'	Red	75	97.4 %
		Yellow	1	1.3 %
		Not specify	1	1.3 %
8	Which color determines 'Decomposable Waste'	Green	53	68.8 %
		Yellow	14	18.2 %
		Blue	5	6.5 %
		Purple	3	3.9 %
		Not specify	2	2.6 %
9	Which color determines 'General waste but undecomposable'	Green	3	3.9 %
		Red	3	3.9 %
		Yellow	5	6.5 %
		Blue	55	71.4 %
		Purple	9	11.7%
		Not specify	2	2.6 %

**4.1.3 Manage waste at home**

Table 4.3

*Manage waste at home*

Manage waste at home			Frequency	Percent
1	If you ever had space, would you like to have a decomposable bin?	Yes	51	66.2 %
		No	3	3.9 %
		Not specify	23	29.9 %

#### 4.1.4 Waste Separation Behavior

Table 4.4

##### *Waste Separation Behavior*

<b>Waste Separation Behavior</b>		<b>Frequency</b>	<b>Percent</b>
1	What are your waste separation obstacles?		
	Even though we separate, the staff will mix them up again	14	40.7 %
	I do not have enough time	11	23.9 %
	Lazy	4	8.7%
	Very little bin with waste categories	17	37.0%
	Place		
2	Do you separate waste yourself?		
	Yes	49	63.6 %
	No	25	32.5 %
	Not specify	3	3.9 %
3	Does your organization separate waste?		
	Yes	53	68.8 %
	No	24	31.2 %

#### 4.1.5 Waste Promotion

Table 4.5

##### *Waste Promotion*

<b>Waste Promotion</b>		<b>Frequency</b>	<b>Percent</b>
1	Which channel should we use to communicate		
	Print Media (Newspaper, Magazine)	29	18.8 %
	Internet	47	30.5 %
	Television	49	31.8 %
	Radio	21	13.6 %

Table 4.5

*Waste Promotion (cont.)*

<b>Waste Promotion</b>		<b>Frequency</b>	<b>Percent</b>
	No effect	5	3.3 %
	Others	3	2.0%
2	Do you think the government have enough public awareness on waste separation?		
	Yes	20	26.0 %
	No	57	74.0 %

**4.1.6 Waste Segregation Reward**

<b>Waste Segregation Reward</b>			<b>Frequency</b>	<b>Percent</b>
1	Would you be interested if you get money out of waste separation	Yes	71	92.2 %
		No	6	7.8 %

**4.1.7 Waste Deposit Machine (WDM) Location**

Table 4.6

*Waste Deposit Machine (WDM) Location*

<b>Where do you think is suitable to place waste deposit machine</b>	<b>Frequency</b>	<b>Percent</b>
Near food centre	1	0.5 %
Departmental Store	27	12.4 %
School	1	0.5 %
Hospital	1	0.5 %
Police Station	1	0.5 %
Temple	19	8.7 %
Or Bor Tor	39	17.9 %

Table 4.6

*Waste Deposit Machine (WDM) Location (cont.)*

<b>Where do you think is suitable to place waste deposit machine</b>	<b>Frequency</b>	<b>Percent</b>
Ted Sabarn	4	1.83 %
Public Service Area	1	0.5 %
Near accommodation	1	0.5 %
Solid Waste Terminal	1	0.5 %
Market	1	0.5 %
Private village	7	3.2 %
Public Park	1	0.5 %
7-11	45	20.6 %
Lotus	28	12.8 %
Big C	27	12.4 %
Petrol Station	13	6.0 %

**4.1.8 Waste pick-up services**

Table 4.7

*Waste pick-up services*

<b>If there is a waste pick up service, from your home, would you be interested?</b>	<b>Frequency</b>	<b>Percent</b>
Yes	48	61.5 %
No	6	7.7 %
Not specify	24	30.8 %

## 4.2 Interview

Since our surveys respondents are the founders of SEs and recycle business, it gave us confidence that the data collected are from the perspective of social entrepreneurs and business owners.

### 4.2.1 Social Enterprise

Table 4.8

#### *Social Enterprise Result*

No	Name of Social Enterprise	No. of established year	Skills that need help	No. of Employees
1	Handsup Network	2015	Customer Relation Management, Business Development, Technology	7
2	Folk Charm	2014	Fashion Design	11
3	TP Project	2016	Box Production	3
4	Klongdinsor	2014	Human Resource	5

We can conclude that the young SEs have a very lean operation team. Therefore, there are likely to have a combination of full time and part time employees. As for external assistance, they receive from beneficiaries such as Ashoka, Changfusion, Banpu Challenge and ThaiHealth.

#### 4.2.2 Waste trader/Middle dealer

Table 4.9

##### *Middle Dealer Interview*

<b>No</b>	<b>Name of Recycle Business</b>	<b>No. of established year</b>	<b>Types of Collected Waste</b>	<b>No. of Employees</b>
1	Pongsakchaitalan Co, Ltd	1981	Metal, Paper, Aluminium Can	11

#### 4.2.3 Waste Shop

Table 4.10

##### *Waste Shop Interview*

<b>No</b>	<b>Name of Recycle Business</b>	<b>No. of established year</b>	<b>Types of Collected Waste</b>	<b>Amount of labour</b>
1	Jamrong Antique Shop	2007	Paper, Plastics, Steel and many more	5

## **CHAPTER 5**

### **CONCLUSIONS AND RECOMMENDATION**

This section concludes on what the result from the previous chapter may imply based on the in-depth provincial studies on solid waste industry and country-level on social enterprise. Hence, we will run this chapter into two section; recycle business and social enterprise.

#### **5.1 Conclusion**

##### **5.1.1 Solid Waste Management**

The solid waste problem in Thailand is everyone responsibility. It is no longer only about government responsibilities. It is everyone's responsibility. In order for us, to see a clearer picture, I will divide the plan action that should be introduced.

1. The following is on the governments' roles.

1.1 The government needs to speed up on giving the public knowledge on solid waste management and revise it waste management policy. The policy should give more concern to the waste pickers and collection crews.

1.2 The government should seriously study on how to reduce waste getting to the landfills. One alternative that they should consider is generating electricity from waste.

1.3 If the government want to encourage the public to do the waste separation, it needs to change bin into the bins that categories waste type.

1.4 The majority of the public does not know the government policy on waste management. This could result in not getting enough support or action from the public.

1.5 The business trip overseas may be needed to find advance knowledge to deal with waste. After getting the knowledge, it should immediately be studied in great detail and implement for Thailand as a whole.

1.6 As there is a large amount of uncollected waste, it may be significant if the government spend more money on advance waste trucks.

1.7 The good waste management initiatives in schools, community, slums, organizations, should be brought back to Thailand national plan to emphasize the importance and to create a greater impact.

1.8 We can foresee that there is a weak connection between the stakeholders. This cause a weak system in dealing with waste problems in Thailand. There might be the new policy that generates bonding between different stakeholders to improve on collaboration.

2. The following is on the public roles.

2.1 The public needs to be aware of the consequences of the solid waste problems.

2.2 The public needs to learn to segregate waste according to the different type of solid waste.

2.3 The public needs to help the community cleaner by having a sense of ownership of their own communities.

### **5.1.2 Social Enterprise**

1. In Thailand, there is no official standardized assessment frame or methodology to classify what business belongs to the social enterprise category.

2. Funding is their big challenges as most of them relies on government support. Therefore, there will have difficulties in scaling up.

3. The critical skills that they need lies is human resource management.

4. Since the SEs are in the early stage, they are often do not have social impact assessment.

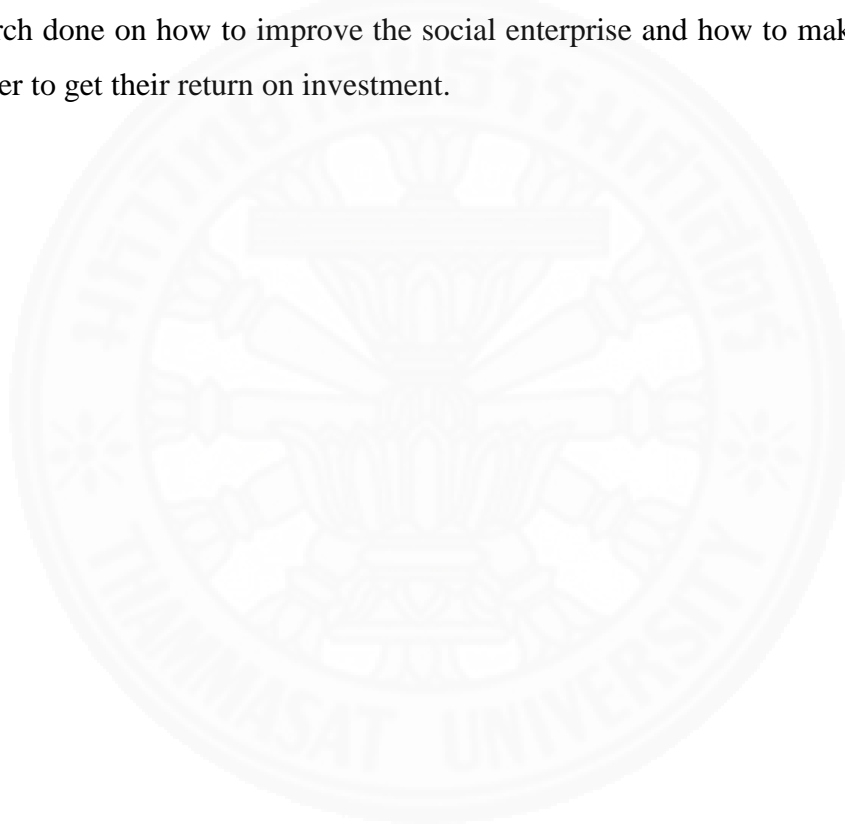
5. Thailand has focused on solving poverty problems in Thailand, but due to political instability, intermediaries play unique roles in supporting the SEs in Thailand.

6. From the growing public interest and awareness, we believe that there will be a more successful social enterprise that learns from the current social enterprise.



## 5.2 Recommendation

The government has revised national policy on social enterprise by receiving feedback from outstanding social enterprises in Thailand. Therefore, we can see that it is government commitment to further promote social enterprise in Thailand. It is possible that when there is increased social enterprise business entity in Thailand, there will be a need for social enterprise consulting firms and there will be more volunteering platform. The social enterprise faced limited financial support. Hence, it may need a volunteer to support their programs. For academic point of view, there might need to be more research done on how to improve the social enterprise and how to make it easier and quicker to get their return on investment.



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## **APPENDICES**

**APPENDIX A**  
**THAILAND POPULATION STATISTICS**

Based on Official Statistics Registration Systems, the table shows the statistics of Thailand Population from 2006 – 2015.

<b>Year</b>	<b>Number of population</b>
2007	63,389,730
2008	63,525,062
2009	63,525,062
2010	63,878,267
2011	64,076,033
2012	64,456,695
2013	64,785,909
2014	65,124,716
2015	65,729,098
2016	65,931,550

**APPENDIX B**  
**THA MEUNG KANCHANABURI POPULATION STATISTICS**

<b>Year</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
2001	40,120	41,961	82,081
2002	40,488	42,364	82,852
2003	40,573	42,586	83,159
2004	39,892	42,158	82,050
2005	40,122	42,440	82,562
2006	40,278	42,602	82,880
2007	39,646	41,803	81,449
2008	26,751	28,063	54,814
2009	26,918	28,263	55,181
2010	27,072	28,448	55,520
2011	27,255	28,658	55,913
2012	27,434	28,789	56,223
2013	27,558	28,948	56,506
2014	27,606	29,109	56,715
2015	27,814	29,460	57,274
2016	27,851	29,586	57,437

**APPENDIX C**  
**MUNICIPAL WASTE STATISTICS**

**Recycle Material Statistics**

Amount of waste that could bring to reuse 2007 – 2016

<b>Year</b>	<b>Millions Tonnes</b>
2007	3.19
2008	3.45
2009	3.86
2010	3.90
2011	4.10
2012	5.28
2013	5.15
2014	4.82
2015	4.94
2016	5.80

Source: Pollution Control Department



## **APPENDIX D**

### **SOCIAL ENTERPRISE MODEL**

#### **Service Subsidization model**

The service subsidization model is a model that social enterprise sells products or services to market and use the income generated to fund its programs.

#### **Market intermediary model**

The market intermediary model is a model that provides services to its customers through individuals or firms to help them access markets.

#### **Organizational support model**

The organizational support model is a model that sells products and services to an external market, businesses or general public. And the income generated are given to the charity that have connection to help the society.

#### **Employment model**

The employment model is a model that provide employment opportunities and job training to its customers. People who are disabled, homeless, at-risk youth and ex-offenders could be admitted to the business. Their lives will be better by being involved with the social enterprise.

#### **Cooperative model**

The cooperative model provides direct benefit to its customers.

## **APPENDIX E**

### **INTERVIEW SCRIPT: Hand Up Network (HUN)**

Interview Date: 28 June 2017

Interviewee: Mr. Sorrawut Pingkhasai

Social Enterprise : Hand Up Network

The interview is divided into four parts; Background, Starting point, Marketing, and Human Resources

#### **1. Background**

a) The founder's background?

I am a Founder and Executive Director of HUN. I am involved with the project for almost three year and have participated in various projects. For example, Asia Pro-Bono Summit, along with other organizations working on the Pro Bono Volunteer Service in Beijing in 2015. Apart of HUN, I am also a core team member and marketing manager of Klondinsor Co.,Ltd.

b) What's make you got interested?

I want to volunteer but I think both my building and planting skills are so poor. It would be great if we can utilize our own skills to help our society. Therefore, I started out as a small project after our work. And it gradually grows.

c) What's problems do you see?

We see that Non-Government organization and companies should be working together to develop new solutions for our society. There are two issues that we are trying to solve. The first issue is strategic use of volunteer. We believe there are a lot of the opportunities and untapped professional skills which could expand social sector. We are interested and committed to the promotion of skill-based volunteer in Thailand. Nowadays, the strategic use of pro-bono contribution is still very limited. The second issue is on the strategic management and organization development in social sector. We believe that stronger organizations will create greater social impact. From our experience, we have learned that one solution does not fit every organization, we found that non-profits in Thailand always focus on delivering high-quality programs

and fundraising. If the sector can place increased focus on organization development. For example, improving staff retention, helping program delivery models become more efficient, and building effective brands that increase customer loyalty and support, a donation will go further. Non profits will amplify their social impact and had better serve our society.

d) What do you do?

We aim to create Pro-bono volunteer programs in Thailand by mobilizing and matching business people who wish to support solving social problems and non-profits that strive to be more capable to better serve for the society. This year we are scaling and re-designing our program to meet need and attract more volunteer

e) In your opinion, what do you think is Social Enterprise?

It is a normal business with social goals in mind. Do business with social impact is not enough. You should commit social goals you want to see then I call them Social Enterprise.

f) What are your objectives of doing Social Enterprise?

Bring change to our society by leveraging business process and business skills.

## **2. Starting point**

a) What is your beginning point?

I started three years ago as a project after work.

b) How did you get started?

At the beginning, we started with just our interest and thought that this would be beneficial to society. But we know that just good intentions are not enough. We asked for advice from why I why foundation and Thai Volunteer Service Foundation (TVS). Moreover we have interviewed some Thai Foundation and Social Enterprise (about 20 places) so we could see the overview opportunities, challenges, and needs in Pro-bono realm in Thailand. Then I start persuading friends. Let's get started. From a small project.

c) Who did the same as you in Thailand?

I think skill-based volunteer is not that new. We found out that many foundations already leveraged it themselves. But strategic use of a skills-based approach

is quite new and I do not think there is another organization working on this issue. But if you asked for organization that working in volunteering sector. There are four; Jitarsa Bank, Volunteer Spirit Network, Mirror Foundation and Thai Volunteer Service Foundation. And our business partners are Volunteer Service Overseas (VSO), Thai Young Philanthropist Network (TYPN), Khonthai Foundation, Needeed foundation and Changfusion.

d) Which companies is your role model?

Our role models companies are Taproot Foundation (USA), Service Grant Japan (Japan), Empact (Singapore), Conjoint Consulting (Singapore), Huizeren Foundation (China) and A better Community (China)

### **3. Marketing**

a) It seems that Social Enterprise is not very popular in Thailand, how did you get people to know about what you are doing?

Social Media, Social Events, and Banpu Champions For Change.

b) Which methods do you use?

We use social media for acquire volunteers, direct sales/pitching to acquire customers and grants.

c) How do you promote your project?

Social Media

d) How do get income?

By charging service fee from third party and seeding grant from international foundation and

e) How did you reach to first customers?

Pitching

f) How do you promote your sales?

We did not do anything.

### **4. Human Resources**

a) How many people are there in your organization?

We have 8 people. There is one person as a full time and seven as a part time.

b) What are the job roles and position?

There are marketing, operation (finance, marketing support, project management, business development)

c) What are the main skills that you need?

Analytical skills, marketing skills and technology skills.

d) Do you plan to get more staff?

Yes, we plan to get two more staffs within this year.



## **APPENDIX F**

### **INTERVIEW SCRIPT: FolkCharm Craft**

Interview Date: 20 May 2017

Interviewee: Mrs. Patsawee Tapasanan

Social Enterprise: FolkCharm Craft

The interview is divided into four parts; Background, Starting point, Marketing, and Human Resources

#### **1. Background**

a) The founder's background?

I am Lukkaew and a founder of FolkCharm. I graduated from rural management from AIT. I am a participant of Banpu Champions for Change Year 4.

b) What's make you got interested?

When I am a graduate student, I did one project on the Power of Women who do handcraft. The case study is on One Tambon One Product (OTOP).I concentrate on women do silk weaving. The real outcome I receive was that the women put in a lot of effort and time consuming. Their effort return is limited and does not give them any value back. I believe that by changing clothes colour could bring price differences. And most importantly, it can be sold abroad as well. The research is still inside my mind and I want to do something about it. During my career time at ThaiHealth, I got to know Sunit Shedtha, Management Director at ChangeFusion who give her the knowledge of social enterprise. One day when I heard news about Banpu Champions for Change, people around me encourage me to participate and I tried.

c) What's problems do you see?

The younger generation does not feel the need to conserve the Thai tradition. The products are being sell at a very cheap price when compared with the difficulty in producing one. Some of the clothes production are not really on a fair trade, the producers are often being taken advantage off. The activities can earned the them big money and without having to migrate into big cities and leave the beloved family.

d) What do you do?

Folkcharm Craft is an enterprise that works with local natural cotton farmers, weavers to provide a hand woven cotton apparel. My mission is to promote ethical craft and fair trade and work with women to deliver a cool apparel for the urban.

e) What are your objectives of doing Social Enterprise?

As FolkCharm is a social enterprise, we want to promote ethical crafts and fair trade to working women to receive a decent salary and not being taken advantaged.

## 2. Starting point

a) What is your beginning point?

The beginning point is Folk Charm participate in the Banpu Champions for Change. My project was not qualify for the first round. But what I want to do stay deep rooted in my mind.

b) How did you get started?

The domestic market is slowly developed. The international market was started when I was a female representative for The Asian Women Social Entrepreneur in 2014, organized by The Nippon Foundation and Association for the Promotion of the Status of Women : APSW. The story of FolkCharm was mentioned in the Sankei Express. Hence, my business is better known overseas. I learned from this trip that if customers does not feel its valuable, they will not be interested.

c) Who did the same as you in Thailand?

They are not a company that did the same thing as me. But there is one company that we see as a partner, Bhukram. Bhukram is a social enterprise that is in Phuphan, Sakonnakon. They supply us with purely indigo dyed hand spun handwoven textile for our 'Ai Collection'

d) Which companies is your role model?

## 3. Marketing

a) It seems that Social Enterprise is not very popular in Thailand, how did you get people to know about what you are doing?

I participated in Ban Pu Challenge. From there I learned a lot and gain many important connections such as ThaiHealth and ChangeFusion. Sometimes, I feel

disheartened but I think that if there is nobody tries to keep Thai traditional skills, no one else would do it. The young generation will not do it, they would rather work in the factory. They do not really see the value for doing it. If we could find the sustainable methods with more orders, there will be more money. And people will see the benefit of it.

b) Which methods do you use?

I learned from Japan Business Trip that if people does not value the products. The products would not be able to sell. This experience has changed her perspective. She realize that by only developed product to meet the market demand and search market for the farmers to sell market is not enough. She needs to make it organic from the beginning til the ending. The process should not involve any chemical. I will deeper into two communities, which are Ban Na Poh and Ban Kok Bok in Leoi.

c) How do you promote your project?

My initial plan was to sell my product through online channel like Facebook and Etsy.com. However, this two channels are not enough if I am going to expand my market abroad. Therefore, I did research and found out that there are market opportunity in Japan. I need to find the right connection and right partner to avoid selling the products online.

d) How do get income?

My main income is through the selling of organic woven products made by women from Thai rural area.

e) How did you reach to first customers?

I went for exhibitions.

f) How do you promote your sales?

After I realize that my target customers are not clear. I move toward organic products. I changed how I sell my products. For example, insteading of not telling the customers where the products are from, I wrote "FolkCharm By BanKokkaBok. It is the products that tells the origins and how it is made.



#### 4. Human Resources

a) How many people are there in your organization?

There are about eleven to twelve members in the organization. Some are full time and some are part time.

b) What are the job roles and position?

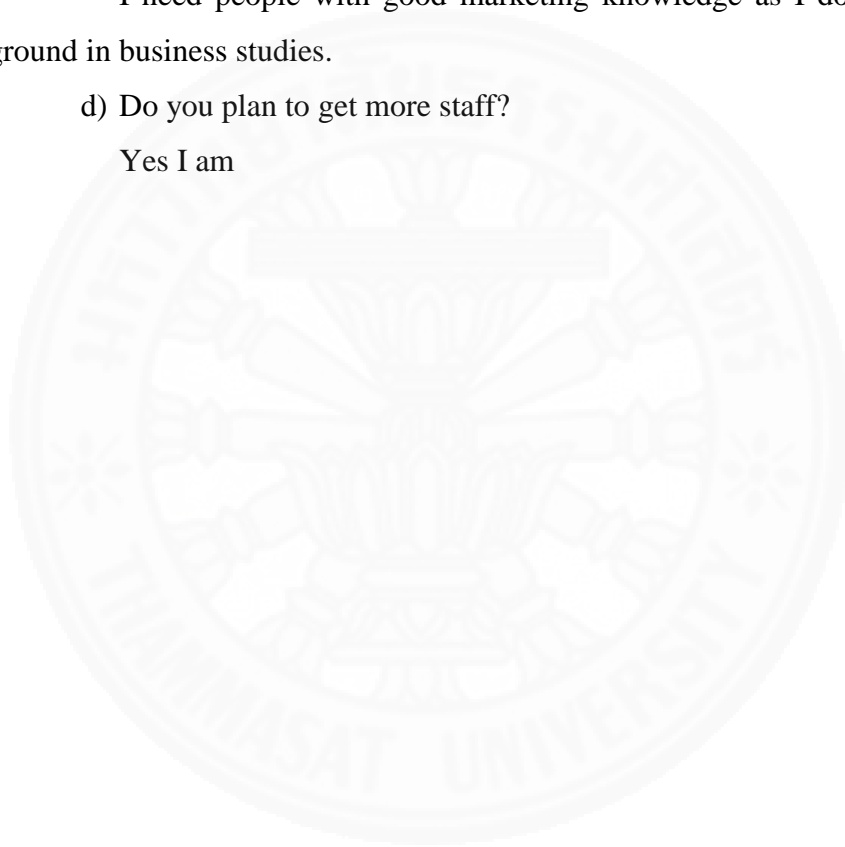
There are designer, marketing, accounting and sales.

c) What are the main skills that you need?

I need people with good marketing knowledge as I do not have any background in business studies.

d) Do you plan to get more staff?

Yes I am



## **APPENDIX G**

### **INTERVIEW SCRIPT: TP Product**

Interview Date: 25 May 2017

Interviewee: Mr. Phata Techatewon

Social Enterprise : TP Project

The interview is divided into four parts; Background, Starting point, Marketing, and Human Resources

#### **1. Background**

a) The founder's background?

I obtained a degree of Bachelor of Engineering, Computer Science from Nanyang Technological University. I achieved International Master in Business Administration (IMBA) from Thammasat University. As an IMBA students, I have done many entrepreneurial projects such as Breast Cancer Community and Little Toy project. Breast Cancer Community is a non-profit organization which provides emotional support to breast cancer patients. Little Toy is a start-up family plaything using growing kits, toy industry and agriculture industry. Before he started TP Product, I worked as an Account Manager, Customer Business Development (CBD) at Procter and Gamble. Currently, I am a co-founder of TP Project, a social start-up, providing solutions for environment-friendly packaging, packaging industry. I initiate business solution to solve the issue of unsuccessful policy to prohibit the usage of styrofoam packaging. The project could reduce the number of styrofoam usage by over 550,000 pieces in the first year, and currently, accelerated to around 500,000 pieces per month.

b) What's make you got interested?

I find that this project is really interesting and it is an interesting project. It can make a significant impact. After discussing with my brother, we find the opportunity in this project.

c) What's problems do you see?

Many organizations try to eliminate the usage of styrofoam including government, and they continue to do this for over 10 years, but the situation is not

significantly moving forwards brighter future so I think there is the opportunity to find the real root cause here. The main problems are that by changing to green packaging, the life of those vendors are worse due to much higher cost of packaging while the sales are not increased. So the real problems are how to make the life of vendors better when switching to green.

d) What do you do?

We have many solutions depending on the location. We customized each one for each community and use the model which could be scaled as a template to implement in the other areas. The example solutions are community stock planning.

e) In your opinion, what do you think is Social Enterprise?

The profitable company with the mission to solve the social problems. The resolve must be embedded as the core of business so the better the social, the more the profit.

f) What are your objectives of doing Social Enterprise?

It is to make a living from sustainably solving social problems.

## 2. Stating point

a) What is your beginning point?

My brother is sales at pulp and paper in paper industry. He saw many problems of styrofoam, and unsuccessful ways to eliminate it. This trigger him to invite me to explore more into solutions and take on this challenge

b) How did you get started?

We go to talk to the street food vendors and packaging distributors, pretending to sell the products and see their reaction about the problems and their thinking.

c) Who did the same as you in Thailand?

Currently, no one do the same thing as us. There are many packing manufacturers and distributors and we count them as competitors or alternatives, but I never see anyone doing the same as us.

d) Which companies is your role model?

No one. We look at many business models and examples to apply, but no one is pure role model.

### 3. Marketing

a) It seems that Social Enterprise is not very popular in Thailand, how did you get people to know about what you are doing?

Social Enterprise is a business. There is no need to try to make people understand who we are or use the word “Social Enterprise” as value

b) Which methods do you use?

We use offline communication

c) How do you promote your project?

We get into the field focusing on those who have the power to influencing then it will spread throughout the market. In some cases, we work with the whole community so we define who are the key drivers and focus on them.

d) How do get income?

From the products they purchased from us.

e) How did you reach to first customers?

Get insight and find the customers who we could solve their problems first.

f) How do you promote your sales?

Scale up the distributors, and locations. Increase the number of solutions.

### 4. Human Resources

a) How many people are there in your organization?

We have only two people in our organization. The rest is outsourced

b) What are the job roles and position?

Only 2 position.

c) What are the main skills that you need?

We need sales, logistics, and some administration like accounting. Currently, we outsourced all of those.

d) Do you plan to get more staff?

We will get more when we need, and right now outsourcing is better than hiring.

## **APPENDIX H**

### **INTERVIEW SCRIPT: Klongdinsor**

Interview Date: 31 July 2017

Interviewee: Mr. Chatchai Aphibanpoonpon

Social Enterprise: Klongdinsor

The interview is divided into four parts; Background, Starting point, Marketing, and Human Resources.

#### **1. Background**

a) The founder's background?

I am a social entrepreneur, Chatchai Aphibanpoonpon or Tor. I graduated from Faculty of Economics, Thammasat University. After graduation in 2007, I worked for a commercial bank. After working there for three years, I resigned because I disagreed with the bank's policy about doing business with companies that harm society such as cigarette companies or alcohol companies. Then I studied for a Masters' Degree in Faculty of Business Administration at Thammasat University. When I was studying for a master's degree, I did a graduation project about "Taxi for women" because I found that lots of my friends couldn't go home late at night. After graduation, I started my first business which was a "Lady Taxi". It was a safe taxi service served by women for women. I worked for three months and then I quitted because I felt that I did not want to wake up early to do this job. I did not like it even though there were many customers calling continuously. I felt I was not happy with it, so I quitted after three months. Then I start Klongdinsor Co., Ltd.

b) What's make you got interested?

I realized that the blind cannot learn from seeing but it does not mean that they are mentally blind. Also, I believe they will feel much better if they do not have to rely on the government for support. (CreativeMove, 2013) Therefore, the idea will be involved on three issues; education, career and disability awareness. For education, the project will give guidance about education to disabled people. For career advice,

the project provides training such as cooking. For disability awareness, our project organized running activities to the blind.

c) What's problems do you see?

The first issue that I see is that lack of opportunity that the public are given to the disabled. The public perceived that the disabled have only certain ability to perform in a certain job. For example, selling lottery ticket or becoming a masseur. Hence, I believe that if they are given a correct tool, they can perform as well as normal people.

d) What do you do?

Klongdinsor is a social enterprise aiming to produce and develop educational tools for children with special needs or disabled children. At the starting period, I was developing a communication tool for the blind call Lensen Drawing Kit after I find that it is difficult to explain difficult concepts such as Mathematics. Lensen Drawing Kit is now sell in disabled school and overseas. And currently, I am working on six different projects. One of the project is running with the disabled. The project recruit volunteer, who want to be a guide runner to the disabled. At the early stage, this project only involve 12 disabled but now the member goes up around 1,000 people.

e) In your opinion, what do you think is Social Enterprise?

In my opinion, Social Enterprise is an organization that aims to solve social problems through sustainable methods and using business model to gain revenue.

f) What are your objectives of doing Social Enterprise?

The objective is to improve the disable quality of life and give awareness to the public.

## **2. Starting point**

a) What is your beginning point and how did you get started?

The starting point of Klongdinsor Co.Ltd began when I was studying for a master's degree.I had a chance to be a volunteer at The Bangkok School for The Blind, located in Rajavidhi Road. When I was a volunteer, I felt that children had difficulty in learning especially in something that they could not see and very complicated.At the end, it is finally volunteer were the ones to do homework for children who wouldn't learn anything in the end. So I tried to find other ways to help them besides giving

time to be a volunteer. I tried to think of several models and solutions and one of these solutions was to create tools composed of a pen and a board. This was a drawing pen for children. The concept was a pen that expelled yarn instead of ink. For a board, it would be attached with Velcro. While writing, the yarn would stick to Velcro and create a tactile line. As I am not a design graduate, I tried to find materials to cut and stick on. Mostly I used glues and adhesive tapes.

b) Who did the same as you in Thailand?

Currently, there are none.

c) Which companies is your role model?

Currently, there are none.

### **3. Marketing**

a) It seems that Social Enterprise is not very popular in Thailand, how did you get people to know about what you are doing?

After Klongdinsor won Banpu Champions for Change. The company receive a warm welcome from the public. The project is able to gain a good support from ThaiHealth. Therefore, when ThaiHealth receives opportunity to go on exhibition. The project will go along too. Therefore, through this process, it gives the public the opportunity to get to know me. Also, by working with ThaiHealth as a partner, I am able to gain attention from the bank as well.

b) Which methods do you use?

Firstly, I enrolled myself in a social enterprise competition like Banpu Champions for Change. As a participant, I am able to gain many connections that becomes useful in the later project development stage. After the competition ends, I receive funding and the public becomes aware of my project. One public that found my projects interesting are ThaiHealth.

c) How do you promote your project?

I promote my project through our KlongDinsor website and facebook fan page.

d) How do get income?

I get my main income through selling Lensen Drawing Kit products. However, it is quite difficult to sell as it is in a niche market. Also, I get income through

social grant by ThaiHealth. When the public are aware of the project, the corporate becomes aware too. For example, when the commercial bank has Corporate Social Responsibility (CSR) activities, they will think of us. And we earn a processing fees.

e) How did you reach to first customers?

Before we got our first customers, we developed the product with Faculty of Education, Suan Dusit University. They give us advice on education for special needs children. We also develop a partnership with Foundation for the Blind in Thailand that own school. We brought the products for the kid to try and received positive feedback that it is interesting. We come back and develop our products further. At the later stage, we receive a good sponsorship and they distribute it to many schools. We also receive a good feedback from the international market that saw us through the crowd funding campaign, although we did not get to our goals, but our products become better known and people want to buy it for use in their country.

f) How do you promote your sales?

We promote our sales through two methods; product and services. Currently, we have sold about 2,000 Lensen Drawing Kit products to various blind school both for domestic and international market. And for services, we launch many activities such as Cook2gether and Run2Gather.

#### **4. Human Resources**

a) How many people are there in your organization?

Our organization is really small. We have only four full time employees and one part time employee

b) What are the job roles and position?

Since our organization is small, we make the best use of our people. Many responsibilities are given to our staff. The most important thing is even though we lack of staff, but we helped one other. We save on what we need to save. The only part time employee is responsible for graphic design for our media.

c) What are the main skills that you need?

Currently, we lack of Human Resource Skills.

d) Do you plan to get more staff?

Yes, we have. We are looking for human resource based job.



## APPENDIX I

### INTERVIEW SCRIPT: Pongsakchai Talan Co,Ltd

Date interviewed: 1 August 2017

Shop Name: Pongsakchaitalan Co,Ltd

Interviwee : Mr. Narong Pongpawasuit, Mr. Jaray Thongbai, Mr. Troyd Teerapigitra

#### 1. General Information

a) How many workers are there in your company

In our company, we can divided into three departments, which are sales and marketing, accounting, maintenance and operations. The sales department is responsible for getting a new customers and try to reach company target. The accounting department is responsible for collecting money and issued invoice. As we have equipment such as back hoe and steel compressor, we need to maintain it. As a result, there are maintenance staff to repair the machines. The operation department is responsible for sorting the waste. In our company, there are about eleven full time staff.

b) When did you start this business?

We started this business in 1981.

c) Why do you start this business?

In the past, recycle business in Thailand seems to be a dirty job, not so many people are interested. The owner feel that there is no ending to the business as people still consume goods and there are waste. Also, people do not know that, it is a money-making industry.

#### 2. Recycle Waste

a) What kind of waste do you buy?

When we first started, we only buy steel and paper. In 2017, we buy tin and aluminium can as well.

b) Who do you buy waste from?

We brought waste from the small shop around Thailand. They send their waste to us by 10 wheel trucks.

c) How do you buy waste from?

We have sales that go around Thailand to find new recycle shop. We give them a good price.

d) Who do you sell waste to?

We send steel to TATA for recycling and used and waste paper to SCG Packaging.

e) How do you sell waste to?

We find a factory that could accept our waste type. And we send them on a regular basis. We work together and become partner.

f) Do you prefer customers to segregate waste before reaching your shop?

It will be beneficial to us if they could separate waste but the problem is that the steel can be separate into many types. Sometimes, the customers do not know the steel grade. As a result, we have to separate ourselves. If they could separate, it would save time and they would earn more.

### **3. Other related questions**

a) Does your shop cause any environmental problems

As we do steel waste, there will be noise. But we try to do it during day time. We start our operation from 8 am to 5 pm. Therefore, we do not generate huge environmental problems.

b) What kind of waste management policy can you recall?

3R.

c) Do you register your shop?

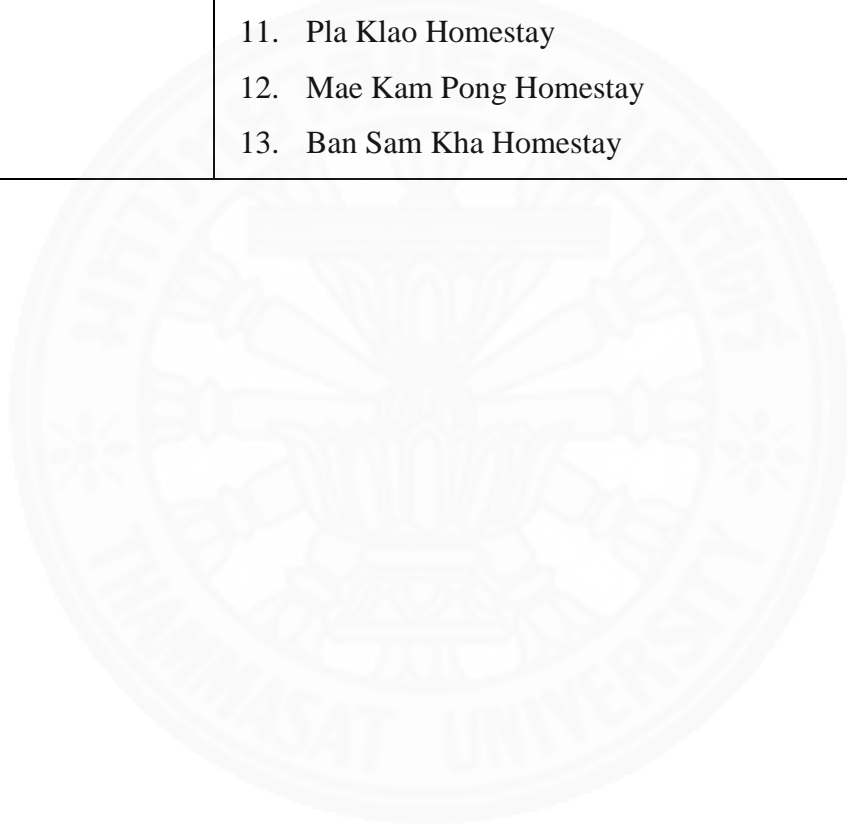
Yes, I do.

**APPENDIX J**  
**SOCIAL ENTERPRISE LIST IN THAILAND**

<b>Type</b>	<b>Details</b>
Product and Service	<ol style="list-style-type: none"> <li>1. GreenNet</li> <li>2. B.R.E.A.D</li> <li>3. Plan Toys</li> <li>4. Try Arm</li> <li>5. Khao Koh Natural Farm</li> <li>6. The Innovator</li> <li>7. The Organic Milk</li> <li>8. Fair Trade</li> <li>9. Osisu</li> <li>10. Green Market</li> <li>11. KlongBangbua</li> <li>12. Potentiality</li> <li>13. UrbanTree</li> <li>14. Supapat</li> <li>15. Lemon Farm</li> <li>16. One For One</li> <li>17. Green Product</li> <li>18. Ruammit 2011</li> <li>19. Namo Nammon Farm</li> <li>20. Kon Kay Puk</li> <li>21. Rainbow Farm</li> <li>22. Akkah Ahma</li> <li>23. Sirada Product</li> <li>24. Pankan Society</li> </ol>
Food	<ol style="list-style-type: none"> <li>1. Cabbages and Condom</li> <li>2. Udomchai Farm</li> <li>3. My Home</li> </ol>

Type	Details
	<ol style="list-style-type: none"> <li>4. Mangkud Café</li> <li>5. Pensook</li> <li>6. Friends' Café</li> <li>7. Sai Jai Healthy food</li> <li>8. Doi Tung Foundation</li> <li>9. Thai Organic Food</li> </ol>
Education	<ol style="list-style-type: none"> <li>1. Thai Handi Club</li> <li>2. KMI</li> <li>3. Math Game Centre</li> </ol>
Distribution	<ol style="list-style-type: none"> <li>1. Bikexenger</li> </ol>
Media	<ol style="list-style-type: none"> <li>1. BeMagazine</li> <li>2. Freehap</li> <li>3. Makhampom</li> <li>4. Kids' Foundation Publisher</li> <li>5. My Social Motion</li> <li>6. Pa Yai Creation</li> <li>7. Fuse</li> <li>8. Mini Me Studio</li> <li>9. Suan-Spirit</li> <li>10. Butterfly Book Publisher</li> <li>11. Sarakadee</li> <li>12. Green Living</li> <li>13. Thammasapa</li> <li>14. Why Not</li> <li>15. Ahead way</li> <li>16. Open Dream</li> <li>17. TV Burapha</li> </ol>
Tourism	<ol style="list-style-type: none"> <li>1. Bike and Travel</li> <li>2. Ta Kun Tong Homestay</li> <li>3. Laem Sing HomeStay</li> </ol>

Type	Details
	<ol style="list-style-type: none"><li>4. Had Song Kwai Home Stay</li><li>5. Mai Ked Home Stay</li><li>6. Ban Dong Home Stay</li><li>7. Birds and Bees</li><li>8. Ban Klang Tung Home Stay</li><li>9. C &amp; C Khao Yai Resort</li><li>10. Chumporn Cabana Resort</li><li>11. Pla Klao Homestay</li><li>12. Mae Kam Pong Homestay</li><li>13. Ban Sam Kha Homestay</li></ol>



**APPENDIX K**  
**LIST OF RECYCLE BUSINESS STAKEHOLDERS**

1. Thailand Institute of Packaging and Recycling Management for Sustainable Environment (TIPMSE)
2. Thai Packaging Association (TPA)
3. Thai Plastic Industries Association (TPIA)
4. Plastic Industry Club : Member of Federation of Thai (FTI)
5. Plastic Institute of Thailand (PIT)
6. Plastic Intelligence Unit Website (PIU)
7. Thailand Institute of Scientific and Technological Research (TISTR)
8. The Office of Industrial Economics (OIE)
9. National Statistical Office
10. Thailand Energy and Environment Network (TEENET)
11. Business Opportunity Center (BOC)
12. Environnet
13. National Innovation Agency
14. Department of Environment Quality Promotion (DEQP)
15. Thai SME Franchise
16. National Electronics and Computer Technology Center (NECTEC)
17. Department of Industrial Promotion (DIP)
18. Association for the Promotion of Thai Small and Medium Entrepreneurs (ATSME)
19. Thai-Plastic.com
20. Petroleum Institute of Thailand (PTIT)
21. Thai Bioplastics Industry Association (TBIA)
22. Pollution Control Department (PCD)
23. Thai Plastics Foam Recycling Industries Association (TPFRIA)
24. BMA Office
25. Green World Foundation
26. Thailand Environment Institute Foundation (TEI)
27. Department of Industrial Work (DIW)

28. Biodegradable Packaging for Environment Co.,Ltd
29. Ministry of Industry Thailand (MIT)
30. Ministry of Energy Thailand
31. Ministry of Natural Resource and Environment (MNRE)
32. Department store
33. Minimart/small shop
34. Plastic product trader/distributor
35. Waste picker
36. BMA waste collector
37. Transfer station scavenger
38. Waste shop
39. Waste trader/middle dealer
40. Community waste bank
41. School waste bank
42. Inventor
43. Pelletizing factory
44. Plastic to oil plant
45. Plastic to RDF plant
46. Plastic to product factory
47. Energy recovery plant
48. Import and exporter
49. Individual
50. Household
51. Institution
52. Commercial and business establishment

## APPENDIX L

### WASTE RECYCLING PROCESS DIAGRAM

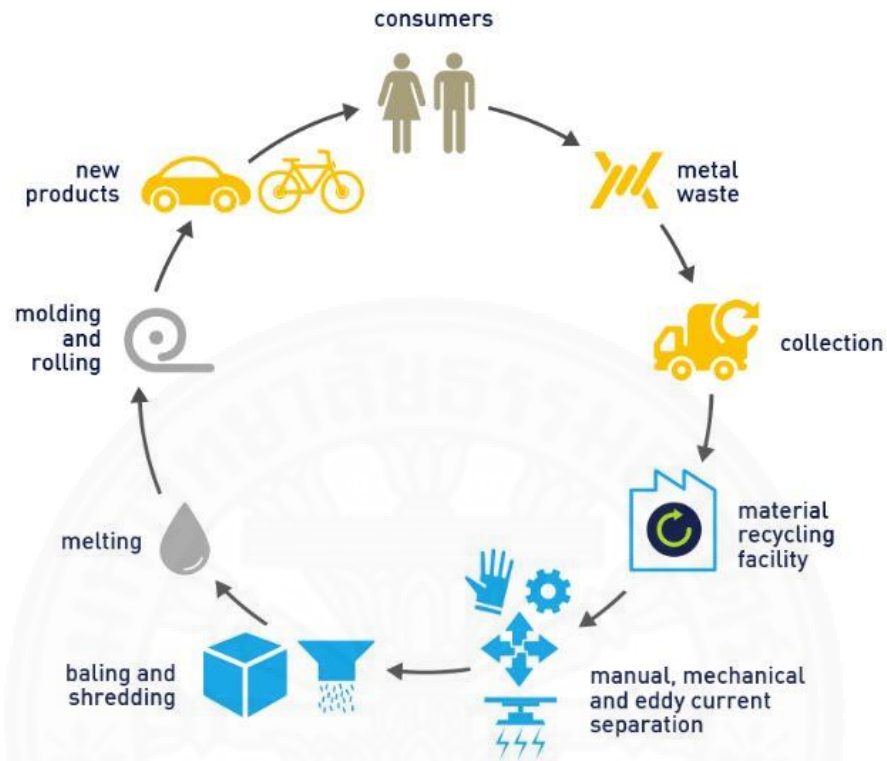
#### 1. Plastics



Source: Ibhargarwala (2017)



2. Metal



Source: Suez (2017)

3. Paper



Source: Pinterest

**BIOGRAPHY**

Name	Miss Napae Terapigitera
Date of birth	January 17,1988
Educational attainment	2017: Master of Business Administration
Working Experience	Human Resource Officer Lanlek Transport Pte, Ltd.

