CHAPTER 3

DATA COLLECTION

In this chapter, firstly, we will present how to gather the data to use for situation analysis in the next chapter. The data can be collected from various source of information such as, journal, research report, government department, human export interview and questionnaire. Then, the general information of Thai clothing industry will be established. This information consists of industry structure, production process, production and consumption and current situation of industry.

3.1 Introduction

Data collection is a common process of gathering and obtaining the information from various sources or respondents. To analyze the industry, data collection should be concerned with a wide range of information on industry such as industry characteristic, import and export product trend, market size, production and consumption of textile product and so on.

In this research, the information is gathered from various sources such as, from journals, from research reports from government department from human expert interviewing and from questionnaire. Each source provides and supports different valuable information, which help to conduct in industry situation analysis.

To reach the objective of this research, all information from data collection will be supplied to identify and clarify the situation of Thai clothing industry.

3.2 Collected Data

3.2.1 Information from Journals

A part of useful information for industry analysis is gathered from news and article in journals. For this report, there are three journals used to be significant source for data collection. They consist of Textile Digest, Textile Outlook International and Asian Textile Business.

- ***Textile Digest:*** This journal provides a lot of information about textile industry in Thailand. It consists of various news and knowledge about textile business such as, industry overview, statistics data, seminar report, exhibition news, technology development news and so on. Many academic articles in this journal come from interviewing and meeting human experts in textile business. Thus, the information of Textile Digest can be used as the preferences for industry analysis activity.

- ***Textile Outlook International:*** There are various globalize information presented in this journal. It presents the information of textile industry in each country around the world and also displays the global statistic data of textile industry. In addition, it provided the comparison of import and export textile products between countries and supports the information of global competitions such as measurements and specifications of textile business or industry in each country.

- ***Asian Textile Business:*** It is another important journal that provides information of textile business. This journal supports the information of textile industry in Asia area. It normally presents the analysis of textile situation in Asia and also indicates the statistic data of textile business. The news about changing in the process of production, marketing, research and development are presented in this journal. The statistic data and import and export situation of Asian countries are significant information received from Asian Textile Business.

- ***Apparel Digest:*** It represents the information about world textile, product trend, and statistic data that are support by Thai Garment Manufacturers Association. Moreover, it also reports the Asia economic review, trades fare, import and export situation, and personal review.

3.2.2 Information from Research Reports

Information from research reports may be used as diagnostic activity to provide in formation about what is occurring within the textile industry or its environment. Information supplied by specialists and human experts may also indicate additional information, which are supported the analysis of industry's situation.

The important information in this thesis are collected from research reports wrote by specialists and human experts as follow:

- The information about government policy and development of textile industry are gathered from "*Thai textile industry and investment from aboard*", *(1996) by Artit Wuttikaro and Yaovanit Saetung.*

- The information about structure of Thai textile industry together with the participation of government section, private section and Thailand textile institute to research & development of textile industry can be gathered from *"The study of research and development for textile industry in Thailand", (1997) by Veerasak Udomkitdecha and Pranee Rattanavareedeeroj.*

- The information about the policies and measures that should be supported the development of textile and garment industry in Thailand are applied in this thesis. These information are gathered from *"The next step of Thai textile and clothing industry" by Pavadee Thong-urai.*

- The information about structure of textile production and marketing activity are collected from *"Policies and measures for improvement of Thai textile industry" by Artit Wuttikaro.*

- The information about education programs that concern with clothing industry can be gathered from *"Strategic management and developing of Thai clothing industry", (1997) by National Institute of Development Administration.*

3.2.3 Information from human expert interview

In order to get closer to closer the exact information, personal interview is another method to gather the information. Thus, it is necessary to interview respondents to gather information concerning their response to this field or related environment. The expert interview is one of appropriate ways to collect the information needed. The information received from experts are presented briefly as follows:

- ***Managing director:*** we interview managing director of a clothing company. The company products are distributed to local market and international market. The information received from interview concern with raw materials, labor requirement, market trend, technology requirement, the supporting of government and the status and potential of clothing industry.

- ***General manager:*** we interview general manager who works in a clothing manufacturer. In this company, it can be defined as medium size manufacturer of clothing industry. Although the company produces the products to sell only within the domestic, some parts of raw materials are imported. In this case, general manager supports the information about number of production worker, raw materials, suppliers, trend of import & export, manufacturing process, etc.

- ***Research and development manager:*** the manager who work in research and development department in a clothing company determines the information about raw materials, modern technology requirement, production process, quality of product, design product, skilled labor requirement and so on.

- ***Marketing manager:*** this marketing manager works in a big clothing company. The company produces products in terms of mass production and distributes products to local markets and other countries markets. The information received from marketing manager involve trend of import raw material and export the products, market trend, market size, marketing strategy, distribution channel, foreign market characteristics, competitors and the ability of Thai products in global market.

- ***Foreman:*** this foreman works in a clothing company, which is a big manufacturer in clothing industry. He provided the information about number of production workers, skill labor requirement, technology requirement, training program, production process and so on.

- ***Staff of Thailand Textile Institute (THTI):*** THTI is an institute that helps and supports the development of textile industry in Thailand. Staff of THTI supports the information, which concerns with the ways for development and enhancement Thai clothing products in order to complete with others competitor under globalization economy.

- ***Staff of Department of Export Promotion, Ministry of Commerce:*** Department of Export Promotion plays the important role for promoting and expansion the market for Thai exports. Moreover, its responsibilities are also developing the policies and activities that promote trade and increase the competitiveness of the export sector. The staff of this department advises the information about trend of imported and exported clothing products including its statistics and also the government's policies to support clothing industry.

3.2.4 Information from Custom Department

The information gathered from Custom Department, Ministry of Commerce generally involves historical data presented in terms of statistics. This is a reliable source of data providing accurate information. Thus, it is an important source to collect the data in order to apply for situation analysis of industry. This research uses this information from Custom Department as the benchmark to apply and analyze the industry's situation.

3.3 Industry Information

3.3.1 Textile industry

Thai textile industry has been developed continuously from the past. More than forty years, the textile industry in Thailand expands rapidly until it becomes one of the important industries for the country. The product from textile industry can be distributed and exported to other countries around the world such as, USA, Japan, UK, Hong Kong, etc. In 2001, value of textile and clothing exports was approximately 235,190 million Baht.

Thai textile industry consists of five major industries, which are fiber production industry, spinning industry, weaving industry, dyeing and printing industry and clothing industry. Generally, the structure of textile industry can be classified into three sub-industries, which consist of:

- ***Upstream industry***: it is the first part of textile industry involving the process of producing fiber both from natural and synthesis.
- ***Midstream industry***: this industry consists of many types of textile industry, which are spinning industry, weaving industry and dyeing and printing industry.
- ***Downstream industry***: downstream industry is the final part of textile industry. The industry that involves in this part is clothing industry.

Basically, the textile products from any previous industry will become the raw material in the next industry. This following figure shows the structure of Thai textile industry.

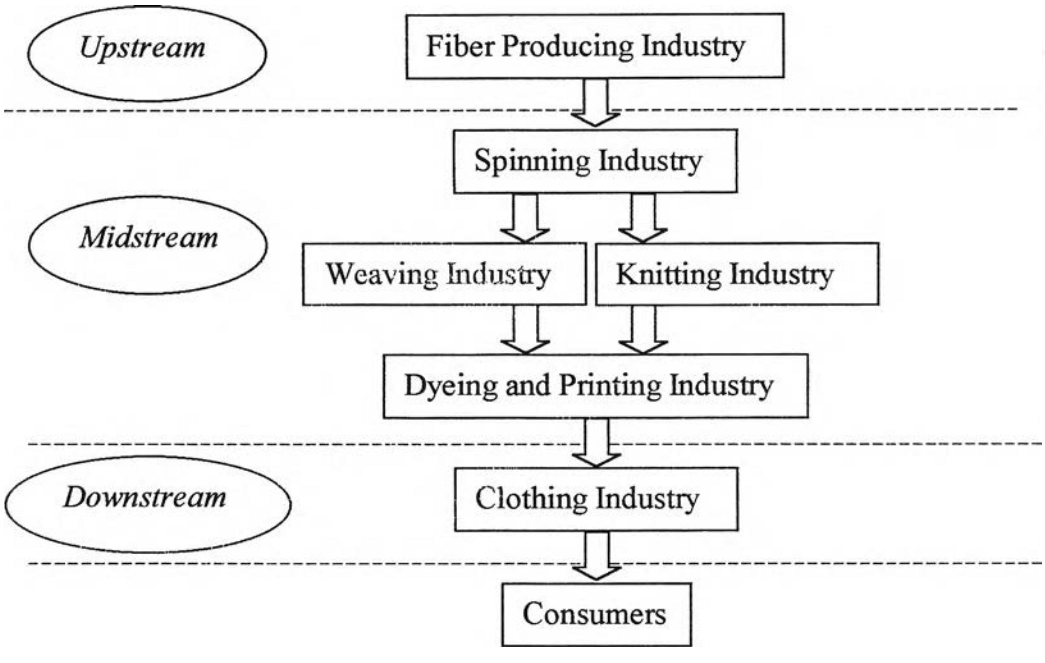


Figure3.1: The Overall Structure of Thai Textile Industry

Normally, production in the sectors of upstream and midstream industry emphasize capital factor and high technology, which can be defined as capital intensive. On the other hand, a large number of production workers are required for clothing industry. It can be referred as labor intensive industry.

However, in this research, we study and analyze the situation of Thai textile industry in the level of downstream only. Thus, the following information will be described particularly the situation of Thai clothing industry.

3.3.2 Clothing industry

Clothing industry is one of the important industries in Thailand. This industry is defined the final process of textile industry. It also plays the significant role in Thai economy. This is because it can make high income from exporting the product to other countries all over the world.

However, as same as the other industries, clothing industry has been hit by economic crisis in 1997, the high economic growth has come to a stop. As a result, the manufacturers decreased their production capacities. The number of export steadily declined around 22 percent in 1997. After economic recovery, the numbers of export also turnaround. In 2001, the value of clothing exports was approximately 136,878 million Bath and the clothing industry can reach the fourth rank of the total export of every item in Thailand.

Nowadays, there are nearly 2,641 clothing mills established in Thailand. Most of them are small factories. These factories normally have small number of sewing machines with low technology. However, at the present, high technology systems are applied to support in garment production process, which consist of Computer Aided Design (CAD), Computer Aided Manufacturing (CAM), Computer Cutter System (CAS) and Computer Spreader System (CSS).

Although these modern technologies and machinery provide many benefits to clothing industry, they are used particularly in the big manufacturers because they need to invest a lot of money for new technology system. Thus, the manufacturers need to compare between costs and benefits to make investment decision.

However, there is very high employment rate in this industry, which is higher than other textile sub-sectors. From statistic data, approximately 800,000 labors or about 77 percent of total production workers work in clothing industry. That means the manufacturers hold labor costs around 20 percent of total manufacturing costs.

The following table presents the number of clothing mills, sewing machines and production workers to support the overview of Thai clothing industry.

Table 3.1: Number of clothing mills, sewing machines and production workers

	1997	1998	1999	2000	2001
Number of clothing mills	2,854	2,742	2,666	2,672	2,641
% Growth	-1.2	-4.0	-2.8	0.2	-1.2
Number of sewing machines	772,128	764,618	759,012	759,438	757,307
% Growth	-0.2	-1.0	-0.7	0.1	-0.3
Number of production workers	857,830	849,570	843,030	843,200	840,460
% Growth	-0.5	-1.0	-0.8	0.02	-0.3

Source: Textile Industry Division, Department of Industrial Promotion

3.3.2.1 Production and Consumption

In general, there are two major types of fabric used to produce in the clothing industry, which are woven fabric and knitted fabric. In 2001, there was total clothing production within the domestic about 446.6 kilotons divided into woven fabric 264.3 kilotons and knitted fabric 182.3 kilotons.

On the other hand, clothing products were consumed 260.7 kilotons. This figure can be separated as 183.3 kilotons of woven fabric and 76.9 kilotons of knitted fabric. Comparison between production and consumption of clothing in different period of time will be shown in the following table.

Table 3.2: Production and consumption of clothing

	1997	1998	1999	2000	2001
Production (1,000 tons)					
Clothing, woven fabric	250.0	223.3	230.1	264.2	264.3
Clothing, knitted fabric	158.8	151.0	157.8	177.2	182.3
Total production	408.8	374.3	387.9	441.4	446.6
% Growth	-5.2	-8.4	3.6	13.8	1.2
Consumption (1.000 tons)					
Clothing, woven fabric	184.1	153.3	162.0	187.7	183.8
Clothing, knitted fabric	79.9	61.8	60.2	74.3	76.9
Total consumption	264.0	215.1	222.2	262.0	260.7
% Growth	-6.8	-18.5	3.3	17.9	-0.5

Source: Textile Industry Division, Department of Industrial Promotion

3.3.2.2 Production Process

The process of clothing production consists of several processes that can be presented as follow:

- ***Pre-assembly:*** this is the first step of clothing production. It starts with design, size grading, marking and cutting. Some companies use Computer Aided Design system and Computer Cutter System (CAS) to support in this production process.

- ***Assemble:*** after the processes in pre-assemble steps are prepared completely, the next step will concern with sewing process. This process needs to have a lot of sawing machines and efficient production workers. Moreover, high production technology such as, Computer Aided Manufacturing can be used to assist in production process. However, the skilled labors are also required and costs and benefits are concerned and compared.

- ***Finishing:*** finishing is the final process of clothing industry. It is an activity after sawing process has been completed. Finishing activity consists of pressing, inspection and packaging.

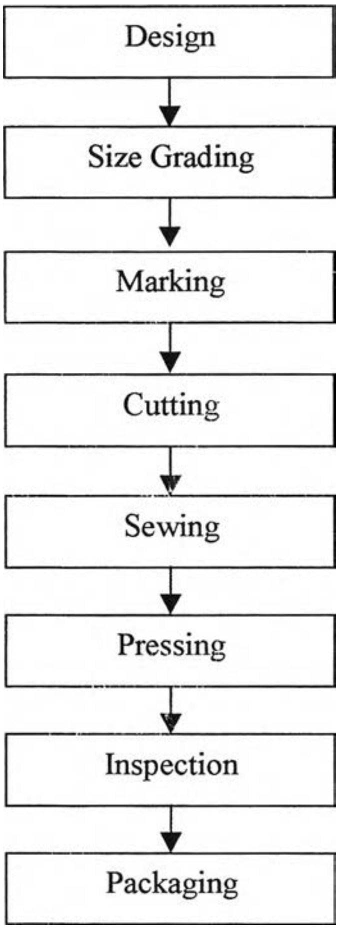


Figure 3.2: Clothing production process

In this process, there are some companies using high technology machines to help in production process. Mostly, machines are used in design and cutting process. Although clothing is labor intensive industry that needs very high skill of labors, modern technology machines are important factor as well.

Nowadays, the modern and high technologies are applied in only big manufacturers because they can average and absorb these costs in mass production, which may divert costs to benefits. For example, the benefits that a manufacture receives with modern technology machines such as, improved productivity, reduced throughput time, reduced work in process, improved quality control, reduced absenteeism and labor turnover and etc.

3.3.2.3 Industry situation

The Thai textile and clothing industry has accomplished growth until the mid-1990s by taking advantage of the moderate position. However, it faced the big damage from floating exchange rate system of Thailand in 1997 that affected to the economic of other countries in Asia. Therefore, the Asia economic has come to a stop and changed the industry situation. Due to Asia financial crisis that affected to Thai Baht drop in July 1997 and then the exchange rate stay between 40 and 45 Baht to US Dollar, make Thai products more competitive for export. Thus, the manufacturers with international competitiveness find the way out to intensive export because the numbers of production are sufficient to serve the domestic consumption.

Although Thai textile and clothing industry has recovered from the crisis in 1997, it faced another damage from the terrorists attacks in U.S. on September 11,2001. As the result, Thai clothing product exports in 2001 were $US 3,077.5 million, down 5.3 percent from the previous year. Moreover, the U.S. is the largest market for Thai clothing exports. It occupied a 55 percent of clothing exports in 2001 and the export value to U.S. remained only a 2.8 percent decrease from the previous year in the sprite of the terrorist attacks in the U.S.. On the other hand, exports to Europe, the second market, declined by 10.45 percent, and to Japan, the third market, also fell by 8.3 percent.

Nevertheless, there are new constitution barriers for Thai garment industry such as the remarkable growth of China and its accession to the World Trade Organization (WTO) as well as deterioration of excess supply. China clothing industry will receive many benefits from WTO to offense other countries by with strong cost competitiveness and becomes a main competitor. Another constitution, the quota system sets up quotas on a quantity basis by country and item. Under this constitution, even greater competitive countries cannot increase exports freely, and lesser competitive countries can remain their exports.

In the case of quota system is removed, exports of countries without competitiveness will decrease significantly. The reverse is true, Thai clothing industry will receive a destructive damage by the removal of the quota system. However, Thai Garment Manufacturers Association (TGMA) stated that TGMA is pursuing competitiveness to tackle the non-quota situation by joint efforts between business circles and the Thai government. Therefore, in three year after 2003, Thai government will release the policy to support and promote Thai clothing industry to secure and advance the market.

Table 3.3: Export markets of Thai clothing

	Value (Million US$)				Share (%)			
	1998	**1999**	**2000**	**2001**	**1998**	**1999**	**2000**	**2001**
USA	1,552.9	1,564.7	1,762.5	1,712.6	50.57	51.68	54.23	55.65
EU	672.5	711.1	727.1	651.6	21.90	23.49	22.37	21.17
Japan	234.5	220.0	203.5	186.6	7.64	7.27	6.26	6.06
Middle East Asia	199.3	167.0	157.5	132.8	6.49	5.52	4.85	4.32
Africa	82.9	68.0	63.7	78.1	2.70	2.25	1.96	2.54
ASEAN	40.2	47.3	56.7	57.4	1.31	1.56	1.74	1.86
Others	288.4	249.6	279.0	258.5	9.39	8.25	8.57	8.41
Total	**3070.7**	**3027.7**	**3250.0**	**3077.5**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Customs Department

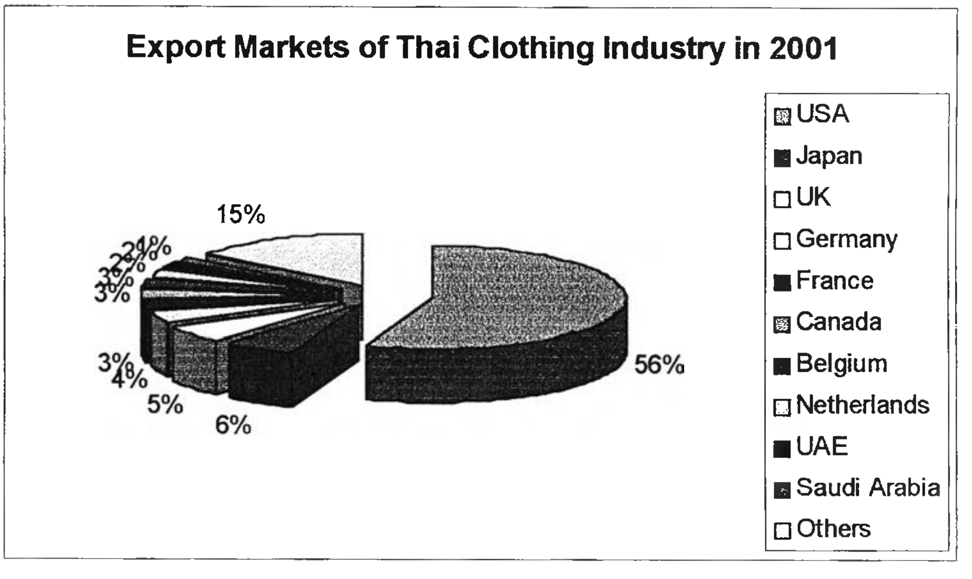
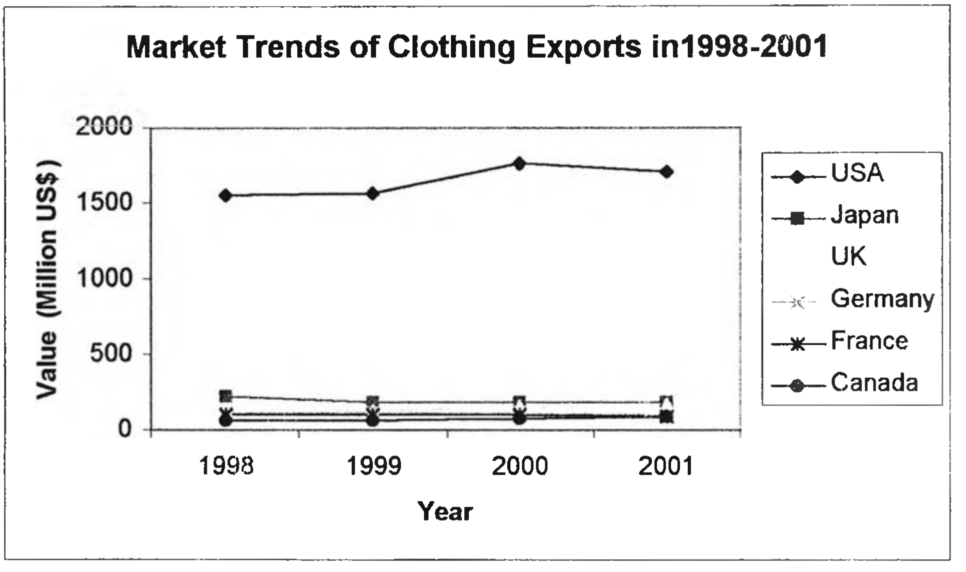


Figure 3.3: Export market of Thai clothing industry

Source: Custom Department

Figure 3.4: Market trends of clothing exports



Source: Custom Department

Although Thai clothing industry is able to support the domestic consumption and export the excess supply to worldwide countries, there are gradually increasing the numbers of imports from other countries. Especially China, the largest market for Thai clothing imports, occupied around 70 percent of total clothing product imports in 2001 and increased 20 percent from previous year. Moreover, in 2001, Hong Kong is the second market for Thai clothing imports and remained 11 percent of total clothing product imports. In the contrast, the numbers of clothing product imports from the U.S. and Europe countries are not significant.

Table 3.4: Import market of Thai clothing

	Value (Million US$)				Share (%)			
	1998	1999	2000	2001	1998	1999	2000	2001
China	23.3	36.5	50.1	61.0	52.28	69.06	66.10	69.97
Hong Kong	7.0	6.6	11.4	9.5	15.69	12.38	14.97	10.87
Italy	4.1	1.7	2.8	2.6	9.12	3.13	3.63	2.96
UK	2.1	1.8	1.4	1.7	4.68	3.35	1.85	1.99
France	1.0	0.5	0.9	1.5	2.20	0.96	1.21	1.72
Singapore	0.4	0.4	1.9	1.5	0.96	0.74	2.50	1.68
USA	1.6	0.9	1.7	1.3	3.69	1.74	2.25	1.47
Others	5.1	4.6	5.73	8.1	11.38	8.64	7.50	9.33
Total	44.5	52.9	76.4	87.2	100.0	100.0	100.0	100.0

Source: Customs Department

The following figure presents the comparison between the trends of clothing product import and exports.

Figure 3.5: Trend of clothing imports and exports in 1997-2001

Source: Custom Department

3.3.2.4 Market Segmentation

Before determining the critical success factors and strategies for Thai clothing industry, it is necessary to understand the fundamental markets of Thai clothing industry. Therefore, to classified the fundamental market of Thai clothing industry, we need to point out the variable factors that are applied to classify the market segmentation.

The major variable factors for Thai clothing products are:

- Price of products
- Quality of products
- Design of product
- Channel of distribution
- Income of buyers
- Etc.

From the above factors, the market segmentation is generally classified into three levels, which are high-end, medium-end, and low-end market.

- ***High-End Market:*** high-end product in clothing industry is the product that usually made of high quality and modern and fashionable design. It is defined as premium product and necessary to be well-know brand name. This product in this group normally has very high price.

- ***Medium-End Market:*** medium-end market in clothing industry, is largest size market. The product in this market is the medium quality product and less fashionable design. The product price stays in the mid range of price.

- ***Low-End Market:*** products for low-end market generally compete in terms of pricing. The products in this market have lower quality than products in medium and high-end market. Mostly, the products are traded in very low price and high volume.

In general, Thai manufacturers distribute the products into local market and international market.

3.3.2.4.1 Local market

The market segmentations, high-end, medium-end, and low-end market, are applied in local market that can be illustrated as below:

For high-end and medium-end market, the products in this group are produced under its own brand name or foreign copyright brand name. Design and quality are important factors for products in this group. Mostly, these products are sold in department store, which are suitable to people who have high income. Besides design and quality aspect, brand name is another factor that influences the decision of customer to buy the products.

In contrast, low-end market usually emphasizes the price more than design and quality. In Thailand, there is many manufacturers produce the product to respond the demand of customers in this group. Most of Thai manufacturers produce the product as mass production. Thus, it will have strong competition especially in term of product's price both from local competitors and foreign competitors. Actually, Thai manufacturers are facing with the increasing of market share of other countries such as, China, India and Sri Lanka in the global market. This is because the labor costs and costs of production in these countries is lower than in Thailand. From this reason, it will be disadvantage of Thai products in terms of prices in the low-end markets. Therefore, trend of growth rate of Thai clothing products in low-end market may be reduced in the future.

3.3.2.4.2 International market

International market is another channel to distribute or export the product of clothing industry. The clothing industry is a major industry that can contribute high inflow of money to Thailand. The value of export is nearly US$ 3,000 million per year.

After financial crisis in 1997, Thai exports gradually recover and distribute the products to international market. The U.S. is the largest international market for Thai clothing exports whereas Europe and Japan are second and the third market, respectively. Moreover, the products are also exported to other countries such as, UK, Germany, France, etc.

In order to maintain and expand the competitiveness in worldwide market, Thai product exports should intensively concern with the design and quality of products. On the other hand, trading in international low-end market, Thai clothing industry is also facing with the strong competition, especially the competitors from China, Sri Lanka, Vietnam Indonesia, etc. Because they have lower labor wage than in Thailand, the price of products from these countries is normally lower. Thus, it will be difficult for Thai clothing exports to complete in this segment in global market.