Chapter 2

Literature Review

2.1 SMEs

2.1.1 European Union (EU)'s policies promoting SMEs

SMEs were the backbone of European economy. Apart from serving as a crucial source of employment playing important roles in developing innovation as well as new technologies, SMEs promoted social evolution in communities. There were 23 million enterprises nowadays in European Union (EU), equivalent to 99% of the entire enterprises. These businesses generated as many employments as 75 million positions. EU Commission aimed to promote SMEs throughout Europe for reaching the successful and advanced levels by reintegrating the existing components into the new structure. Main principle was to promote the small and medium enterprises by including them in the policy of EU and the policy of member countries. The ultimate goal was to enhance the potentiality to compete among European economies (European Commission, 2011).

As a crucial challenge that EU was facing with was the expedition of economy and job creation amidst global competition, promoting SMEs was included in Lisbon Strategies for European Economy Reform. Initiatives related to SMEs were a part of national plans of each member country. New strategies were designed to effectively respond the demands of small enterprises in different countries focusing on minimizing legal obligations and administrative protocols that obstructed SMEs, and on solving the defects of markets such as fund limits and other obstacles hindering SMEs from accessing to research funds (European Commission, 2011)

European Commission laid emphasis on five aspects believed to support SME policy. Those aspects were as follows:

1) Creation of new entrepreneurs

European Commission focused on the creation of supporting environment in which people were encouraged to start their own businesses instead of merely seeking security from working as employees. To do so, new entrepreneurs needed to find the ways to minimize the risks of failures while embracing creativity. European Commission promoted the value of entrepreneurship in the society by, providing skill training or subsidies to improve the quality of business counseling (European Commission, 2011)

2) Improving market accessibility

Though EU was consolidated into one market, SMEs did not fully benefit from the dissolution of obstructions. This problem should have been removed since 2006 as the law related to purchase and employment that promoted online auction was enforced, or despite the fact that over 300 Euro Info Centers were established to strengthen co-operation among SMEs and various businesses (European Commission, 2011).

3) Reducing protocols

The European Commission made a plan to improve the rules and regulations. As SMEs were normally limited by resources and expertise, the removal of complicated rules could help SMEs a great deal. In addition, the European Commission considered launching specific requirements for SMEs such as reduced fees, less complicated reporting, provision of counselors or exemptions. It was expected that this revised plan would reduce the complicated protocols required for small enterprises to participate in various programs of the European Union, especially with respect to research. Meanwhile, there were plans to update the rules to allow the public to support SMEs financially in creating innovation (European Commission, 2011).

4) Hearing concerns

One major obstacle for SMEs was difficult to access the capital. The European Commission attempted to solve this problem to a certain extent by increasing indirect financial support to SMEs through Competitiveness and Innovation Programme (CIP). The criteria for risk assessment were revised for businesses concerning innovation with high growth. At the same time, debt restructuring was provided for businesses operated in the traditional manner. The Commission also emphasized on the inquiry and was determined to establish systematic and comprehensive structure, with SME Envoy acting as coordinator with SMEs representatives and presenting the demands of SMEs to national and European Union executives (European Commission, 2011).

5) Strengthening the SME Envoy

The Office of Enterprise and Industry was established to promote the competitiveness of SMEs by materializing SMEs horizontal policy and increasing supporting teams for SMEs Envoy. The Commission was also planning to create the network of Euro Info Centre by setting up SMEs working group so that opinions from SMEs could be drawn from meetings in a simple way. SMEs working group could also voice their needs and opinions, which was the first step towards policy making and laws (European Commission, 2011).

The Commission seemed certain that the proposed strategy would unleash the enormous potential of SMEs to generate economic growth and increase job creation. It also stressed that the success could only occur when all related parties; whether government or private, at the regional, national or EU levels, played their roles. The following strategies were employed to enhance the SME potential (European Commission, 2011).

1) Facilitate business transfer

One of the strategies that the European Commission implemented was an attempt to solve the difficulty to change ownership or transfer businesses. This became one of the major issues of the Spring Summit held during 23rd -24th March, 2006.

Many entrepreneurs of SMEs with strong financial position decided to end their businesses every year due to the obstacles of changing ownership. At the same time, a great deal of EU entrepreneurs were in aging group; one third of the EU entrepreneurs engaged in family businesses and would retire in the next 10 years. It was estimated that 690,000 businesses which employed 2.8 million positions were affected each year. Many businesses changed their owners, yet there were no successors. The EU Commission, therefore, implored member countries to take measures to facilitate the process of ownership transfer (European Commission, 2011).

Mr. Gunter Verheugen, Vice President of the EU Commission responsible for Enterprise and Industry, admitted that it was difficult to accept the fact that every year there were considerable losses of prosperous businesses as well as numerous number of jobs because the transfer of ownership was too cumbersome. The initiative was, therefore, to deal with this problem with an aim to elevate the environmental factors in the economy, along with supporting measures for transferring the business owners (European Commission, 2003).

The Commission proposed to improve the terms of business transfer since 1994, yet the proposal brought about little effect. The implementation of facilitating measures covered approximately 55% of the EU 25 countries. The level of performance in existing member countries was 60% and the level for new member countries was 45%, which was still insufficient. The Commission, therefore, recommended that member countries elevate their efforts in the following aspects (European Commission, 2003).

2) Assure the adequacy of surrounding financial factors

Member countries were encouraged to support the enterprises' successors with subsidy when transferring businesses. Subsidies could be in forms of loans and deposits, which should be provided to new enterprises as well as the transitioning enterprises. For example, Belgium and Luxemburg, loan interest rates were lowered than Danish, French, and Austrian. In Ireland, there were tax exemptions for investment, including the transfer of the business. The Commission had proposed Competitiveness and Innovation Programme (CIP) to support the financing of funds from loans and give assurances to minimize the complications for SMEs in the transition of ownership (European Commission, 2003).

3) Increase awareness of business transfer and provide consultation

Member countries should support activities that encourage business owners to prepare themselves timely. There should have plans for counseling, which could be held by the Chamber of Commerce or trade associations. The examples could be found in cases of Chambers of Commerce in the Netherlands and Austria that they posted letters reminding the entrepreneurs who reached the age of business transfer (European Commission, 2003).

4) Provide transparent markets for business transfers

Member countries should facilitate the purchasers or sellers of enterprises by providing markets in which all processes were carried out transparently. This market should provide more than the database and serve as the medium to promote confidence of people who wanted their businesses transferred. Such a service was provided by Chambers of Commerce or similar institutions in Germany, Italy, Luxembourg, the Netherlands, and Austria (European Commission, 2003).

5) Provide tax benefits

The partial tax exemption of income from business transfers could help facilitate the retired entrepreneurs who wanted to sell their businesses. Another approach was tariff easing for people who wanted to purchase other businesses. These practices were found in forms of tax exemption in France and Ireland, lowering tax rate in Belgium, Germany, and Austria. Tax benefits depended largely on specific conditions such as the minimum age of business sellers or tax benefit can be provided for one time only (European Commission, 2003).

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2.1.2 The new EU policy on SMEs

In a seminar on SMEs held in Praha, Czech Republic, on April 11th, 2006, Mr. Vladimir Spidla, European Commissioner for Employment, Social Affairs and Equal Opportunities, mentioned about the new policy on SMEs. The essence of his speech was that SMEs had played the important roles in employment amidst the condition of unemployment and globalization. SMEs constituted 99% of 23 million businesses in Europe, covering 75 million positions or two third of all private job positions in Europe. With this reason, the European Commission was focusing on growth and employment policies. New SMEs policies were launched to strengthen SMEs in European Union.

The new policy was operated from the bottom to the top using the existing regulations such as European Charter for SMEs Action Plan for Entrepreneurship as well as other practices related to employment and growth. One of the frameworks for financial aids was Multiannual Programme for Enterprise, and the initiative nearly completed was Competitiveness and Innovation Programme. The funding sources were also provided such as funding for the restructuring, research, and training (European Commission, 2011).

However, policies that benefited SMEs could be adopted at the local, regional, and national levels. The European Commission focused on enhancing the ability to compete for business in general and SMEs. New policies implemented by the member countries mostly focused on surrounding factors of the business and entrepreneurship, yet most initiatives achieved so far were unable to create positive attitudes towards entrepreneurship. In other words, the activities implemented could not convince people to become entrepreneurs. Therefore, the education of the related policies as well as improved measures that helped people to access to capital was factors that were extremely crucial (European Commission, 2011).

The following aspects are needed to be driven.

1) Research and Innovation

SMEs and innovation walked hand in hand because small businesses tended to create innovations. Yet, there could be problems in accessing to research and intellectual property. SMEs, therefore, should be encouraged to gain access to programs or research through simplified process easier. SMEs should be invited for auctions or to participate in joint research projects. Nowadays, The Innova was a project that helped small and medium enterprises to access to technology and research so that they could use the results to improve their systems or apply them in responding to the market demands. As a result, these SMEs co-operated more closely with those involved in their industry (European Commission, 2011).

2) Financial Instruments

Financial instruments of the EU were considered very effectively. Over 200,000 SMEs have benefited from a variety of financial plans, yet the new plans needed to address Competitiveness and Innovation Programme (CIP). Interestingly, there were plans to develop new financial tools to convert the loans into securities, or granting loans without collateral to expand business (European Commission, 2011).

3) Promote Entrepreneurship and Improve Training

According to a survey of Eurobarometer, most European citizens preferred to have their status as employees rather than having their own businesses. The European Commission requested the member countries to promote the business skills to their youth since they were in schools and universities. Apart from setting up a new business, business transfer was also found vital. A great number of European businesses were aborted every year because there were no successors. It was estimated that, in the next 10 years, the rate of business transfer will be one third of all businesses in Europe. Around 600,000 to 800,000 small and medium enterprises will be transferred to new owners every year and that will affect 3-4 million jobs. In addition, the society should promote value of entrepreneurship to both male and female entrepreneurs. In response to this aspect, EU launched a program entitled EQUAL to subsidize female entrepreneurs in particular (European Commission, 2011).

4) Reduction of the Government Procedures

The European Commission realized that complicated administrative process and legal procedures were obstacles for SMEs, rather than they did to larger companies, in terms of time and costs. There was an attempt to withdraw unnecessary legal regulations that obstructed SMEs. It was estimated that the rate of withdrawal was one third of all proposals started from January 1st, 2004. Apart from that, there were steps to evaluate the impact of the new law and test the capability to compete. All related parties will be invited to attend the meeting for making plans of European Commission.

5) Improving the Internal Market

The markets within the European Union had shown a great success in terms of economic development from which SMEs also benefitted. However, there were certain problems and obstacles that required the solutions. Those problems and obstacles were as follows:

6) Standard ht[©] by Chiang Mai University

In every year, around 1,000 new standards were released in Europe. Those standards caused difficulties in terms of understanding and practices for SMEs. To handle with this problem, the European Commission proposed that representatives of SMEs participate and discuss the problem among all related parties (European Commission, 2011).

7) Public Procurement

Public procurement in Europe generated approximately 1.5 billion euros per year. The large portion of procurement was domestic purchase and around 5% of the successful auction bidders were foreigners. In this respect, there was very little involvement from SMEs. Therefore, European Commission had urged member countries to improve the channels through which SMEs can access to information as well as public auction (European Commission, 2011).

8) Taxes

Differences in terms of indirect taxes and regulations of each member countries were considered a major obstacle in the development of SMEs. The Commission, therefore, attempted to improve One Stop Shop System for VAT, which was expected to be released soon. In addition, there was a piloting project called "Home State Taxation," which facilitated SMEs to set up branches in neighboring countries. SMEs were also able to receive counseling regarding the regulations of the European market and news about trade opportunities in other markets from 330 Euro Info Centers, located both in and outside the EU. It was also necessary that all related parties; member countries, SMEs representatives, European Commission, and European Parliament, came together to discuss essential aspects before issuing new SMEs policies and SMEs can reflect their opinions concerning problems to the Commission directly through SME Test Panels and Euro Info Center. (European Commission, 2011)

2.1.3 Germany

Germany connoted big companies with a long standing reputation, for examples, a renowned car manufacturer and universally accepted mechanical technology. SMEs in Germany also played a major role in moving the country forward to become one of the world's largest economies. Perhaps, this was the reason why Germany caught an attention from countries around the world as a model of success in promoting and supporting SMEs (European Commission, 2002).

2.1.3.1 Definition of SMEs in Germany

SMEs were defined as "the medium-sized enterprises" employing not over 500 people with a turnover not exceeding 50 million euro per year. "Smallsized enterprises" employed not over 9 people and had a turnover not exceeding 1 million euro per year. A German term "Mittelstand" also is meant of business operation, which emphasized on ownership and responsibility for employees, facilities, and the implement of long-term strategy (European Commission, 2002).

2.1.3.2 SMEs structure in Germany

SMEs in Germany accounted for 99.7 percent of all companies in the country. SMEs generated jobs at a rate of 60.8 percent of the entire positions of the country and had production value at a rate of 51.3 percent of GDP. Most SMEs were family businesses scattered in different states, especially in the southern states including Baden-Wurttemberg and Bayern, in the west including Nordrhein-Westfalen Hessen Rheinland-Pfalz. Though most SMEs had their production base in small towns, many companies had evolved to become the world's leading companies. That was how the term "hidden champion" was created.

Major businesses seemed to be the manufacture of mechanical parts, household appliances manufacturing, and industrial services. Interestingly, a cluster of industries was developed in accordance with the location such as cutlery production in Solingen (European Commission, 2002).

2.1.3.3 Mechanisms to promote SMEs

All companies in Germany had to register as members of the Chamber of Commerce and Industry in local area (IHKs). The companies had to pay a fee in proportion to their earnings and tax payments. The local chamber of commerce and industry, in return, would provide services to members started from providing counseling for business establishment, assistance for drafting financial plan, creating a new generation of skilled labor under the dual system program to coordination through German Chamber of Commerce and Industry abroad (AHK) to expand the export (European Commission, 2002).

The German Chamber of Commerce and Industry (DIHK) also played a key role in coordinating with government and authorities at a policy level by examining the policies, designing holistic strategy, develop dual system (developing a skilled workforce to meet the demand of industrial sector), research on economic opinions and publish as journals on a regular basis (every 2-3 months), and work closely with academic institutions and research institutes. It was vital for the government, especially the Ministry of Economy, to listen to situations, coordinate the needs of the private sector, and develop long-term plans to solve problems and facilitate the business sector. Ultimately, the synchronized efforts were to create an environment conducive to investment and reduce the barriers of SMEs (European Commission, 2002).

2.1.3.4 Challenges

Today, the number of registered SMEs was steadily decreasing. In the year 2012, the number declined by about 23.5 percent compared to the figure in 2011. From a statistical survey of university graduates, only 6 percent expressed the need to become entrepreneurs. To solve this issue, the German Chamber of Commerce and Industry (DIHK) added support for high-tech start-up, and instilled the idea of entrepreneurship in schools and universities. The chamber also discussed with the government to reduce the complicated bureaucratic process (European Commission, 2011).

2.1.3.5 Crucial tasks of the governmental sector

a) Develop technology and innovation by promoting investment through the Central SME Innovation Programme (ZIM)

b) Provide marketing opportunities in foreign countries through Germany Trade & Invest. Strengthen the network of ministers of chambers of commerce and industry in overseas in which various initiatives were carried out to promote exports, export credit insurance, investment guarantee

c) Promote the use of the pool of skilled labor such as website www.make-it-in-germany.com. Establish of Excellence Centers to retain professional skills. Promote vocational education for youth under Vocational Training - Practically Unbeatable. And amend the rules / regulations concerning the certification of qualified workers from abroad

d) Support the establishment and succession of businesses such as German Entrepreneurship Week, Entrepreneurial Spirit in Schools, "EXIST Start-up Culture-the Start-up College," and launching website www.existenzgruender.de for those who wanted to start businesses

e) Facilitate SMEs in terms of access to funding sources through the financial support programs such as ERP, KfW, High-Tech Star- up Fund II, ERP / EIF, ERP Start -up Fund

f) Provide sources of raw materials and enhance the efficiency in using of materials and energy

g) Reduce bureaucratic processes that obstructed business operations (European Commission, 2011)

2.1.4 France

งหยนุต 2.1.4.1 Overview of SMEs in France

In France, there was no definition of SMEs that was accepted as the standardized notion. After World War 2, the enterprises that were classified as SMEs often referred to industrial enterprises with at least 10 or 20 people, but not exceeding 500 people. Definition of SMEs, however, depended largely on the laws or regulations established to promote SMEs (Saoud and others 2011).

In 1996, France adjusted the definition of SMEs closer to what had been specified by the EU. SMEs can be divided into several types; enterprises with less than 10 employees were micro enterprises, more than 50 but not exceeding 100 were small enterprises, with at least 250 employees but not exceeding 500 were medium enterprises (Saoud and others 2011).

Reports on Small and Medium Enterprises conducted in 2002 by the Organization for Economic Cooperation and Development (OECD) stated that, in the year 2001, there were 2.4 million SMEs in France, representing 99.8 percent of the entire private enterprises. The total employment of SMEs was 7.9 million people, or 65 percent of the labor force of the country with the productivity worth 1.2 billion euros, or 53 percent of the country's GDP. The exports value was 121 billion euros, equivalent to 30 percent of the total exports of the country (Saoud and others, 2011).

2.1.4.2 Policies and measures to promote SMEs in France

The policy framework that was used to stimulate SMEs in France was to create the conditions and environment in which SMEs can be developed in 3 main directions (Saoud and others, 2011).

1) Support the creation and expansion of ownership transfer of enterprises, especially support for local entrepreneurs in order to attract more numbers

2) Support the businesses to be up-to-date, facilitate the startup of enterprises with innovation so that the entrepreneurs were able to create, sell their products, and look for markets related to technologies

3) Improve the law related to management, finance, and taxation of enterprises, and expedite the regulatory process so that it was easier and more convenient for SMEs in terms of communication.

The policies and measures are adopted in France to promote SMEs so far were as followed. The number of new businesses that were established in France declined from approximately 200,000 in the late 1980s to around 175,000 per year in the late 1990s. The French government therefore launched a policy aiming to create new entrepreneurs. The goal was to add 1,000,000 new businesses within 5 years started from 2001. The measures covered all types of entrepreneurs and all stages of the businesses, started from building a new business, merging or transferring business, supervising, finance, corporate tax, and information assistance. In detail, there were 6 core measures which included (Saoud and others, 2011).

1) Measure to facilitate the establishment of new businesses – making the process simpler, faster, and more accessible

2) Measure to encourage employees in companies to establish their own businesses

3) Measure to support businesses financially

4) Measure to provide opportunities for new entrepreneurs in establishing business. New entrepreneurs, for instance, were exempted for social welfare premium in the first year of their business or payment was extended to later years.

5) Measure to facilitate the acquisition and transfer of businesses such as simplifying procedures related to tax on the acquisition and transfer of businesses.

6) Measures to promote business ownership by, for instance, providing a course on entrepreneurship since Secondary education.

Examples of the crucial measures for the development of SMIs were as follows (Saoud and others, 2011).

1) Small and Medium-Sized Industry Development Fund (FDPMI) was established in 1994 with an aim to encourage investment in equipment to elevate the technology and to enhance the competitiveness of the businesses.

2) Regional Advisory Funds (FRAC) was established to assist SMIs to benefit from consulting services to develop projects in various aspects – strategy, quality, management— with the help of state subsidies at a rate of between 50-80 percent of the cost of hiring consultants.

3) Manager Recruitment Subsidy (ARC) was launched in 1999. The subsidies for SMIs in the first year were to hire managers. The amount of subsidy did not exceed 50 percent of the managers' salary and the maximum was EUR 30,000.

There are measured to support in terms of technology and innovation with certain responsible organizations as follows:

1) French Innovation Agency (ANVAR) had a role in supporting innovative technologies. ANVAR adapted the results from scientific research and technology to commercial function. It also helped entrepreneurs to access to the capital necessary for expansion of the businesses related to innovation.

2) Ministry for Research and Technology promoted trainings among students through research and elevated research and innovation standard in enterprises, partnering with newly graduated students, Craftsmanship Training Center, and private companies that hired students to help with training.

3) Regional Centers for Innovation and Technology Transfer (CRITT) were responsible for supporting technology transfer to SMEs in the region.

4) Industrial contracts for training through research (CIFRES) had an objective to enhance the technological capabilities of the business through research and development program for young researchers.

5) Research and Technology Fund (FRT) with the help from the EUREKA project provided financial support for SMEs in terms of research and technology.

6) ATOUT procedure was a project that supported technology transfer among SMIs. The main objective was to expedite the acquisition of new

technology while inspiring people to develop innovations and advanced technology (Saoud and others, 2011).

2.1.5 Australia

2.1.5.1 Overview of SMEs in Australia

In Australia, there seemed to be no standardized definition of SMEs that was accepted nationwide as in Thailand. Organizations or agencies had their own definitions of SMEs. It was quite clear that most of the policies promoting enterprises in Australia were designed for small businesses.

Australian Bureau of Statistics gave definitions of SMEs detailed

as follows:

1) Small-sized Enterprises

- Industrial sector with number of less than 100 employees
 - Construction and service sectors with number of less than 20

workers

2) Medium-sized Enterprises

- Industrial sector with number of more than 100 employees, but not exceeding 200.
- Construction and service sectors with number of more than 20 employees, but not exceeding 200

In addition, SMEs must be qualified by the following characteristics; a sole proprietor or with limited number of partnership. The enterprises were managed directly by owners as individuals rather than administrative hierarchical structure. Businesses were operated independently; they were not affiliated with big corporations (Australian Bureau of Statistics , 2003).

Apart from Australian Bureau of Statistics, other agencies also determined the definitions SMEs specifically to be used in their departments. The examples can be:

1) Australian Tax Office defined small-sized enterprises as enterprises with earning not exceeding 1 million Australian dollars.

2) The AusIndustry, an agency of the federal government responsible for providing the industrial support, defined small-sized enterprises as enterprises with earning not exceeding 5 million Australian dollars.

Reports on small and medium-sized enterprises in 2002 conducted by the Organization for Economic Cooperation and Development (OECD) stated that in the year 2000 there were millions of small-sized enterprises in Australia, or equivalent to 1.075% of the country's labor force. The productivity of small-sized enterprises constituted 47% of the entire businesses, with the employment rate of 96% of the total productivity.

Australia is a federal state consisting of various states that constituted Commonwealth of Australia. The government administrative systems and administrative organization management were, therefore, structured in two levels: organizations in the federal level and state organizations. The promotion of SMEs was then carried out under the power of both the federal government and state governments. The Australian governments are in the different levels and all played the significant roles in conditioning business environments as well as various forms of assistance which affected the operation of SMEs. Thailand, on the other hand, was in different situation as it was a single state (Australian Bureau of Statistics , 2003).

Crucial policies of the federal government aimed to improve the business environment and macroeconomic conditions. So they provided the benefits for the domestic business. Significant policies were to keep low rate of inflation and interest, create a tax system to enhance the competitiveness at international level, minimize legal obligations for SMEs, promote skill development for the entrepreneurs and managers of small-sized enterprises, provide assistance for innovation and export markets, and increase the opportunities for small-sized enterprises to be able to access to public procurement (Australian Bureau of Statistics , 2003).

In 1996, Australia government established a committee called Small Business Deregulation Task Force to examine the legal obligations of SMEs. The committee proposed measures to minimize the regulations related to SMEs. Nowadays, most of the suggestions were used as guideline for setting up measures which were widely adopted. The vital measures were as follows: 1) Business registration system, especially reporting systems, was improved by Australian Securities and Investment Commission (ASIC) and Australian Taxation Office (ATO). The efforts led to the single system which was accessible from Business Entry Point (BEP).

2) The supervision of SMEs was minimized since 2002. If there were no changes occurred to small-sized enterprises in one year period, annual financial reports were not required to be submitted to ASIC. In addition, certain measures were implemented to reduce or remove some fees normally collected from small-sized enterprises. In the year 1998, the Australian Government initiated a major

In the year 1998, the Australian Government initiated a major reform of the tax structure. Its purpose was to provide more tax benefits to small businesses. In 1999, Goods and Services Tax Act 1999 was issued resulted in the cancellation of several redundant taxes such as Wholesale Tax, stamp duty for commercial property transfers, stamp duty on bank checks, promissory notes, bills of exchange, and stamp duty for rent(Australian Bureau of Statistics, 2003).

There were numerous measures that Australia used to promote small businesses, most of which were mainly carried out by AusIndustry and AusTrade. Even though both agencies generally provided services to all types of businesses, small businesses tended to gain more benefits than large businesses. Most of the projects implemented by both agencies tended to focus on providing information technology, training, business consulting, and grants for hiring consultants as well as subsidies for conducting research on commercial developments. Significant projects included:

 Backing Australia's Research Capacities was a project offering the subsidies and free funds to universities and private sector in conduction research and other developments.

2) Enterprise Development Program was a project managing subsidies sponsored by the federal government and contributing to joint projects between federal government and state governments to provide business counseling for small-sized enterprises.

3) Australia's Idea for Commercial Success was a project promoting the application of ideas and successful research projects conducted by private sector, universities, and governments to benefit commercial sector. 4) Backing Australia's Skills was a project aiming at developing and raise the standard of human resources of Austria to be skilled in conducting research and creating developments in other related aspects.

5) Business Entry Point was a project focusing on creating a unified website that enabled small-sized enterprises to contact with authorities to seek for assistance in all matters (Australian Bureau of Statistics , 2003).

Measures to promote small-sized enterprises were also implemented at a state level by materializing the policies and promoting small-sized enterprises in local areas along with the support from federal government. The measures of the states' governments were mostly consistent with the measures of federal government. That was to provide counseling, information technology services, and subsidies to hire consultants to help designing business plans, analyzing markets, exports, research, and other aspects that needed to be developed. (See Table 2-4) In general, these promoting measures were perceived in forms of small business programs implemented by agencies promoting business which already existed in each state (Australian Bureau of Statistics , 2003).

In addition, there were no specific financial institutions in Australia established to support SMEs as it was found in Thailand or Japan. There were certain institutions such as Commonwealth Development Bank (DevBank) and Export Finance and Insurance Corporation (EFIC) that provided financial services for general businesses, not limited to small-sized enterprises only. Yet, special programs that provided loans for small-sized enterprises could be launched based on the government's policies every year (Australian Bureau of Statistics, 2003).

In brief, policies and measures launched to promote small-sized enterprises in Australia were as follows:

Measures to widen financial channels for small-sized enterprises. Australia carried out measures to attract private investors to invest in small-sized enterprises by offering certain advantages detailed as follows:

1) Pooled Development Fund (PDF) was established to support share funds for small-sized enterprises. Private companies were supported to establish PDF, which was achieved by fund mobilizing from private sector and the general public. The funds would be invested in small-sized enterprises and the shareholders of the funds would receive tax reduction. In 2002, there were 48 registered mutual funds invested in small-sized enterprises with net value of 121 million Australian dollars.

2) Innovation Investment Fund (IIF) was established in 1998 as a mutual investment between the government and private sector. The investment ratio was 2 to 1 with 10 years term. The fund was specifically invested in small-sized enterprises that employed technology to benefit commercial sector. In 2000, there were 9 funds registered for this purpose.

3) Renewable Energy Equity Fund (REEF) began in 1998 as a mutual fund that mobilized capitals from general people to invest in the shares of smallsized enterprises. The fund was invested in state enterprises that conducted research and development projects of renewable energy to replace petroleum and other forms of energy (Australian Bureau of Statistics , 2003).

2.1.5.2 Measures to enhance the efficiency of state enterprises

The federal government and state governments had launched numerous projects aiming to support and enhance the efficiency of small-sized enterprises. Most projects were implemented through AusIndustry, which was an agency of the federal government established in 1995. Examples of the projects were as follows (Australian Bureau of Statistics , 2003):

1) Enterprise Development Programs (EDP) provided business counseling for SMEs by officials from AusIndustry.

2) Technology Support Centers Program was established with an aim to help small-sized enterprises to access the technology more effectively and to create Networks of Technology Support Centers. The project offered grants to related the institutions to improve or expand the services of business technology.

3) Business Networks Program (BNP) promoted the networks of small-sized enterprises to provide assistance within the networks, especially when solving similar problems.

2.1.5.3 Measures to support the exports of Small-Sized Enterprises

Examples of the measures included:

1) Export Market Development Grants (EMDG) was carried out by AusTrade. The grants compensated the marketing expenditures related to exports of small-sized enterprises. The expenditures qualified for compensation were payments for marketing counselors, goods exhibition in foreign countries, promotional printed materials, and attending product exhibitions.

2) Private Business Association, sponsored by the government, provided counseling for Export Access by experts who provided advice and information technology data concerning exports. The areas of assistance started from providing general advice of exports to referring the entrepreneurs to their partners in foreign countries Australian (Bureau of Statistics , 2003).

 Measures to promote research and developments were mostly implemented by AusIndustry and Industry Research and Development Board. Examples of significant measures were as follows.

- 1) 125% tax concession for eligible expenditure on R&D
- 2) R&D Start was a government's project providing assistance for the enterprises which had never conducted research and developments, but expressed the needs for research to raise their business standard.
 - 3) Concessional Loans for the Commercialization of Technological Innovation was a low rate interest loan project, specifically designed for businesses with number of less than 100 employees that were utilizing innovation for commercial benefits.

4) Cooperative Research Centers Program (CRCs) was a government's project providing subsidies for establishing research centers based on the cooperation of university researchers, government's research agencies, and technology users (both in private sector and government sector). In 2000, there were altogether 72 research centers in operation.

2.1.5.4 Measures to promote business startup

Examples of crucial projects included:

1) New Enterprise Incentive Scheme (NEIS) was a project providing assistance for the unemployed to be able to start small-sized enterprises. The project focused on business skill training, administration, business plan development, and counseling for the entrepreneurs during the first year of their operation.

2) Small Business Incubator Program was established to assist small businesses to start up their ventures. The participants of the project were to join in small business incubator centers first. When they developed their skills, they were able to start their businesses independently, with various forms of assistance including facility allocation for business operation, training for administrative unit and employees, and marketing supports (Australian Bureau of Statistics , 2003).

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2.1.6 Japan

2.1.6.1 Overview of SMEs in Japan

Japan had cultivated policies to develop SMEs for hundreds of years. A standardized and legalized definition of SMEs in Japan began in 1963 as a result from SME Basic Law. Later in 1999, Japan reformed policies to promote and develop SMEs and changed the definition of SMEs which appeared in the 1999 SME Basic Law (SME Agency, 2010).

Article 2 of SME Basic Law in 1999 defined small and medium sized enterprises by categories of businesses detailed as follows:

- Production Sector with less than 300 workers or with capital not over 300 million yens
- Service Sector with less than 50 workers or with capital not over 100 million yens
- Wholesale Sector with less than 100 workers or with capital not over 100 million yens
 - Retail Sector with less than 50 workers or with capital not over 50 million yens

Small enterprise referred to general enterprises which consisted of no more than 20 workers. For commercial or service sector, the number of workers was not over 5.

A report on situation of SMEs in the year 2002 of OECD stated that in 1999 there were 4.99 million SMEs, equivalent to 8.7% of private enterprises, with the employment of 31.69 million people. In addition, the productivity of SMEs accounted for 52% of transport sector, 73% of retail sector, and 62% of wholesale sector, respectively (SME Agency, 2010).

2.1.6.2 Policies and measures to promote SMEs of Japan

The policies to promote SMEs in Japan had a long history, which can be divided into three main phases: policies instituted during pre-World War 2, policies instituted at the post-World War 2 to 1999, and the reforming period to develop SMEs after the year 1999(SME Agency, 2010). Essential contents can be summarized as follow:

1) Policies Instituted during pre-World War 2

The policies during pre-World War 2 began in 1930s as a result from global economic depression. Japanese government implemented several emergency measures to deal with the depression, especially the measures to aid SMEs in the light industry that were affected by the declining value of exports. During the war, Japanese government took control of raw materials and acted as the merger of production between small and medium-sized factories to produced goods during the war. Development of SMEs, therefore, stemmed from the economic principle of the government with heavy intervention.

2) Policies instituted at the post-World War 2 to the year 1999.

This period was considered the foundation of SMEs policies, which can be divided into five different stages.

• The first stage was the social reform and setting up SMEs development system (1945-1954). Major policies were to promote SMEs to participate in economic and social development of the country. In 1948, SME Agency and financial institutions for SMEs were established, along with the passing of several laws related to SMEs.

• The second stage was the initial period of rapid economic growth (1955-1962). Major policy was to minimize the disadvantages of SMEs to large businesses by promoting fair competition between SMEs and large businesses.

• The third stage was the final period of rapid economic growth (1963-1972). Major policies were developed from the previous stage – minimize disadvantages of SMEs to large businesses – and were reinforced by policies of

restructuring and enhancing capability of SMEs. In the year 1963, Japan issued SME Basic Law and enforced it as the major law to promote SMEs.

• The fourth stage was the oil crisis (1973-1984). Major policy was to develop SMEs by emphasizing quality and creating added value, improving machinery, protecting vulnerable SMEs, and promoting innovation.

• The last stage was the adjustment of policies (1985-1999). SMEs policies were reformed to be consistent with changing economic and social circumstances in which commerce became more influential. In 1999, SME Basic Law was issued with a main emphasis on innovation and advanced technology(SME Agency, 2010).

3) Policy Reform to Develop SMEs after 1999

After the SME Basic Law was issued, Japan expanded the scope of supports for SMEs by promoting new businesses with creativity, promoting the use of information technology in SMEs, and promoting business innovation. In addition, SME Basic Law revised the definition of SMEs by introducing the new criteria in which the value of capital was higher than the stipulated value in the previous SME Basic Law. The adjustment was consistent with modern businesses, especially technologyrelated businesses which involved higher amount of capital than in the past though the employment rate was still low (SME Agency, 2010).

ederal agency that was responsible for establishing policies and measures to support SMEs in Japan was SME Agency, which was under the supervision of Ministry of Economy, Trade and Industry (METI). The instituted policies were used as guideline for operative units which adopted and implemented those measures to support SMEs in different aspects covering the central region and local regions in major provinces and cities. Japan decentralized the administrative power to prefectures and cities that they had their autonomy — each prefecture and city had its own legislative council and administrative body entitled to collect local tax. Local government, therefore, played an important role in promoting SMEs in actual practice. To do that, local governments set up an organization to promote and support SMEs in their local areas and coordinated policies with SME Agency (SME Agency, 2010).

Policies and measures to promote SMEs in Japan were as follows:

1) Financial and Investment Measures included measures related to credit, investment, and credit guarantees.

• Measures for credit. The Japanese government set up financial institutions to serve as a source of capital specifically for SMEs. Those institutions were Japan Finance Corporation for Small Business (JFS), National Life Finance Corporation (NLFC), and Shoko Chukin Bank (SCB).

• Measures for investment were seen in the forms of measures to support financially directly for SMEs, measures to release credits or joint investment with SMEs with potential to develop commercial values, and measures for venture capital companies.

• Measures for credit guarantees were carried out by establishing a system to guarantee the risks in credits and capital for vulnerable SMEs. The SMEs that received guarantees were able to procure loans under the condition of risk guarantee system at a slightly higher rate than the market rates (SME Agency, 2010).

2) Fiscal and Tax Measures

Examples of these measures were:

• Measures to offer tariff preferences to motivate SMEs to participate in different development projects

• Measures to support SMEs to be accessible to the procurement by the public sector to minimize economic disadvantages of SMEs to larger businesses

• Measures to offer tariff preferences to promote the establishment of new businesses and to reduce tax liability for SMEs (SME Agency, 2010).

3) Measures for Subcontracting And Business Integration

Certain responsible organizations were:

• National Association for Subcontracting Enterprises Promotion (NASEP) supported the system of subcontracting enterprises to be more effective through the use of online transactions for subcontracting businesses, computer networks to facilitate the matching of outsourcing companies and subcontracting SMEs. • Prefectural Association for Subcontracting Enterprises Promotion was the recipient of NASEP's policies and put them into practice at the local level. It served as the medium matching SMEs with the outsourcing companies while collecting data for conducting research providing information necessary to businesses.

• International Business Partner Information Center provided the necessary information concerning international business for Japanese companies. The information covered the aspects of related laws, related organizations, and other necessary information for subcontracting enterprises working with foreign countries (SME Agency, 2010).

4) Measures to develop technology, products, and management Crucial measures included:

• Measures to provide assistance in terms of investment in the development of SMEs credit system, in collateral, and venture capital

• Measures to support the cooperation between educational institutions and industry by setting up the technology centers that can provide research services and counseling for SMEs

• Measures to establish centers for intellectual property to provide services related to the patent database for SMEs

• Measures to develop Information System for SMEs through the national and provincial information centers, and to establish counseling service centers at national and local levels

• Measures to enhance the potential of SMEs enabling SMEs to connect with foreign countries and maximize trading and investment abroad

• Measures to provide training for human resource development implemented through various agencies such as Japan Small and Medium Enterprise Corporation (JASMEC) and so on (SME Agency, 2010).

5) Measures to Promote Business Integration

Important measures were listed below.

• Measures to offer credits to promote business integration.

As members of the cooperative, SMEs were entitled to benefit from loan procurement and supports from Shoko Chukin Bank • Measures of credit guarantees to support the integration. As members of the cooperative, SMEs were entitled to benefit from credit guarantees, especially when procuring loans from institutions without any collateral —the collateral was guaranteed by the cooperative.

• Measures to promote trading zones of SMEs so that they were integrated in enabling environment for their business operation. An example can be a scheme of interest-free loans for 20 years offered to SMEs to build a complex center for trade and entertainment, which included SMEs shops, cinemas, an amusement park, and parking space (SME Agency, 2010).

6) Measures for Marketing and Export

Crucial measures were as follows:

• Measures to promote the use of information technology in trading systems: providing assistance in purchasing office computers for SMEs, database linkage at the national and local levels to facilitate online business matching

• Measures to build facilitating centers in each province to provide services to SMEs at a low cost: establishing database service beneficial for SMEs business which included information about locations for trading in each province and information for the matching between the manufacturers and consumers

• Measures to create opportunities or forum of discussions for entrepreneurs, investors, and consumers by supporting the exhibitions and international seminars to provide a platform where entrepreneurs, investors and consumers, both domestic and abroad were able to meet and exchange views on business operation

• Conduct survey, research, and provide information services concerning marketing and export. In detail, those services included data collection, analysis, and dissemination of information that were useful for SMEs as well as counseling in different aspects such as trends of market demand, marketing plans, and trends of export markets in different fields (SME Agency, 2010).

7) Measures to Assist SMEs to Adapt Themselves to Economic and Social Changes Significant measures can be summarized as follows:

• Establish mutual reliefs system through the setup of reserved mutual funds for small-sized enterprises. The members would pay some amount to the funds and the sum paid were tax deductible in full. Upon the dissolution of the businesses, retirement, or resignation, the members would receive pension or lump sum so that they could start new businesses.

· Establish Mutual Relief System for the Prevention of Bankruptcies in SMEs through the setup of emergency loan funds for SMEs that experienced liquidity problems due to the impact of the insolvency of the debtors or trading partners. SMEs that participated in the funds would benefit from these emergency loan funds at a maximum rate of 10 times of their contributed amount paid to the funds, with 6 months period free of the interest and the principal. (SME Agency, 2010) งมยนต 21023

2.1.7 China

2.1.7.1 The role of SMEs in China

Small and medium-sized enterprises had been a major force driving domestic economy of China. From the statistical data, SMEs in China constituted 99 percent of all businesses and also served as a major source of job creation at a rate of 80 percent, generating tax revenue as much as 50 percent of total tax revenue of the government, which accounted for 60 percent of GDP in the year 2008 (Liu, 2008).

2.1.7.2 Types of SMEs in China

SMEs in China were categorized by 2003 temporary measures concerning the standards of small and medium-sized enterprises (Liu, X., 2008). The categories can be summarized as follows:

1) Medium-sized industrial enterprises consisted of 300 - 2,000 workers, or generated the turnover of 150 - 1,500 million Baht, or accumulated assets with value of 200 - 2,000 million Baht. Industrial enterprises with less number of workers and less value of assets were classified as small-sized enterprises.

2) Medium-sized construction enterprises consisted of 600 - 3,000 workers, or generated the turnover of 150 - 1,500 million Baht, or accumulated assets with value of 200 - 2,000 million Baht. Construction enterprises with less number of workers and less value of assets were classified as small-sized enterprises.

3) Medium-sized retail enterprises consisted of 100 - 500 workers, or generated the turnover of 50 - 750 million Baht. Retail enterprises with less number of workers and less value of turnover were classified as small-sized retail enterprises.

4) Medium-sized wholesale enterprises consisted of 500 - 3,000 workers, or generated the turnover of 150 - 1,500 million Baht. Wholesale enterprises with less number of workers and less value of turnover were classified as small-sized wholesale enterprises.

5) Medium-sized logistics enterprises consisted of 100 - 200 workers, or generated the turnover of 50 - 1,500 million Baht. Logistics enterprises with less number of workers and less value of turnover were classified as small-sized logistics enterprises.

6) Medium-sized post office enterprises consisted of 400 - 1,000 workers, or generated the turnover of 150 - 1,500 million Baht. Post office enterprises with less number of workers and less value of turnover were classified as small-sized post office enterprises.

7) Medium-sized accommodation and restaurant enterprises consisted of 400 - 800 workers, or generated the turnover of 150 - 1,500 million Baht. Accommodation and restaurant enterprises with less number of workers and less value of turnover were classified as small-sized accommodation and restaurant enterprises (Liu, 2008).

However, with a rapid change of technology and economy, the classifications of SMEs types as discussed above showed certain flaws. For instance, certain businesses employed a small number of workers yet yielded a high turnover. The Chinese government was, therefore, attempting to revise the standard of small and medium-sized enterprises to provide more accuracy. It was estimated that this revised standard would be announced in late June this year (Liu, 2008).

2.1.7.3 Problems of SMEs in China

As the Chinese government tended to support the investment of large businesses, the government's policy was normally designed in a direction that benefited businesses typically with high turnover(Liu, 2008). There were certain problems that SMEs in China were facing, which can be summarized as follows (Liu, 2008):

• The lack of liquidity in SMEs. The operating mechanism of financial institutions and credit institutions in China were not conducive to the operation of SMEs as most banks or financial institutions would normally reduce the

risk of NPL. Credits were not given to businesses with low financial credibility, or with uncertain operational results as found in small and medium-sized enterprises. At the same time, when SMEs had the needs of urgent loans to expand their investments, the procedures of credit release were found complicated and did not respond to the needs.

• The lack of good financial management within the business system. As most SMEs entrepreneurs were general people, the number of administrators was found limited. As a result, the operation was not carried out in a systematic manner. Financial management within businesses, in particular, was not delivered strictly resulted in less reliable accounting information.

• Restrictions on information access. Small and medium-sized enterprises in China generally had problems in terms of receiving government's significant policies and measures and marketing information.

• Obstacles in forms of regulatory barriers and government policy. Most policies were launched to attract investments for the government sector and from foreign businesses. Foreign investors, for instance, received benefits from tax exemption (Liu, 2008).

2.1.7.4 Measures to develop SMEs in China

1. Measure to enforce SMEs law and related regulations. Through research, measure of credit guarantee was instituted for SMEs. There were attempts to prevent business monopoly in certain fields and to stimulate investment from the private sector.

2. Measure for tax and financial support. More budgets were granted to support SMEs. Urgent policies were made to lower the rate of income tax as much as 50 percent.

3. Measure to eliminate financial problems by increasing loans for SMEs, focusing on the development of China's new stock exchange market (ChiNext) and credit guarantee in SMEs.

4. Improve quality and the restructuring of SMEs by investing in research and development to create innovation and product quality in SMEs sector.

5. Measure to develop social service system by providing and supporting representatives of service sector with information, training, investment, quality check, and business management. 6. Measure to strengthen the management by providing consultants for SMEs, promoting infrastructure, revising operative system, enhancing the management structure, and promoting innovation management in SMEs (Liu, 2008).

2.1.8 Policies instituted to promote SMEs in ASEAN

Small and Medium Enterprises (SMEs) were clusters of businesses that were crucial for economic developments of many countries in ASEAN region as they served as the mechanisms supporting and driving economic growth. SMEs were also inseparably associated with sources of employments and vital exports of economic system in general. Statistical figures revealed that SMEs constituted to 96 percent of all enterprises of the economy in the ASEAN region and generated the economic value as much as 42 percent of the total value circulated in ASEAN economy. Exports of SMEs accounted for 25 percent of the total export value, which created employments at a rate of 73 percent of the total employment in the economy. Considering the proportion of the enterprises per 1,000 populations in the context of each country, Indonesia showed the highest number of 196.9, followed by Thailand (43.94), Singapore (35.15), Brunei (23.99) and Malaysia (22.89) (OSMEP, 2008).

Studying the trend of the global demand revealed the evolution of the business operations of ASEAN SMEs; most enterprises were still carrying out international commercial transactions that focused on the markets in developed countries in the short to medium term. Perhaps, these markets offered higher income with constant demand in goods. In the long run, however, it was likely that ASEAN SMEs tended to penetrate the emerging markets in ASEAN countries as well as developing countries (OSMEP, 2008).

The certain amount of the research results which conducted by the academics and institutes pointed out that ASEAN SMEs were likely to give the priority to markets in ASEAN countries, rather than to large enterprises, even in a country of the same region such as China.

ASEAN SMEs as a whole, however, were still facing with problematic issues needed to be resolved urgently. Once resolved, the process for the integration of the ASEAN Economic Community in 2015 could be achieved. Subsequently, the Single Market of ASEAN could manifest, which would change the business context of ASEAN SMEs. The key issues and obstacles that ASEAN SMEs needed to overcome consisted of 4 aspects (OSMEP, 2008).

The access to Finance was still the most significant issue restricted the capability of all member countries of ASEAN. Most enterprises were constrained with resources and revolving capital. They lacked sufficient collateral resulted in slow development, and were often times seen as a high risk by credit institutions. Small Start-up enterprises or the enterprises that needed the expansion, in particular, were affected by such view. It was critical that the parties involved in the application of policies to support loans to these enterprises to take into account the Credit Rationing which was fair and thorough and to elevate the potential of enterprises so that they were able to make plans and manage internal resources more efficiently. The ultimate goal was to promote credibility while reducing obstacles for the enterprises in terms of access to finance.

1) Technology and Innovative Capability. ASEAN SMEs in most ASEAN countries (except Singapore) were still incapable of utilizing technology and innovation as the technological means for commercial purpose as well as the potential in terms of research and developments were found at a low rate. Partly, the problem was linked to the lack of finance as previously mentioned.

2) Labor Skills was another key problem since these enterprises were still facing the shortage of advanced skilled workers in terms of both quantity and quality. Average labor productivity was still found in a low level, especially the technology skills, foreign languages, and professional skills that truly corresponded to the needs of the enterprises.

3) Internationalization. Many enterprises were facing unfavorable business circumstances and policies restricting them to fully enter the targeted markets. Besides, a certain number of entrepreneurs lacked the Entrepreneurial Spirit as well as and management skills. The access to necessary information, the process of finding business partners, and the chance to be integrated in Regional Production Networks were carried out with limit. Other concerns were the performances by standards and certifications related to international rules and regulations.

4) The above problems were considered major problems for ASEAN SMEs and it was critical that these problems be solved urgently. Other concerns that cannot be overlooked were the access to production factors, capital management, fair competition in the markets, and international business laws. ASEAN community not only needed to be aware of these issues. They also needed to work together to develop policies and measures to enhance the performance of ASEAN SMEs on a concrete and sustainable manner (OSMEP, 2008).

2.1.8.1 Analysis of the environments and potential of enterprises in each country in ASEAN

2.1.8.1.1 Thailand

When analyzing the environment and potential of the enterprises in Thailand, the strengths of Thai SMEs were expertise in artworks, service mind, and the capability to apply local wisdom to the products and services to make Thai products more unique. However, the development of enterprises in Thailand in the past often faced with various obstacles, especially the low rate of the enterprises that were able to access the capital sources. As a result, little technology was used to enhance the performances. Similarly, there was a shortage of research and developments. Other weaknesses of Thai SMEs can also be found in forms of traditional administration, limited ability to communicate in foreign languages, and the lacks of effective communication with government agencies due to the fact that many businesses were established informally. To address these weaknesses, many government agencies attempted to promote and support in important areas such as finance, marketing, management, and the use of innovations. Attempts were also made to improve the operation of government agencies that the procedures were shortened and faster (OSMEP, 2008).

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2.1.8.1.2 Singapore

Small and medium-sized enterprises in Singapore showed remarkable strengths as they had the ability to communicate in many languages. Importantly, Singapore embraced technology and used it in the production process and practiced modern management. However, Singapore had weaknesses in terms of high labor costs that the government of Singapore targeted on the promotion and support for certain aspects including the grants offered to potential enterprises to minimize obstacles caused by the wage rate.

Singapore had an open economic system with strong industrial and service sectors. The international trade network was excellent. There were around 891 ocean liners, accommodated by one of the best international port. GDP of the country was constituted from 28 percent of industrial products, and 72 percent of products from service sector. Essential industries consisted of electronics, crude oil drilling tools, fuel distillation, rubber processing and rubber products, processed food and beverages, and industrial biotechnology. Major businesses in the service sector consisted of financial services, trading, construction, ship repair, and other general services (Department of Statistics Singapore, 2010).

Singapore's main imported products in 2008 were worth of 319 million Singaporean dollars. Crucial goods were aircrafts, crude oil, petroleum products, electronic components, radio components/ television, engines, chemical products, foods, beverages, steel, and electricity generators. Most products were imported from different countries including the EU, Malaysia, the U.S., China, Japan, South Korea, Thailand, Germany and the Philippines.

Since Singapore had no natural resources, Singapore's main exports were actually re-export of various commodities such as petroleum products, food, beverages, pharmaceuticals, chemicals, products related to telecommunications, and machinery. Significant markets were countries including Malaysia, Indonesia, Hong Kong, China, European Union, China, the U.S., Japan, Taiwan, Thailand, and Australia (Department of Statistics Singapore, 2010).

It was estimated that there were 130,000 small and medium-sized enterprises (SMEs) in Singapore, accounted for 99 percent of the entire enterprises. As the driving force of the economy, SMEs generated added values both in the industrial sector and service sector, which was worth of 47 billion Singaporean dollars, or 57.5 percent. In addition, SMEs also contributed to the employment of approximately 779,096 positions, representing 62 percent of total employment in the country (Department of Statistics Singapore , 2010).

Government Policies

1. Economic Policies

Singapore seriously promoted research and developments in regards to space technology, petroleum, petrochemicals, chemicals, pharmaceuticals, electronics and Precision Engineering, with a focus on value-added products. Singapore expected to develop its country to serve as a hub of various businesses such as service business, and transport and logistics.

Singapore aimed to be a source of information and to sell products related to information technology.

Singapore focused on transforming small and mediumsized enterprises to large businesses in the future by subsidizing research and development, assisting with credits to improve manufacturing machinery, especially the production of computers, and communication tools. There were attempts to increase the productivity of SMEs by promoting and supporting SMEs to enter to the process of organizational development towards business excellence.

2. Investment Policy was launched to promote savings at a high level and investment scheme as defined under the rules. The main focus was education and technology. There were many companies that were assisted by the government, accounted for 60 percent of GDP, to promote Singapore to be a financial and technological center of the region.

Support for savings. The government supported people to save money and to have ownership of residences by establishing the Central Provident Fund, which collected the money from employers and employees so that the accumulated money became useful in terms of residences and health when they were retired.
The policy of imports. Singapore had an open

4. The policy of imports. Singapore had an open international trade policy facilitating business operation under the policy of free trade. As a major port city of Asia, Singapore imposed duty on imports in a few items, or collected duty at a rate of only 10 percent of goods traded between the countries. Similar to other countries, Singapore entered into the international trade agreements at the bilateral, multilateral, and regional levels. As a member of AFTA, Singapore realized the importance of trades with ASEAN countries as well as other projects carried out under the ASEAN economic cooperation with third countries. Singapore also joined in the agreements of GATT / WTO and MFA, as well as FTA with major trading partner such as the U.S.

"SPRING," or Standards, Productivity and Innovation Board of Singapore was a Commissioner supervising the standard of productivity and innovation of Singapore. The board promoted the organizations' productivity and capabilities in terms of competitiveness towards the economic prosperity of Singapore. SPRING also coordinated with partners from different sectors to provide assistance for enterprises in terms of finance, management, technology, and various forms of sophistication. It supported new products and services to enter into the markets while improving international quality standards and quality assurance to promote the competitiveness (Department of Statistics Singapore, 2010).

SPRING promoted the productivity in 3 main areas:

1) Productivity and innovation, which involved promoting business excellence so that the businesses can achieve the international standards. Potential and quality of labor as well as the quality of services were also enhanced.

2) Standards and quality - SPRING was in charge of regulating the industry and enterprises of Singapore to follow international quality standards so that the goods and services from Singapore were able to enter the global market while protecting the environment.

3) SMEs and domestic sector were promoted by upgrading the standards of small and medium-sized enterprises and transforming industry to enhance productivity while reducing production costs.

One of the major projects implemented by SPRING was a piloting project towards Business Excellence, which strengthened organizations in terms of management system and procedures. The aim was towards efficient business implementation and competitiveness. SPRING set up Singapore Quality Class and Singapore Quality Award (SQA) as an incentive for SMEs to improve their organizations to excellence. The awards can be a model likened to Thailand Quality Award administered by the National Productivity Institute. The criteria for SQA Award consisted of 7 aspects including Leadership, Planning, Customers, Information, People, Processes, and Results, all of which were identical to the criteria set up by Thailand Quality Award (Department of Statistics Singapore, 2010).

The organizations or agencies that participated in the project would benefit from guidance in business operation through the interaction with the leading enterprises allowing them to realize their own potential. They would also receive supports for improving their organizations and the acceptance from customers and the stakeholders as well as more marketing space. Outstanding organizations that were qualified by the standard of SPRING would be accepted and recognized through the annual business excellence awards.

For financial supports, SPRING was responsible for providing assistance and facilitating SMEs in procuring loans from the banks through 'line of credit' and 'share risks' at a rate of 80 percent, under the project called Local Enterprise Financial Scheme (LEFS) or Voucher Scheme. Assistance was provided for companies so that they obtained capital to improve the technology and innovation so that they gain potential to operate their business in a longer term. The value of voucher was 5,000 Singaporean dollars each, which was given to the companies that requested and cooperated with SPRING-funded Centers of Innovation (COIs). Qualified companies must be the companies with the ratio of local owners of 30 percent and accumulated assets less than 15 million Singaporean dollars (Department of Statistics Singapore, 2010).

Other agencies that involved in trade / investment in

Singapore include

1) Ministry of Trade and Industry (MTI) was responsible for trade, investment, and industry.

2) International Enterprise Singapore (IE Singapore) issued policies to assist and support Singaporean companies to be able to expand their businesses into global market. Services and assistances covered the provision of market information, the studies of trading feasibility, partnering with trading partners in foreign countries, and promoting Singapore as a hub of SME in the region. Numerous incentives were offered to different countries to set up their companies in Singapore.

3) Economic Development Board (EDB) encouraged foreign businesses to invest in Singapore both in the manufacturing and service sectors under the international standard.

4) Agri-Food & Veterinary Authority (AVA) was responsible for monitoring the quality of food imported to Singapore, regulating and assuring health care in the country so that people were confident that imported foods and foods produced in Singapore were hygienic controlled and safe for consumption (Department of Statistics Singapore , 2010).

2.1.8.1.3 Malaysia

Considering the small and medium-sized enterprises in Malaysia, apart from the ability to communicate in many foreign languages, the production cost of Halal foods was lower than Thailand as Malaysia's Halal foods were already widely accepted. However, the weaknesses of the enterprises in Malaysia were not much different from Thai enterprises. That was, the ability to access to capital was still found in a low rate. New technologies were adopted in the production process at a little extent. And nowadays, the wages in Malaysia were higher than the wages in Thailand. To solve the problems and to enhance the performances of the Malaysian enterprises, the Malaysian government had established SME Bank to provide loans. What was interesting about this financial institution was that the bank focused on the feasibility of proposed projects as the priority. Then, collaterals were considered. This measure allowed the entrepreneurs to submit their securities or collateral after the proposals were made. In addition, the government, by SME Corp, also conducted assessments of the potential of SMEs to promote the qualified enterprises to be able to access to the international markets (National Economic Advisory Council, 2010).

The SMEs of Malaysia were classified by the sales or number of regular employees. The details were as follows:

1) Micro-enterprises

The production sector with the sales of less than 2.5 hundred thousand ringgits per year, or employed less than 5 regular workers

The service sector with the sales of less than 2 hundred thousand ringgits per year, or employed less than 5 regular workers

2) Small enterprises
The production sector with the sales of 2.5 hundred thousand-10 million ringgits per year, or employed 5-50 regular workers

The service sector with the sales of 2 hundred thousand-1 million ringgits per year, or employed 5-19 regular workers

3) Medium-sized enterprises

The production sector with the sales of 10-25 million ringgits per year, or employed 51-150 regular workers

The service sector with the sales of 1-5 million ringgits per year, or employed 20-50 regular workers

Note: 1 ringgit was equal to 10 Baht (approximately).

Source: Small and Medium Enterprise Corporation

Malaysia

Currently, there were nearly 5.5 hundred thousand SMEs, representing 99.2 percent of the entire businesses of the country. Out of the number mentioned, there were 434,939 micro enterprises (79.3 percent of the total SMEs), 100,608 small enterprises (18.4 percent), and 12,720 medium enterprises (2.3 per cent). Classified by the sectors, it was found that most SMEs were in the service sector, or 86.6 percent of the entire SMEs, followed by the industrial sector (7.2 percent), and agricultural sector (6.2 percent), respectively. Also, it was found that most SMEs were concentrated in the retail sector (40.2 percent), followed by restaurants (12.3 percent), wholesale (7.8 percent), transportation (5.6 percent), textiles (1.7 percent), consultants (1.6 percent), fishery (1.3 percent), and metals (1.3 percent). Though SMEs in Malaysia accounted for a high percentage of 99.2 of the entire businesses of the country, they played little role in exports - only 19 percent of the total export value. This was consistent with the data obtained from a survey of SMEs samples in 2011, which indicated that only 13-15 percent of the samples involved in export while 85-87 percent of the samples involved in domestic market. Important export markets of Malaysian SMEs included ASEAN, China, and the Middle East. It was notable that the proportion of Malaysian SMEs that engaged in export business was still relatively small. Perhaps, it was because of high purchasing power of domestic consumers as Malaysian was ranked number 59 of the world's highest income per capita, and was ranked the 3rd in ASEAN, followed Singapore and Brunei (Thailand was ranked 87th in the world and the 4th in ASEAN). The Malaysian SMEs, therefore, relied on the domestic market, instead of the export market. Malaysia's exports were mainly electronic products (hard drives and microprocessors), machinery, palm oil, and chemicals, which were often run by large companies or multinational companies. (National Economic Advisory Council, 2010)

2.1.8.1.4 The Philippines

With a large number of population, the Philippines had 50 million people in the working age. In addition, the majority of workers were able to effectively communicate in English. Yet, a large number of skilled and talented labors tended to work abroad or for large organizations. As a result, SMEs in the Philippines were left with workers of inferior skills. The Philippines had the weaknesses of SMEs similar to those of Thailand; a low rate of the access to capital sources, and minimal use of modern technology. To address the problems, the Philippine government had taken a measure to strengthen SMEs by placing SMEs promotion as a national agenda. In doing so, SMEs were promoted and supported more seriously (OSEMP, 2008).

2.1.8.1.5 Indonesia

One of the strengths of SMEs in Indonesia was the abundance of labors and low rate of wages, compared to Thailand. Current minimum wage rate of the Philippine was around 67 USD per month. That resulted in lower cost of goods manufacturing and services. The weaknesses of SMEs in the Philippines were not significantly different from Thailand's. Most SMEs still lacked the securities or collaterals and were unable to deliver accounting system required by financial institutions. Due to these weaknesses, most SMEs were not able to obtain credits from financial institutions, and, as a result, they sought capitals from the outside, which cost them a very high interest rate. Although the government undertook a measure specifically to support SMEs with credits, the interest rate of the loans remained very high (OSMEP, 2008).

2.1.8.1.6 Brunei

Enterprises in Brunei had several advantages over enterprises in Thailand in terms of the ability to communicate in foreign languages and lower costs of energy as there was an abundance of energy resources within the country. However, the costs in other areas, especially labor wage, were much higher than the costs in Thailand. It was partly because Brunei government adopted the economic system practiced in Singapore causing higher costs of living. The potential to produce a high volume of goods with acceptable standards remain invariably low. In the past, Brunei's production was aimed at responding to the needs of the domestic market only. Therefore, it was no surprise that the manufacturing relied on traditional practices and was quality-oriented. The directions of SMEs promotion in Brunei were not much different from the ones of Thailand; the government tried to support in terms of finance, management, marketing, and innovation. As nearly all of the populations in Brunei were Muslim, the government was, therefore, trying to build on the strengths in the Halal market among SMEs in the country (OSMEP, 2008).

2.1.8.1.7 Vietnam

Facing with natural disasters on a regular basis, Vietnamese developed themselves to be hard-working, persevering, and active in self-improvement. As a result, many SMEs in Vietnam paid attention to the adoption of new technology and skills enhancement. However, not all products in Vietnam were manufactured by the acceptable standards. Also, Vietnamese still had obstacles in terms of language when communicating with foreign countries. The ability to access to capital sources was considered a low level. Significant developments, therefore, were not seen yet nowadays. The Vietnamese Government realized the seriousness of the problem mentioned and attempted to undertake measures to promote and support in various areas including shortening the protocols and providing benefits to strengthen and add more new enterprises (CIEM, 2006).

Since 1986, Vietnam began its serious economic reform under Doi Moi policy. As a result, Vietnamese economy witnessed a massive change – from a centralized system to a more free market system under the supervision of the government. Power was decentralized to local administrative organizations, with the government promoting foreign trade and investment. The private sector in Vietnam was encouraged to play more roles in businesses, especially the production industry to substitute the import as well as the production for export. Consequently, the number of businesses in private sector of Vietnam was steadily increasing. In addition, almost all of private businesses in Vietnam (99%) were small and medium-sized enterprises (SMEs).

• Small-sized enterprise was defined as a business with less than 10 employees and a registered capital of less than VND 1 ten billion.

• Micro-enterprise was defined as a business with 10-49 employees and a registered capital of less than VND 1 ten billion.

• Medium-sized enterprise was defined as a business with 50-299 employees and a registered capital of less than VND 1 ten billion.

Definition of SMEs in Vietnam

Under Article 3 of Decree 90/2001 / ND-CP, announced on November 23rd, 2001, SMEs were defined as enterprises and manufacturing units that registered under the business law enforced nowadays, with registered capital not exceeding 1 ten billion VND (about 650,000 U.S dollars), and / or with less than 300 regular employees. The definition of SMEs appeared in the Vietnam's SMEs Development Plan in 2006-2010, however, seemed to refer to a broader meaning, which covered all legitimate enterprises despite that those enterprises were not registered under the business law (CIEM, 2006).

The role of SMEs in Vietnam economy

• A source of capital accumulation and distribution of prosperity throughout the regions of the country

Since the enforcement of the law business was announced by Vietnamese government on January 1st, 2000, the value of new investments in Vietnam (calculated from the registered capital) from 2000 to 2004 increased to 213,039 trillion VND (about 13.9 trillion USD), compared to 25,742 trillion VND (approximately 1.7 trillion USD) during the year 1991-1999. The private sector, mainly SMEs, was an important part driving the investment value to rise significantly. Apart from the benefits from economic stimulation, SMEs also gained certain advantages compared to foreign direct investment in a way that SMEs generated income to different regions of the country whereas foreign direct investment was usually found in major cities and significant economic towns. • Increased national income and served as a source of

revenue of the government

In the past years, SMEs in Vietnam have gone through developments in terms of both quantity and quality enabling the SMEs to play an important role in generating the productivity for the country. SMEs were considered a source of income for local and national government. In the year 2002, the ratio of the government's revenue earned from SMEs rose to 7.4%, from 6.4% in 2001. This enabled the government to collect taxes from non-governmental enterprises as much as 103.6% of the expected goal in the year 2002. Also, in the year 2004, it was estimated that the revenue from taxes and fees collected from the private sector (mostly SMEs) would reach 13.1 trillion VND (around 855 million USD), or accounted for 7.8% of the government's budget (CIEM, 2006).

• Generated employment and income for the population

In each year, there were about 1.4-1.5 million people who were ready to enter to the workforce market and many workers also expressed the needs to move out from the agricultural sector. Creating opportunities of employment for these people was not only alleviating the severity of social problems, but was also paving the way for developing the population's life quality. According to the statistics in the past, it was found that SMEs acted as a source of employment at a rate of 50% of the total workforce in the rural areas. SMEs helped creating jobs for Vietnamese at a rate of 25-26% of the entire workforce of the country.

• Conserved and cultivated local wisdom Generally, SMEs at the grassroots level were often seen as a source of creativity and local wisdom. Unique artworks of the country, normally neglected by large entrepreneurs, were conserved. In this sense, SMEs played an important role in conserving culture and art, and in developing products created by local wisdom so that the products were needed by domestic and international markets.

Although the Vietnamese government has taken various measures to support and promote the business operation, the measures implemented showed the lack of dynamics resulted in redundancy and inconsistencies in practice. The Vietnamese government, therefore, launched the SMEs Development Plan 2006-2010 to clearly define the framework for SMEs development to be more effective. The Plan not only helped strengthening SMEs to be able to compete internationally, but also developed general businesses of Vietnam as SMEs constituted 99% of the entire businesses in Vietnam(CIEM, 2006).

The main goal of the SMEs Development Plan 2006-2010 was to reduce the restrictions and eliminate current obstacles in SMEs operation, and to create the enabling environment for the growth of SMEs. The plan also helped increasing the employment rate of SMEs for 2.7 million people in 2010, which was the completion of the plan. Yet, there were other goals that were expected from this plan.

-The number of SMEs was increased up to 320,000 during the years 2006-2010.

-The number of SMEs in the five poorest provinces of Vietnam was increased for additional 15% by the year 2010.

-230,000 hectares of land were developed to accommodate the industry and business operations by the year 2010.

-The proportion of credits/loans for SMEs was increased to 40-50% of all credits released by the government's financial institutions by the year 2010.

-The proportion of SMEs exporters was increased to 3-6% of the total entrepreneurs of the country.

To achieve the goals as set forth in the Plan, the Vietnamese government has determined that the following measures were taken (CIEM, 2006)..

1. Improve laws and regulations related to the business operations of SMEs right from the process of business registration to the startup of businesses by reducing protocols and redundant document, improving business registration system to be more effective and timely through computer system, revising rules and regulations related to trading and investment, and facilitating the transferring of technology conducive to SMEs operation.

2. Promote SMEs to fully utilize the lands by revising land development and land utilization plan in Vietnam to allow SMEs entrepreneurs to fully benefit from their lands. Power to make decisions and approve projects was decentralized. Industrial estates for SMEs were established in local areas. SMEs that were located in urban areas that created environmental impacts were encouraged to move to the industrial zones.

3. Support SMEs to be able to access to capital sources. The government's commercial banks were requested to revise the procedures for releasing credits/loans and services for private sector, especially SMEs. SMEs guarantee fund was set up enabling SMEs to access capital sources more easily.

4. Enhance the capabilities of SMEs in terms of competitiveness by supporting SMEs to operate their businesses equally to large enterprises. SMEs' capabilities to compete were enhanced. There was a plan, for instance, to help SMEs to gain maximum benefits from the opportunity that Vietnam joined in World Trade Organization (WTO).

5. Development labor skills by improving curriculum and training in universities, colleges, and vocational schools to produce quality workforce that met the demand of labor market. There was cooperation between educational institutes and enterprises to develop specific curriculum that can be applied to actual practice.

6. Encourage new entrepreneurs in SMEs by distributing information concerning SMEs to the society so that people realized the significance of SMEs.

7. Assure the operations to be consistent with the SMEs Development Plan 2006-2010 and revise the definition of SMEs to be in accordance with Decree 90/2001/ND-CP. Database related to SMEs was improved. As almost all businesses in Vietnam were SMEs, the process of SMEs development was extremely vital and related directly to the entire economy of Vietnam. Apart from moving the country forward, SMEs also played a role in developing economic and social system in a sustainable way — fixing poverty, creating jobs for the population, supporting large businesses as representatives distributing goods, sources of raw materials, and as contract manufacturers. It was no surprise that Vietnamese government made relentless efforts to develop SMEs. However, the development of SMEs in Vietnam in the past was not consistent. The SMEs Development Plan 2006-2010 was regarded as the key for SMEs to be developed on a stable and effective manner. The plan was designed and launched to lay the foundation of businesses in Vietnam and create atmosphere

conducive to good investment, which undoubtedly attracted investment from foreign countries into Vietnam (CIEM, 2006).

2.1.8.1.8 Myanmar

Wage labor costs in Myanmar remained the lowest among ASEAN countries. (The minimum daily wage in Myanmar was about 1 USD). It can be said that this was the strength for the enterprises operating in the country. However, the inability to access capital sources, high rates of loan interests, limited skills of labors, and insufficient electricity for domestic use hampered the competitiveness of small and medium-sized enterprises in Myanmar. To remedy such weaknesses, Myanmar government controlled the import of certain goods and undertook the plan to produce more electricity. It was expected that these measures could help strengthen SMEs in Myanmar to a large extent (OSMEP, 2008).

2.1.8.1.9 Laos

The minimum wage in Laos remained low compared to other ASEAN member countries. (The current minimum wage required by the federal government was 10,000 Kips per day, or about 1.30 USD.) Perhaps, this was considered an advantage for small and medium-sized enterprises operating in Laos. However, problems commonly found among enterprises in Laos were a low rate of the ability to access to capital sources, and limited skills of the enterprises. In addition, most of the government's initiatives aimed at promoting and supporting Laos SMEs were at the initial stage, restricting the competitiveness of the enterprises in Laos a great deal (OSMEP, 2008).

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2.1.8.1.10 Cambodia

The strengths and weaknesses of small and medium-sized enterprises in Cambodia were similar to those in Myanmar and Laos. To reduce restrictions on access to capital, the Cambodian government had revised or simplified the accounting methods for small and medium-sized enterprises so that the financial institutions were provided with information that helped them consider and approve more loans (OSMEP , 2008).

2.1.9 Established and closing enterprises

SMEs are indicated to be one of the growth-accelerating tools for many countries. SMEs constitute more than 90% of all enterprises (Fundes, 2010). There were more SMEs that faced the closure every year (OSMEP, 2011). The closure of SMEs was continuous problem and showed an increasing trend every year (OSMEP, 2014). An example can be found in Norway.

Newly established enterprises, survival and growth, 2007-2012 in Norway 30 per cent survived 5 years. Thirty per cent of the newly-established enterprises in 2007 were still active in 2012. The surviving enterprises employed 4 times as many persons in 2012 as in 2007(SSB, 2014).

Survival rate of newly established enterprises						
	Per cent survived enterprises					
	1 year	2 year	3 year	4 year	5 year	
Year of establishing						
2007	54.5	47.0	39.4	34.0	29.8	
2008	50.3	44.7	37.6	32.9		
2009	48.4	44.1	37.2			
2010	48.6	44.0				
2011	48.0					

Table 2.1 Survival rate of newly established enterprises in Norway (SSB, 2014)

Table 2.1 show survival rate of newly established enterprises, 2007-2012 in Norway. A total of 48,952 enterprises were established in 2007 and 14,601 of these were still active 5 years later.

The limited liability companies had the highest survival rate in 2012 of the newly-established enterprises in 2007. Forty-four per cent of the limited liability

companies were still in business in 2012, compared to 23 per cent of the sole proprietorships (SSB, 2014)..

The survival rates were also influenced by the size of the enterprise in the start-up year. Sixty-two per cent of the enterprises with 5 or more persons employed in 2007 were still in business 5 years later, compared to 30 per cent of the enterprises with less than 5 persons employed (SSB, 2014).

There were 19,951 enterprises with 10 or more employees as of 1 January 2010. Eight per cent of these enterprises were high growth enterprises measured by growth in turnover from 1 January 2010 until 1 January 2013. Four per cent of the enterprises were high growth enterprises measured by the growth in the number of employees. (SSB, 2014).

A total of 736 newly-established enterprises in 2007 and 2008 had 10 or more employees as of 1 January 2010 and were still active 3 years later. Of these enterprises, 20 per cent were gazelles measured by growth in turnover and 10 per cent were gazelles measured by growth in the number of employees (SSB, 2014).

2.2 SMEs Literature Review

As shown in other research supporting the solutions for SMEs, Mardikyan found that the rapid change in information technology (IT) requires entrepreneurs' adaption and development in IT, because IT development for SMEs can influence their decision and operation, and support the business success. In addition, IT system helps saving time, increasing effectiveness, reducing complication in data management, correctly and precisely evaluating and processing data, and effectively maintaining data (Mardikyan, 2010). Zainal found that human resource management (HRM) has an important role in improving the production effectiveness, efficiency and survival of the organization by attracting, retaining and motivating employees to work and support organizational operations, objectives and strategies in order to best achieve the organizational effectiveness and performance. Good HRM must be able to increase personal capabilities, and continuously and sustainably developing skills to increase the SMEs' effectiveness (Zainal, 2011).

In this research, the financial perspective of the SMEs is significantly focused as it is one of the most important problems of SMEs, which affects greatly to the business administration and management and the access to major sources of funds. The research focus is mainly on financial and accounting problems since financial and accounting decision can influence organizational economic events, including business operations. Financial information can affect all business functions' implementation and decisions (Meigs and other, 2001) to maintain the success and effectiveness of the work (Mcmahon, 1999).

From the other research, "Training in Business Basics" is software designed specifically for the business owners and managers of new startup SMEs (Brown and others, 2006) used logistic regression to create predictive modeling of financial reporting practices. (Mcmahon, 1999) .To look at the SMEs' problems through the way to solve it, many tools proposed from outside SMEs, i.e. any supports, solutions, instruments offered by other sources not the SMEs themselves, are available and have been studied in many research. In contrast, this research believes that SMEs problems are directly caused by the SMEs themselves, i.e. the decision and behavior of the SMEs' decision makers or entrepreneurs. Therefore, the focus of this study is on investigating the mental model of the entrepreneurs which influence their decision and behavior.

Small and medium-sized enterprises (SMEs) have been playing a rather important role in both developed and developing economies. However, they often encounter more difficulties than do their large counterparts since they are more opaque and short of assets that can be used as collateral. A large body of literature indicates that SMEs often have less access to formal finance than do large companies and that various informal financial arrangements, such as rotating savings and credit associations, informal moneylenders, loan brokers, informal credit unions, pawnbrokers, etc., play a critical role in assisting SMEs to start up, to take advantage of business opportunities in developing economies (Lin and Sun, 2005).

In contrast to the existing view that small businesses are financially weak and in need of funds, the empirical findings on financial problem perceptions of small business owners seem to indicate that finding finance is not as critical for small hotels. The most frequently mentioned financial problem was reported to be insufficient earnings (31.6%), followed by increases in input costs (28.6%) and cash shortages (20.4%). It is

also worth mentioning that these problems do not necessarily originate from difficulties relating to finding funds, but they essentially reflect managerial and contextual factors. Interestingly, small hotels neither report difficulty in finding credits nor complain from high credit costs, in spite of the fact that they rarely utilize debt in financing their ongoing operations. They seem to discard the possibility of debt financing (OÈ zer and Yamak, 2000).

The idea that problems in the financing of smaller firms have significantly hindered the role they play in the overall performance of the U.K. economy is deeply rooted. Successive Committees of Inquiry into Small Firms (Bolton, 1971) and into the Functioning of Financial Institutions (Committee, 1979), identified problems for small and medium-sized independent owner-controlled firms employing less than 200, or 500 employees(SMEs). The Wilson Committee in its report on SME financing argued, for instance, that SMEs were relatively risky. They could therefore expect to face higher interest charges or more severe security conditions than larger firms. They concluded nevertheless that excessive bank caution led to smaller, and especially newer, SMEs being rationed in the market for loans and bank finance. They also pointed to a shortage of start-up capital, and of equity development capital for fully geared established businesses wishing to expand (Hughes, 1997).

Our approach in this paper is to regress firm growth not only on the traditional determinants of age and size but also on other potential determinants associated with financial structure. As already discussed, it is difficult for SMEs to access to capital markets, and financial constraints are more binding for SMEs. Therefore, internal finance plays an important role in achieving the growth of SMEs by overcoming financial constraints. In addition, capital structure is different among SMEs, and leverage may be related to firm growth. In fact, Lang et al found that there is a negative relationship between growth and leverage. Moreover, a few firms have already gone public among SMEs, and publicly-held firms tend to more easily access to external funds than privately-held firms. Therefore, firm growth may be different between privately-held and publicly-held firms (Honjo and Harada, 2006). Michael J. Peel and John Bridge focus on the business objectives which SMEs adopt in formulating their strategic plans. The business objectives pursued by SMEs are of interest, partly because they help us to understand how they develop their strategic plans, but also because in

the context of the theory of the firm,' empirical work has tended to revolve around the large firm objectives and behavior, on account of the departure from profit maximization facilitated by such factors as market power and the divorce between ownership and control in larger companies. Studies, which have included SMEs, have tended to investigate their objectives in the context of lower-level decisions, such as the pricing of products. The present research, therefore, offers further insights into the objectives pursued by SMEs in strategic decisions, particularly those involving investment. Whilst Britain has been compared unfavorably with Germany in terms of competitiveness and the strength of its SME sector, the recent UK government competitiveness report 4 noted that this does not extend to the very largest UK companies which are viewed as being 'world class', with 16 of the 25 most profitable companies in Europe being UK-based. The spreading of best practice, including the adoption of the management techniques which are used in big business, has been seen by policy makers as a vehicle for improvement of SMEs performance. Rapid advances in IT have encouraged the belief that businesses of all sizes should be able to plan and control their financial and physical resources more effectively and this view has led to initiatives directed both at promoting IT in smaller businesses and in fostering the principles of strategic planning. This paper therefore examines the extent of strategic planning in the UK SMEs manufacturing sector and the relationship between strategic planning and the use of sophisticated capital budgeting techniques, which are commonly employed by large firms (Peel and Bridge, 1998).

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The effective financial management that can create financial efficiency (investment) and achieve organizational objectives relies on the decision directly made by the executives or business owners who determine the policy for implementation in each function, both relates to short- and long-term budget allocation, investment management policy and business results (Wikipedia, 2013).

2.3.1 Financial & Managerial Accounting

Financial accounting information is used to support the decision making of executives, business owners, shareholders, government, customers, and employees who are interested to know about the business and operational results. In addition, financial accounting information is a tool affecting the economic decision making as shown in figure 2.1.



Accounting in Decision Making

Figure 2.1 The relationship between economic event, accounting process and decision makers (Williams and others, 2001).

Economic system affects financial process. Accounting information used for decision making will affect future economic. Accounting is the process to identify, record, and convey reliable, relevant and equivalent information. The goal of accounting process is to give useful financial information for users. Quality information may help users to be able to gain more access to information that helps their decision making (Williams and others, 2001).

Mcmahon stated that careful financial management affect SME's growth, success, survival and work effectiveness. In his research, the Best Financial Practices Survey was adopted to create questionnaire. His research reported answers related to the organization's financial practices, financial management, and used logistic regression to create predictive modeling of financial reporting practices. (Mcmahon, 1999)

Brown stated that business owners need to have financial knowledge since it helps them to work effectively and be capable to evaluate necessary information for their decision making. Managers also need to have financial knowledge. "Training in Business Basics" is software designed specifically for the business owners and managers of new startup SMEs. The objective is to support them in the first 3 years of operations. The software consists of all modules in 3 years, in each week via internet, supported by email and phone communication with assistants taking care of each business, electronic library, as well as frequently asked questions for financial management knowledge. The results from the "Training in Business Basics" show that the SMEs' demand level for financial knowledge is low. The confidence in understanding and analyzing necessary financial information may help them to comprehend their basic financial statement, but may not help them to utilize such financial information for their decision making (Brown and others, 2006).

2.4 Knowledge Management

Knowledge management was a process of collecting, creating, organizing, sharing, and applying knowledge within the organization. The system was developed from data to information system with a purpose to accumulate knowledge and wisdom. Knowledge management consisted of a series of operations used by organizations in order to identify, create, display, and distribute knowledge for the benefits of the application and learning within the organizations, leading to more effective management of information system, which was vital for the operation of good businesses. Most large organizations usually had certain approaches to allocating resources for knowledge management, which were often included in a part of the information technology department or department of human resources management. The patterns of knowledge management were typically organized according to the objectives of the organization and aimed at achieving specific outcomes such as sharing wisdom, enhancing performances, gaining competitive advantages, or increasing the level of innovation (Wikipedia, 2013).

Knowledge management referred to the process in which the operational personnel or sub-divisions of an organization performed together to create and apply knowledge in the work performance to achieve better outcomes. In this sense, knowledge management was considered the activities of the operational personnel, not of the scholars or theorists. Yet, the scholars or theorists can be helpful as resource persons or facilitators of knowledge management (Davenport, 1994).

Knowledge management in organizations was particularly significant for the organizations which were managed by horizontal administrative structure and network structure. The management at each level involved identifying or distinguishing reality or facts that can be used to help the team members to improve the performances, share information, and develop other related tasks (Gold and others, 2001).

Knowledge management was a process of compiling and managing knowledge and expertise whether the knowledge was stored in computer, paper, or in persons. The aim was to enable personnel to gain knowledge and to exchange knowledge, which led to behavioral changes by increasing experiences and expertise (Amrit, 2000).

Knowledge management was seen as the ability to choose, to access to knowledge, and to achieve performances or related skills. Knowledge management can be adjusted to benefit employers and employees as individuals and as a team (Bergeron, 2003).

The collection of various knowledge bodies displaced in each individual or document can be developed as a system for all individuals in the organization to access to such knowledge, and improve themselves to be knowledgeable persons and able to perform tasks effectively, which would result in the optimum capability of the organization (Drucker, 2001).

2.4.1 CommonKADS

CommonKADS is a knowledge management tool from the European Union's research team led by the key researchers such as Guus Schreiber, Hans Akkermans, and Anjo Anjewierden, who altogether proposed the idea to develop the knowledge management process from abstract one to be analytical and synthetic knowledge leading to more concrete and subjective information technology. The analysis in this study is based on the CommonKADS (Schreiber and other , 2000).

2.4.2 Mental Model



Figure 2.2 Practices, principles and essences of mental model (Senge, 1990)

Mental model is a pattern of thought, belief and attitude which reflects emotional quotient, normally gained from experiences. The pattern is later shaped into a conceptual framework allowing individuals to be capable to understand, analyze, and make a decision on each issue properly. The investigation on the mental model starts from the change of individuals' inner thought, to learning to confront and accept the truth in order to check for the fact and accept the truth, and then utilize it. The organizations normally create the mental model for people in the organization by developing the mental model both for each individual and amongst individual (Senge, 1990). The mental model does not only affect significantly to decision making based on recognition, but also can consequently create actions as well (William and Brandt, 2013).

The mental model from the same perspective of each individual may be different (Argyris, 1991), because:

- Human create visualization based on their interaction,
- Human has different experience from each other,
- Each individual thought is a thought per one thing,
- Human can transfer such thought to others as well.

However, the mental model can be problematic as individuals tend to believe in continuous learning that the information they select is true. Their belief will be based on such information regardless of any other information (William and Brandt, 2013). Senge believed that the mental model of each individual has some weak points. Solving problems by training on thinking skill, and being open-minded for challenges sometimes may be misguided, mistaken or misunderstood. Therefore, the regular and flexible development of the mental model could help adapting individual vision, concept and practice to be suitable for changing situations (Senge, 1990). With the investigation on the Mental Model, it begins from the internal change of their thoughts to learn to face the reality in order to examine the facts, accept what is right, and utilize it (Senge, 1994).

Mental model was naturally formed through attitudes and the creation of awareness. Attitudes, in this sense, indicated behaviors which were adjusted in accordance with internal and external circumstances. Attitudes were created by the perception from a source of information, feelings, emotions associated with a certain object, and past behaviors (Zanna and Rempel, 1988). Habit and routine were considered important factors that influenced human behaviors (Graybiel, 2008). In addition, the decision of each individual was potentially made based on the context and natural biases and mental shortcuts (Heuristics). Decisions were also the results of subconsciousness, whether they were considered right or wrong. Frequently, decisions were made without consideration of the advantages or disadvantages, but rather the assumptions or conclusions drawn from individual understanding (Halpern and others, 2004).

From the research, most SEs owners had studied MBA so they have studied some courses relating to financial accounting, but the research findings show that they do not take any consideration on the companies' financial information in their decision making. This is because most MBA courses only focus on financial tools but not on changing attitude in finance, although they know that financial data analysis is helpful for the business's decision. Moreover, such short courses as KSME and NEC training for entrepreneurs aim and attempt to adjust the attitudes of SE owners by inviting wellknown professionals who are successful in their businesses to present their business knowledge and concept, and to motivate people to see the benefits of using financial accounting information in their financial decision and analysis. However, such motivation can only last in a short-term. In order to change people's attitude, time is required to create trust. Although there are many financial accounting tools such as financial software, loan, knowledge distribution, and consultation, SMEs' entrepreneurs do not fully understand and show their interest in financial accounting. Therefore, such assistance and support from government and other sectors are only external solutions but not solving the internal problems of the SMEs. From other research relevant to financial behaviors, Dolan stated that financial behavioral change needs to start from internal thought, belief, attitude and objective of the people, so that they can increase their business effectiveness and financial capability. When creating the new reception of knowledge and optimizing the benefits are accomplished, change in their financial behavior can then be achieved (Dolan and others, 2012). Based on preliminary analysis, SE owners do not care about their financial accounting information because of their mental model, which will be later, proved in the next research section.

2.4.3 Left Hand Column

Left hand column is a tool to search for thinking method and participative feeling in communication. This technique can be used to reflect the past communication or prepare for future communication. Left hand column consists of two aspects of communication. The right side is the conversation aspect of what is being practiced, while the left side is the author's thought or feeling (Isee system, 2012)





Figure 2.3 Ladder of Inference (Senge, 1994)

In the fifth principle of Senge, he stated that the ladder of inference is a symbol of the mental model's creation process which is based on personal experience, culture, learning and habit. 'Ladder of Inference' is based on the inner belief of an individual that 'our map of the reality is the truth' and 'the truth is obvious'. The ladder of inference consists of the following steps (Senge, 1994):

- Receiving information through Senses (Data)
- Choosing information based on observation (Observable)
- Adding meaning to the information (Add meaning)
- Setting assumptions to the selected information (Make assumptions)
- Making conclusions based on Assumption (Develop conclusions)
- Creating belief supportive to the further select related information (Create/Support beliefs)
- Taking the information to practice (Take actions)

William F. Brandt described the mental model by creating the ladder of inference with the people who would like to purchase houses and whose belief is based on the past information that the price has a tendency to be increased continuously and has no sign to be decreased. He found out that even though the price was gone up high with potential risks both in investment and interest, the purchasers were still willing to pay because of their purchasing desire. His paper also described about 'mother with baby' group. When a mother heard her baby's crying, it means for her that the baby needs help and the mother needs to come in and help. This is based on her experience, learning and information gained from other mothers (William and Brandt, 2013). Peter Howie conducted a research about working with the ladder of inference by investigating on the reactions of the sample individuals' phone conversation, gestures, tones of voice, language intensity, language communication and expressions which are found to be varied among each individual and caused by different beliefs resulting in different practices (Howie, 2006). Tompkins and Rhodes researched about Groupthink and the Ladder of Inference: Increasing Effective Decision Making. They gave an example of the team from an aerospace company who worked with MBA students on different meanings of the word literature. These different meanings were based on different assumptions and from different definitions in order to create the same meaning and consistent conclusion. Finally, the professor had been the one who gave the most correct and effective meaning to avoid conflicts from contradictory assumptions in the team. Tompkins and Rhodes concluded that the ladder of inference could be used as a tool to create reliability in communication and influence executives and managers' decision making (Tompkins and Rhodes, 2012).

According to the above mentioned articles and researches, the ladder of inference used with individuals and groups of people in different ways can explain about the mental model based on experience, learning, culture, and transfer of good stories resulting in accustomed actions. However, the ladder of inference was used in this research to test on the SE owners' mental model in the financial aspects. This research found that only good financial performance's information is considered by the owners, even though both sides of information are useful for and certainly affect the enterprises, and help support decision making for their work and operation. Nevertheless, this research found that despite of having knowledge in management from MBA course; most SEs owners still have experienced problems and some experienced a business closedown, because they are unable to adapt, analyze and utilize such knowledge from their study to help making their decisions, and they choose to receive and remember only good information, based on their belief and practice only considering the positive one.

To develop the mental model for decision making based on financial information for SEs, the target sample group is the SEs owners who make decision for all operations by themselves. Once the prototype of the effective ladder of inference is set, it can be used to create cloud computing which refers to the way that computer users working through internet, which gives a particular service to the users, and lets them share the resources with those users who want to use that particular service. The processing result as cloud computing has been developed further from the initial idea and service of virtualization and web-service with the characteristic that users have no need to have a basic technical knowledge of that particular task (Rajani, 2011).

However, this research paper presents the process to create the effective financial mental model for SEs by using the ladder of inference as a tool for analysis and adjustment based on the current mental model. After that, the prototype was then used to create financial cloud computing architecture that is suitable for small enterprises. This step is under research process. There is no previous research studied on financial ladder of inference before, so this research focuses on the ladder of inference that creates financial ladder of inference.



2.4.5 Balance Inquiry and Advocacy

Figure 2.4 Balance inquiry and advocacy (Isee System, 2012).

Balance inquiry and advocacy is the tool that efficiently makes a person reveal his/her thought. It can be used with other people for such a purpose too. The balance inquiry and advocacy that are balanced in both parts will have details as follows. The method can explain thinking, give examples, seek other viewpoints, probes thinking, and encourage challenges (Isee System, 2012).

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2.5 Theories of Behavior Change

In the field of behavior change, theoretical frameworks are increasingly being recognized and used by practitioners as a means of informing, developing and evaluating interventions designed to influence behavior. Such theories of behavior provide an integrated summary of constructs, procedures and methods for understanding behavior, and present an explicit account of the hypothesized relationships or causal pathways that influence behavior (Rutter and Quine, 2002). Human behaviors are

complex. Behavior change is a key target of government agencies, organizations, and communities. The most effective design of behavior change program should result in the actual changes of people's practices (Glanz and others, 1990). Human behaviors are influenced by various factors and individual behaviors are deeply embedded in society and institutions in different contexts and situations (Jackson, 2005). Behavior theories move away from the individual to focus either on behavior itself, or relationships between behavior, individuals and the social and physical environments in which they occur (Morris and others, 2012). Theory of behavior change explained why changes in behaviors were needed. It discussed personal environment and patterns of behaviors that were considered crucial factors influencing people's behaviors. Recently, this theory was significantly employed in health work, education, science, energy, and international developments, with the hope that the understanding would change behaviors in delivering services in the fields mentioned. (Wikipedia, 2013)

The key elements were capable of behavior adjustment in a deeper level. The strategies to correct the key elements in each component were shown figure 2.5

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Key Element	Definition	Strategies for Behavior Change		
Threat	A danger or a harmful event of which people may or may not be aware.	Raise awareness that the threat exists, focusing on severity and susceptibility.		
Fear	Emotional arousal caused by perceiving a significant and personally relevant threat.	Fear can powerfully influence behavior and, if it is channeled in the appropri- ate way, can motivate people to seek information, but it can also cause people to deny they are at-risk.		
Response Efficacy	Perception that a recommended re- sponse will prevent the threat from happening.	Provide evidence of examples that the recommended response will avert the threat.		
Self-Efficacy	An individual's perception of or con- fidence in their ability to perform a recommended response.	Raise individuals' confidence that they can perform response and help ensure they can avert the threat.		
	"	The second s		
Barriers	Something that would prevent an individuals from carrying out a recom- mended response.	Be aware of physical or cultural barri- ers that might exist, attempt to re- move barriers.		
Benefits	Positive consequences of performing recommended response.	Communicate the benefits of perform- ing the recommended response.		
Subjective Norms	What an individual thinks other people think they should do.	Understand with whom individuals are likely to comply.		
Attitudes	An individual's evaluation or beliefs about a recommended response.	Measure existing attitudes before at- tempting to change them.		
Intentions	An individual's plans to carry out the recommended response.	Determine if intentions are genuine or proxies for actual behavior.		
Cues to Action	External or internal factors that help individuals make decisions about a response.	Provide communication that might trig- ger individuals to make decisions.		
Reactance	When an individual reacts against a recommended response.	Ensure individuals do not feel they have been manipulated or are unable to avert the threat.		

Figure 2.5 Illustrated key element, definition and strategies for Behavior Change (Witte, 1997).

Figure 2.5 Before exploring behavior change models in depth, it is important to understand the variables that are essential to the models. Top is a select list of the variables common to many behavior change models (Witte, 1997) as well ways to maximize on these variables when attempting to evoke a behavior change.

In this section, the theory of behavior change is reviewed. Since this research attempts to change the behavior of the SME owner when making the financial decision, the theory of behavior change is required as a guideline and applied in this research. As mentioned previously, the gap between the existing and what is expected of the good ladder of financial inference can be determined by the utilization of the proposed methodology given in the previous sections. The theory of behavior change and its relevant techniques are then applied as the guideline in this research to close this gap.

2.6 Cloud Computing

Cloud computing was interpreted into a variety of definitions. The following definitions were only partial.

JavaBoom Collection defined cloud computing as processing based on the needs of the end users. The process required the users to request cloud computing system software to allocate resources and services that corresponded to the needs of the users. The system had a capacity to increase or decrease the amount of resources as appropriate to the needs of the users without them knowing the underlying functions.

Wikipedia viewed cloud computing as computing resources that were accessed, generally owned and operated by third-party providers, which gathered the necessary data together in a location called data center. The service consumers of cloud computing were responsible for the cost of the computing or processing as required. Interestingly, the consumers were not required to be knowledgeable about the underlying technology, which was used to enhance the performance of the server. However, there were certain options of critical technologies that developers could take into account hidden in platform services (Wikipedia,2013).

National Institute of Standards and Technology (NIST) defined cloud computing as the Internet in general similarly to such infrastructure as electricity and water that were available to users on demand. Most providers generally provided services in forms of web applications allowing the users to work through web browsers. Meanwhile, all the software and data were stored on the server of the service provider (NIST, 2011).

The Value Systems Co., Ltd referred cloud computing to a computer system distributed in different locations and operated as cluster network through the allocation of resources by virtualization technology to respond to various services and a rapidly increasing amount of users. It included the organization of various resources that suited different types of users, consistent with the concept of software as a service (SaaS).

In general, cloud computing was defined as a process of working that utilized abundant resources available on the Internet. The only requirement for the users was the Internet connection that they had no need to consider the proximity or distances of sources. Cloud computing was thus the utilization of resources within a large network and was labeled as a cloud icon representing all resources made available for the service users by third-party service providers (Buyya and others, 2008).

Cloud computing was the concept of services by leveraging the information technology (IT) infrastructure that was interwoven. The computers that worked together could be located in the same room or placed as far as the other side of the world. The system would function integrally resulting in several advantages; reducing complexity and saving energy and costs. Another advantage was that cloud computing was capable of accommodating more diverse needs, which was different from the grid computing that tended to focus on specific tasks. Cloud computing was operated through Virtualization technology unleashing the efficiency and performances of all computer systems. Cloud Computing was therefore considered an innovation of data center for the future (Wikipedia, 2013).

Recent findings from IBM indicated that more users would opt for cloud computing in the next 3-5 years as the trend would impact on a broad spectrum of businesses and consumers in five different ways (Buyya and others, 2008).

1. The application of Web 2.0 became more interactive.

Currently, the contents in Web 2.0, whether they were data, pictures, video clips, or audio files, were changed or updated by users around the world all the time. Examples of this rapid change of contents could be found in Wikipedia, YouTube, social network applications such as Facebook or Hi5. Web 2.0 became popular among

general consumers and personnel in many organizations that used web 2.0 to synchronize their projects.

With this web 2.0 technology, cloud computing began to play a significant role. Apart from the characteristics of technology with high performance and efficiency, cloud computing was capable of responding to the needs of the websites which required constant changes of content through the outstanding capacity to process huge amount of data in a fraction of a second. Examples of organizations that benefitted from cloud computing nowadays were China Telecom and Sogeti (a professional service provider in Europe). Sogeti, particularly, incorporated cloud computing in their organization in which opinions of the personnel were expressed and shared on a real-time basis. Cloud computing then collected suggestions as well as ideas of 18,000 Sogeti staff and analyzed them on a real-time basis enabling the organization to maximize its business capacity (Buyya and others, 2008).

2. An increasing demand for efficiency of energy saving

Due to the energy crisis and the growing awareness of environmental responsibility, many organizations nowadays turned their focus on energy saving IT. With the capability of energy saving, especially energy management in the data center, cloud computing gained significant popularity. According the recent information from Info-Tech Research Group, it was found that most servers that were active all the time utilized the resources within the system at a rate of only 10-20 percent. With the system management through cloud computing, all IT resources would be integrated and thus helped the organizations save energy and operating costs. The technology enabled the organizations to increase or decrease the size of the system as needed without running the computer or consuming power all the time (Buyya and others, 2008).

3. An increasing demand for innovation in the business sector

Apart from business competition, current companies were also required to present or offer products, services, or innovations to the market on a constant basis. Most companies viewed technology as a massive contribution to the creativity. Realizing this demand of presenting new innovation, many organizations resorted to cloud computing, which provided greater power for data processing with less cost (Buyya and others, 2008).

A recent example was the introduction of cloud computing in Chinese industrial zone in the city of Wuxi. Though operators in the industrial zone were mostly small software companies that recently began operation, these firms were able to benefit from the IT infrastructure efficiently through cloud computing. Notably, this industrial zone cooperated with IBM to build a cloud computing center aiming to support the implementation of the various companies within the industrial zone. The cloud computing infrastructure significantly helped these small companies to save the cost of innovation development since the investment for purchase and server maintenance as well as other applications became unnecessary. The expenses were made for the actual IT service fees. Another example of an organization that incorporated cloud computing was the National University of Vietnam. cloud computing was used to enhance IT skills of the personnel of the institution (Buyya and others, 2008).

4. The demand for simplified and convenient technology

Though the technology nowadays became much more complex and sophisticated, most users were seeking for simpler technology. The trend of using software in the form of services available on the Internet was an example that reflected the needs for simpler use of technology and that also paved the way for the use of cloud computing technology. With this issue in mind, many organizations chose to purchase services or considered software as a service, rather than purchasing software for their own use as previously. An advantage of purchasing service was that the organizations were able to use up-to-date software without coping with the complexity and costs of managing or upgrading the software that were required all the time (Buyya and others, 2008).

Cloud computing, which is used in the form of software service, had the capability to minimize the complexity for all IT system since organizations could use services from cloud computing that were hosted externally and accessed the functions as services, instead of investing money for software. This method was considered an attractive choice for small companies that were looking for means of saving costs and were limited by number of technicians (Buyya and others, 2008).

5. A constant increase of the enormous volume of data

Considering the enormous volume of data appeared on various websites nowadays, data management for the websites became a challenge. Fortunately, with the success of searching technology as displayed in Google, the users around the world realized the importance of effective organization of contents and web structures to deal with rapidly increasing data.

Each day, millions of internet users exchanged and searched data, images, and audio through various sites around the world. If data search could not be done promptly and accurately, the benefits of websites, as the tools for searching information, would diminish. Yet, cloud computing enabled the websites to manage various contents more efficiently. The system benefited from the superior processing performance of cloud computing when dealing with large amounts of data, and from the infrastructure that was flexible enough to manage the complexity of the website contents (Buyya and others, 2008).

As cloud computing was illustrated, it was also important that certain related terms were explained.

• Cloud provider referred to the providers of cloud system.

• Cloud storage referred to a location where resources for cloud system were restored.

Cloud computing was different from other types of hosting services such as application hosting, web hosting, and file hosting in a way that cloud storage was flexible to adjust the capability, performance, and sizes of resources according to workload and there were no limits to the expansion of resources for providers. To do that, the providers partnered with other third-party service providers who searched and allocated those resources. In this sense, both the users and service providers of cloud computing did not have to be concerned about the increasing resources for processing or spaces for storing data. However, the costs were charged by the actual usage or pay-per-use. Other possible conditions might be applied depending on the service providers. Currently, there were many service providers relying on cloud computing including Google Apps, Google App Engine, IBM Blue Cloud, and Amazon EC2 (Johnston and others, 2011).

Processing Structure of Cloud Computing

Cloud server comprised of thousands of servers located in the same location. Cloud server was connected internally by a grid network using virtualization software to help the applications minimizing the reliance on the system (Johnston and others, 2011).

• User interaction interface received service requests from users in the form of web protocols.

• Services catalog stored and managed the lists of services. It was the part that users can browse the services available.

• System management determined the appropriate resources when users requested for the services. Once users requested for services, the information concerning the requests would be passed on to this part.

• Provisioning services would be contacted by system management to reserve resources from the cloud server and provide appropriate applications for users.

• Monitoring and metering calculated the service fees and collected relevant statistic data for further improvement.

Application Development for Cloud Computing

The development of technology to manage and process cloud computing still largely depended on individual companies. However, Google decided to support Hadoop project, an open-source project implemented to develop a program called Map Reduce designed by Google. This program used the principle of creating a map of information and fast computing. The outputs would be sent to the servers in the cloud. When the calculation was completed, the results would be reduced as the final answers. Therefore, it was reasonable to state that the development of applications in the cloud became more standardized (Amies and others, 2012).

In view of the users, cloud computing would be perceived as services. Two predominant models included:

• SAAS (Software as a Service), which offered all kinds of services including the user interface of computing cloud. Examples were Google search and Google app. An advantage was that the users were able to utilize the system without installing any software, except for web browsers. This development was also beneficial for mobile device, yet users may require fast and stable network.

• Software + Services developed by Microsoft. This model required the users to install software on their machines. However, processing large quantity of data and capacity enhancement would be done on Cloud. An advantage of this model was that the functions would respond more effectively or would even partially process on their own without relying on the server. Yet, the users were required to maintain the installed software and that could be complicated at a certain degree (Amies and others, 2012).

Examples of the Application of Cloud Computing

Amazon Elastic Compute Cloud (EC2) hosted Virtual Machine of users and collected the fees based on the CPU usage and the amount of data transmission. The information was stored on Amazon Simple Storage Services (S3), a storage service which was operated based on the concept of Cloud Computing as well. To use the service, users were required to create a virtual computer called AMI (Amazon Machine Language) on S3 Storage. AMI consisted of operating systems and the needed software. Amazon facilitated the users by providing the program that can create and control AMI. The users then were required to upload their AMI on Amazon S3 and registered with EC2 to start working. Finally, when the users accessed to AMI, Amazon would began billing the users at the rate specified. The operating virtual computer was connected with Web service using Java-based approach (Martin, 2008).

An impressive example of the use of EC2 was a website creation called TimesMachine. The New York Times newspaper had compiled pages of newspapers during the years 1922-1851, by scanning and converting those pages available for retrieval. These documents captured remarkable historical contents such as a newspaper issue on the day President Lincoln was assassinated, news about the sink of Titanic published on April 4th, 1912, and American Civil War (Hammond, 2004).

To create Times Machine, it required processing of data accumulated over 150 years, which were stored and converted to digital TIFF files. The processed files contained 405,500 large TIFF files, 3.3 million articles in SGML, and 405,000 XML files. The results from the conversion were 810,000 PNG files and 405,000 JavaScript files, totaling more than 1.5 terabytes. The data conversion applied the Computing power from EC / 2S3, and used Hadoop system distributing the processing on EC2 over 100 machines that run simultaneously (Hammond, 2004).

Google app was considered an extension of the technology allowing users to create virtual groups and choose software services such as email, calendar, and Chat communication, which were well integrated within the groups. Google App that was operated as web service on Google Cloud was also open for developing using API of Google app engine (Sanderson, 2009).

Comparison of Advantages and Disadvantages of Cloud Computing Advantages (Martin, 2008)

- 1. Reduce the cost of maintenance as the fees already included the costs of actual usage such as wages, maintenance, copyrights, electricity, water, fuel, software upgrading, and cable rents
- 2. Reduce the risk of experimental projects
- 3. More flexibility in terms of increasing or decreasing the system according to the demand
- 4. The users were able to use efficient servers, good backup, and a high-speed network
- 5. There were experts available to maintain the system and to provide assistance 24 hours VG MA

Disadvantages

- 1. As the resources were drawn from different sources, consistency and speed when accessing to the resources could be a problem, compared to the use of local host service or the hosts available in the users' organizations.
- 2. There was no guarantee, so far, that the operation would be continuous or safe.
- 3. There were no standards for platforms restricting customers' choices for developing or installing the systems.

Cloud Computing and Security

Technically, customers or users can assure the safety at a certain extent. Virtualization can be created with the customers having full control as the system administrators to determine the safety of the machine or virtual machine. Alert system could be applied when the administrators were attempting to access to the customers'

data. Data center could be monitored and even the admin page could be captured (Winkler, 2011).

However, there were still weaknesses that users should be aware and that was the hiring of an outsider to maintain the users' systems. Major concerns were still the leakage of information, the misuse of data, and the unauthorized disclosure of data to any third party. Certain institutions that required confidentiality of data such as Homeland Security or financial institutions would probably find cloud computing unsafe. For financial institutions, though the track system can identify the location and persons who committed the violation, the prosecution by rules of the companies or law could not redeem the damages occurred. And yet, security was also an issue for organizations when outsourcing or using personnel internally. The users therefore had to rely on ethics of the cloud providers, which usually offered guarantees according to the agreements as well as system maintenance standards. Perhaps, certain control for access to cloud services was necessary; cloud providers were required to be certified by certain standards with The International Organization for Standardization (ISO) certification. At the bottom line, Cloud consumers must be protected by security technology (Kathleen, 2012).

Reasons why current users needed Cloud Computing

1. Business organizations, governmental agencies, and education institutes were all involved with technology. It was reflected through the investment on IT networks within the organizations, installation of database, and the purchase of computer servers used for data processing as well as offering services to people. Interestingly, the budget for this investment was of high value and it was essential that the current organizations needed constant investment. Perhaps, simple reasons were a rapidly increasing amount of data and more application developments. The expansion of system or upgrading computer servers was inevitably associated with more software compatible with the new servers. Additionally, system maintenance was required. Add the costs together and the organizations had to be responsible for tremendous amount of expenditures (Reinschmidt and Francoise, 2000).

2. The actual cost of synchronizing several types of computers using telecommunication capability was now more affordable. virtual machine, which acted

as a bridge connecting all the computers into cloud computing so that all machines were able to respond to commands and process a vast quantity of data, or even to function separately as assigned, now required less cost. In congruent to this transformation, several giant companies of the computer industry and communications such as Amazon, Google, or even Microsoft were providing more support for development of standards and applications to enhance the processing capabilities of cloud computing. Cloud computing therefore became an innovation that was substantially adopted by business world (Reinschmidt and Francoise, 2000).

3. The concept of Outsourcing became a norm for IT businesses. All entrepreneurs around the world had a perception that it was pointless to invest on computer servers to accommodate works inside the organizations. It was more convenient to hire professional companies to process the data as long as they were able to assure the quality, the continuity, and safety from information leakage (Reinschmidt and Francoise, 2000).

The three main factors led to the concept of hiring the entrepreneurs that invested on cloud computing to take responsibility for data processing for agencies or organizations. In doing so, the organizations were able to save enormous costs of hardware and software. Investment for capital expense, which was related to depreciation, was changed to operating expense in the form of hiring contracts, which had a benefit in terms tax deduction. Another advantage was that additional investment for upgrading or replacing central processing system was not required from the organizations adopting Cloud. Interestingly, the users were also able to switch cloud computing operators as needed if they were not satisfied with the quality of services provided by the other party in the contracts (Reinschmidt and Francoise, 2000).

Notably, cloud computing business was likened to infrastructure such as electricity, water supply, which was available for common use. Citizens or consumers were not needed to invest in creating generators or water supply for their household use. Certain agencies such as electricity authority or water authority were responsible for building structures for power and water. The networks for generating or delivering electricity and water to people's homes or business premises were then established. Consumers were only obliged to pay a fee based on contracts agreed with the operators. In some cities, more than one electricity or water operators were available and that allowed consumers to have options to change providers if they were not satisfied with the quality of services. Consumers may switch to other providers if they were attracted to certain options or promotions. Similar nature was found in other utilities such as hospitals, telephone, mobile, and Internet. Cloud computing was also operated similarly to this pattern (Reinschmidt and Francoise, 2000).

Many organizations now realized that investment in computer server for data processing was not needed as cloud computing providers could be hired to do that with nalena 2/02/2 less costs and fully equipped with advanced telecommunication networks (Reinschmidt and Francoise, 2000).

Patterns and Roles in Cloud Computing Business

It was plausible to state that cloud computing business was actually offering data processing services and was considered a form of outsourcing. Yet, this outsourcing played an important role for the business or affairs of the organizations. Still, there were certain concerns about the potential of computer clusters that were combined into cloud computing network; whether it was able to meet the needs of business organizations on a constant basis, whether it provided measures to prevent the leakage of confidential information. As it was likely that cloud computing entrepreneurs were requested to process data for a great number of customers, the assurance of system stability and data security remained critical concerns among enterprises and organizations (Zainal, 2011).

Clearly, the popularity of cloud computing can only be derived from the integrity and availability of technical service of the providers. Service Level Agreement (SLA) between the corporate employers and the operators of cloud computing was, therefore, a key issue. To give an example, when company A and company B entered into an agreement, both companies had to specify a clear scope and the level of quality of services. The conditions could be that company A was allowed to use 20 terabytes a month on cloud computing space and company B guaranteed that 30 million commands per month would be processed. Penalty of violation as well as other terms should be clearly stated and agreed. In this sense, cloud computing was not different from other utilities such as telephone promotion or volume of electricity (Zainal, 2011).

Cloud computing is not only processed data for organizations or business enterprises, but it also influenced the patterns of transactions on electronic commerce on the Internet. A website provider, for example, realized the needs for processing a huge amount of data. Instead of investing in creating and installing computer servers, it purchased the data processing service from a cloud computing operator with clear terms and conditions. For instance, when a customer visited the website and clicked on any transaction, the website would forward the command to cloud computing. After the processing was completed, the results would be automatically shown on the website (Zainal, 2011).

Interestingly, when cloud computing technology was accepted by the business world at a greater extent, such expansion would probably trigger the emergence of medium companies that expected the commission from liaising customers with cloud computing entrepreneurs. The role of these companies in selling services to the corporates or government agencies was no different than the role of brokers in managing portfolio of stocks for potential buyers. A service-level agreement (SLA) contracts between business enterprises and brokerage firms would probably be seen as common in the realm of business in the near future (Zainal, 2011).

Cloud Computing in Thailand

Qualifications of cloud computing providers were not complicated. Major investments were the linkage or connection of all computers, software, and efficient computer resource management. software and powerful computers. Another requirement was the capability to provide high-speed internet connection to connect to the cloud computing network together in case the installation was in separate buildings (Burapha University, 2009).

The improvement of communication networks, especially high-speed internet or even FTTH (Fiber to the Home) would significantly enhance the linkage between business enterprises or organizations with cloud computing entrepreneurs with higher speed processing. It would also reduce the length of time required for connecting. Generally speaking, apart from consumers' behaviors or lifestyle that demanded internet for accessing to multi-media, the demand for cloud computing services from business sector or organizations could be another factor driving the expansion of capabilities of broadband in Thailand (Burapha University, 2009). Many small companies in Thailand began to invest in building Cloud Computing network and provide data processing services for small-sized corporate clients. With an increasing level of acceptance of Cloud Computing technology in Thailand and the maximization of broadband networks, Cloud Computing would truly become a new type of business with the potential of enormous growth in the near future. (Burapha University, 2009)

In this section, the reviews on the cloud computing is given, and it shows that this advance in technology has become fundamental infrastructure for the access and share of the information individually or among knowledge workers. This is especially true for this research since it focuses on the second or third generation of the SME owners who have grown up with this technology. Hence, the cloud computing infrastructure is selected as the platform in this proposed methodology for the utilization of the ladder of financial inferences.

2.7 Relationship between mental model used by ladder of inference, theories behavior change and cloud computing architecture.

To achieve positive behaviors regarding the mental model, theories of behavior change was adopted to adjust the financial behaviors of the entrepreneurs of SEs. The ladder of inference is used to analyze and explain the reasons of the owners of SEs for using the financial information in the operation of their enterprises. Research presented the linkage of reasons of decisions made in each step of ladder of inference with key element. The results were concluded based on strategies for behavior change of each key element in order to obtain appropriate strategies for behavior change applicable with each step of ladder of inference

All stages of the ladder of inference affected the users' beliefs and, consequently, lead to certain patterns of practices. In other words, if users were able to adjust the ladder of inference in some stages, they would obtain new patterns of beliefs and practices. Yet, some users may require drastic adjustments in many different stages of ladder of inference so that they were able to fully benefit from the changes in the desired beliefs and practices (Brown, 2002). After the strategies for behavior change were applied to adjust each step of the financial ladder of inference, 'content' of cloud computing architecture at each step of the financial ladder of inference can vary.
Appropriate strategies for behavior change were obtained for each step of ladder of inference. The results were used to construct a model (Feigenbaum and others, 1983). Appropriate Content was constructed for cloud computing architecture. Comparison is drawn with strategies for behavior change to identify the pattern of mental model adjustment, which is subsequently utilized in creating cloud computing architecture for the entrepreneurs of SMEs.



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