

Chapter 1

Introduction

1.1 Background and Significance of the Research

The number of enterprises in Thailand, up to the end of 2013, was 2,844,757 in total. Of those, 2,763,997 cases were small and medium enterprises, which represented the growing rate of 1.22 percent. This number accounted for 97.16 percent of the entire enterprises. The biggest group was small enterprises, which consisted of 2,750,750 cases or 96.70 percent of the total enterprises, or 99.52 percent of the entire small and medium enterprises in Thailand. The largest proportion of Small and Medium Enterprise (SMEs) were seen in wholesale and retail sectors, and automotive repair sector which are 1,198,062 cases, or 99.30 percent of the total wholesale and retail sectors and automotive repair sector of the country. The next sector was service sector which consisted of 1,075,546 cases, or 98.89 percent of the total service sector of the country. 447,142 cases were found in production sector, or 86.75 percent of the total production sector of the country (OSMEP, 2014).

When classifying the small and medium enterprises in 2013 according to provinces, it was found that Bangkok had the largest number of small and medium enterprises, which consisted of 554,102 cases, or equivalent to 20.25 percent of SMEs. The second rank was Chiang Mai Province, which consisted of 93,785 cases or 3.39 percent of SMEs. The province with the smallest number of SMEs was Samutsongkram, which found 5,370 cases or 0.19 percent of the overall SMEs (OSME, 2014).

Considering the number of enterprises classified by sizes of enterprises and economic activities, it was found that important economic activities of SMEs included wholesale and retail, motor vehicles and motorcycle repair, which had a total of 1,206,497 cases. Of those, small and medium-sized enterprises constituted to 1,201,070 cases. 507,482 cases were industrial production, which consisted of 470,657 SMEs.

There were 305,495 cases of accommodation and food service activities, with small and medium-sized enterprises amounted to 282,940 cases (OSMEP, 2014).

Employment in all scales of enterprises of Thailand in the year 2013 accounted for a total of 14,098,563 people. 2,682,323 people were employed in large enterprises (LE) and 11,414,702 people were employed in small and medium-sized enterprises (SMEs), or 80.96 percent of total employment. The small enterprise (SE) had the largest proportion of total employment, with the percentage of 73.79 and had highest proportion to SMEs (91.14 percent). The employment of SMEs was widespread in the service sector the most, amounted to 5,099,237 cases or 81.18 percent of the country's service sector employment. It was the growing rate of 4.72 percent compared to employment in the service sector of SMEs (OSMEP, 2014).

Considering the employment of small and medium-sized enterprises distributed by sizes of business in 2013, it was found that in the production sector, the employment rate was only 23.65 per cent of total employment in the service sector of SMEs. Service sector had the highest proportion of employment, which accounted for 44.67 percent of total employment in SMEs sector. Wholesale, retail, automotive repair sectors had the employment rate of 31.67 percent of total employment of SMEs(OSMEP, 2014).

The figure of newly established enterprises in 2013 was 67,302, or 3,457 cases added to the figure of the year 2012 or 5.4 percent. The cancellation of enterprises the year 2013 was a total of 17,435 cases, which was 499 cases more than the figure in 2012 or 2.9 percent growing rate.

New juristic persons were established and the top five ranks of business types in 2013 included building construction (6,219 cases with registered capital of 63,804 million Baht), followed by recreation business (5,766 cases with registered capital of 2,612 million Baht), and real estate business (3,644 cases with registered capital of 57,458 million Baht), respectively (OSMEP, 2014).

The cancellation of juristic persons in 2013, classified by the top five ranks of businesses, were found in building construction business (1,271 cases with registered capital of 3,025 million Baht), followed by recreation business (1,217 cases with registered capital of 681 million Baht), and real estate business (488 cases with registered capital of 4,507 million Baht), respectively (OSMEP, 2014).

The closure of SMEs showed an increasing trend every year as illustrated in figure 1.1

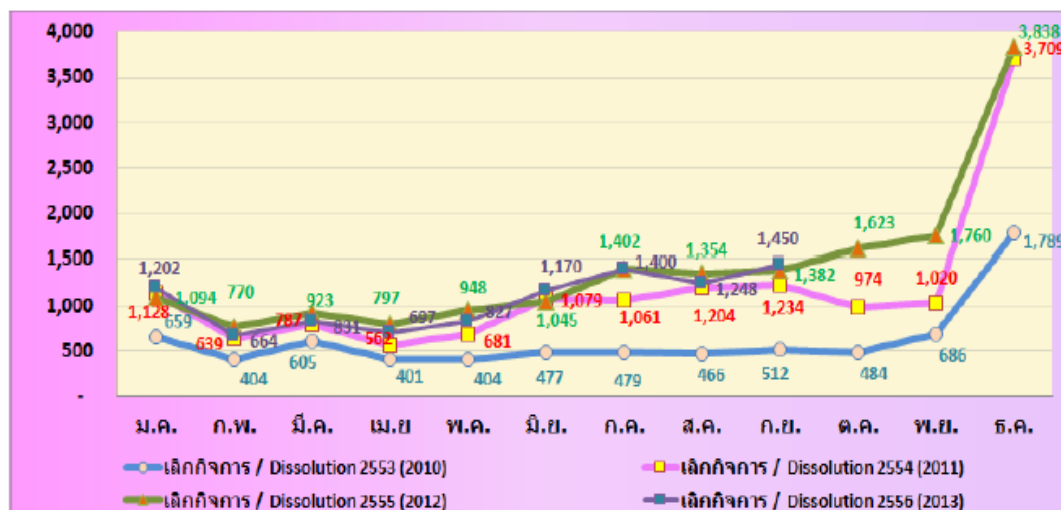


Figure 1.1 Closure of SMEs from 2010 – 2013(DBD, 2014, p.p.2)

Figure 1.1 illustrated the closure of SMEs which started from January 2010 to September 2013. The monthly analysis showed that the rate of closure of SMEs in 2012 was increasing and within 9 months period in 2013, the trend of closure was rising (DBD, 2014).

Small and medium-sized enterprises (SMEs) have important roles in changing and developing the country. SMEs are accounted for more than 90% of all enterprises out of the agricultural sector, which is an important source for employment and income generation in the country and for export. For instance, SMEs' development is a key tool attempting to solve poverty (FUNDES, 2002) SMEs are indicated to be one of the growth-accelerating tools for many countries. SMEs constitute more than 90% of all enterprises. For example, in USA for 99.7% (Henema and others, 2000) China for 99% (Cunningham and Rowley, 2008) Europe for 99% (Rauch and others, 2009) Holland for 95%, the Philippines for 95% and Taiwan for 96.5 % (Lin ,1998) similarly to Malaysia for 99.2% (NSDC, 2009)

These figures show that many countries around the world have accepted SMEs as an important business sector. Moreover, the economic cooperation in Asia Pacific indicates that SMEs are the major support to large enterprises because SMEs are major contributors to the expansion of business transactions and sustainable economic

development (NSDC, 2009). Overall, SMEs have played a major role in supporting the economy and have the tendency to become more important to the world economy. In ASEAN, Thailand is the only country putting the importance on SMEs, and having SMEs in the economic structure.

SMEs plays a key role in transition and developing countries. These firms typically account for more than 98% of all firms who are outside the agricultural sector, constitute a major source of employment and generate significant domestic and export earnings. As such, SMEs development emerges as a key instrument in poverty reduction efforts (OSMEP, 2014).

Globalization and trade liberalization have ushered in new opportunities as well as challenges for SMEs. Presently, only a small part of the SMEs sector is able to identify and exploit these opportunities and deal with the challenges. The majority of SMEs in developing and transition countries, however, has been less able or unable to exploit the benefits of globalization and, to add to the situation. They are frequently under pressure on the local or domestic markets from cheaper imports and foreign competition. A major objective of work to promote the development of the SMEs sector is therefore to change the balance between these two groups of SMEs and to equip SMEs for better meeting the challenges of globalization and to benefit from the opportunities. SMEs, due to their size, are particularly constrained by non-competitive real exchanged rates, limited access to finance, cumbersome bureaucratic procedures in setting up, the operating and growing a business, poor state of infrastructure and lack of effective institutional structures. The removal of these constraints is a daunting task calling for holistic SMEs support, such as an enabling environment for SMEs to develop the consisting of functioning macro, meso and micro level institutions (OSMEP, 2014).

On the basis of analysis to date, the following facts are found to be independent of the region and level of development among countries.

SME development requires a crosscutting strategy that touches upon many areas (such as ability of governments to implement the macroeconomic policies, capability of stakeholders to develop the conducive microeconomic business environments, inter alia, through simplified legal and regulatory frameworks, good governance, abundant and accessible finance, suitable infrastructure, supportive education, sufficiently healthy and flexibly skilled labor as well as capable public and private institutions, and the

ability of SMEs to implement competitive operating practices and business strategies). Thus, SMEs development strategy must be integrated in the broader national development strategy and/or the poverty reduction and growth strategy of transition and developing countries.

The development strategy of SME needs to include 3 procedures as follows.

1. Dialogue and partnerships between the stakeholders (public sector, private sector and civil society) fosters the ownership of these strategies and engenders them more implementable (by better addressing SME needs). This makes them to be politically credible, and sustainable.
 2. Access and integration into local, national, and global markets require substantial investments in sustainable institutional and physical infrastructure development and service delivery to SMEs in all areas, including those that are rural and/or remote. Continued dialogue and partnerships between stakeholders into implementation and review of supportive measures, particularly, those related to capacity of building in executing institutions, yields improved outcomes.
 3. Enhancing women's ability to participate in SMEs development should be taken into account at every level, as women account for an important share of private sector activity and contribute most to poverty reduction. Gender dimensions need to be mainstreamed throughout SMEs development strategies and programs, with additional specific, targeted initiatives directed at critical roadblocks.
- 3.1 Building up the trading and investment capacity of SMEs needs the followings (OSMEP, 2014).

SMEs must be able to respond quickly and efficiently to international market signals for taking the advantage of trade and investment opportunities and to reap the benefits of the international trading system. This means that they need to be competitive and productive. Effective business support systems are needed to enhance competitiveness and productivity of SMEs.

Development of an effective business supporting system is also a key condition for the success of both trading and investment capacity building. It requires the business support agencies (including financial institutions), which are customer-oriented and which have a demonstrated capability of penetrating the SMEs sector;

Take steps to increase the capacity of financial institutions to construct profitable SMEs lending programmes, while prioritizing the development of innovative solutions to collateral issues, such as the acceptance of more flexible forms of collateral, particularly for SMEs with few fixed assets. The use of group guarantees and loan guarantee schemes for SMEs; more emphasis on cash flow than Balance sheets in assessment of borrowing capacity; easy and effective loan application assessment methodologies;

Take steps to strengthen the business support system, through an intermediary role, by building capacities in business services, both public and private (e.g. market, product and process information provision, accounting, market analyses and research, legal advice, transportation, express delivery, advertising);

Develop a national strategy for export development and promotion, led by the appropriate Ministry, but which involves participation by all key stakeholders. The overall objective should increase the volume and value of exports and the number of exporting companies. The strategy should seek to address the needs of firms at different stages of export market development. It should also seek to integrate export support and promotion into a well-developed and effective business support system.

Set up a single export promotion agency, which could be combined with an foreign direct investments (FDI) function. Based on good practice in mature market economies, the establishment of such an agency should separate policy making from policy implementation. The agency should:

- Operate in a commercially oriented manner;
- Be result rather than procedure oriented;
- Be staffed by people with relevant, practical business experience;
- Seek to be customer-oriented,
- Include private sector representation on its management board,
- Be funded commensurate with its objectives.

Develop export support, which includes:

- The provision of information about specific markets and potential customers;
- Help in making contact with potential customers or appropriate public and private intermediaries and business service providers;
- Assistance with market visits.

Develop an SME-FDI linkage 'offer' which is, based on the 'fit-to-supply' principle and includes the following elements:

- Improving the flow of information about potential local suppliers to potential Multinational Corporations (MNCs) purchasers and about supply opportunities to potential suppliers through the development of a national website and/or business directories, supplemented by 'meet-the-buyer' events.
- Targeting suppliers on the basis of proven abilities and commitment to future improvements,
- Working closely with MNCs by inviting them to help potential suppliers to (1) understand their supply requirements (2) identify areas in which they have good opportunities to supply and (3) draw attention to weaknesses they must overcome in order to succeed. Such an intermediary role helps to build mutual understanding and trust between MNCs and potential supplier.
- Helping SMEs/suppliers to identify needs and then to access the public and private support services that they need.
- Offering some form of monetary incentive to MNCs and local SMEs to participate in the linkage programme. This includes the contributing to the salary costs of engineers & managers in MNCs who devoted time to supplier upgrading (Singapore); cash grants to promising suppliers to help with initial investment costs (Ireland); and subsidized training and consultancy necessary for enhancing supplier capability (Chinese Taipei).
- Developing capacity building programmes that include supply chain and cluster initiatives, which recognize the potential for developing

tiers of suppliers to maximize trickle down effects, including to micro enterprises as lower tier suppliers.

Setting up industrial parks, and when viable, business incubators in order to provide an appropriate infrastructure for SME suppliers, launch cluster development initiatives, where possible, through public-private partnerships.

3.2 Obviously, policy coherence and a joined-up government on the transition and developing country side are essential for the successful implementation of SME development strategies. Development partners need also to understand that trade and investment capacity building has to go hand in hand with market access and that improved coordination among donors, better attention to local conditions and further capacity building on their side are building blocks to success, if the world is going to adopt new approaches and invent new ways of working together to foster competitiveness of SMEs in transition and developing countries. The improvement of the policy coherence and aid effectiveness can be carried as follows (OSMEP, 2014):

Embed strategies toward the private sector and SMEs in countries' broader national development and poverty reduction programmes. To encourage and help SMEs associate to participate effectively in national dialogues that help to set the strategic frameworks for development, so that the contribution and the policy and support needs of SMEs are fully recognized as central to growth, employment and poverty reduction.

Strengthen SMEs capacities to improve their competitiveness in domestic, regional and global markets. Encourage and support private sector associations and enterprises able to provide information on markets and standards, advice on strategies, and access to technology and innovation coupled with appropriate financing packages. Promote tools, such as value chain analysis, which enable entrepreneurs to see what problems and challenges there need to address within and beyond their own borders and what kind of partners they need to help them.

Promote policy coherence at regional, national and international level. Working to support the whole of government approaches so that trade and investment policies and standard setting are aligned with development co-operation objectives and policies. Support completion of the Doha Round of multilateral trade negotiations,

including a reduction of barriers to trade in manufacturing and agricultural sectors with major benefits and opportunities for developing countries.

Maximize the spillover of management skills and knowledge from multi-national enterprises to local SMEs. Spillovers of knowledge and management skills to local firms are one of most critical benefits of foreign direct investment for host countries. Support policy frameworks and multi-national enterprise behavior that facilitate such spillovers and better document real-world cases to increase public understanding of the contribution of foreign direct investment in progression of development (OSMEP, 2014).

According to the Department of Industry dated 11th September 2002 (OSMEP, 2010), the definition of small and medium enterprises (SMEs) can be measured by employees' numbers or fixed assets. SMEs are categorized into four types which are:

1) Manufacturing Business: Small enterprise is considered as having less than 50 employees or fixed assets excluding lands less than 50 million baht; while medium-sized enterprise is considered as having 51-200 employees or fixed assets excluding lands more than 50 million baht but not over 200 million baht.

2) Wholesale Business: Small enterprise is considered as having less than 25 employees or fixed assets excluding lands less than 50 million baht; while medium-sized enterprise is considered as having 26-50 employees or fixed assets excluding lands more than 50 million baht but not over 100 million baht.

3) Retail Business: Small enterprise is considered as having less than 15 employees or fixed assets excluding lands less than 30 million baht; while medium-sized enterprise is considered as having 16-30 employees or fixed assets excluding lands more than 30 million baht but not over 60 million baht.

4) Service Business: Small enterprise is considered as having less than 50 employees or fixed assets excluding lands less than 50 million baht; while medium-sized enterprise is considered as having 51-200 employees or fixed assets excluding lands more than 50 million baht but not over 200 million baht (OSMEP, 2010).

1.2 Problems with SMEs

The importance of SMEs for Thai economy and society is at their role of creating tremendous economic values including job creation, value adding, and revenue creation. The roles are versatile, which includes manufacturers, distributors, and service providers. SMEs are the entrepreneurs that are responsible for creative and facilitating activities to economic transaction. SMEs, however, faces several problems as follows (OSMEP, 2014).

Firstly, from the marketing perspective, SMEs mostly response only the demand of local or domestic markets. They are lack of marketing knowledge in open markets, especially foreign markets. Secondly, from the financial accounting perspective, SMEs face the problems of loan from financial institutions for investing or expanding their investments, or managing their cash flows. These are due to the lack of systematic accounting. Thirdly, from the labor perspective, There are high rates of turn-over of labor forces. The quality of labor forces is not uniform and the development is not continuous. Consequently, the efficiency of production and the quality of goods are affected. Fourthly, from the management perspective, SMEs are lack of management knowledge or systematic management. The management is based on the experience of trial-and-error. Finally, from the manufacturing technology perspective, SMEs apply simple manufacturing technology because the investment is low and the entrepreneurs as well as workers are lack of basic knowledge which supports modern technology. The development of product forms and of good quality standard is thus affected (OSMEP, 2014).

Among the problems encounter by SMEs, the financial problem is one of the most critical issue. The following aspects are found with the financial problem.

1) Access to Government Support

The government has supported SMEs with many investment support schemes. One of the schemes is to reduce the size of investment and employment to motivate SMEs to propose their project to receive the investment support, but from the study, SMEs is only 8.1% of the enterprises receiving the invest support from the government (OSMEP, 2014).

2) Limitation of Information and News

In terms of funding support, nowadays Small and Medium Enterprise Development Bank of Thailand (SME Bank) Thai Credit Guarantee Corporation (TCG) are institutions that support both loan and guarantee, training and knowledge development, tax benefits, and financial consulting center for SMEs.

However, many different supporting units might be another factor causing newly born SMEs' entrepreneurs or those have already operated for a while to understand that the request process to get support is complicated and has many conditions (OSMEP, 2014).

3) Funding

SMEs' entrepreneurs tend to face problems of funding for their business expansion. Besides the credit and unclear business planning, as well as, ability to find assets or guarantee securities, another problem is their accounting system.

During the startup, most entrepreneurs do not prepare or focus on their accounting management by overlooking the accounting procedures causing confusing and disorganized account and their source of money could not be checked and their books are not correct according to the general acceptable accounting standard

As a result, when the enterprises request for a loan from the financial institutions in order to expand the business or for other reasons, they tend to be rejected or face some problems, mainly because of their creditability and because their documents presented as evidence supporting the loan request do not meet the standard set by the financial institutions. In some cases, the ambiguity of the accounting system also results in doubts about the entrepreneurs' business possibility whether they can operate well as shown in their business proposal to the financial institutions. Furthermore, there might be some doubts towards executives or business owners whether they will use the loan for different purposes and cause any damages to the business to the extent that they could not pay back the debts, and create new NPLs for the financial institutions (OSMEP, 2014).

The financial problems of small entrepreneurs have been alleviated by several authorities. Government authorities have initiated a number of assisting projects. For example, the department of industry promotion, minister of industry introduces a pilot

project, namely “The project of industrial competitiveness development using IT”, based on the budget in the fiscal year of 2009 (from October 2008 to September 2009). The objective of the project is to stimulate the use of web-based application software for the management of enterprises (DIP, 2011). The project of new entrepreneur creation is hosted by the department of industry promotion and is in collaboration with other government authorities. The project combines the expertise in promoting the development of entrepreneurs with the marketing, finance, investment and other related activities. It is aimed to support the educated and experienced persons as well as capable persons to become new entrepreneurs that they can successfully establish and continuously run their business (DIP, 2012). Kasikorn Thai Bank organizes a K-SME Care project, namely the project of sustainable management of SMEs entrepreneurs, based on the importance of SMEs. The project is aimed at developing Thai SME entrepreneurs to be capable and to have a robust and sustainable growth. The project is collaborated by country-wide leading academic institutions. The focus of the project is at promoting knowledge and creating business networks for SME entrepreneurs apart from providing only financial support. This is because of the desire to take part in the fostering and development of SMEs capabilities, thus leading to limitless growth of business. The project organizes the learning in form of lecture and experience sharing by leading businessmen and reputable lecturers in various areas including tax management, human resource management, out-of-box thinking, and leadership with organization management, as well as the learning by doing. The learning by doing is focused on case studies and business games, with the emphasis to enhance the decision making skill (K-SME, 2012).

The description above shows that the government authorities provide support in terms of policy. However, the policy is not successful. The integration of private sectors, e.g. financial institutions, to promote and support small entrepreneurs in terms of consultancy, training, or providing service of financial accounting software, is still not convincing them in employing their financial data to support the decision making. Financial solutions based on the mentioned aspects can help organizations in a short run. Despite the fact that government, private and research units have provided many existing financial tools, these instruments have not yet significantly assisted in solving SMEs’ problems.

The identification of root-causes of the SMEs financial problems is thus a fundamental step to solve the problems. Sampling on SMEs in Thailand has been performed.

The group of population was SME operators in Bangkok and its vicinity. They were entrepreneurs who participated in New Entrepreneurs Creation Project in coordination with the Department of Industrial Promotion (DIP, 2011). The population of this research consisted of 480 SMEs owners in total. The criteria for the selection of samples were the samples aged below 40 years old and the business successors. There were 94 SMEs owners. 20 samples were selected by the researchers. The data were collected by questionnaires. The main emphasis was how these SMEs utilized financial data in their decision making process. It was found that, out of 20 samples, 4 samples that were medium enterprises actually used the financial data in their decision making process whereas 16 samples; all were small enterprises, did not use the financial data when making decisions. It was also found that most of the owners of the enterprises were the successors in the second or third generation, acquired the Master of Business Administration (MBA) degree with technological knowledge. Most of them were not over 40 years old. According the questionnaires results, the entrepreneurs of small enterprises mostly operated their works based on their experiences and familiarity.

Using the framework of knowledge management to analyze the samples, it was found that the reasons why the entrepreneurs of small enterprises did not use the financial data in their decision making process were actually attributed to the mental model of the entrepreneurs even though they were well aware that financial data were crucial components in decision making process such as daily income-expenses, profit or loss, solvency of the enterprises, and financial status of the enterprises.

Since the critical issue of the SMEs financial problems is due to the behaviors and mental model of SMEs entrepreneurs against financial data. Consequently, the investigation of behaviors and mental issues are of the utmost importance. The change management of their behaviors and mental models can help them to use the financial data in their decision making process needs to be proposed as well.

1.3 Hypothesis and Assumptions

Since the financial problems in SMEs are determined by the behaviors and mentality, the knowledge management (KM) approach focusing on the mental model will be investigated as a solution tool. As will be discussed in later chapter, the cloud computing finance, which is based on the financial ladder of inference is expected to be a potential solution. Consequently, the following hypothesis and assumptions are imposed on this research.

- 1) Finance ladder of inference is an effective method for analyzing financial report.
- 2) Cloud computing finance which is based on the finance ladder of inference can facilitate the SMEs entrepreneurs in analyzing and making decisions related to financial issues.
- 3) Balance inquiry and advocacy support the construction of cloud computing finance.
- 4) Theories of behavior change can change the behavior of the SMEs entrepreneurs to use the cloud computing finance in their decision making process.
- 5) Left hand column is a tool for designing questionnaires and collecting data related to mental model and behaviors.

1.4 Research Objectives

- 1) To investigate and analyze the difficulties of SMEs, especially from the financial perspective.
- 2) To explore and propose an alternative knowledge management-based solution for SMEs to solve the financial perspective.

1.5 Research Questions

- 1) How can the finance ladder of inference be utilized and applied to analyze and explain the mental model of the SMEs on financial aspect?
- 2) How to develop good example mental model of SMEs on financial aspect by applying the ladder of inference technique?

- 3) How can the theory of behavior be applied to change the behavior of SMEs from the financial perspective and to design the appropriate contents?
- 4) How to develop the knowledge management based financial system as a tool to assist the SMEs under cloud computing context?

1.6 Definition of Terms Used in this Thesis

Cloud computing finance - The effective cloud computing finance is implemented according to the synthesized cloud computing architecture. Cloud computing architecture expedited the decision-making process. With consistent and coherent financial data, the entrepreneurs of the SEs were supported to adjust their mental model in regards to the financial information. The proposed mental model of SEs entrepreneurs thus positively adjusts the behavior of the SEs entrepreneurs. Cloud computing architecture, therefore, effectively supported the dynamics of accounting in decision making for SEs and linked with the decision making process. Cloud computing architecture provided benefits for SEs in terms of both economic activities as well as the decision making process required for the operations.

Financial ladder of inference - Financial ladder of inference is the tool used to identify the aspects of financial information in each step that relate to mental model. Financial ladder of inference comprised of 7 steps. The details of each step were explained below.

1. 'Observable' step perceived huge volumes of data which could be retrieved. The operators would specify or determine the conditions of access to the relevant financial documents so that related personnel were given a channel of access to financial information and knowledge directly.
2. 'Select data' was the step in which personnel can select or access to important financial documents. The selected data were specifically important information that had impact on the enterprises.
3. 'Add meaning' was the step that meanings of data were inputted in the form of statistical data (figures, tables, graphs, and pictures).
4. 'Make assumptions' step processed the details on the accounting equation of the selected data.

5. 'Develop conclusion' step captured and concluded the results from the assumption of the accounting equation.
6. 'Create/support beliefs' step formulated beliefs from the financial conclusions.
7. The last step was 'Take action.' Financial actions occurred from these financial beliefs.

1.7 Benefits from Research

- 1) A good model of financial ladder of inference that responds effectively to the finance of SEs in terms of income-expenses, operational results (Balance sheet), cash flow and business solvency (statement of cash flow), and financial statements (exhibiting financial status) is obtained.
- 2) Cloud computing finance and information technology with the following characteristics are obtained:
 - a) Facilitating the entrepreneurs of SEs in making financial decisions.
 - b) Improving the mental model of the entrepreneurs of SEs to alleviate their financial problems is obtained.
 - c) Being application software applicable to Mobile, Tablet, PC, and Notebook, available at all times and anywhere.

1.8 Organization of Thesis

Following this introduction, the next Chapter 2 describes the SMEs in Europe and Asia. The theories that comprise the research methodology are also discussed there. Chapter 3 presents research methodology which leads to the problem solution. The proposed solution is verified in Chapter 4 with the study cases. The conclusions and future works are addressed in Chapter 5.