THE IMPACT OF LEARNING ORGANIZATION AND COMPETITIVE ADVANTAGE ON ORGANIZATIONAL PERFORMANCE IN SMEs (THAILAND): AN EMPIRICAL STUDY

Pawinee Sumsiripong

A Dissertation Submitted in Partial
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ABSTRACT

Title of Dissertation	The Impact of Learning Organization and Competitive Advantage on Organizational Performance in SMEs (Thailand): An Empirical Study
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This research studied the impact of learning organization and competitive advantage on organizational performance by analyzing empirical data in order to develop and examine the goodness of fit of the causal model. The research data was collected from 227 samples from two industries: 1) textile and apparel manufacturers, and 2) footwear and leather manufacturers. In terms of the organizational unit of analysis, the researcher studied and analyzed the results of interviews in order to verify the data obtained from the literature review and conducted quantitative research in order to study the causal relation of the research framework. The collected data was analyzed by the computer programs SPSS and AMOS.

The findings of this research were as follows:

1) The causal model of learning organization and competitive advantage effect on the organizational performance of Small and Medium Enterprises in Thailand fit the empirical data (chi-square = 22.37, df = 14, p = 0.71, CFI = 0.992, GFI = 0.975, AGFI = 0.936, RMR = 0.028, RMSEA = 0.051).

2) Learning organization has direct positive effect on competitive advantage (effect size = 0.631) and competitive advantage has direct positive effect on organizational performance (effect size = 0.302).

3) Whereas learning organization has an indirect positive effect on organizational performance through competitive advantage (effect size = 0.191), it has no direct effect on organizational performance.

4) After adjusting the model, competitive advantage had a slightly greater effect on organizational performance and the relationships go in the same direction (effect size = 0.311) with higher statistical significance level ($p<0.001$).

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CHAPTER 1

INTRODUCTION

1.1 Statement and Significance of the Problem

Currently, the world is experiencing rapid changes in areas such as transportation, information technology, communication, and access to information. These are affecting lifestyles and attitudes across almost all societies, and are major contributing factors towards the world becoming a global village or "borderless world". A further effect of this "Globalization" is that many countries are forming regional economic alliances to strengthen their markets and develop competitive advantages over other regions. In line with this trend, Thailand has entered into the ASEAN Economic Community (AEC). However, as other ASEAN countries can now compete more freely in Thailand, this trade liberalization has also led to greater domestic competition. Such integration can make for greater competition, both between regions and within the same region.

Organizations which operate within an "open system" structure must regularly interact with and continually adapt to changes in their environment in order to remain competitive. This is especially so for small and medium enterprises (SMEs), which are important mechanisms for strengthening economic progress by generating revenue for the country. They are also a major source of employment, which makes them a mechanism for poverty-solving.

In 2012, there were 2,781,945 enterprises in Thailand. 98.50% of these were SMEs. These SMEs employed 80.40% of the total workforce, produced 37.00% of total gross domestic product (GDP) and accounted for 28.82% of total export value. It can be seen that SMEs play an extremely important role in the economic, social and cultural development of the country (Small and Medium Enterprises Master Plan Vol.3 (2012-2016); Small and Medium Enterprises Status Report 2013).

In addition to the competitive pressures resulting from Globalization, there are a number of other threats which can increase the operating risk of SMEs. These include political, economic, social, environmental, and transport risks (Small and Medium Enterprises Master Plan Vol.3 (2012-2016)). Over the period 2008 – 2011, the proportion of Thailand's GDP arising from SMEs constantly decreased (from 38.10% in 2008 to 37.80%, 37.10% and 36.60% respectively). The main causes of this were the economic crisis in 2008 and internal political conflict, which had a direct impact on orders from the main buyer countries (Small and Medium Enterprises Master Plan Vol.3 (2012-2016); Small and Medium Enterprises Status Report 2013).

In 2000, the government passed the Small and Medium Enterprises Promotion Act under which the Office of Small and Medium Enterprises Promotion (OSMEP) was established. This agency is responsible for coordinating government and state enterprises in the promotion of SMEs, as well as proposing policies and plans for their development. In 2012, the OSMEP produced the Small and Medium Enterprises Master Plan Vol.3 (2012-2016) with the aim of developing Thai small and medium enterprises to balanced and sustainable growth as the main driving force of the Thai economy by enhancing their competitiveness using knowledge, skill, technology, innovation, creativity and culture (Small and Medium Enterprises Master Plan Vol.3 (2012-2016)). It was held that enhancing competitiveness is an important factor in developing strengthens of SMEs.

In 2003, the Thai government embraced the concept of learning organizations. Section 3 item 11 of The Royal Decree of Rules and Procedures of Good Governance B.E. 2546 required that all state agencies must take responsibility for the development of knowledge and become learning organizations. They must show information awareness and be able to analyze knowledge in various fields and apply it correctly, quickly and properly in their activities. They must also promote knowledge development and create a vision which focuses staff on improving efficiency and learning together.

Learning organizations are more flexible, adaptable and timely, resulting in efficient operation and leading to competitive advantage (Arporn Lummana et al., 2011; Davenport & Prusak, 1999; Ellinger et al., 2002; Jashapara, 1993; Saroj O'pitagchewin, 2010; Weldy, 2009). Becoming a learning organization is considered

to be an important factor in enabling an organization to achieve its goals. Michael E. Porter believes that if a SME is able to increase its productivity, it will be in a position of competitive advantage. And if many enterprises in the same industry have increased productivity, that industry will be in a position of competitive advantage. And if many industries in a country have increased productivity, it will contribute to raise the overall competitiveness of the country.

Rapid changes and aggregation of markets through Globalization are not only resulting in increased competition, but also increased business. It is crucial that organizations become stronger to meet the competition and take advantage of these opportunities. A study of more than 500 SMEs found that the major causes of the dissolution of business were lack of experience, lack of business planning and lack of capability and knowledge management (Baumback, 1988; Hatten, 2009). The concept of the learning organization is important for every organization, and especially SMEs, to develop continuously and help to improve performance, achieve competitive advantage and succeed. An organization which does not learn will not survive. (Worrapat Phucharoen, 2005).

From the reviewed literature, it was found that there have been many studies on the concept of learning organizations. Many scholars have mentioned the link between learning organizations, competitive advantage and organizational performance. However, no empirical results were found providing concrete support for this relationship. This appears to be an interesting and worthwhile issue to study in order to support the theoretical concepts and to apply to SMEs which are the main mechanism of Thai economic development.

1.2 Research Questions

"Does being a learning organization have an impact on competitive advantage and the organizational performance of SMEs? If so, how does it impact?"

1.3 Research Objectives

The objectives of this research are as follows:

1) To study the relationship between being a learning organization and organizational performance in SMEs in intensive labour industries which have been active more than three years;

2) To study the relationship between being a learning organization and competitive advantage in SMEs in intensive labour industries which have been active more than three years;

3) To study the relationship between being a learning organization and organizational performance which has competitive advantage served as a mediator in SMEs in intensive labour industries which have been active more than three years.

1.4 Scope of the Study

The main focus of this research is on two endogenous variables and one exogenous variable, and the relationships between them.

The endogenous variables are:

1) Organizational Performance as determined from two observed variables: Financial Performance and Internal Process.

2) Competitive Advantage as determined from three observed variables: Cost-based Advantage, Product-based Advantage and Service-based Advantage.

The exogenous variable is the Learning Organization as determined from three observed variables: Organizational Learning, Organizational Characteristic and Knowledge Management.

The organizational units studied are legally constituted SMEs in intensive labour manufacturing industries which have been active more than three years. Businesses which had been in operation for less than three years were excluded. This is because start-up businesses often operate at a loss or sell at cost in the early years. The manufacturing sector was selected due to the fact that the average employment and average income per month of businesses in this sector are larger than businesses

in other sectors (Business Online (PCL.), 2012). The three major intensive labour industries in the manufacturing sector are:

1) Textile and apparel manufacturing;
2) Footwear and leather manufacturing;
3) Jewel and decoration manufacturing.

1.5 Definition of Terms

This research defines the meaning or definition of key terminology in the research as follows:

1) Learning Organization (LO) is defined as an organization which has the three components of a learning organization; namely organizational learning, organizational characteristic and knowledge management.

2) Competitive Advantage (CA) is defined as the advantages of an organization over its competitors in the aspects of cost-based advantage, product-based advantage and service-based advantage.

3) Organizational Performance (OP) is defined as outcomes from any activities in any processes of the organization.

4) Small and Medium Enterprises (SMEs) are defined as enterprises in the Production Sector (agricultural processing, manufacturing and mining), the Service Sector and the Trading Sector (both wholesale and retail) which are classified as such under Ministerial Regulations. These define the size of SMEs by “value of fixed assets” and “number of employees” as shown in Table 1.1. Organizations with either of these values in the small enterprises class are considered as a small enterprise.

Table 1.1 Classification of Small and Medium Enterprises

Business Types	Small Enterprises		Medium Enterprises	
	Employment	**Fixed Assets**	**Employment**	**Fixed Assets**
1. Production	Not more than 50 persons	Not more than 50 Million Baht	51 - 200 persons	More than 50 - 200 Million Baht
2. Service	Not more than 50 persons	Not more than 50 Million Baht	51 - 200 persons	More than 50 - 200 Million Baht
3. Wholesale	Not more than 25 persons	Not more than 50 Million Baht	26 - 50 persons	More than 50 - 100 Million Baht
4. Retail	Not more than 15 persons	Not more than 30 Million Baht	16 - 30 persons	More than 30 - 60 Million Baht

Source: The Ministerial Regulations Defined Amount of Employment and Value of Fixed Assets of Small and Medium Enterprises B.E.2545

5) Intensive Labour Industries are defined as manufacturing industries classified as such by the Office of Industrial Economics. The three major intensive labour are:

(1) Textile and apparel manufacturing;

(2) Footwear and leather manufacturing;

(3) Jewel and decoration manufacturing.

1.6 Benefits of the Study

1) Research findings will encourage SMEs to become a learning organization to strengthen their competitive advantage and increase the efficiency and effectiveness of organizational performance.

2) Research findings will provide a further body of knowledge and empirical data for academic study relating to learning organizations, competitive advantage and organizational performance.

3) Research findings will benefit the economic sector by strengthening the capability and competitive advantage of Thai SMEs in both national and international markets.

4) Research findings will benefit the government in formulating policies and strategies for the promotion and development of SMEs.

CHAPTER 2

LITERATURE REVIEW

This chapter examines the concepts, theories and research related to the variables to be studied (learning organization, competitive advantage and organizational performance) and the relationships between them. This body of knowledge is used to determine the definitions and research framework and develop the research hypotheses.

2.1 Concept of the Learning Organization

The concept of a learning organization was introduced by Chris Argyris who considered the relationship between learning and organizational behavior in his 1978 book “Organizational Learning”. In 1990, Peter M. Senge suggested some steps that could lead to an organization becoming a learning organization in his book “The Fifth Discipline: The Art and The Learning Organization” (Bureau of Agricultural Economic Research, n.d.; Panom Petchchatuporn & Taweeka Tangprapa, n.d.). Senge defined a learning organization as an organization where the organizational members have continually expanded their potential at individual level, group level, and organizational level to achieve their various missions and satisfy the organization’s needs. It is an organization where new ideas are readily accepted and organizational members continuously learn how to learn. He argues that a learning organization will enjoy a sustainable competitive advantage. (Senge, 1990). Since 1990, the concept of the learning organization has become widely accepted.

There are many different interpretations as to what is meant by a learning organization. The organization has experiential processes to create a body of knowledge regarding the relationship between actions and their consequences (Barnett, 1994; Nevis et al., 1995) in order to check and correct errors that always

occur in the organization (Argyris & Schon, 1978; Daft, 2001) by encouraging all members of the organization to learn continuously (Pedler et al., 1991; Senge, 1990), developing the skill of creation and distribution knowledge (Ellinger et al., 2002; Garvin, 1993, 2000) that will benefit the organization by response to the needs of stakeholders and support the main organizational goals (Dixon, 1994). Afterwards, put the knowledge to use by cultivating an organizational culture which stresses the need for continuous change (Barnett, 1994; Ellinger et al., 2002; Garvin, 1993, 2000), pushes all employees to feel a part of the organization, and suitably manages diversity, difference, and changing technology (De Geus, 1997) in order to enhance the ability of the organization to maximize effectiveness (Daft, 2001; Senge, 1990).

The difference between the learning organization and organizational learning are that the learning organization focuses on planning (the systems, principles, and characteristics which lead to becoming a learning organization), while organizational learning focuses on the actual learning, skill building, and use of the knowledge that take place (Saroj O'pitagchewin, 2010). Organizational learning is a part of learning organization (Marquardt, 2002). Tippawan Lorsuwannarat (2005) proposed that organizational learning is a basic process that leads to knowledge management. Organizational learning and knowledge management, when applied together, will lead to an organization developing into a learning organization as illustrated in figure 2.1.

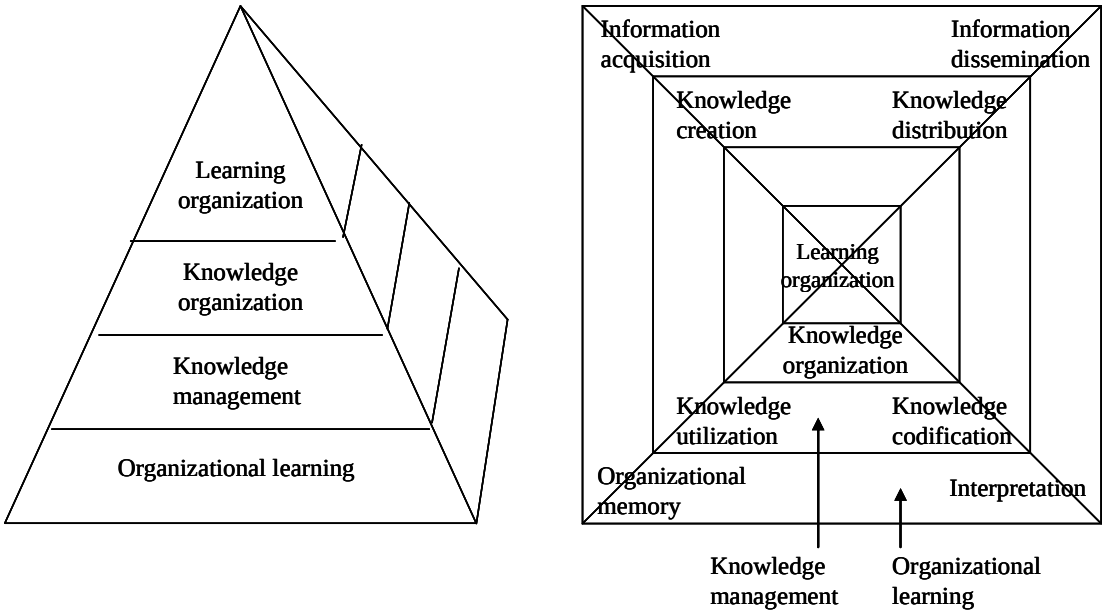

Figure 2.1 Relationships between Learning Organization and Knowledge Management

Source: Tippawan Lorsuwannarat, 2005.

Argyris and Schon (1978) identified two types of organizational learning (Tippawan Lorsuwannarat, 2010):

1) Single-Loop Learning, which is ability to identify and correct problems that arise during routine work under normal conditions. Although learning is used to identify and solve the problem, it does not look deeply into real cause of the problem or attempt to alter the structure or policies of the organization.

It involves the following 3 steps:

Step 1: Observing the situation;

Step 2: Comparing data between the observed situation and normal conditions;

Step 3: Revising when the comparison shows inappropriate results.

2) Double-Loop Learning, which is an extension to the single-loop learning model in which, when problems are detected, the learning seeks to review and improve the conventional practices, policies, and objectives of the organization. This form of learning allows the organization to develop and customize appropriate

standards and guidelines. It is a fundamental change related to the direction and values of the organization. There is an additional step in double-loop learning after step 2 above, in which the suitability of the conventional practices is questioned. These can then be changed in the final step if not suitable. Double-loop learning involves considering, reviewing, and questioning the policies, objectives, principles, and standards of the traditional work and revising them if necessary.

Kosol Deeseantham (2003) wrote that the learning of organizations can be divided into the following 7 types:

1) Task Learning, which focuses on the working procedures and guidelines to increase performance in specific task;

2) Systemic Learning, which focuses on the basic systems and processes of the organization;

3) Cultural Learning, which focuses on the values, attitudes, and beliefs of the organization as the cornerstone in increasing productivity in the workplace;

4) Leadership Learning, which focuses on the best way of managing the individuals, groups, teams, and departments within the organization;

5) Team Learning, which focuses on forming efficient teams;

6) Strategic Learning, which focuses on the basic strategy of the organization to find out how to develop practical guidelines;

7) Transformational Learning, which focuses on finding guidelines to shift the paradigm of the organization.

Senge (1990) expressed the opinion that learning organizations can adapt effectively in response the changing environment. He wrote that the learning of organizations can be divided into the following 2 types (Tippawan Lorsuwannarat, 2010):

1) Adaptive Learning (which is similar to single-loop learning) in which the learning is for management purposes and at a basic level related to routine work.

2) Generative Learning (which is similar to double-loop learning) in which the learning seeks to create something new. The learning requires a new worldview and will occur only when the organization allows questions to be asked about the mission, objectives, strategy, customers, and operations of the organization in order to open a new perspective.

Nystrom and Starbuck (1984) discussed several potential obstacles to organizational learning (Tippawan Lorsuwannarat, 2010):

1) The Success of Learning in the Past. Organizations which have succeeded in the past may cling to that success and not see a need for new learning or change. They then ignore warning signs, which will cause them to stagnate in the end (Dror, 1964).

2) Cognitive Structure. The system of relationships, beliefs, favors, expectations, and values which are used to consider problems or situations will impact on decisions.

3) Bureaucratic Organization. If there is no opportunity to argue the policies of the organization or command of the commander, people in the organization are likely to follow the policies and orders, even though they do not agree with them. Such organizations do not exhibit a high level of learning and often have mechanisms in place to protect themselves when they are criticized or poorly evaluated.

4) Reward and Sanctions Systems. If these are used for personal interest rather than to encourage performance and justice, they will have a negative effect and become learning barriers.

5) Groupthink. If individuals are pressured to follow the group so as to achieve a consensus rather than stating their views, this will lead to inefficient decision-making and a lack of learning, with little change in traditional practices when problems occur.

Senge (1990) proposed guidelines to develop learning organizations. He suggested that the following 5 disciplines were the key components of a learning organization:

1) Personal Mastery. Organizational members have to create mastery for themselves by emphasizing practical training and lifelong learning to increase their potential regularly; organizational learning occurs only when the members learn.

2) Mental Model. Beliefs and attitudes based on past experience become concept ideas which can increase personal ability to understand, analyze, and decide appropriately. These are the basis of emotional quotient (EQ).

3) Shared Vision. Creating a common image of the future among organizational members will encourage them to work towards the same goals.

4) Team Learning. This refers to group interaction among the members of a team. If members can freely discuss and understand their different views, this will bring unity and increase the group's learning ability and problem solving skills.

5) System Thinking. The organizational members have the ability to link many things systematically and rationally. First they consider the total system to make clear targets, then the various subsystems to make efficient operational plans. Good system thinking includes: (a) Strategic thinking (setting clear objectives and identifying various methods to achieve them); (b) Objectivity; (c) Always seeking opportunities for improvement.

In 1991, Pedler, Burgoune, and Boydell suggested that becoming a learning organization was necessary in order to achieve sustainable improvement. They identified the following key components of a learning organization:

1) Strategy. Organizational members should learn and participate properly in formulating the strategies and policies of the organization;

2) Looking In. This involves:

(1) Information Gathering. It is important to have a good database which can quickly provide accurate information to support efficient decision-making;

(2) Formative Accounting and Control. Turn everyone into a part of corporate asset responsibility;

(3) Internal Exchange. Freely exchanging data and knowledge helps team members to work together to meet the policies and objectives of the organization;

(4) Reward Flexibility. Different people have different reward needs and expectations;

3) Structure. Decentralization and flexibility are more effective in learning and improvement than reward or punishment;

4) Looking Out. This involves:

(1) Learning from outside the Organization. This involves data such as consumer and customer surveys, which can be used to improve operations and develop products and services;

(2) Learning between Organizations. This is exchanging information and knowledge with other organizations to identify the advantages and disadvantages of different ways of operating;

5) Learning Opportunities. This involves:

(1) The Organizational Learning Atmosphere. Encouraging interest in learning to solve problems and use any errors as a learning experience;

(2) Everyone having the Opportunity to Develop Themselves. Employees deciding for themselves what they want to improve, which in turn will them to develop themselves.

Garvin (1993) criticized the concepts of Senge (1990), arguing that his guide to becoming a learning organization that was too abstract and had little practical value (Tippawan Lorsuwannarat, 2005). He tried to make clearer guidelines and answer questions such as “How do I know if the organization is already a learning organization?”, “How can I change behavior to build a learning organization?”, “What policies and plans do I need to become a learning organization?” He focused on 3 issues: (i) It is important to know the building blocks necessary to create a learning organization; (ii) Management must understand the practical steps needed to put them in place; (iii) There must be a tool for assessing the level of organizational learning (Panom Petchchatuporn & Taweeka Tangprapa, n.d.; Tippawan Lorsuwannarat, 2005). He went on to present the following 5 principles for moving towards becoming a learning organization (Panom Petchchatuporn & Taweeka Tangprapa, n.d.; TRIS Academy of Management, 2013):

1) Systematic Problem Solving. This is reducing the gap between current situation and the learning organization requirements. All members must have skills in discovering problems and creatively seeking solutions. Concepts of quality management such as statistical process control, problem solving using the Deming (PDCA) Cycle, and fact-based management can used to support this;

2) Experimentation with New Approaches. This is systematically identifying and testing new knowledge by following a scientific process. He identified 2 types of experimentation: (i) Continuous experimentation, involving a continuing series of small experiments to develop new knowledge piece by piece. As well as having the required skills, this requires dedication and motivation form the experimenting team; (ii) New experimentation, using a large scale, more complicated experiment which involves change to the entire system. Such experiments are mostly used to develop

new capabilities for the organization, and the related personnel require a very high level of ability and skill;

3) Learning from Past Experiences and History. The organization must systematically review and evaluate past successes and the failures. This information must be documented in such a way that existing team members must have easy access in order to learn from it. This process of building learning to prevent the repeating of past mistakes is called “Santayana Review”;

4) Learning from the Experiences and Best Practices of Others. In addition to reviewing and analyzing its own experiences, knowledge and understanding can come from outside the organization. Important sources of knowledge can come from comparison with other organizations and getting information and suggestions from customers. Looking outside the organization in this way can be a valuable source of ideas, encouraging creativity and new perspectives. This process has been called “Steal Idea Shamelessly (SIS)” or “Benchmarking”;

5) Transferring Knowledge Quickly and Efficiently throughout the Organization. This is to prevent learning becoming stuck in some parts of the organization. Mechanisms to achieve this include dissemination of knowledge in writing and through illustrations, visits to other places, job rotation, education and training, and establishment of uniform standards. The aim of this is to reduce the gap between ideas, skills, and the good organizational performance.

Marquardt and Reynolds (1994) proposed the following 11 elements for becoming a learning organization:

1) Appropriate Structure. There should be a minimal hierarchy to encourage free communication and cooperation between departments;

2) Corporate Learning Culture. The organization should have a common set of values and policies which reflect the importance of learning and efficiency to all members;

3) Empowerment. A sense of responsibility and power to make decisions in problem solving should be disseminated throughout all levels of the organization;

4) Environment Scanning. The organization should be flexible and continuously consider and be prepared for external environmental changes that may affect their operations;

5) Knowledge Creation. The organization should continuously create and transfer knowledge gained to other organizational members through database and communication technology;

6) Learning Technology. Appropriate technology should be in place to collect, process, and distribute information quickly and accurately;

7) Quality. A major focus of the organization should be on quality management through continuous improvement based on the results of both intentional and unintentional learning;

8) Strategy. Using learning as an operational tool should be seen as an important strategy of the organization. Management should encourage workshops and formal learning and ensure that members perceive that learning is an important part of their job description;

9) Supportive Atmosphere. The organizational atmosphere should provide a high quality environment for the members. It should pay attention to humanity, equality, and respect for others, as well as encourage free and active participation in the workplace;

10) Teamwork and Networking. The organizational members should be aware of the need to share knowledge and operate and solve problems together. This will enable them to use their experience and specialization to create a valuable body of knowledge for the organization;

11) Vision. The organizational members should have common vision which they work towards turning into reality. This will lead to learning based on the common needs of the organization.

The Watkins and Marsick's Model (1997) includes the following 7 dimensions of a learning organization (Song et al., 2009):

1) Continuous Learning. Provide growth opportunities and continuing education so that everyone can learn to work;

2) Inquiry and Dialogue. Organizational culture encourages questioning, responding, and proving. It seeks to develop members' reasoning skills to help them express their opinion, and listening and asking skills to help them receive and respond to others opinion;

3) Team Learning. Learning takes place on a team basis to get different opinions and help team members learn from each other;

4) Embedded System. Creating, maintaining, and integrating a system for learning into work. The system should be readily accessible by all employees;

5) Empowerment. There is distribution of responsibility which creates incentive for members to assume responsibility and work towards a common vision;

6) System Connection. The organization connects with its communities to enable it to understand the environment, use the data to adjust work, and see the impact on the organization;

7) Strategic Leadership. Leaders use learning strategies (including the leader and winner models) to generate business results.

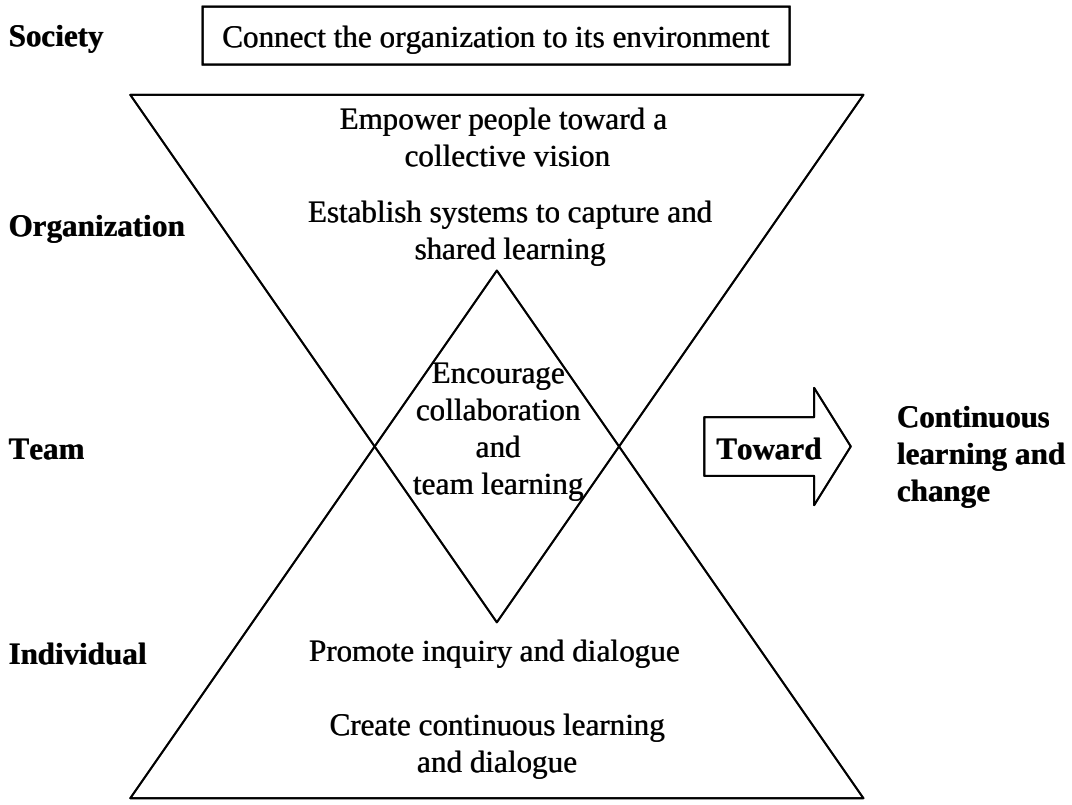

Figure 2.2 The Process to Become a Learning Organization

Source: Watskin and Marsick, 2003.

Marquardt (2002) proposed the basic elements that are important to develop a learning organization. They consist of 5 subsystems which are interrelated with each other as shown in Figure 2.3. If any subsystem is weak or missing, the other subsystems will be weakened as well. The 5 subsystems are as follows:

1) The Learning Subsystem. This is the core subsystem of the learning organization and overlaps each of the other subsystems. Learning happens at individual level, group level, and organizational level. It requires systems thinking, the ability to create mental models, personal mastery, self-directed learning and dialogue. He identified 3 types of learning: (i) Adaptive Learning, where the past is reviewed future actions are adjusted; (ii) Anticipatory Learning, where knowledge is gained by thinking about the future in various forms. Here the objective is to identify potential future opportunities then determine the guidelines to achieve them; (iii) Action Learning, which involves considering the present situation and using that knowledge to develop individuals, groups and organizations;

2) The Organization Subsystem. This is the group of people assigned to methodically working together. The significant elements are its vision, culture, strategy and structure;

3) The People Subsystem. This consists of all the managers and leaders, employees, customers, business partners and alliances, suppliers and vendors, and the community at large with whom or which the organization is involved;

4) The Knowledge Subsystem. This is how knowledge is managed in the organization. It deals with how knowledge is acquired or created, stored, analyzed and validated, transferred or disseminated, and applied;

5) The Technology Subsystem. This consists of the technology used to support members in accessing, managing and enhancing knowledge, exchanging information and learning together.

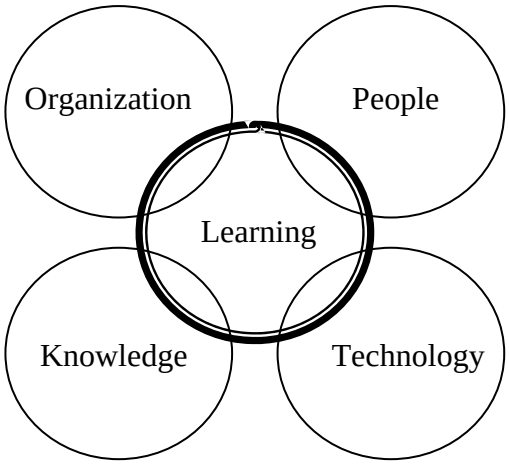

Figure 2.3 System Learning Organization Model
Source: Marquardt, 2002, p. 24.

The elements of a learning organization proposed by Tippawan Lorsuwannarat (2005) are shown in figure 2.4. They comprise:

1) Strategy. This refers to how knowledge is used to determine strategy. Management must understand the characteristics and nature of the organization in order to develop the most appropriate strategy. The chosen strategy must support and be compatible with the organizational vision;

2) People. This refers to human resource management. It deals with how the organization seeks to find employees who have the qualifications, ability, motivation, and approach necessary for knowledge management. It also includes manpower planning, personnel performance measurement, and human resource development strategies;

3) Culture. This is an important success factor for knowledge management. The organization must promote knowledge management as one of its main values. The knowledge management process will in turn reinforce the culture and encourage people within the organization to look always for solutions to problems and try to come up with new ideas;

4) Information Technology. This refers to the tools used for supporting knowledge management by storing, collecting, evaluating, maintaining, distributing, and using the knowledge gained;

5) Evaluation. Organizations need to create a system to evaluate their knowledge management results. In order to be useful in improving results, the evaluation model must be clearly defined;

6) Organizational Structure. This is closely related to knowledge management. For example, a mechanistic organization will have high formality which limits access to knowledge. Similarly, in a hierarchical or highly centralized organization employees may not feel empowered or have access the information required for learning. On the other hand, as explained below, an organic organizational structure will actively contribute to creating, sharing and using data to support the learning process.

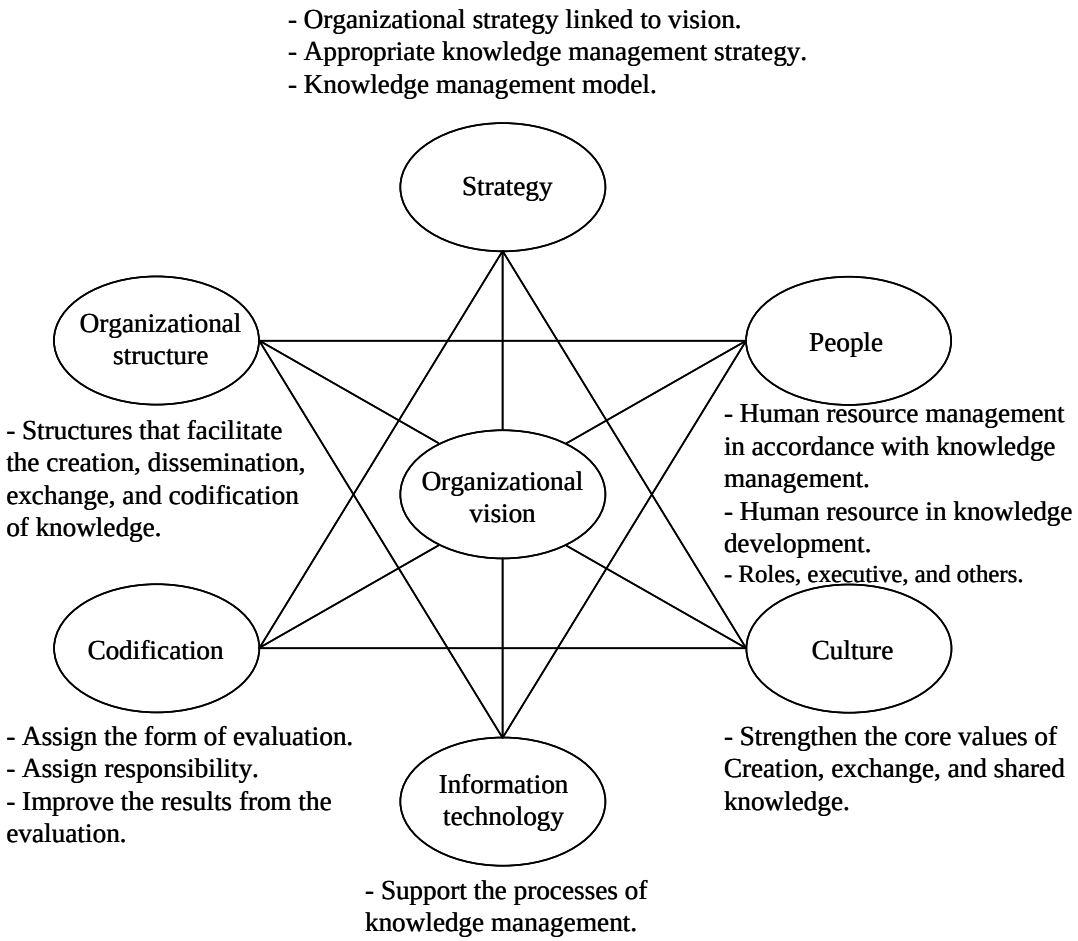

Figure 2.4 Elements of the Learning Organization

Source: Tippawan Lorsuwannarat, 2005.

Learning organizations typically have an organic organizational structure which is open and emphasizes innovation and improvement. Such organizations have several important characteristics which facilitate becoming a learning organization as follows (Tippawan Lorsuwannarat, 2010). These are:

1) Flexible Structure. It does not have a fixed structure like a mechanistic or hierarchical organization, and can easily be restructured to adapt to changing circumstances and harmonize with the environment;

2) Decentralization. Workers participate in decision making rather than this solely being the prerogative of managers and supervisors;

3) Team Work. The team helps in achieving the goals, and each team member is a generalist, capable of working in many areas;

4) Performance-Oriented. Rules and procedures are considered tools for working, and unnecessary or inappropriate rules can be adjusted based on experience to improve performance;

5) Informal Communication. Members can directly communicate with each other at all levels without going through a chain of command. Communication does not require formalization because this can take a long time and may not solve problems in time.

The ways in which organic organizations differ from the traditional organization are shown in Table 2.1.

Table 2.1 Comparison between Traditional Organization and Learning Organization

Duty	Traditional Organization	Learning Organization
Setting the direction of the organization.	The vision is set by senior management.	The vision comes from the members, but senior management is responsible for promoting a common vision and seeking to achieve it.
Processing ideas and contributing into practice.	Senior management decides what to do and workers follow.	Processing ideas and contributing into practice occur at all levels of the organization.
Nature of thinking in the organization.	Individuals is responsible their work and developing their skills.	Individuals understand their own work, relations and influence on others.
Conflict solution	Conflicts are solved by the power and influence of the chain of command.	Conflicts are solved by learning together and dealing with the different ideas throughout the organization.
Leadership and Motivation	The roles of leaders are creating visions, giving appropriate reward and punishment, and control the operators.	The roles of leaders are creating common visions, encouraging awareness of each operators' own power, inspiring commitment, and supporting effective decisions by empowerment and charismatic leadership.

Source: Tippawan Lorsuwannarat, 2010.

The results from review literature regarding the characteristics or basic elements of the learning organization can be divided into 3 aspects (organizational learning, organizational characteristic, and knowledge management) as shown in Table 2.2.

The organizational learning aspect is inclusive of the personal mastery, mental model, team learning, and system thinking of Senge (1990). It is also inclusive of the looking in and looking out of Pedler et al. (1991), the environment scanning, teamwork and networking of Marquardt & Reynolds (1994), the continuous learning, inquiry and dialogue, and team learning of Watkins & Marsick (1997), and the learning subsystem of Marquardt (2002).

The organizational characteristic aspect is inclusive of the shared vision of Senge (1990), the strategy, structure, and learning opportunities of Pedler et al. (1991), the appropriate structure, corporate learning culture, empowerment, learning technology, quality, strategy, supportive atmosphere, and vision of Marquardt & Reynolds (1994), and the embedded system, empowerment, system connection, and strategic leadership of Watkins & Marsick (1997). It is also inclusive of the elements of learning organization of Tippawan Lorsuwannarat (2005) including strategy, people, culture, information technology, evaluation, and organizational structure. The three subsystems of Marquardt (2002) consisting of organization subsystem, people subsystem, and technology subsystem are also included in this aspect.

The knowledge management aspect is inclusive of the 5 principles of Garvin (1993) consisting of systematic problem solving, experimentation with new approaches, learning from their own experiences and past history, learning from the experiences and best practices of others, and transferring knowledge quickly and efficiently throughout the organization. It is also inclusive of the knowledge creation of Marquardt & Reynolds (1994) and the knowledge subsystem of Marquardt (2002) as well.

A summary of all the learning organization indicators identified in this review of literature is shown in Table 2.3 below.

Table 2.2 Comparison of Learning Organization Concepts

Elements of Learning Organization	Marquardt (2002)	Tippawan Lorsuwannarat (2005)	Watkins & Marsick (1997)	Marquardt & Reynolds (1994)	Garvin (1993)	Pedler et al. (1991)	Senge (1990)
Organizational Learning	- Learning subsystem	-	- Continuous learning - Inquiry and dialogue - Team learning	- Environment scanning - Teamwork and networking	-	- Looking in - Looking out	- Personal mastery - Mental model - Team learning - System thinking
Organizational Characteristic	- Organization subsystem - People subsystem - Technology subsystem	- Strategy - People - Culture - Information technology - Evaluation - Organizational structure	- Embedded system - Empowerment - System connection - Strategic leadership	- Appropriate structure - Corporate learning culture - Empowerment - Learning technology - Quality - Strategy - Supportive atmosphere - Vision	-	- Strategy - Structure - Learning opportunities	- Shared vision

Table 2.2 (Continued)

Elements of Learning Organization	Marquardt (2002)	Tippawan Lorsuwannarat (2005)	Watkins & Marsick (1997)	Marquardt & Reynolds (1994)	Garvin (1993)	Pedler et al. (1991)	Senge (1990)
Knowledge Management	- Knowledge subsystem	-	-	- Knowledge creation	- Systematic problem solving - Experimentation with new approaches - Learning from their own experiences and past history - Learning from the experiences and best practices of others - Transferring knowledge quickly and efficiently throughout the organization	-	-

Table 2.3 Summary of the Indicators regarding the Learning Organization

Author	Create Continuous Learning Opportunities	Promote Inquiry and Dialogue	Encourage Collaboration and Team Learning	Establish Systems to Capture and Share Learning	Empower People Toward a Collective Vision	Connect the Organization to Its Environment	Provide Strategic Leadership for Learning	Acceptance of Risk	Positive Attitudes towards Changes	Investment in Employee Development	Systems Thinking	Mental Models/Culture	Shared Vision/Mission	Personal Mastery	Performance Upgrading	Learning from Experiences	Combining Different Technologies	Dynamic Learning	Learning Motivation	Knowledge Creation
Davis & Daley (2008)	✓	✓	✓	✓	✓	✓	✓													
Herrera (2007)	✓	✓	✓	✓	✓	✓	✓													
Yang et al. (2004)	✓	✓	✓	✓	✓	✓	✓													
Therin (2003)		✓		✓										✓		✓	✓			
Weldy (2009)	✓	✓	✓	✓	✓	✓	✓													
Arporn Lummana et al. (2011)			✓								✓	✓	✓	✓						
Niti Rattanaprichavej (2010)																	✓	✓	✓	✓
Djonlagic et al. (2013)			✓			✓		✓	✓	✓	✓									
Naveed (2009)			✓	✓			✓				✓	✓	✓	✓						
Dokukina (2003)			✓								✓	✓	✓	✓						
Sudharatna & Li (2004)		✓		✓	✓							✓		✓	✓					
Costa & Cabral (n.d.)														✓						✓

2.2 Concept of Competitive Advantage

Competitive advantage is one of reasons that some organization work better than others. Competitive advantage was defined as the abilities to take advantage of some resources (Smith et al., 1996) in a company's operations to get better results than their competitors or the same strategy group or the same industry group (Christensen & Fahey, 1984; Kay, 1993). There are many operational advantage indicators such as higher gross profits, better return on assets, and creation of a more valuable resource (e.g. a famous brand or unique product). Every organization should have at least one advantage over the competition in its market. An organization with no such advantage will be driven out of the market by its superior rivals. In conclusion, competitive advantage means anything that an organization is better than their competitors or those in the same industry group ("Strategic Management Insight", 2013).

In 1980, Michael E. Porter discussed formulation of a competitive advantage strategy in his book "Competitive Strategy; Techniques for Analyzing Industries and Competitors" by using a five-force model to analyze the competitive situation within an industry. These forces define the ability to make a profit in an industry. Strong forces will reduce the ability to make a profit; weak forces will increase the ability to make a profit. Thus an organization needs to set strategy for finding a position in the industry which can protect it from the forces and benefit the organization. The model is widely used in industry structure for creating bargaining power with suppliers and customers, for analyzing threats from new entrants, substitute products, and current competitors. Knowing its strengths and weaknesses can help an organization to better understand its competitive situation. This will allow it to make better strategic decisions by building on the strengths to enhance competitive advantage. The five-force model is of most value in assessing similar strategic groups operating in the same industry. It is of less value in analyzing groups that have vast strategic differences. (Tippawan Lorsuwannarat, 2013).

The five-forces identified by Porter are:

1) Competitive Rivalry within the Industry. This occurs where one or more organizations initiate change to obtain an advantage over their competition. This will

have a negative impact on the competition, which may lead to retaliation. The severity of competitive rivalry can be assessed from the following factors: (i) Number and relative size of competitors; (ii) Industry growth rate; (iii) Fixed storage costs; (iv) Switching costs; (v) Ability to adjust capacity; (vi) Strategic diversity of competitors; and (vii) Exit barriers;

2) Threats of New Entrants. New competitors to an industry increase its production capacity, which may reduce the market share of existing producers. They may also force up the price of production resources. The severity of the threats from new entrants can be assessed from the following factors: (i) Economies of scale; (ii) Product differentiation; (iii) Capital requirements; (iv) Switching costs; (v) Access to distribution channels; (vi) Cost disadvantages independent of scale; and (vii) Government policy;

3) Threats of Substitute Products. Sometimes organizations may face the threat of substitute products. The alternative may be temporary substitution (such as customers switching to a similar product when the price is higher) or permanent replacement (such as the move in some clothing products from wool to fiber). The substitute products may have an advantage because they are seen as more modern or embrace more recent technology. This can represent a serious threat, and organizations should continuously monitor the market and carefully analyze potential substitute products as they emerge;

4) Bargaining Power of Customers. Buyers can have a major effect on the stability and survival of a business. It is to be expected that some customers will push for lower prices and/or improved products and services. The level of bargaining power of a customer can be assessed from the following factors: (i) Customer purchase volume; (ii) Backward integration; (iii) Number of competitors; (iv) Substitute product availability; and (v) Switching costs;

5) Bargaining Power of Suppliers. Suppliers can also have a major effect on the stability and survival of a business. They can affect profitability through their pricing policies, the efficiency of production through late delivery, and product quality through substandard raw materials. The level of bargaining power of a supplier can be assessed from the following factors: (i) Our purchase volume;

(ii) Forward integration; (iii) Level of supplier dominance; (iv) Substitute product availability; and (v) Switching costs.

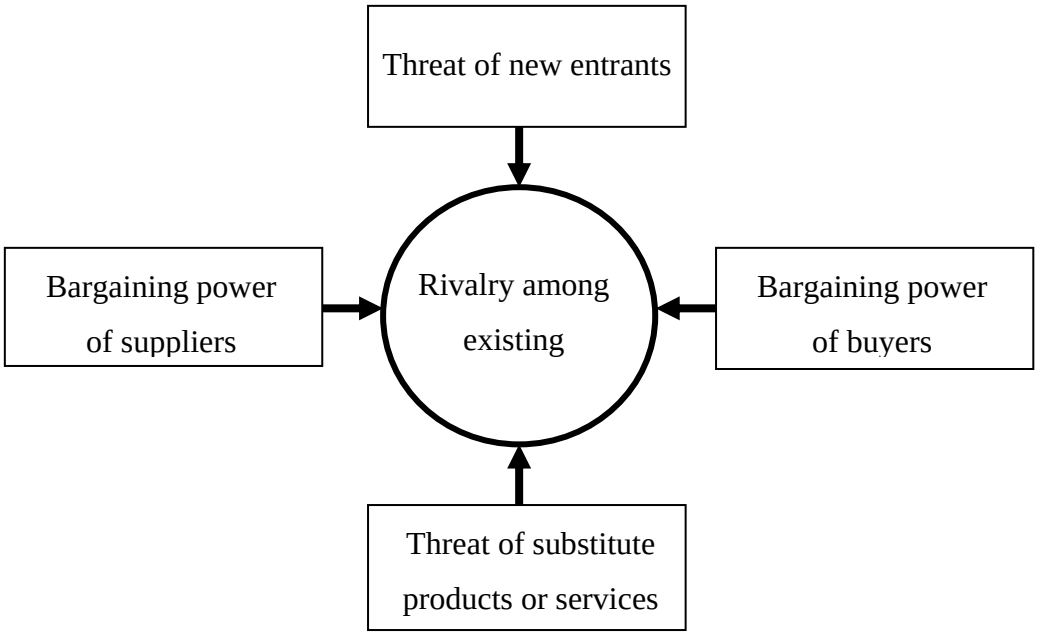

Figure 2.5 Five Forces Model
Source: Porter, 1980.

Later, the five-force model was expanded to include a sixth force in recognition of the impact of government policies and public perception on business operations and the ability to compete (Investopedia, n.d.).

6) The Government Role and the Public Perception. Organizations must have regard to the government policies, regulations, and laws. Additionally, they must take into account the perception of the public in terms of how well they comply with government requirements. For example, some organizations with otherwise high growth potential are limited by government controls on advertising, packaging, environmental issues, etc. (“The CEO game”, 2009).

Porter (1985) proposed a competitive advantage theory using five-force model, a model of generic industry structure, and a strategic groups concept (or strategic sets) (Tippawan Lorsuwannarat, 2013).

Porter's model of generic industry structure identified the following 5 types of industry (Tippawan Lorsuwannarat, 2013):

1) Emerging Industries, associated with new technology or satisfying a change in the needs of the market, in which there is considerable innovation and little by way of standard development;

2) Fragmented Industries, consisting of many companies of similar size;

3) Mature Industries, in which there is little innovation because the industry has a large body of satisfied repeat customers who see little need for change;

4) Declining Industries, in which market demand is steadily falling;

5) Global Industries, where marketing is conducted at an international level.

The main features of each industry type are:

1) Level of Concentration. The relative size of industry participants can lead to different performances, especially as a result of economies of scale. Larger companies have the ability to produce higher volumes at a lower unit cost;

2) Level of Product Differentiation. Some industry types encourage participants to seek competitive advantage through product differentiation. Such companies can charge a higher price than competing companies to the customers who like their different products (Chamberlain, 1993 as cited in Tippawan Lorsuwannarat, 2013);

3) Barriers to Entry. These include economies of scale, product differentiation, cost advantage, contrived deterrence, and government regulations relating to entry to the industry. The greater the barriers, the higher the cost of coming into the industry (Bain, 1956);

Porter's "strategic groups" relate to participants in an industry which adopt similar strategies to create competitive advantage. The competition within the group will be more severe than the competition outside. Porter identified three basic strategies that can be followed (Dess & Davis, 1984; Kim & Lim, 1988; Miller & Dess, 1993):

1) Cost leadership strategy;

2) Differentiation strategy;

3) Focus strategy, which can be narrow (offering specialized products tailored to a niche market) or wide (targeting the market at large).

Some scholars later disputed Porter's strategic group classifications, arguing that in the modern world organizations use a mix of strategies because customers seek satisfaction across several dimensions such as quality, convenience and price (Chrisman et al., 1988; Hill, 1988; Murray, 1988). Porter accepted that the environment had changed from the stable conditions of 1980 in which flexibility was not an important survival factor (Anderson, 1997). This led him to develop his theory of competitive advantage using a combination of the five-force model, generic industry structure, and strategic groups concept. Competitive advantage depends on the ability of the organization in the following three aspects:

1) Cost Advantage. An organization can produce goods or services at lower cost than its competitors. The cost advantage may reduce where the market is very large and requiring similar products. A lower cost for some products may not enough to produce an overall cost advantage; it relates to the total costs of the organization across all product lines;

2) Differentiation Advantage. The products or services of the organization are different to its competitors. This makes buyers prefer their products and be willing to pay a higher price. There are several differentiation factors such as physical shape, benefits, technology, or brand image;

3) Quick Response. This reflects the flexibility of the organization in adapting to changing market conditions. It relates to both cost and differentiation advantage. Responses include developing new products, modifying existing products, and administrative decisions that directly affect to customers. If products are developed or updated continuously and customer needs and preferences are responded to quickly, customers will be willing to pay higher prices.

A summary of all the competitive advantage indicators identified in this review of literature is shown in Table 2.4 below.

Table 2.4 Summary of the Indicators regarding the Competitive Advantage

Author	Cost-based advantage	Product-based advantage	Service-based advantage	Marketing-based advantage	Internal integration	External integration	Quality advantage	Innovation advantage	Flexibility	Resource	Org'l readiness-to-change	Responsiveness	Competencies	Opportunities capitalized on
Ismail et al. (2010)	✓	✓	✓											
Fahy (2000)			✓											
Giménez & Ventura (2003)					✓	✓								
Morgan et al. (2004)		✓	✓											
Wang & Lo (2003)	✓													
Neely (2005)	✓													
Phongpetra & Johri (2011)	✓													
Nham Phong & Yoshi (2010)	✓						✓	✓						
Li et al. (2006)	✓	✓	✓	✓			✓							
Ismail et al. (2012)	✓	✓	✓											
Newbert (2008)	✓												✓	✓
Munizu (2013)	✓	✓	✓	✓										
Agha et al. (2012)									✓			✓		
Majeed (2011)													✓	
Al-alak & Tarabieh (2011)		✓		✓										

Table 2.4 (Continued)

Author	Cost-based advantage	Product-based advantage	Service-based advantage	Marketing-based advantage	Internal integration	External integration	Quality advantage	Innovation advantage	Flexibility	Resource	Org'l readiness-to-change	Responsiveness	Competencies	Opportunities capitalized on
Zhou et al. (2009)				✓				✓						
Naveed (2009)	✓		✓					✓						
Sudharatna & Li (2004)											✓			
Martinette & Obenchain-Leeson (2010)		✓		✓										
Mahmood & Hanafi (2013a)		✓		✓										
Martinette & Obenchain-Leeson (2012)		✓		✓										
Musasizi (2010)										✓				

2.3 Concept of Organizational Performance

Organizational performance means the sum of the final results of all activities and processes in an organization. Management is required to maximize performance in all aspects the organization, whether in relation to its departments, missions or goals. Manager must understand the factors affecting organizational performance in order to raise its level (Napaporn Kuntanapa, 2002). Organizational performance is a generally accepted measure of the success or failure of an organization (Campbell, 1990). An important factor affecting organizational performance is the ability to measure it (Drucker, 1995), but this can also be an important weakness of the organization (Surasit Wachirakajorn, 2010).

There are many definitions of organizational performance, which can be divided into 3 types (Tippawan Lorsuwannarat, 2013):

1) Achievement. Scholars with this view, for example, Bernardin et al. (1995), give the meaning of performance as the results of working that are strongly linked to the strategic goals of the organization, the satisfaction of the clients, and the economic benefit. Daft (2001) describes it as the ability of the organization to achieve its goals by using its resources efficiently and effectively. Richardo (2001) stated that performance has a wider meaning than productivity, and includes efficiency, effectiveness, economizing, quality, consistency, and others normative factors.

2) Working Process or Working Behavior of the Organization. This view sees the meaning of organizational performance as a process or behavior associated with working; a method of organizing teams and individuals to accomplish their work. Campbell (1990) thinks that behaviors should be classified according to results (Surasit Wachirakajorn, 2010).

3) Success of Work and Behavior of Work. This is a mixed model which includes both behaviors and results. Behaviors occur from practitioners who convert performance from abstract to action. The behaviors may be considered as results which are the product of thought and physical effort in their work. In practice, it the results and the behaviors should be separately considered. Examples of scholars in this group are Brumback (1988) and Hartle (1995). This interpretation is quite popular and widely applied.

Measuring organizational performance is necessary whether a public, private or non-profit organization. It is an indicator of whether or not the organization has achieved its objectives, and of how much it has achieved. This enables management to better understand and improve future performance, as well as to study and predict the effects of potential changes in the organization (March & Sutton, 1997 as cited in Tippawan Lorsuwannarat, 2013). The most commonly used organizational performance measurements include efficiency, effectiveness, and organizational ranking in the industry. Organizational efficiency can be measured by considering the output divided by input ratio. Organizational effectiveness can be measured by considering the suitability of the organizational goals and how well the organization achieves them. Another approach is to look at the external resources used in production, and measure the organization's ability to transform these inputs into outputs (Napaporn Kuntanapa, 2002).

In the past, organizational performance was solely measured using financial indicators gathered through the business's accounting and cost systems (Kennnerley & Neely, 2002). However, such measurements have several limitations such as lack of attention to external factors (Kaplan & Norton, 1992), lack of strategic focus (Skinner, 1994), the tendency to reduce the importance of continuous improvement (Johnson & Kaplan, 1987; Lynch & Cross, 1991), and the inclination to focus on individual performance only (Lai et al., 2002). These limitations led to the development of other concepts and frameworks. Keegan, Eiler, and Jones (1989) proposed a framework of performance measurement based on the balances between both internal and external, and financial and non-financial measures. Lynch and Cross (1988 - 1989) proposed a framework called the "Performance Pyramid" which integrated different measurement levels in the organization together. Fitzgerald, Johnson, Brignall, Silvestro and Voss (1991) proposed a framework to measure organizational performance by looking separately at result indicators (such as financial performance and competitiveness) and determinant indicators (such as quality and innovation). It can be seen that modern organizational performance measurement is a simultaneous multi-dimensional process which uses non-financial indicators together with financial indicators. Non-financial indicators mostly relate to customers and quality. An additional important concept that has emerged in recent

times is measurement of performance in terms of the objectives and the goals of the organization. Kaplan & Norton (1993) and Bourne, Mills, Wilcox, Neely and Platts (2000) stated that designing and specifying the indicators for measuring organizational performance should identify the key objectives to be measured. Financial and non-financial organizational performance can be divided into 4 groups: (i) product and service; (ii) customer focus; (iii) financial and market place; and (iv) operational (Lertchai Suthunmanon, 2004).

Tracking tools for measurement of organizational performance include (Napaporn Kuntanapa, 2002):

1) Financial Control. The main goal of business is making a profit, and good financial controls can help ensure that they achieve it. These provide the business with the ability to continually monitor its position in important areas such as: (i) assessing ongoing profitability and margins; (ii) ensuring that the business has enough cash for operations; (iii) checking that debt level is not too high; (iv) making sure that assets are being used efficiently; and (v) using new tools such as market value added (MVA) to assess whether the market value of the company that is more than the capital contributed.

One of the most important aspects of financial control is development and use of budgets. By comparing deviations between actual and expected results, companies can take immediate action to address problem areas. For example, if monthly personnel costs are found to be exceeding budget for no apparent reason, a freeze on new hiring or reduction in staff working hours could be considered.

Another important aspect of financial control is analysis of financial ratios. These are obtained from financial statements, and can be used to assess the financial position and performance of the organization in relation to past results and industry averages. Some of the key sets of financial ratios are:

(a) Liquidity Ratios, which show the business's ability to meet financial obligations. The two most important ratios are the "current ratio" and the "quick ratio". The current ratio demonstrates the ability to meet the current liabilities of the organization, taking into account available funds and inventory; a high value means high liquidity. The appropriate ratio will vary depending on the industry. However, a current ratio of around 2.0 is generally considered to be a safe target. The quick ratio

or acid-test ratio demonstrates the real liquidity of the organization by measuring the ability of the business to meet current liabilities from its immediately available funds only (i.e. excluding inventory); again, a high value means high liquidity;

(b) Activity Ratios, which measure the efficiency of the business in turning various accounts within its balance sheet into cash. For example: (i) the “accounts receivable turnover” and “average collection period” demonstrate the business’s ability to manage debtors; a high value shows that the company can collect outstanding debts quickly; (ii) The “fixed asset turnover” and “total asset turnover” ratios indicate how efficiently the business is using its assets to generate sales; a low value means the business is not using its assets efficiently; (iii) “Inventory turnover” shows the speed of change of products to income; high value means the organization can quickly turn inventory to money;

(c) Leverage Ratios, which are used to assess a business’s financing methods and indicate its ability to meet its obligations. Three of the most commonly used leverage ratios are: (i) The “debt to total assets ratio” indicates the relationship between the level of debt and the total capital of a company; a high value means a high level of leverage, which may indicate that the company could have difficulty repaying its debts; (ii) The “debt to equity ratio” indicates the relationship between the level of long term debt and the stockholder equity of a company. Unlike the debt to total assets ratio, short term assets and liabilities are not included in the calculation; again, a high value may indicate a high level of risk. Debt to equity ratio “norms” vary from industry, so comparisons should only be made with similar businesses; (iii) The “time interest earned ratio” indicates the ability of a business to meet its interest payments from income;

(d) Profitability Ratios, which are used to examine a business’s ability to generate profits. These include: (i) The “gross profit margin” shows the organizational performance efficiency in production and pricing; a high value means that income is greater than cost; (2) The “net profit to net sales ratio” indicates the profit after all costs and taxes have been accounted for; a high value means that management have the ability to operate the business effectively; (3) The “return on assets” ratio (ROA) shows the return on investments in assets; a high value means that management have the ability to manage assets effectively; (4) The “return on equity” ratio (ROE) shows

the return investments by shareholders; again, a high value means that management have the ability to manage shareholder funds effectively

2) Information Controls. Information is a key factor in monitoring and evaluating the performance of an organization. Management need to have accurate information in appropriate time. Information which is incorrect, incomplete or delayed can become a major barrier to the effective operation of an organization.

3) Management Information System (MIS). Although such systems can operate by hand, nowadays raw data (facts without analysis) is usually stored on a computer in the form of a database. Various forms of technology can then be applied to analyze the data to provide valuable management information.

4) Balanced Scorecard (BSC). This is an important tool for measuring performance and assessing whether an organization is achieving its key business strategies and objectives. It is also a tool that allows organizations to assess different strategies, performing the most efficient and successful (Surasit Wachirakajorn, 2010). This tool considers 4 aspects of an organization: (i) The financial perspective, which is linked to profit achievement and can be measured by indicators such as revenues, sales growth and cash flow (Tippawan Lorsuwannarat, 2013); (ii) The customer perspective, which involves indicators such as customer satisfaction, customer retention, customer profitability, and market share in the target market; (iii) The internal process perspective, which involves the processes within the organization which are critical to meeting customer needs and achieving a good return; (iv) The learning and growth perspective, which involves the personnel systems and processes which are important to create learning and promote growth of the organization.

From reviewing the literature, it was found that although financial performance measurement is very important to the organization, it has the following important limitations (Surasit Wachirakajorn, 2010):

1) It is not appropriate in businesses in which intangible assets are key factors in creating competitive advantage, as these cannot be evaluates by financial or accounting indicators;

2) Financial measurement alone cannot solve problems or predict future performance when defects or problems are found;

3) Overall financial indicators are not enough, as they do not separate out or consider the performance of the various departments and teams working in the organization;

4) Focusing only on financial indicators can cause managers to focus too much on short-term performance, rather than seeking to strengthen long term competitiveness;

5) Focusing too only on financial indicators does not encourage management and staff to try to improve their individual efficiency, as financial reports are specific documents that are often hard to ;

As mentioned above, organizational performance measurement cannot be considered by financial indicators alone. It has to be considered in a multi-dimensional way, looking at both financial and non-financial aspects.

A summary of all the organizational performance indicators identified in this review of literature is shown in Table 2.5 below.

Table 2.5 Summary of the Indicators regarding the Organizational Performance

Author	Sales-based performance	Organizational-based performance	Market performance	Financial performance	Costs reductions	Stock-out reductions	Lead-time reductions	Export Performance	Knowledge performance	Innovation performance	Customer perspective	Internal process perspective	Labor productivity	Learning and grow perspective	Satisfaction of owner
Ismail et al. (2010)	✓	✓													
Fahy (2000)	✓		✓	✓											
Giménez & Ventura (2003)					✓	✓	✓								
Majeed (2011)				✓											
Morgan et al. (2004)								✓							
Wang & Lo (2003)	✓														
Neely (2005)	✓														
Phongpetra & Johri (2011)			✓	✓											
Nham Phong & Yoshi (2010)				✓											
Li et al. (2006)			✓	✓											
Newbert (2008)	✓		✓	✓											
Mahmood & Hanafi (2013b)			✓	✓											
Munizu (2013)	✓		✓												
Al-alak & Tarabieh (2011)			✓	✓											
Zhou et al. (2009)			✓	✓											

Table 2.5 (Continued)

Author	Sales-based performance	Organizational-based performance	Market performance	Financial performance	Costs reductions	Stock-out reductions	Lead-time reductions	Export Performance	Knowledge performance	Innovation performance	Customer perspective	Internal process perspective	Labor productivity	Learning and grow perspective	Satisfaction of owner
Davis & Daley (2008)				✓											
Herrera (2007)				✓					✓						
Yang et al. (2004)				✓					✓						
Therin (2003)				✓						✓					
Weldy (2009)									✓						
Arporn Lummana et al. (2011)				✓							✓	✓		✓	
Niti Rattanaprichavej (2010)				✓									✓		✓
Martinette & Obenchain-Leeson (2010)	✓			✓											
Mahmood & Hanafi (2013a)				✓										✓	
Martinette & Obenchain-Leeson (2012)	✓			✓											
Santos-Vijande et al. (2012)	✓		✓												
Musasizi (2010)				✓											

2.4 Relationships between Learning Organizations and Organizational Performance

It is generally accepted that learning is very important for an organization. Organizational learning helps to upgrade and improve the performance of the organization. Learning and organizational performance are interrelated. The benefits to an organization as a result of learning should be assessed using by an objective measurement. As learning level is an abstract quality and therefore difficult to measure, organizational performance can be used as the indicator to evaluate and improve learning methods (Rampsey, 2008). In his book “Learning and Performance Matter”, Dave (2008) commented that learning influences performance at an individual, group, and organizational level; individuals learn from suspicion and trial, groups learn from exchanging ideas, and organizations level learn from continuous experimentation and improvement. Learning contributes positive results to an organization at all levels; especially at the organizational level in enhancing competitiveness. In order for an organization to achieve its financial goals and be an attractive workplace for its members, learning must be deeply embedded into its culture. Singer and Edmuondson (2008) also described these relationships between learning and performance at the individual, group, and organization levels. It is very important for an organization to identify and put in place the levels of learning necessary to achieve sustainable organizational performance. Learning goals should not only emphasize evaluating short-term performance, but be oriented towards sustainable success (Kliener, 2008; Kumar, 2008).

Many foreign studies and researches in various types of organizations have found that the learning organization concept results in increased organizational performance. Herrera (2007) studied the learning organization as a factor in increasing organizational performance; it was found that learning organizations influence performance both in knowledge and finance. Davis (2005) studied the relationship between learning organizations and organizational performance; it was found that all elements of the learning organization have a high correlation with the organizational performance. In Thailand, Sudarat Polcharoen & Sunipa Siripattananon (2004) found that quick learning of an organization can improve overall performance

in dimensions such as customer satisfaction, increased productivity, and sales. The conclusion from these and other studies is that the being a learning organization can have a direct effect on organizational performance (Niti Rattanaprichavej, 2010). Becoming a learning organization will help small and medium enterprises to perform better by increasing financial performance, productivity and customer satisfaction. It also encourages creativity and innovation, which will benefit long term performance. It can be expected that when an organization supports continuously building member's learning, the members will work better, make fewer mistakes, and learn from the successes and mistakes of the past. This will result in higher sales, lower production costs, greater competitiveness and higher profits. It will also create intellectual property such as improved working techniques and innovation.

The results of studies on the relationship between the learning organization and organizational performance completed by Therin (2003), Weldy (2009), Davis & Daley (2008), Herrera (2007), Yang et al. (2004), Niti Rattanaprichavej (2010), and Arporn Lummana et al. (2011) are summarized in Table 2.6. It should be noted that some of this research suggests that learning organizations have an indirect, rather than a direct effect on organizational performance. Niti Rattanaprichavej (2010) found that learning organizations have an indirect effect on organizational performance through innovation. Yang et al. (2004) found that four characteristics of the learning organization (continuous learning, inquiry and dialogue, team learning, and empowerment) have and indirect effect on organizational performance, while two other characteristics (system connection and leadership for learning) have a direct effect. Wasan Sakulkijkarn (2014) found that learning organizations have an indirect effect on organizational performance through quality improvement.

From the results of the studies, the relationship between learning organization and organizational performance can be summarized in the following assumption:

Hypothesis 1: Learning organization has a positive direct effect on organizational performance. (LO → OP)

Table 2.6 Summary of the Studies regarding the Relationship between Learning Organization and Organizational Performance

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Arporn Lummana et al. (2011)	Characteristic of learning organization: - Personal mastery - Mental models - Shared vision - Team learning - Systems thinking	-	Organizational performance: - Customer perspective - Internal process perspective - Learning and grow perspective - Financial perspective	Branch of the Siam city bank public company limited (Thailand)	Multiple regression	- Mental models and systems thinking have relationship and a positive effect on internal process perspective. - Team learning has relationship and a positive effect on customer perspective. - Personal mastery and systems thinking have relationship and a positive effect on learning and grow perspective. - Shared vision has relationship and a positive effect on financial perspective.

Table 2.6 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Niti Rattanaprichavej (2010)	Organizational network: - Resource transfer between organizations - Information, knowledge transfer between organizations - Trust between organizations	Learning organization: - Dynamic learning - Knowledge creation - Combining difference technologies - Learning motivation	Organizational performance: - Labour productivity - Financial performance - Satisfaction of owner	208 SMEs in intensive labour manufacturing in Thailand	SEM, Interpreting qualitative	- Learning organization is important for supporting SMEs to improve organizational performance in labor productivity, financial performance, and satisfaction of owner. - Organizational innovation has a direct effect on organizational performance.

Table 2.6 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Niti Rattanaprichavej (2010) (Continued)		Organizational innovation: - process innovation - production innovation				- Learning organization has a direct effect on organizational innovation. - Organizational network has a direct effect on learning organization. - Learning organization has an indirect effect on organizational performance. - Organizational network has an indirect effect on organizational innovation.

Table 2.6 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Therin (2003)	Learning organization: - Quick to learn new concepts or ideas - Learns from its past mistakes - Organizational culture that encourages learning new ideas, concepts and methods - Promotes the sharing of ideas across different units or functions - Combining different technologies to develop new products, goods or services	-	Innovation performance: - Product innovation - Adoption of new product technologies - Adoption of new process technologies - Transforming R&D results into products Financial performance: - Sales growth - Benefits - Return on sales - Return on investment	110 high-tech small firms in various industries in USA	SEM	- Learning organization has a positive influence on financial performance. - Defensiveness strategy has a negative effect on the learning organization. - Analysis strategy has a positive effect on the learning organization. - Proactiveness strategy has a negative effect on the learning organization. - Riskiness strategy has a negative effect on the learning organization. - Futurity strategy has a positive effect on the learning organization. - Stage of maturity has an influence on the learning organization.

Table 2.6 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Weldy (2009)	Learning organization: Dimensions of a learning organization questionnaire (DLOQ) developed by Watkins and Marsick (1997) Transfer of training: The learning transfer system inventory (LTSI) developed by Holton and Bates (1998).	- Learning - Managing knowledge	- Individual and organizational performance. - Competitive advantage.	-	Conceptual paper	There are relationship between the learning organization and transfer of training as strategies for learning and managing knowledge to make performance improvements and gain or maintain a competitive advantage.

Table 2.6 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Davis & Daley (2008)	Learning organization: - Create continuous learning opportunities. - Promote inquiry and dialogue. - Encourage collaboration and team learning. - Establish systems to capture and share learning. - Empower people toward a collective vision. - Connect the organization to its environment. - Provide strategic leadership for learning.	-	Financial performance: - Return on investment - Return on equity - Earnings per share - Net income per employee - Percentage of sales from new products	594 manufacturing and service organizations in USA	Multiple regression	- There is a positive relationship between learning organization behaviors and financial performance. - Return on equity, net income per employee and percentage of sales from new products are significant to all behaviors of learning organization.

Table 2.6 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Herrera (2007)	Learning organization: - Continuous learning - Inquiry and dialogue - Team learning - Empowerment - Embedded system - System connection - Leadership for learning	-	Performance: - Knowledge performance - Financial performance	275 Record companies (Music) in USA	Correlation, ANOVA, Multiple regression	- Firm size - Learning and the transfer of learning resulted in increased performance (direct positive association between performance and the ratings of the learning organization)

Table 2.6 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Yang et al. (2004)	Learning organization: - Continuous learning - Inquiry and dialogue - Team learning - Empowerment - Embedded system - System connection - Leadership for learning	-	Organizational performance: - Knowledge performance - Financial performance	836 of various companies in USA	SEM	- Individual and group level learning activities include continuous learning, inquiry and dialogue, team learning, and empowerment have indirect effects on organizational performance outcomes. - Organizational level includes system connection, embedded system, and provides leadership for learning served as mediators of relationship between individual learning activities and organizational performance.

2.5 Relationships between Learning Organizations and Competitive Advantage

A challenge for organizations in the 21st Century is to create and maintain competitive advantage in an uncertain environment and constantly changing global market (Djonlagic et al., 2013). The only one way to cope with a changing world is continuous learning (Dixon, 1998). Many management theorists agree that the best organization in a fast changing environment is an intelligent enterprise or learning organization (Saroj O'pitagchewin, 2010). Peter F. Drucker, regarded as the master of modern management, stated that knowledge is very important economic resource which is adjudged to create competitive advantage (Ruggles et al., 1999 as cited in Tippawan Lorsuwannarat, 2005). In this context, learning both at individual and organizational level are important sources for increasing competitiveness of the organization (Djonlagic et al., 2013) because knowledge can build competitive advantage permanently. Although competitors will eventually be able to match the products and pricing of a leader company, as they are doing this the leader will be applying systematic knowledge management to develop to even higher quality, creativity, and efficiency. Knowledge advantage gives high-yield and creates on-going advantages. While physical assets decay through use, knowledge assets are enlarged through use. This is especially so for the people who work in the organization and are given the opportunity to think, learn, and discuss problems with others (Davenport & Prusak, 1999). The ability to learn faster than competitors may be the only thing that will make a sustainable competitive advantage (De Geus, 1997). Becoming a learning organization is an important factor in creating competitive advantage and also allows the organization to develop and survive (Farrukh & Waheed, 2015; Naveed, 2009; Porter, 1990; Sudharatna & Li, 2004). The learning process will change thinking processes and behavior that increases the organizational ability to develop and adapt in accordance with the complex and difficult predicted environment (Djonlagic et al., 2013). The ability of the organization to learn and quickly change the learning into practice is the highest competitive advantage (Jack Welch as cited in Saroj O'pitagchewin, 2010). If it has competitive advantages, an organization will be successful and in a strong position to become a leader in its

industry (Porter, 1980). Porter proposed two ways to create and maintain a competitive advantage in the long run: cost leadership and product differentiation (Djonlagic et al., 2013). The research of Sudharatna & Li (2004) demonstrated that being a learning organization has a strong influence on competitive advantage. They studied six characteristics of the learning organization which bring about readiness for change: (i) cultural values (Dokukina, 2003; Naveed, 2009; Senge, 1990); (ii) leadership commitment and empowerment (Davis & Daley, 2008; Farrukh & Waheed, 2015; Herrera, 2007; Watkins & Marsick, 1997; Yang et al., 2004); (iii) communication (Davis & Daley, 2008; Herrera, 2007; Senge, 1990; Watkins & Marsick, 1997; Yang et al., 2004); (iv) knowledge transfer (Davis & Daley, 2008; Herrera, 2007; Naveed, 2009; Senge, 1990; Watkins & Marsick, 1997; Yang et al., 2004); (v) employee characteristics (Dokukina, 2003; Naveed, 2009; Senge, 1990); and (vi) performance upgrading. The learning organization characteristics which have high correlation with competitive advantage were found to be leadership commitment and empowerment, employee characteristics, and communication. Cultural values, knowledge transfer, and performance upgrading were found to have a medium level relationship.

Additional characteristics of learning organizations which have been found to affect competitive advantage are: (i) opportunities for continuous learning (Davis & Daley, 2008; Herrera, 2007; Watkins & Marsick, 1997; Yang et al., 2004); (ii) encouraging collaboration and team learning (Davis & Daley, 2008; Djonlagic et al., 2013; Dokukina, 2003; Herrera, 2007; Naveed, 2009; Senge, 1990; Watkins & Marsick, 1997; Yang et al., 2004); (iii) connecting the organization to its environment (Davis & Daley, 2008; Djonlagic et al., 2013; Herrera, 2007; Watkins & Marsick, 1997; Yang et al., 2004); (iv) providing strategic leadership for learning (Davis & Daley, 2008; Herrera, 2007; Naveed, 2009; Watkins & Marsick, 1997; Yang et al., 2004); (v) systems thinking (Djonlagic et al., 2013; Dokukina, 2003; Naveed, 2009; Senge, 1990); (vi) sharing vision (Dokukina, 2003; Naveed, 2009; Senge, 1990; Watkins & Marsick, 1997); and (vii) acceptance of risk, positive attitudes towards changes, and investment in employee development (Djonlagic et al., 2013).

In addition to bringing about readiness for change, learning organizations improve competitive advantage by creating: (i) cost-based advantages such that costs

of production and prices of products are lower than competitors (Ismail et al., 2010, 2012; Li et al., 2006; Naveed, 2009; Neely, 2005; Nham Phong & Yoshi, 2010; Phongpetra & Johri, 2011; Porter, 1990; Wang & Lo, 2003); (ii) product-based advantages such as differences in product, packaging, and design (Ismail et al., 2010, 2012; Li et al., 2006; Morgan et al., 2004); (iii) service-based advantages such as width of production line, flexibility, reliability, speed of service, and value to customers (Eisenhardt & Brown, 1998; Fahy, 2000; Ismail et al., 2010, 2012; Li et al., 2006; Morgan et al., 2004; Naveed, 2009; Sanchez, 1993, 1995; Stalk, 1990); (iv) quality advantages (Li et al., 2006; Nham Phong & Yoshi, 2010); and (v) innovation advantages (Naveed, 2009; Nham Phong & Yoshi, 2010). Research by Naveed (2009) showed that certain learning organization elements significantly affect competitive advantage in terms of cost, innovation, and value to customer. These are system thinking, mental model, shared vision, leadership, knowledge or information flow, personal mastery, and team learning. The most important was found to be shared vision, followed by system thinking and team learning. A study by Oyeniyi (2011) found that there is a positive relationship between organizational learning and sustainable competitive advantage.

The results of some of these studies on the relationship between the learning organization and competitive advantage are summarized in Table 2.7.

From the results of the studies, the relationship between learning organization and competitive advantage can be summarized in the following assumption:

Hypothesis 2: Learning organization has a positive direct effect on competitive advantage. (LO → CA)

Table 2.7 Summary of the Studies regarding the Relationship between Learning Organization and Competitive Advantage

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Djonlagic et al. (2013)	Key characteristics of learning organization: - Leadership - Organizational culture - Organizational design	-	Competitive advantage	-	Conceptual paper	- The learning organization represents an important concept of creating competitive advantages. - Individual and organizational learning are identified as significant sources of organizational competitiveness.
Naveed (2009)	Learning organization: - Systems thinking - Mental models/culture	-	Competitive advantage: - Cost - Innovation - Financial performance	170 petroleum companies in Pakistan	Regression, Multiple regression	- All components of learning organization contribute significantly towards achieving the competitive advantage.

Table 2.7 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Naveed (2009) (Continued)	- Shared vision/mission - Leadership - Knowledge/ information flow - Personal mastery - Team learning		- Value of customer			- The most significant was shared vision, systems thinking, and team learning (44.2%, 17.1%, 13.4% respectively). - Learning organization, if implemented intently, can be a sustainable source to develop and prepare organizations to cope with uncertainty environment proactively.

Table 2.7 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Sudharatna & Li (2004)	Learning organization characteristics: - Cultural values - Leadership commitment and empowerment - Communication - Knowledge transfer - Employee characteristics - Performance upgrading	-	Organizational readiness-to-change	2 mobile service providers in Thailand	Factor analysis	Company A: - High correlation: leadership commitment and empowerment, employee characteristics. - Moderate correlation: cultural value, communication, knowledge transfer, performance upgrading. Company B: - High correlation: leadership commitment and empowerment, communication. - Moderate correlation: cultural values, knowledge transfer, employee characteristics, performance upgrading.

Table 2.7 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Costa & Cabral (n.d.)	- Learning (knowledge exploration) - Knowledge (absorptive capacity and internal knowledge)	- Innovation - Organization age - Competitive dynamic	Competitive advantage	-	Conceptual model	- Innovation is a function of differentiated knowledge sources and learning processes. - The sort of effect depends of the dimensions, subject to the moderate effect of organization age. - Innovation affects firm competitive advantages in differentiated ways and this relationship is also moderated by the competitive environment.

2.6 Relationships between Competitive Advantage and Organizational Performance

Hao Maa (2000) tried to clearly identify the distinctions and relationships between competitive advantage and organizational performance (Bowen & Ostroff, 2004; Fahy, 2000; Ismail et al., 2010; Maa, 2000; Majeed, 2011; Morgan et al., 2004; Newbert, 2008; Nham Phong & Yoshi, 2010; Ray et al., 2004; Rose et al., 2009; Wang & Lo, 2003; Wiklund & Shepherd, 2003). He studied competitive advantage and organizational performance by examining the following three models: (i) Competitive advantage with better organizational performance; (ii) Competitive advantage without better organizational performance; (iii) Better organizational performance without competitive advantage. He found that there are different structures and complex relationships between competitive advantage and organizational performance. Higher organizational performance can be caused by many types of the competitive advantage such as speed (Eisenhardt & Brown, 1998; Stalk, 1990), flexibility (Sanchez, 1993, 1995), or a combination of other competitive advantages. Competitive advantage has a positive relationship with organizational performance (Li et al., 2006). Successful competitive advantage positioning is necessary to significantly improve organizational performance (Ismail et al., 2010). Organizational age is a moderator in the relationship between competitive advantage and organizational performance; older organization tend to have a stronger relationship (Ismail et al., 2010).

A number of different kinds of competitive advantage have been shown to have an effect on organizational performance. These include: (i) cost-based advantage (Ismail et al., 2010, 2012; Li et al., 2006; Neely, 2005; Nham Phong & Yoshi, 2010; Phongpetra & Johri, 2011; Wang & Lo, 2003); (ii) product-based advantage (Ismail et al., 2010, 2012; Li et al., 2006; Morgan et al., 2004); (iii) service-based advantage (Ismail et al., 2010, 2012; Li et al., 2006; Morgan et al., 2004); (iv) value to customer advantage (Fahy, 2000); (v) quality advantage (Li et al., 2006; Nham Phong & Yoshi, 2010); (vi) innovation advantage (Nham Phong & Yoshi, 2010); and (vii) time-based advantage (Eisenhardt & Brown, 1998; Li et al., 2006; Stalk, 1990).

Similarly, a number of different organizational performance indicators have been shown to be influenced by competitive advantage. These include: (i) sales performance (Fahy, 2000; Ismail et al., 2010; Neely, 2005; Newbert, 2008; Wang & Lo, 2003); (ii) organizational efficiency (Ismail et al., 2010); (iii) market performance (Fahy, 2000; Li et al., 2006; Newbert, 2008; Phongpetra & Johri, 2011); (iv) financial performance (Fahy, 2000; Li et al., 2006; Majeed, 2011; Newbert, 2008; Nham Phong & Yoshi, 2010; Phongpetra & Johri, 2011); and (v) export performance (Morgan et al., 2004). Nham Phong & Yoshi (2010) found that competitive advantage influences organizational performance in the areas of quality, cost reduction, and innovation. Majeed (2011) found that competitive advantage influences organizational performance in the areas of return on asset and sales growth ratio.

The results of various studies on the relationship between competitive advantage and organizational performance are summarized in Table 2.8. It should be noted that although some of these studied competitive advantage and independent variable, most examined it as a mediator or moderator of performance.

From the results of the studies, the relationship between competitive advantage and organizational performance can be summarized in the following assumption:

Hypothesis 3: Competitive advantage has a positive direct effect on organizational performance. (CA → OP)

Table 2.8 Summary of the Studies regarding the Relationship between Competitive Advantage and Organizational Performance

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Mahmood & Hanafi (2013b)	Entrepreneurial orientation	Competitive advantage: - Differentiate product - Market sensing - Market responsiveness	Firm performance: - Profitability - Market share	165 SMEs in Malaysia	Regression	- Competitive advantage mediates the relationship between the entrepreneurial orientation and firm performance. - Entrepreneurial orientation has direct influence on firm performance.
Munizu (2013)	Total quality management	Competitive advantage: - Price/cost - Delivery dependability - Product innovation - Time to market	Organizational performance: - Market share - Sale	55 fishing company in Indonesia	SEM	- Competitive advantage mediates the relationship between the total quality management and organizational performance. - Total quality management has positively directed influence on firm performance.

Table 2.8 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Agha et al. (2012)	Core competency	Competitive advantage: - Flexibility - Responsiveness	Organizational performance	64 paint manufacturing in United Arab Emirates	Regression	- Competitive advantage mediates the relationship between the core competency and organizational performance. - Core competency has positively directed influence on organizational performance.
Majeed (2011)	Competitive advantage: - Competencies	-	Financial performance: - Return on assets - Sales Growth Ratios	-	Conceptual paper	- Competitive advantage and firm performance are two special terms with an actually complex association. - Overall studies have shown a significant association between competitive edge and performance. And competitive advantages lead the company towards attaining high profits.

Table 2.8 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Al-alak & Tarabieh (2011)	Customer orientation	Competitive advantage: - Differentiate product - Market sensing - Market responsiveness	Firm performance: - Profitability - Market share	Bank in Jordan	SEM	Innovation differentiation and market differentiation mediate the relationship between the customer orientation and firm performance.
Ismail et al. (2010)	Cost-based advantage: - Lower manufacturing costs - Lower-priced products	- Age of firms - Size of firms	Sales-based performance: - Level of sales revenue - Profitability - Return on assets	127 Malaysian manufacturers	Two-way ANOVA	- The age of firms is a significant moderator in the relationship between competitive advantage and performance, and that this relationship is stronger for older firms.

Table 2.8 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Ismail et al. (2010) (Continued)	Product-based advantage: - Product differentiation - Packaging - Design - Product quality - Style - Accessibility Service-based advantage: - Product line breadth - Reliability - Flexibility		- Return on investments-Manufacturing productivity - Product added value content - Added value per employee - Sales growth - Market share for product			- The size of firms does not significantly moderate the relationship between competitive advantage and performance. - Provides empirical support for the Resource-Based View of Malaysian manufacturers regarding the issue of competitive advantage.

Table 2.8 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Ismail et al. (2010) (Continued)	- Product innovation - Delivery speed - Technical support - Value for customer		Organizational -based performance: - Emphasis on efficient organizational internal processes - Customer satisfaction - Employee development - Job satisfaction			

Table 2.8 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Nham Phong & Yoshi (2010)	Organizational capabilities: - Resource-based view	Competitive advantage: - Cost-leadership - Quality - Innovation	Financial performance: - Sales Growth	102 supporting industries	Regression	- Organizational capabilities are related to the competitive advantage. - Competitive advantage is related to financial performance. - Competitive advantage mediates the relationship between organizational capabilities and financial performance.
Zhou et al. (2009)	Customer value	Competitive advantage: -Innovation differentiation -Market differentiation	Organizational performance: - Market performance - Financial performance	328 hotels around the world	SEM	- Innovation differentiation and market differentiation are positively influence on market performance. - Market performance positively mediates the relationship -

Table 2.8 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Zhou et al. (2009) (Continued)		Market orientation:				between innovation differentiation, market differentiation and financial performance. - Innovation differentiation and market differentiation have no direct influence on financial performance.
Rose et al. (2009)	Resource-based view: - Organizational resource - Capabilities - System	Competitive advantage	Organizational performance	-	Conceptual paper	- Competitive advantage is the basis for superior performance. - The resource-based view of the firm's competitive advantage is one of the main strategic management theories applicable to explain organizational performance.

Table 2.8 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Newbert (2008)	Resource-capability combination: - Value - Rareness	Competitive advantage: - Costs highly competitive - Opportunities capitalized on - Threats responded to	Performance: - Marketing - Growth in sales - Profitability - Market share	Micro- and nanotechnology firms	Regression	- The value positively related to competitive advantage. - The rareness positively related to competitive advantage. - Competitive advantage positively related to performance. - Competitive advantage mediates the relationship between the rareness and performance. - Competitive advantage not mediates the relationship between the value and performance.

Table 2.8 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Li et al. (2006)	SCM practices: - Strategic supplier - Partnership - Customer relationship - Level and quality of information sharing - Postponement	Competitive advantage: - Price/cost - Quality - Delivery dependability - Product innovation - Time to market	Organizational performance: - Market performance - Financial performance	196 organizations	SEM	- High levels of SCM practice have high levels of organizational performance. - SCM practice has a direct impact on competitive advantage. - Organizations with high levels of competitive advantage have a high level of organizational performance.

Table 2.8 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Fahy (2000)	Key resources: - Tangible assets - Intangible assets - Capabilities	Competitive advantage: - Value of customers Management's strategic choices: - Resource identification - Resource development/ protection - Resource deployment	Performance: - Market performance - Sales performance - Financial performance	-	Conceptual paper	- To understand the nature of competitive advantage. - This section traces the development of the resource-based view and evident of the resource-based view of the firm is theory of competitive advantage.

2.7 Relationships between Learning Organizations, Competitive Advantage and Organizational Performance

To date, there has been little research on the relationship between learning organizations, competitive advantage and organizational performance. Most studies have related only two of these variables. Some researches studied the relationship between the learning organization and organizational performance (Davis & Daley, 2008; Herrera, 2007; Yang et al., 2004), then concluded without statistical support that this created competitive advantage for the organization. Some researches studied the relationship between the learning organization and the competitive advantage (Naveed, 2009; Sudharatna & Li, 2004), then concluded without statistical support that this caused superior organizational performance. Meanwhile, other researches studied and found that competitive advantage has a positive effect on organizational performance.

Many researchers and scholars have written that becoming a learning organization will contribute towards an improvement in organizational performance (Arporn Lummana et al., 2011; Davis & Daley, 2008; Herrera, 2007; Martinette & Obenchain-Leeson, 2010; Niti Rattanaprichavej, 2010; Therin, 2003; Weldy, 2009; Yang et al., 2004) and lead to competitive advantage (Blackman & Henderson, n.d.; Costa & Cabral, n.d.; Djonlagic et al., 2013; Dokukina, 2003; Jashapara, 1993; Lei et al., 1999; Naveed, 2009; Sudharatna & Li, 2004), but there does not appear to have been any empirical studies as to whether competitive advantage is the mediator in the relationship. Although there have been some studies as to the extent to which competitive advantage is a mediator for organizational performance, few appear to have considered the learning organization as an independent variable. These similar researches include: (i) Martinette & Obenchain-Leeson (2012), which studied large and small service and service-reliant organizations and found that competitive advantage moderates the relationship between learning orientation and financial performance; (ii) Opposite with the study of Martinette & Obenchain-Leeson (2010), which studied both large and small organizations and found the opposite - that competitive advantage did not moderate the relationship between learning orientation and financial performance; (iii) Mahmood & Hanafi (2013a), which studied women-

owned small and medium enterprises in Malaysia and found that competitive advantage mediates the relationship between learning orientation and organizational performance; (iv) Santos-Vijande et al. (2012), which studied the relationship between organizational learning and business performance passed by increasing competitive strategy, strategic flexibility, and customer performance; (v) Musasizi (2010), which showed that knowledge transfer has a positive relationship on financial performance passed by competitive advantage. The results of these studies are summarized in Table 2.8.

From the results of the studies, the relationship between learning organization, competitive advantage and organizational performance can be summarized in the following assumption:

Hypothesis 4: Learning organization has a positive indirect effect on organizational performance via competitive advantage. (LO → CA → OP)

Table 2.9 Summary of the Studies regarding the Relationship between Learning Organization, Competitive Advantage and Organizational Performance

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Mahmood & Hanafi (2013a)	Learning orientation: - Commitment to learning - Shared vision/purpose - Open-mindedness	Competitive advantage: - Differentiated products - Market sensing - Market responsiveness	Performance: - Growth - Financial Performance	165 women-owned SMEs in Malaysia	T-test, Regression	There are significant relationships between learning orientation and performance, and between learning orientation and competitive advantage, while competitive advantage was found to fully mediate the learning orientation and performance relationships

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Table 2.9 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Martinette & Obenchain-Leeson (2012)	Learning Orientation: - Commitment to learning - Shared vision/purpose - Open-mindedness	Competitive advantage: - Development of differentiated products - Market sensing Market responsiveness: - Customers - Competitors	Business performance: - Achievement of sales objective - Achievement of profit objective	Large and small pure service and service-reliant organizations		Competitive advantage moderates the relationship between learning orientation and business performance.
Santos-Vijande et al. (2012)	Organizational learning (OL): - Acquisition of information - Dissemination of knowledge	Competitive strategy: - Differentiation - Cost leadership	Business performance: - Sales growth - Market share	181 medium manufacturing in Spanish	SEM	- OL relates positively with the implementation of differentiation and cost leadership strategies.

Table 2.9 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Santos-Vijande et al. (2012) (Continued)	- Shared interpretation - Organizational memory	Strategic flexibility Customer performance				- OL relates positively with the development of strategic flexibility. - Strategic flexibility relates positively with the implementation of differentiation and cost leadership strategies. - The implementation of differentiation strategies relates positively with business and customer performance.

Table 2.9 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Santos-Vijande et al. (2012) (Continued)						- The implementation of cost leadership strategies relates positively with customer performance. - Customer performance relates positively with business performance. - The implementation of cost leadership strategies is not relates with business performance.
Martinette & Obenchain-Leeson (2010)	<u>Learning orientation:</u> - Commitment to learning	<u>Competitive advantage:</u> - Development of differentiated products	- Achievement of sales objective - Achievement of profit objective	Large & small firms in USA		- The relationship between sales and profits is statistically significant in both small and large organizations.

Table 2.9 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Martinette & Obenchain-Leeson (2010) (Continued)	- Shared vision/purpose - Open-mindedness	- Market sensing <u>Market responsiveness</u>: - Customers - Competitors				- The relationship between learning orientation and competitive advantage was statistically significant in both small and large organizations. - Business performance among large and small organizations were statistically significant with larger organizations reporting higher scores on business performance

Table 2.9 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Martinette & Obenchain-Leeson (2010) (Continued)						- There were no statistically significant differences in learning orientation and competitive advantage reported among large and small organizations. - The moderating effect of competitive advantage on learning orientation and business performance was not statistically significant among small or large organizations.

Table 2.9 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Musasizi (2010)	Expatriate capabilities: - Competence - Willingness - Adaptability	Competitive advantage: - Human resources - Organizational resources Knowledge transfer: - Managerial skills - Technical skills	Financial performance: - Profitability - Growth - Financial efficiency	61 foreign firms: telecommunication, financial services, trading and hospitality in Uganda	Correlation, Regression	- There is a positive and significant relationship between knowledge transfer and competitive advantage. - There is a positive relationship between competitive advantage and financial performance. - There is a correlation between expatriate capabilities and competitive advantage which means that expatriate capabilities positively affect -

Table 2.9 (Continued)

Authors	Independent variable	Mediator/ Moderator	Dependent variable	Sample	Method	Findings
Musasizi (2010) (Continued)						competitive advantage since their presence leads to attaining a competitive edge for the organization. - There is a significant and positive relationship between the expatriate capabilities and knowledge transfer.

2.8 Conceptual Framework

The conceptual framework that can be developed from the review of literature is shown in Figure 2.6. There is a relationship between learning organization and organizational performance (Arporn Lummana et al., 2011; Davis, 2005; Davis & Daley, 2008; Herrera, 2007; Niti Rattanaprichavej, 2010; Therin, 2003; Wasan Sakulkijkarn, 2014; Weldy, 2009; Yang et al., 2004) and the learning organization will contribute the higher organizational performance (Herrera, 2007; Sudarat Polcharoen & Sunipa Siripattananon, 2004). A learning organization consists of following three aspects: (i) organizational learning (Davis & Daley, 2008; Djonlagic et al., 2013; Dokukina, 2003; Herrera, 2007; Marquardt, 2002; Marquardt & Reynolds, 1994; Naveed, 2009; Pedler et al., 1991; Senge, 1990; Watkins & Marsick, 1997; Yang et al., 2004); (ii) organizational characteristic (Dokukina, 2003; Marquardt, 2002; Marquardt & Reynolds, 1994; Naveed, 2009; Pedler et al., 1991; Senge, 1990; Sudharatna & Li, 2004; Tippawan Lorsuwannarat, 2005; Watkins & Marsick, 1997); and (iii) knowledge management (Davis & Daley, 2008; Garvin, 1993; Herrera, 2007; Marquardt, 2002; Marquardt & Reynolds, 1994; Naveed, 2009; Yang et al., 2004). Organizational performance consists of the following two aspects: (i) financial performance (Arporn Lummana et al., 2011; Davis & Daley, 2008; Herrera, 2007; Martinette & Obenchain-Leeson, 2010; Napaporn Kuntanapa, 2002; Niti Rattanaprichavej, 2010; Therin, 2003; Yang et al., 2004); and (ii) internal process (Arporn Lummana et al., 2011; Niti Rattanaprichavej, 2010; Sudarat Polcharoen & Sunipa Siripattananon, 2004).

Furthermore, the learning organization is an important factor in creating competitive advantage for the organization (Davenport & Prusak, 1999; Naveed, 2009; Saroj O'pitagchewin, 2010; Sudharatna & Li, 2004) and the learning organization will contribute the higher competitive advantage (Djonlagic et al., 2013). Competitive advantage consists of the following three aspects: (i) cost-based advantage (Ismail et al., 2010, 2012; Li et al., 2006; Naveed, 2009; Neely, 2005; Nham Phong & Yoshi, 2010; Phongpetra & Johri, 2011; Porter, 1990; Wang & Lo, 2003); (ii) product-based advantage (Ismail et al., 2010, 2012; Li et al., 2006; Morgan et al., 2004); and (iii) service-based advantage (Eisenhardt & Brown, 1998; Fahy,

2000; Ismail et al., 2010, 2012; Li et al., 2006; Morgan et al., 2004; Naveed, 2009; Sanchez, 1993, 1995; Stalk, 1990). Competitive advantage will contribute the higher organizational performance as well (Li et al., 2006).

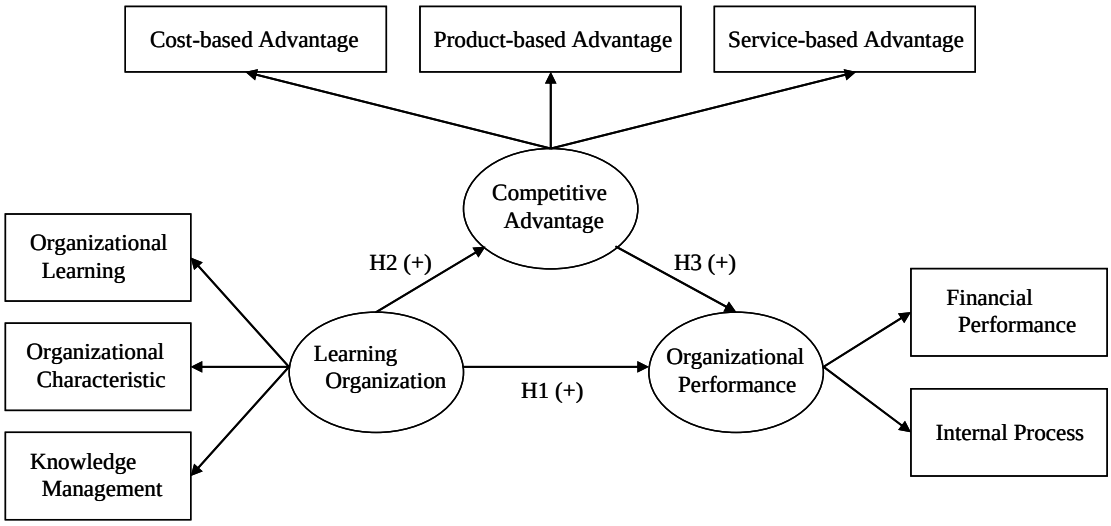


Figure 2.6 Conceptual Framework

2.9 Research Hypotheses

The review of literature regarding the relationships between learning organizations, competitive advantage, and organizational performance leads to the following assumptions:

Direct Effects:

Hypothesis 1: Learning organization has a positive direct effect on organizational performance. (LO → OP)

Hypothesis 2: Learning organization has a positive direct effect on competitive advantage. (LO → CA)

Hypothesis 3: Competitive advantage has a positive direct effect on organizational performance. (CA → OP)

Indirect Effect:

Hypothesis 4: Learning organization has a positive indirect effect on organizational performance via competitive advantage. (LO → CA → OP)

CHAPTER 3

RESEARCH METHODOLOGY

After reviewing the associated literature, this chapter presents the methodology of this research. It explains the processes and design of the research, the criteria for defining the scope of the study, population, and samples to verify the developed conceptual framework, and the generated hypotheses according to the objectives of the research. The aim is to develop and create a new stronger body of knowledge.

3.1 Research Design

This research uses both quantitative and qualitative methods. The qualitative method was used to confirm classification of the variables and the concepts that were reviewed to provide more accurate and reliable data. Then, the quantitative method was used to collect data for analyzing the relationship and influences in each pair of the variables in the research framework and hypotheses. Using both qualitative and quantitative methods makes stronger research. This research is a descriptive and cross sectional study in which data was collected only once over a period of time.

3.2 Population and Sampling

3.2.1 Target Population

The criteria used in selecting the target population to be used in this research are:

1) Small and Medium Enterprises (SMEs): SMEs are recognized as important mechanisms for strengthening economic progress by generating revenue for the country. They are also a major source of employment, so they are a mechanism for

addressing poverty as well. At the end of 2012, there were 2,781,945 enterprises in Thailand. 98.50% or 2,739,142 of these SMEs. These SMEs accounted for 80.40% of the total employment in the country. They also accounted for 37.00% of gross domestic product (GDP) and 28.82% of the total export value (Small and Medium Enterprises Master Plan Vol.3 (2012-2016)).

2) Manufacturing Sector: 18.70% of SMEs (511,015 businesses) operate in the manufacturing sector. These make up a major portion (99.40%) of the businesses in that sector. The manufacturing sector has very important economic role, accounting for 34.00% of GDP (Small and Medium Enterprises Status Report 2013).

3) Intensive Labour Industries: The three major labour-intensive industries in Thailand are: (i) textile and apparel manufacturing; (ii) footwear and leather manufacturing; and (iii) jewel and decoration manufacturing (The Office of Industrial Economics). In the preliminary interviews conducted for the purpose of testing the questionnaire, it was found that jewelry and decoration manufacturers were reluctant to share the required information. These companies regard such information as highly confidential. Accordingly, this sector was not included in the research.

4) Legal Registration: In 2012, there were 658,185 legal entities registered with the Department of Business Development Ministry of Commerce, of which 651,325 enterprises were SMEs (Small and Medium Enterprises Status Report 2013).

5) Business Activated at Least Three Years: During the initial period of operation, businesses often suffer losses or run at break-even level. It has been found that after the first three years of operation, most businesses can be expected to have achieved profitability (Waleeporn Thanathikom, 2005). Accordingly, the organizational age must be at least three years from the date of legal registration.

3.2.2 Sampling

The sample size and sampling technique used in this research are outlined below.

3.2.2.1 Sample Size

This study uses a structural equation model (SEM) for data analysis. Gefen et al. (2000) suggested that the sample size for SEM should be at least 150. Kelloway (1998) suggested that the sample size for SEM should be the 200 or 20

times number of observed variables, whichever is the greater (Hair et al., 2010). The developed conceptual framework has 8 observed variables. As 8 times 20 = 160, it was decided to use a sample size of 200 for the study. A relatively low return rate can be expected for data collected by questionnaires sent via mail. Kunlaya Wanichbancha & Thita Wanichbancha (2014) suggested that the response rate of collecting data by mail is about 40%. Thanin Sincharu (2012) suggested sending the questionnaire to double or triple the target sample size. For this research it was decided to base the mail-out on an expected 40% response rate, with the calculation as follows (Kunlaya Wanichbancha & Thita Wanichbancha, 2014).

$$\text{Sample size (n)} = \frac{\text{Number of samples required}}{\text{Response rate}}$$

$$= 200 / (40/100)$$

$$= 200 / 0.4$$

$$= 500 \text{ samples}$$

Thus the tolerance number for getting more than 200 returned questionnaires is 500 organizations. This includes allowance for returned questionnaires which are incomplete, defective or out of the criteria set.

3.2.2.2 Sampling Technique

This research uses simple random sampling within a stratified sampling set. The stratified sampling involves identifying the industry types and population criteria as outlined above. The random sampling used the online sampling program “the random number generator” (Thaiware, 2015). All members of the population were allocated a “unique number” to ensure that each had an equal chance of being selected.

3.3 Unit of Analysis

The unit of analysis is at the organizational level. However, the survey requires information from decision-makers in the organization. As SMEs often adopt an “organic” organization structure without a clear hierarchy (Bhaskaran, 2006), decisions generally depend on the business owners. Accordingly, respondents must have one of the following statuses in the organization (Gartner et al., 1994):

- Entrepreneur or owner or
- Business heir or
- Partnership or
- Executive involved in organizational policy formulation

3.4 Research Instrument

The instrument for collecting data for this study is a questionnaire, separated into five parts consisting of:

Part 1: General Information of the Respondents.

Part 2: General Information of the Business.

Part 3: Information of Learning Organization.

Part 4: Information of Competitive Advantage.

Part 5: Information of Organizational Performance.

Part 1 and part 2 of the questionnaire are based on check-lists. In part 3 and part 4, a six rating Likert scale was used. Part 5 used a seven rating Osgood scale (Thanin Sincharu, 2012). All of the questions are closed-ended, except for the last section in which there is an open-ended question seeking any comments or suggestions.

The procedure to create the questionnaire began with a review of the related literature, concepts, theories, research, and academic papers to identify the data needed to meet the objectives and the scope of the research. The survey structure and questions were then determined (Thanin Sincharu, 2012), following which testing took place to test both the validity and reliability of collected results.

3.4.1 Validity

1) The suitability of the proposed contents of the questionnaire was checked by the three experts prior to preliminary testing (Thanin Sincharu, 2012).

2) Seven representative SMEs were then interviewed to confirm the classification of questions and how they related to the study variables.

3.4.2 Reliability

After improving the questionnaire, it was tested for accuracy on a sample of 30 SMEs which were not part of the research group (Thanin Sincharu, 2012) before the research data was collected. The testing resulted in a Cronbach's alpha coefficient for all variables of not less than 0.70 (Suchart Prasitrattasin, 2007) as shown in Table 3.1. The questionnaire was then used to collect the research data.

Table 3.1 Cronbach's Alpha Coefficient of the Questionnaire before Use

Variables	Number of Items	Cronbach's Alpha Coefficient
Reliability overall questionnaire	**46**	**.962**
Learning Organization:	**21**	**.953**
Organizational Learning	7	.895
Organizational Characteristic	7	.848
Knowledge Management	7	.919
Competitive Advantage:	**19**	**.926**
Cost-based Advantage	6	.773
Product-based Advantage	7	.873
Service-based Advantage	6	.903
Organizational Performance:	**6**	**.943**
Financial Performance	3	.924
Internal Process	3	.894

3.5 Operational Definitions and Measurements

The operational definitions, indicators, level of measurement and method were defined as shown in Table 3.2.

Table 3.2 Variables, Operational Definition, Indicators, and Levels of Measurement/Methods

Variable	Operational Definition	Indicator	Level of Measurement/Method
Learning Organization (LO) is defined as an organization which has three components of learning organization consisting of organizational learning, organizational characteristic and knowledge management.			
Organizational Learning (OL)	Continuous shared and learning as a team of the organizational members.	1. Your business learns from failures and successes in the past. 2. In your business, the employees talk and discuss for solving problems. 3. Your business can learn new ideas quickly. 4. Your business regularly uses two-way communications (a receiver responds a messenger by interacting, discussing, and exchanging ideas with each other). 5. Your business set up a cross-division team to solve the problem together. 6. In your business, teams learn from each other and share the acquired knowledge in different ways. 7. Your business encourages global thinking to the employees.	- Subjective data - Interval scale - 6 level of rating scale by 1 = Agree least, 2 = Agree lesser, 3 = Agree less, 4 = Agree quite, 5 = Agree more, 6 = Agree most

Table 3.2 (Continued)

Variable	Operational Definition	Indicator	Level of Measurement/Method
Organizational Characteristics (OC)	Technologies, visions, cultures, and structures of the organization that encourage learning and participating of the organizational members.	8. Your business translates the visions into details for operating concretely. 9. Your business allows the employees easy and quick accessing knowledge and information for efficient operating. 10. Your business has culture to encourage learning new concepts and new methods. 11. Your business supports opportunities for learning and training to the employees. 12. Your business uses technologies and techniques, e.g. computer and internet, to acquire, transfer, store, and analyze knowledge and information. 13. Your business rewards individual and team for learning and helping others to learn. 14. Your business has flexibility and less hierarchy to increase efficiency of communicating and learning in all the level.	- Subjective data - Interval scale - 6 level of rating scale by 1 = Agree least, 2 = Agree lesser, 3 = Agree less, 4 = Agree quite, 5 = Agree more, 6 = Agree most

Table 3.2 (Continued)

Variable	Operational Definition	Indicator	Level of Measurement/Method
Knowledge Management (KM)	Creation, storage, dissemination, and utilization of knowledge in the operation of organizational members.	15. Your business disseminates new knowledge in all the level of the organization. 16. Your business provides training to the employees adequately and consistently. 17. Your business encourages the employees studying and researching documents for using in real practice e.g. study knowledge to address problems, study manuals to invent machine etc. 18. In your business, the employees are aware of the need to preserve and share the knowledge with others. 19. During last 3 years, your business has rising amount of skilled workers comparing with the total labors of the organization. 20. Your business regularly uses database of the organization e.g. sales data, inventory data, production data etc. to support the work. 21. Your business shares knowledge and internal data to solve organizational problems.	- Subjective data - Interval scale - 6 level of rating scale by 1 = Agree least, 2 = Agree lesser, 3 = Agree less, 4 = Agree quite, 5 = Agree more, 6 = Agree most

Table 3.2 (Continued)

Variable	Operational Definition	Indicator	Level of Measurement/Method
Competitive Advantage (CA) is defined as advantages of an organization over their competitors which divided to three aspects consisting of cost-based advantage, product-based advantage, and service-based advantage.			
Cost-based Advantage (CB)	Advantages of the organization to produce goods or provide services with lower cost than the competitors.	1. Your business has better reputation than the main competitors. 2. Your business has lower production cost than the main competitors. 3. Your business has lower service cost than the main competitors. 4. Your business has lower shipment cost than the main competitors. 5. Product prices of your business are competitive prices. 6. Product prices of your business are lower than the main competitors' prices.	- Subjective data - Interval scale - 6 level of rating scale by 1 = Agree least, 2 = Agree lesser, 3 = Agree less, 4 = Agree quite, 5 = Agree more, 6 = Agree most
Product-based Advantage (PB)	Advantages of the organization to produce goods that are distinguished or different from the competitors.	7. Products of your business are competitive quality. 8. Products of your business are high durability. 9. Products of your business are unique design. 10. Products of your business are difficult to copy. 11. Products of your business have significant advantages in other areas leading to superior competitors. 12. Products of your business have various types. 13. During last 3 years, your business has increased number of products.	

Table 3.2 (Continued)

Variable	Operational Definition	Indicator	Level of Measurement/Method
Service-based Advantage (SB)	Advantages of the organization to provide comprehensive services and increase value for customers.	14. Your business has a comprehensive service both before and after sell. 15. Your business encourages the employees to bring the customer perspective into their decision making process. 16. Your business is able to meet the needs of customers quickly. 17. Your business is able to respond customer complaining quickly. 18. Your business delivers products to the customer's order correctly. 19. Your business delivers products to the customer on time.	- Subjective data - Interval scale - 6 level of rating scale by 1 = Agree least, 2 = Agree lesser, 3 = Agree less, 4 = Agree quite, 5 = Agree more, 6 = Agree most

Table 3.2 (Continued)

Variable	Operational Definition	Indicator	Level of Measurement/Method
Organizational Performance (OP) is defined as outcomes from any activities in every processes of the organization consisting of financial performance and internal process.			
Financial Performance (FP)	Financial outcomes of the organization include sale growth, market share, and return on investment.	1. How was sale growth of your business in year 2014 comparing with year 2013? 2. How was market share of your business in year 2014 comparing with year 2013? 3. How was return on investment of your business in year 2014 comparing with year 2013?	- Subjective data - Interval scale - 7 level of rating scale by 1 = Decrease much, 2 = Decrease moderate, 3 = Decrease slightly, 4 = Be the same, 5 = Increase slightly, 6 = Increase moderate, 7 = Increase much
Internal Process (IP)	Internal process outcomes of the organization include productivity, time to market, and lead time.	4. How was productivity of your business in year 2014 comparing with year 2013? 5. How was time to market of your business in year 2014 comparing with year 2013? 6. How was lead time of your business in year 2014 comparing with year 2013?	

3.6 Data Collection

The material collected comprised both primary data and secondary data.

3.6.1 Primary Data

The primary data collected by the researcher can be divided into qualitative data and quantitative data.

3.6.1.1 Qualitative Data Collection. In the initial stage of preliminary testing the questionnaire, telephone interviews took place to obtain the information in the part 1 and part 2 and verify that the interviewees were in the target group of the study. After that, structured interviews took place to confirm the classification of the questions according to the defined variables. The interviews involved: (i) one medium and one small enterprise in the textile and apparel manufacturing sector; (ii) one medium and one small enterprise in the footwear and leather manufacturing sector; and (iii) one medium and two small enterprises in the jewel and decoration manufacturing sector. From the interviews it was found that jewelry and decoration manufacturers were reluctant to share the required information, regarding it as commercially sensitive and therefore highly confidential. This was seen as a significant barrier to achieving reliable results, so the jewel and decoration manufacturing sector was excluded from the research.

3.6.1.2 Quantitative Data Collection. This comprised questionnaire responses collected from the defined sample. Although most were sent via mail, some were delivered online and followed-up by phone while others were sent to the respondents through related training, seminars, and exhibitions. The researcher received 227 completed questionnaires (45.4%). Of the respondent SMEs, 176 (77.53%) were in the textile and apparel manufacturing sector, 49 (21.59%) were in the footwear and leather manufacturing sector, and 2 respondents (0.88%) operated in both sectors.

3.6.2 Secondary Data

The secondary data comprised documents collected from the related departments and the Internet, both with and without analysis. The departments

involved were the Office of Small and Medium Enterprises Promotion (OSMEP), Department of Business Development, Ministry of Commerce, Department of International Trade Promotion, Ministry of Commerce, Office of Industrial Economics, Ministry of Industry, and the National Research Council of Thailand.

3.7 Data Analysis

Data analysis was divided into two main parts: descriptive statistics and testing of the research hypotheses.

3.7.1 Descriptive Statistics

Descriptive statistics comprise number, percentage, mean, median, and standard deviation. These were used to identify general information in relation to the respondents and their businesses. The SPSS program was used to process and determine the normal distributions of each variable and examine their skewness and the kurtosis.

3.7.2 Tests of Research Hypotheses

This analysis seeks to address the research objectives by using structural equation modeling (SEM). The SEM analysis is a technique that combines the principles of multivariate analysis; it is a technique for finding both causes and relationships (Kunlaya Wanichbancha, 2014) and can examine many equations of causal relationship at the same time, including both independent and dependent variables (Kunlaya Wanichbancha, 2014). Prior to SEM analysis, the suitability of the information was examined using Pearson's correlation coefficient to consider the relationship between the independent variables and the dependent variables. The data was then assessed as to whether it was suitable for factor analysis by analyzing the KMO and Bartlett’s test of Sphericity. Next, the goodness of fit of the causal model was considered by analyzing the empirical data (Kunlaya Wanichbancha, 2014). The indices for the consideration were: X^2, X^2/df, GFI, RMR, RMSEA, AGFI, NFI, CFI, PNFI, and AIC. After assessing the initial results the model was adjusted slightly based on information gathered in the literature review. Finally, the causal relation or

effect paths between the variables were determined in order to answer the research objectives using AMOS structural equation modeling software.

CHAPTER 4

RESEARCH RESULTS

This chapter outlines descriptive statistics of the 227 respondents who completed the questionnaire, the results from the surveys, and analysis of the causal relationship or the influences between variables according to the research hypotheses.

4.1 Abbreviations

The following abbreviations have been used to facilitate understanding and interpretation of the data and results of the research:

1) abbreviations used to represent latent variables:
   - LO stands for Learning Organization
   - CA stands for Competitive Advantage
   - OP stands for Organizational Performance
2) abbreviations used to represent observed variables:
   (i) Learning Organization
   - OL stands for Organizational Learning
   - OC stands for Organizational Characteristic
   - KM stands for Knowledge Management

   (ii) Competitive Advantage
   - CB stands for Cost-based Advantage
   - PB stands for Product-based Advantage
   - SB stands for Service-based Advantage

   (iii) Organizational Performance
   - FP stands for Financial Performance
   - IP stands for Internal Process

4.2 Descriptive Statistics

4.2.1 General Information in Relation to the Respondents.

The general information collected in relation to the respondents representing the organizations surveyed is sex, age, highest educational level, and business status of the respondent. These results are summarized in Table 4.1 below.

Table 4.1 General Information in Relation to Respondents

General Information	Number	Percentage
Sex		
Male	92	40.5
Female	135	59.5
Age		
Under 30 years	58	25.6
30 – 40 years	82	36.1
41 – 50 years	44	19.4
51 – 60 years	34	15.0
Over 60 years	9	4.0
Highest educational level		
Undergraduate	38	16.7
Bachelor's degree	132	58.1
Master's degree	54	23.8
Doctor's degree	3	1.3
Business status of Respondent		
Single owner	53	23.3
Partnership	54	23.8
Business heir	43	18.9
Executive involved in organizational policy formulation	77	33.9

It can be seen that the majority of respondents were female (135 or 59.5 %), followed by males (92 or 40.5%). Most respondents were relatively young. The largest sample age group was 30-40 years (82 respondents or 36.1%), followed by under 30 years (58 respondents or 25.6%). 44 respondents (19.4%) were 41-50 years, 34 respondents (15.0%) were 51-60 years, and 9 respondents (4.0%) were over 60 years. A very high proportion of respondents (83.2%) had tertiary qualifications. 132 respondents (58.1%) held a bachelor's degree, 54 respondents (23.8%) held a master's degree and 3 respondents (1.3%) held a PhD. Only 38 respondents (16.7%) did not hold a degree. Although the largest group by business status comprised executives involved in organizational policy formulation (77 respondents or 33.9%), the remainder were all business owners of some sort. These comprised 54 members of partnerships (23.8%), 53 single owners (23.3%) and 43 business heirs (18.9%).

4.2.2 General Information in Relation to the Businesses.

The general information collected in relation to the businesses surveyed is type of industry, fixed assets, number of employees, age of business, and type of manufacturing. These results are summarized in Tables 4.2 and 4.3 below.

Table 4.2 General Information in Relation to Businesses

General Information	Number	Percentage
Type of industry		
Textile and apparel manufacturing	176	77.5
Footwear and leather manufacturing	49	21.6
Others	2	0.9
Fixed assets		
Less than 50 million baht	161	70.9
51 – 100 million baht	32	14.1
101 – 150 million baht	8	3.5
151 – 200 million baht	26	11.5

Table 4.2 (Continued)

General Information	Number	Percentage
Number of employees		
Less than 50 persons	150	66.1
51 – 100 persons	24	10.6
101 – 150 persons	12	5.3
151 – 200 persons	41	18.1
Age of business		
3 – 5 years	42	18.5
6 – 10 years	40	17.6
11 – 15 years	26	11.5
16 – 20 years	18	7.9
Over 20 years	101	44.5

It can be seen that the majority of respondents were in the textile and apparel manufacturing industry (176 organizations or 77.5 %), followed by footwear and leather manufacturing (49 organizations or 21.6%). 2 organizations (0.9%) participated in both industries. As expected for SMEs, most respondents (161 or 70.9%) had a relatively low level of fixed assets (under 50 million baht), followed by the ranges 51 – 100 million baht (32 organizations or 14.1%), 151 – 200 million baht (26 organizations or 11.5%), and 101 – 150 million baht (8 organizations or 3.5%) respectively. Similarly, most respondents (150 or 66.1%) had a relatively small number of employees (less than 50), followed by the ranges 151 – 200 persons (41 organizations or 18.1%), 51 – 100 persons (24 organizations or 10.6%), and 101 – 150 persons (12 organizations or 5.3%) respectively. It is interesting to note that the survey included a number of participants which may not have met the SME test on both of these criteria; 11.5% had fixed assets of greater than 150 million baht, and 18.1% employ150 people. A very high proportion of the businesses (81.5%) had operated for more than 5 years. Almost half (101 organizations or 44.5%) had operated for over 20 years, followed by the ranges 3 – 5 years (42 organizations or

18.5%), 6 – 10 years (40 organizations or 17.6%), 11 – 15 years (26 organizations or (11.5%), and 16 – 20 years (18 organizations or 7.9%) respectively.

Table 4.3 General Information in Relation to Type of Manufacturing

Type of manufacturing	Number of answers	Percentage of the answers	Percentage of the respondents
Original Equipment Manufacturer: OEM	101	29.4	44.5
Original Design Manufacturer: ODM	92	26.7	40.5
Original Brand Manufacturer: OBM	151	43.9	66.5
Total	**344**	**100**	**151.5**

There 227 respondents carried out a total of 344 types of manufacturing activity. Most of the businesses (146 organizations or 64.3%) were involved in only one type of activity. However, 45 businesses (19.8%) were involved in two types of activity and 36 businesses (15.9%) were involved in all three. The businesses involved in only one type of activity were split 56.2% OBM, 27.4% OEM, and 16.4% ODM. The businesses involved in two types of activity were split 44.4% OBM/ODM, 28.9% OBM/OEM, and 26.7% OEM/ODM.

Of the 344 manufacturing types indicated, the most common was OBM (43.9% of the total, carried out by 66.5% of respondents), followed by OEM (29.5% of the total, carried out by 44.5% of respondents) and ODM (26.7% of the total, carried out by 40.5% of respondents) respectively.

4.3 Descriptive Statistics of the Observed Variables

There are eight observed variables in this research, the descriptive statistics consisting of mean, median, standard deviation, skewness and kurtosis as shown in the Table 4.4. The mean responses for the six and seven level interval scales were interpreted follows:

Six level interval scale:

Mean score of 5.18 – 6.00	represents	The highest level
Mean score of 4.34 – 5.17	represents	High level
Mean score of 3.51 – 4.33	represents	Relatively high level
Mean score of 2.68 – 3.50	represents	Relatively low level
Mean score of 1.84 – 2.67	represents	Low level
Mean score of 1.00 – 1.83	represents	The lowest level

Seven level interval scale:

Mean score of 6.15 – 7.00	represents	Much increase level
Mean score of 5.30 – 6.14	represents	Moderate increase level
Mean score of 4.44 – 5.29	represents	Slight increase level
Mean score of 3.58 – 4.43	represents	Be the same level
Mean score of 2.72 – 3.57	represents	Slight decrease level
Mean score of 1.87 – 2.71	represents	Moderate decrease level
Mean score of 1.00 – 1.86	represents	Much decrease level

Table 4.4 Descriptive Statistics for the Observed Variables

Observed Variables	Mean	Median	S.D.	Skewness	Kurtosis
Learning Organization					
Organizational Learning	4.6438	4.7143	0.7367	-0.376	0.031
Organizational Characteristic	4.5721	4.7143	0.7777	-0.835	1.650
Knowledge Management	4.4065	4.4286	0.8249	-0.724	1.560
Competitive Advantage					
Cost-based Advantage	3.9684	4.0000	0.8014	-0.298	0.029
Product-based Advantage	4.6394	4.7143	0.7171	-0.272	-0.451
Service-based Advantage	4.6990	4.6667	0.7524	-0.318	0.123
Organizational Performance					
Financial Performance	4.4288	4.6667	1.4581	-0.519	-0.392
Internal Process	4.5184	4.3333	1.1611	-0.102	0.101

Table 4.4 presents the descriptive statistics of the observed variables as follows.

1) The learning organization latent variable consists of three observed variables: organizational learning, organizational characteristic, and knowledge management. The mean scores of the responses in relation these variables were 4.6438, 4.5721, and 4.4065 respectively. Based on the interpretation of responses for the six level interval scale outlined above, these results indicate that SMEs in Thailand show a high level of consistency with all three learning organization characteristics. As the median scores were very close to the means and the standard deviations relatively low (between 0.7367 - 0.8249), it can be concluded that the results are quite tightly clustered around the mean (Kunlaya Wanichbancha & Thita Wanichbancha, 2014). As the skewness and kurtosis values were in the range -3 to +3, it can be concluded that the results are distributed normally (Kline, 2005).

2) The competitive advantage latent variable consists of three observed variables: cost-based advantage, product-based advantage, and service-based advantage. The mean scores of the responses in relation these variables were 3.9684, 4.6394, and 4.6990 respectively. Based on the interpretation of responses for the six

level interval scale outlined above, these results indicate that: (i) SMEs in Thailand show a high level of consistency with product-based advantage and service-based advantage characteristics; and (ii) SMEs in Thailand show a relatively high level of consistency with cost-based advantage characteristics. As the median scores were very close to the means and the standard deviations relatively low (between 0.7171 - 0.8014), it can be concluded that the results are quite tightly clustered around the mean (Kunlaya Wanichbancha & Thita Wanichbancha, 2014). As the skewness and kurtosis values were in the range -3 to +3, it can be concluded that the results are distributed normally (Kline, 2005).

3) The organizational performance latent variable consists of two observed variables: financial performance and internal process. The mean scores of the responses in relation these variables were 4.4288 and 4.5184 respectively. Based on the interpretation of responses for the seven level interval scale outlined above, these results indicate that SMEs in Thailand experienced only a slight improvement in financial performance and internal processes in 2014. Although the median scores were very close to the means, the standard deviations were somewhat higher than those of the other indicators (1.4581 and 1.1611). This indicates that the results for organizational performance were more dispersed than those for learning organization and competitive advantage (Kunlaya Wanichbancha & Thita Wanichbancha, 2014). As the skewness and kurtosis values were in the range -3 to +3, it can be concluded that the results are distributed normally (Kline, 2005).

4.4 Tests of Research Hypotheses

The methods used to test the research hypotheses and achieve the research objectives were correlation analysis, testing of the goodness of fit of the structural equation model, factor analysis, and analysis of effects between the variables.

4.4.1 Correlation Analysis

Correlation analysis was used to examine the relationships between the independent and dependent variables. It considered both the strength and direction of any relationships detected (Thanin Sincharu, 2012). Correlation coefficients range

from -1 to +1. A correlation coefficient of 1 indicates perfect correlation, while a value is 0 indicates that there is no relationship between them. A positive value means that the variables move in the same direction, and a negative value means that they move in opposite directions (Thanin Sincharu, 2012). This research used Pearson's correlation coefficient to analyze the relationship between the variables as shown in Table 4.5.

Table 4.5 Correlation Coefficient of the Variables

Variable:	OL	OC	KM	CB	PB	SB	FP	IP
OL	1.000							
OC	.755**	1.000						
KM	.704**	.736**	1.000					
CB	.293**	.382**	.382**	1.000				
PB	.438**	.428**	.424**	.416**	1.000			
SB	.496**	.499**	.451**	.404**	.682**	1.000		
FP	.134*	.143*	.241**	.351**	.279**	.165*	1.000	
IP	.181**	.201**	.281**	.262**	.233**	.129	.773**	1.000
Mean	4.6438	4.5721	4.4065	3.9684	4.6394	4.6990	4.4288	4.5184
S.D.	.73674	.77766	.82491	.80137	.71710	.75237	1.45810	1.16108
N	227	227	227	227	227	227	227	227

Note: **. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4.5 demonstrates that the eight variables can be analyzed in terms of 28 pairs. The correlations between 24 of these were found to be statistically significant at the 0.01 level, and a further 3 pairs were statistically significant at the 0.05 level. Only one pair of results was found to have no statistical significance. The correlation coefficients ranged from 0.134 (very weak) to 0.773 (strong). All of the weak results were for correlations between the observed variables in the organizational performance latent variable group and observed variables from two the other latent

variable groups. The results of the analysis for observed variables in the same latent variables group are as follows:

1) The correlation coefficients for the three pairs of learning organization observed variables ranged from 0.704 to 0.755. This indicates strong correlation in the same direction at a significance level of 0.01;

2) The correlation coefficients for the three pairs of competitive advantage observed variables ranged from 0.404 to 0.682. This indicates moderate to strong correlation in the same direction at a significance level of 0.01;

3) The correlation coefficient for the two organizational performance observed variables was 0.773. This indicates moderate to strong correlation in the same direction at a significance level of 0.01.

The results were then examined to consider their suitability for factor analysis. In order to demonstrate the ability of the observed variables to represent the latent variables, the correlation coefficients between each pair of observed variables should not less than ± 0.30 (Krich Rangsungnern, 2011). This is the case for the observed variable pairs in each latent variable group. Further analysis was carried out in the form of a Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity. These results are summarized in Table 4.6.

Table 4.6 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.769
Bartlett's Test of Sphericity	Approx. Chi-Square	1003.006
	df	28
	Sig.	0.000

A KMO of 0.769 indicates an above average degree of common variance, and Bartlett's Test of Sphericity shows that the variables have correlation (sig. = 0.000). Taken together, these results confirm that the data is suitable for factor analysis (Hair et al., 1998; Krich Rangsungnern, 2011; Kunlaya Wanichbancha, 2014).

Finally, the question of multicollinearity was considered by checking that the correlations between variables was not higher than 0.80 (Hinkle et al., 1998; Krich

Rangsungnern, 2011; Yutt kraiwan, 2013). As can be seen from Table 4.5, the highest correlation coefficient was 0.773. This demonstrated that the data appropriate to analyze structural equation model.

4.4.2 Test of the Goodness of Fit of the Structural Equation Model

Goodness of fit is a test to indicate the reliability of a structural equation model. It measures the extent to which empirical data matches what is expected under the model (Krich Rangsungnern, 2011; Yutt kraiwan, 2013). If the structural equation model fits the empirical data, it demonstrates that the model is a valid research tool for the collected data. There are a number of approaches which can be adopted in assessing model fit, depending on the purpose of the research. Three common approaches are as follows (Hair et al., 1992):

1) Absolute fit tests are used to evaluate the ability of given model to create a data set that is similar to the sample data set. This tests the difference between implied variances and covariance and sample data variances and covariance (Krich Rangsungnern, 2011). The indicators used to test absolute fit are chi-square (X^2) ($p > 0.05$), chi-square/df ($X^2/df < 2.00$), goodness of fit index (GFI > 0.90), root mean square residual (RMR < 0.05), and root mean square error of approximation (RMSEA < 0.08).

2) Comparative or incremental fit tests are used to compare a hypothesized model and null model which assumes no correlation between any of the variables and no influences based on sample size (McDonald & Marsh, 1990). Result of the comparison will be in the range 0 - 1 (Kline, 2005). The indicators used to test comparative fit are the adjusted goodness of fit index (AGFI > 0.90), normal fit index (NFI > 0.90), and comparative fit index (CFI > 0.90).

3) Parsimonious fit tests are used to compare models. The objective is to identify the model which can achieve the desired result with as few variables as possible (Teeradej Childaroon, 2015). The indicators used to test parsimonious fit are the parsimonious normed fit index (PNFI) (0 - 1; 1 = perfect fit) and the Akaike information criterion (AIC < saturated model).

The indices and assessment criteria used in measuring the goodness of fit of structural equation models are shown in Table 4.7.

Table 4.7 Summary of indices used in measuring model fit

Goodness of Fit Index	Assessment Criteria
Chi-square: X^2	$p > 0.05$
Chi-square/df: X^2/df	< 2.00
Goodness of Fit Index: GFI	> 0.90
Root Mean Square Residual: RMR	< 0.05
Root Mean Square Error of Approximation: RMSEA	< 0.08
Adjusted Goodness of Fit Index: AGFI	> 0.90
Normal Fit Index: NFI	> 0.90
Comparative Fit Index: CFI	> 0.90
Parsimonious Normed Fit Index: PNFI	0 – 1 (1 = perfect fit)
Akaike Information Criterion: AIC	< saturated model

The initial goodness of fit results for the structural equation model developed in this research are shown in Table 4.8.

Table 4.8 Model Fit Indices: Before Adjusting Modification Indices

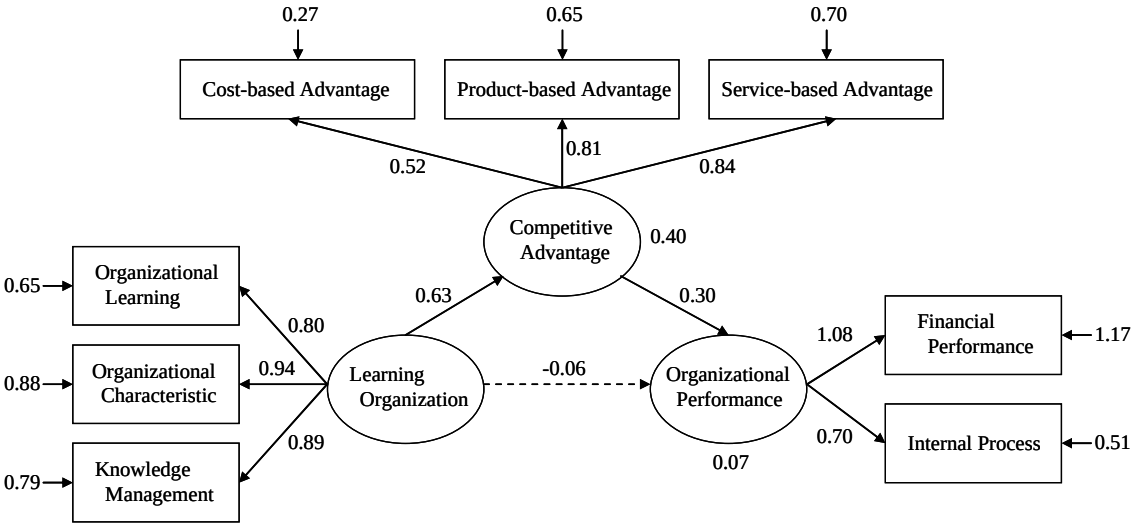
Goodness of Fit Index	Assessment Criteria	Statistic	Result
Chi-square: X^2	$p > 0.05$	< 0.001	×
Chi-square/df: X^2/df	< 2.00	2.962	×
Goodness of Fit Index: GFI	> 0.90	0.946	✓
Root Mean Square Residual: RMR	< 0.05	0.055	×
Root Mean Square Error of Approximation: RMSEA	< 0.08	0.093	×
Adjusted Goodness of Fit Index: AGFI	> 0.90	0.885	×
Normal Fit Index: NFI	> 0.90	0.951	✓
Comparative Fit Index: CFI	> 0.90	0.966	✓
Parsimonious Normed Fit Index: PNFI	0 – 1	0.577	✓
Akaike Information Criterion: AIC	< saturated model (>72.000)	88.346	×

It can be seen that the structural equation model did not fit the empirical data as six of the indices did not pass the assessment criteria.

The researcher subsequently adjusted the model by allowing for correlation between variances with high modification indices (M.I.) (Krich Rangsungnern, 2011; Thanin Sincharu, 2012; Yutt kraiwan, 2013). After adjustment, the research model was again tested for goodness of fit. The adjusted goodness of fit results are shown in Table 4.9.

Table 4.9 Model Fit Indices: After Adjusting Modification Indices

Goodness of Fit Index	Assessment Criteria	Statistic	Result
Chi-square: X^2	$p > 0.05$	0.071	✓
Chi-square/df: X^2/df	< 2.00	1.598	✓
Goodness of Fit Index: GFI	> 0.90	0.975	✓
Root Mean Square Residual: RMR	< 0.05	0.028	✓
Root Mean Square Error of Approximation: RMSEA	< 0.08	0.051	✓
Adjusted Goodness of Fit Index: AGFI	> 0.90	0.936	✓
Normal Fit Index: NFI	> 0.90	0.978	✓
Comparative Fit Index: CFI	> 0.90	0.992	✓
Parsimonious Normed Fit Index: PNFI	0 – 1	0.489	✓
Akaike Information Criterion: AIC	< saturated model (<72.000)	66.370	✓



Note: ⟶ represents direct effects

⇢ represents indirect effects

Figure 4.1 The Results of The Research Model

4.4.3 Factor Analysis

Factor analysis was conducted using AMOS structural equation modeling software. The estimated factor loadings, t-values and R-squared values are shown in Table 4.10.

Table 4.10 AMOS Unstandardized Estimates for Model (Maximum Likelihood)

Indicators	Factor Loadings			t-value	R^2
	LO	CA	OP		
OL	0.809	-	-	16.572***	0.646
OC	1.000	-	-	-	0.884
KM	1.000	-	-	19.928***	0.786
CB	-	0.715	-	7.278***	0.266
PB	-	1.000	-	-	0.650
SB	-	1.088	-	10.742***	0.699
FP	-	-	1.941	5.511***	1.166
IP	-	-	1.000	-	0.510

Note: t-values indicate the significance of the estimate.

*** t-value is significant at the 0.001 level.

It can be seen that the factor loadings for all variables in each group were greater than 0.5. This indicates a causal relationship, which is consistent with the results of the literature review and appropriate for further study.

For the learning organization latent variable:

1) Organizational learning had a positive effect at a statistical significance level of 0.001. The factor loading was 0.809, which means that when organizational learning increases 1 unit, learning organization will increase 0.809 of a unit (standard value = 0.804). Organizational learning can explain 64.6% of the variance in learning organization ($R^2 = 0.646$);

2) Organizational characteristic had a positive effect at a statistical significance level of 0.001. The factor loading was 1.000, which means that when organizational characteristic increases 1 unit, learning organization will increase 1.000 unit (standard value = 0.940). Organizational characteristic can explain 88.4% of the variance in learning organization ($R^2 = 0.884$);

3) Knowledge management had a positive effect at a statistical significance level of 0.001. The factor loading was 1.000, which means that when knowledge

management increases 1 unit, learning organization will increase 1.000 unit (standard value = 0.886). Knowledge management can explain 78.6% of the variance in learning organization (R^2 = 0.786).

For the competitive advantage latent variable:

1) Cost-based advantage had a positive effect at a statistical significance level of 0.001. The factor loading was 0.715, which means that when cost-based advantage increases 1 unit, competitive advantage will increase 0.715 of a unit (standard value = 0.516). Cost-based advantage can explain 26.6% of the variance in competitive advantage (R^2 = 0.266);

2) Product-based advantage had a positive effect at a statistical significance level of 0.001. The factor loading was 1.000, which means that when product-based advantage increases 1 unit, competitive advantage will increase 1.000 unit (standard value = 0.806). Product-based advantage can explain 65.0% of the variance in competitive advantage (R^2 = 0.650);

3) Service-based advantage had a positive effect at a statistical significance level of 0.001. The factor loading was 1.088, which means that when service-based advantage increases 1 unit, competitive advantage will increase 1.088 units (standard value = 0.836). Service-based advantage can explain 69.9% of the variance in competitive advantage (R^2 = 0.699).

For the organizational performance latent variable:

1) Financial performance had a positive effect at a statistical significance level of 0.001. The factor loading was 1.941, which means that when financial performance increases 1 unit, organizational performance will increase 1.941 units (standard value = 1.080). Financial performance can explain 116.6% of the variance in competitive advantage (R^2 = 1.166);

2) Internal process had a positive effect at a statistical significance level of 0.001. The factor loading was 1.000, which means that when internal process increases 1 unit, organizational performance will increase 1.000 unit (standard value = 0.699). Internal process can explain 51.0% of the variance in competitive advantage (R^2 = 0.510).

4.4.4 Analysis of the Effects between Latent Variables

The results of the research model shown in Figure 4.1 were further analyzed for effects between the latent variables as shown in Table 4.11 and Table 4.12.

Table 4.11 Hypotheses and Significant Path

Hypothesis	Independent Variable	→	Dependent Variable	Regression Weights			
				Estimate	S.E.	C.R.	P
H1	LO	→	OP	-0.065	0.096	-0.750	0.453
H2	LO	→	CA	0.631	0.058	8.586	***
H3	CA	→	OP	0.302	0.155	2.726	**

Note: → represent direct effect.

*** Significant at the 0.001 level.

** Significant at the 0.01 level.

Table 4.12 Analysis of the Effect on the Research Model

IV	LO			CA			R^2
DV	**TE**	**DE**	**IE**	**TE**	**DE**	**IE**	
CA	0.631	0.631	-	-	-	-	0.398
OP	0.126	-0.065	0.191	0.302	0.302	-	0.071

Note: IV represent independence variable.

DV represent dependence variable.

4.4.4.1 Direct Effects (DE)

Learning organization was <u>not</u> found to have a positive direct effect on the organizational performance variable at a statistical significance level of 0.05 of less; therefore hypothesis 1 (that learning organization has a positive direct effect on organizational performance) is rejected.

Learning organization was found to have a positive direct effect on the competitive advantage variable at a statistical significance level of 0.001. The size of the effect was 0.631, which means that when learning organization increases 1 unit, competitive advantage will increase 0.631 of a unit. Learning organization can explain 39.8% of the variance in competitive advantage (R^2 = 0.398). This supports hypothesis 2 (that learning organization has a positive direct effect on competitive advantage) and indicates that if SMEs in Thailand become learning organizations, their competitive advantage will increase.

Competitive advantage was found to have a positive direct effect on the organizational performance variable at a statistical significance level of 0.01. The size of the effect was 0.302, which means that when competitive advantage increases 1 unit, organizational performance will increase 0.302 of a unit. Competitive advantage can explain 7.1% of the variance in organizational performance (R^2 = 0.071). This supports hypothesis 3 (that competitive advantage has a positive direct effect on organizational performance) and indicates that if SMEs in Thailand create competitive advantage, their organizational performance will increase.

4.4.4.2 Indirect Effect (IE)

Learning organization was found to have a positive indirect effect on the organizational performance variable via the competitive advantage variable. The size of the effect was 0.191, which means that when competitive advantage increases 1 unit, organizational performance will increase 0.191 of a unit. This supports hypothesis 4 (that learning organization has a positive indirect effect on organizational performance via competitive advantage) and indicates that if SMEs in Thailand become learning organizations, their organizational performance will increase as a result of enhanced competitive advantage arising from being a learning organization.

4.4.4.3 Total Effects (TE)

The size of the effects of learning organization and competitive advantage on organizational performance were 0.126 and 0.302 respectively. This means that when learning organization increases 1 unit, organizational performance will increase 0.126 of a unit, and when competitive advantage increases 1 unit, organizational performance will increase 0.302 of a unit.

The size of the effect of learning organization on competitive advantage was 0.631. This means that when learning organization increases 1 unit, competitive advantage will increase 0.631 of a unit.

The overall results from the research model as they relate to testing the research hypotheses are shown in Table 4.13.

Table 4.13 Summary of Hypotheses Testing

	Hypothesis	Analysis Results
Direct Effect		
H1	Learning organization has a positive direct effect on organizational performance.	Not supported
H2	Learning organization has a positive direct effect on competitive advantage.	Supported
H3	Competitive advantage has a positive direct effect on organizational performance.	Supported
Indirect Effect		
H4	Learning organization has a positive indirect effect on organizational performance via competitive advantage.	Supported

4.5 Analysis of the Refined Model

It was found from the literature review that there may be a correlation between competitive advantage and organizational learning, which is a one of key components of a learning organization (Oyeniyi, 2011). The researcher decided to study whether this relationship is supported by the sample data. This was achieved by adjusting the effect path between these two variables; the direct effect path from learning organization to competitive advantage (one head arrow directed from learning organization to competitive advantage) was changed to be a correlation (two heads arrow linking the variables). The refined model arising from this is shown in Figure 4.2.

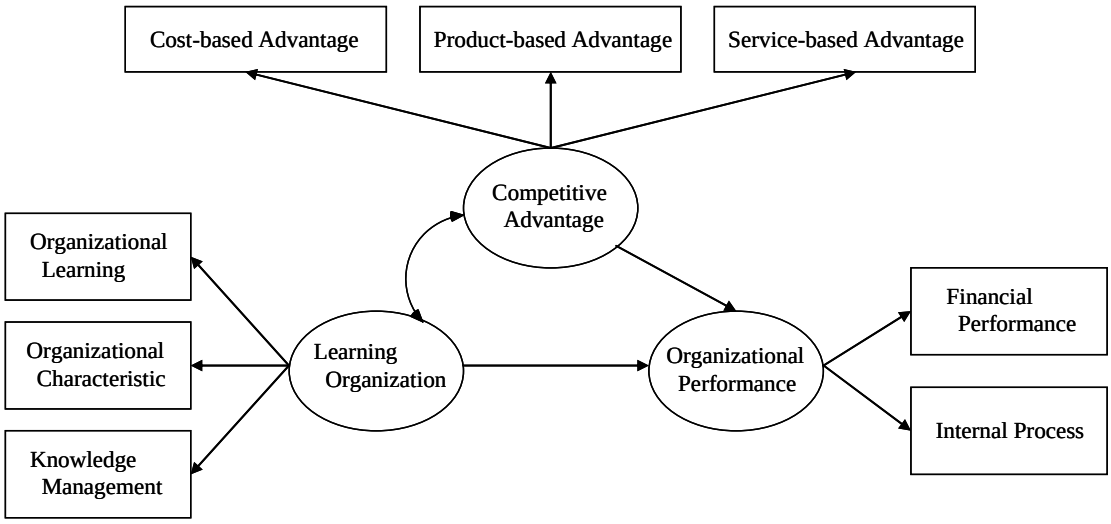


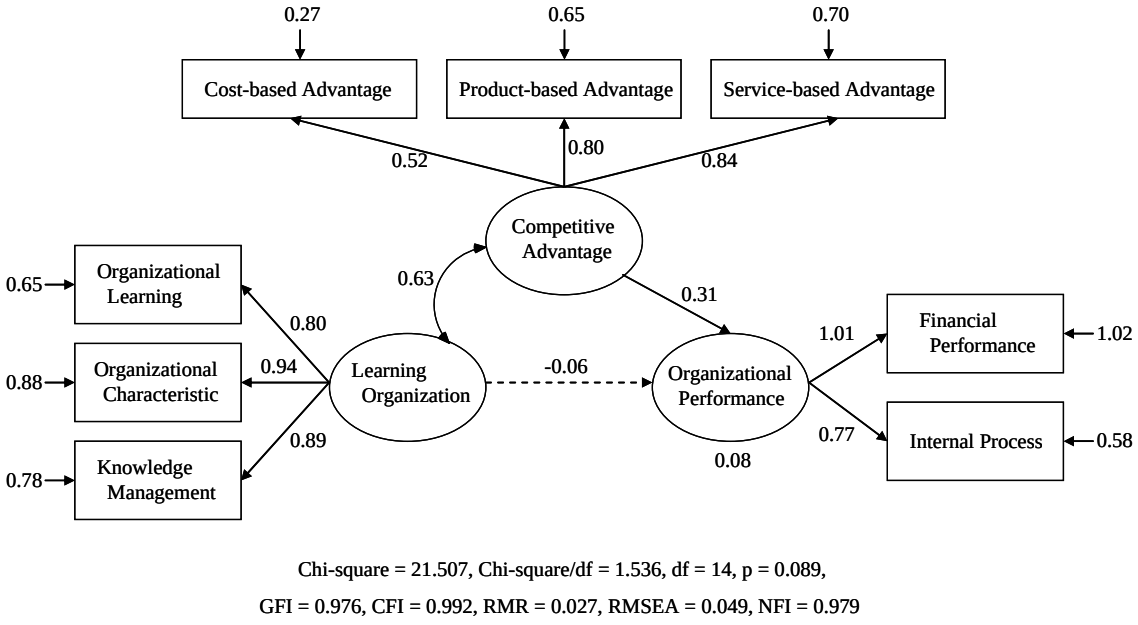
Figure 4.2 Refined Model

4.5.1 Test of the Goodness of Fit of the Refined Model

As with the original model, the initial test showed that the refined model did not fit the empirical data as several indices did not pass the assessment criteria. The researcher subsequently adjusted the model by allowing for correlation between variances with high modification indices (M.I.) (Krich Rangsungnern, 2011; Thanin Sincharu, 2012; Yutt kraiwan, 2013). After adjustment, the research model was again tested for goodness of fit. The adjusted goodness of fit results are shown in Table 4.14.

Table 4.14 Model Fit of the Refined Model: After Adjusting Modification Indices

Goodness of Fit Index	Assessment Criteria	Statistic	Result
Chi-square: X^2	p > 0.05	0.089	✓
Chi-square/df: X^2/df	< 2.00	1.536	✓
Goodness of Fit Index: GFI	> 0.90	0.976	✓
Root Mean Square Residual: RMR	< 0.05	0.027	✓
Root Mean Square Error of Approximation: RMSEA	< 0.08	0.049	✓
Adjusted Goodness of Fit Index: AGFI	> 0.90	0.939	✓
Normal Fit Index: NFI	> 0.90	0.979	✓
Comparative Fit Index: CFI	> 0.90	0.992	✓
Parsimonious Normed Fit Index: PNFI	0 – 1	0.489	✓
Akaike Information Criterion: AIC	< saturated model	65.507 (<72.000)	✓



Note: ◄——► represent correlation

——► represent direct effect

- - - -► represent indirect effect

Figure 4.3 The Results of The Refined Model

4.5.2 Factor Analysis of the Refined Model

Factor analysis of the refined model was conducted using AMOS structural equation modeling software. The estimated factor loadings, t-values and R-squared values are shown in Table 4.15.

Table 4.15 AMOS Unstandardized Estimates for the Refined Model (Maximum Likelihood)

Indicators	Factor Loadings			t-value	R^2
	LO	CA	OP		
OL	1.000	-	-	-	0.645
OC	1.236	-	-	16.552***	0.885
KM	1.234	-	-	15.641***	0.784
CB	-	1.000	-	-	0.267
PB	-	1.392	-	7.289***	0.646
SB	-	1.524	-	7.321***	0.703
FP	-	-	1.000	-	1.019
IP	-	-	0.606	7.223***	0.583

Note: t-values indicate the significance of the estimate.

***. t-value is significant at the 0.001 level.

It can be seen that the factor loadings for all variables in each group were greater than 0.5. This indicates a causal relationship, which is consistent with the results of the literature review and appropriate for further study.

For the learning organization latent variable:

1) Organizational learning had a positive effect at a statistical significance level of 0.001. The factor loading was 1.000, which means that when organizational learning increases 1 unit, learning organization will increase 1 unit (standard value = 0.803). Organizational learning can explain 64.5% of the variance in learning organization ($R^2 = 0.645$);

2) Organizational characteristic had a positive effect at a statistical significance level of 0.001. The factor loading was 1.236, which means that when organizational characteristic increases 1 unit, learning organization will increase 1.236 units (standard value = 0.941). Organizational characteristic can explain 88.5% of the variance in learning organization ($R^2 = 0.885$);

3) Knowledge management had a positive effect at a statistical significance level of 0.001. The factor loading was 1.234, which means that when knowledge management increases 1 unit, learning organization will increase 1.234 units (standard value = 0.886). Knowledge management can explain 78.4% of the variance in learning organization (R^2 = 0.784).

For the competitive advantage latent variable:

1) Cost-based advantage had a positive effect at a statistical significance level of 0.001. The factor loading was 1.000, which means that when cost-based advantage increases 1 unit, competitive advantage will increase 1 unit (standard value = 0.516). Cost-based advantage can explain 26.7% of the variance in competitive advantage (R^2 = 0.267);

2) Product-based advantage had a positive effect at a statistical significance level of 0.001. The factor loading was 1.392, which means that when product-based advantage increases 1 unit, competitive advantage will increase 1.392 units (standard value = 0.803). Product-based advantage can explain 64.6% of the variance in competitive advantage (R^2 = 0.646);

3) Service-based advantage had a positive effect at a statistical significance level of 0.001. The factor loading was 1.524, which means that when service-based advantage increases 1 unit, competitive advantage will increase 1.524 units (standard value = 0.838). Service-based advantage can explain 70.3% of the variance in competitive advantage (R^2 = 0.703).

For the organizational performance latent variable:

1) Financial performance had a positive effect at a statistical significance level of 0.001. The factor loading was 1.000, which means that when financial performance increases 1 unit, organizational performance will increase 1 unit (standard value = 1.010). Financial performance can explain 101.9% of the variance in competitive advantage (R^2 = 1.019);

2) Internal process had a positive effect at a statistical significance level of 0.001. The factor loading was 0.606, which means that when internal process increases 1 unit, organizational performance will increase 0.606 of a unit (standard value = 0.770). Internal process can explain 58.3% of the variance in competitive advantage (R^2 = 0.583).

4.5.3 Analysis of the Effects between Latent Variables: Refined Model

As the refined model had no indirect effects, the total effect will be the sum of the direct effects.

Again, learning organization was not found to have a positive direct effect on the organizational performance variable at a statistical significance level of 0.05 or less.

Learning organization was found to be correlated with the competitive advantage variable at a statistical significance level of 0.001. The correlation coefficient was 0.630, which means that learning organization and competitive advantage had medium level correlation in the same direction. If one of the variables increases, the other variable will also increase; if one of the variables decreases, another variable will also decrease (Krich Rangsungnern, 2011).

Competitive advantage was found to have a positive direct effect on the organizational performance variable at a statistical significance level of 0.001. The size of the effect was 0.311, which means that when competitive advantage increases 1 unit, organizational performance will increase 0.311 of a unit. Competitive advantage can explain 7.6% of the variance in organizational performance (R^2 = 0.076)

4.5.4 Analysis of the Research Model and the Refined Model.

The following conclusions can be drawn from comparison of the results of the research model and the refined model:

1) Similar goodness of fit indices were obtained when the empirical data was applied to the two models. The most useful indices for comparing models are the PNFI and AIC; a higher PNFI value or lower AIC value are considered indicative of a better model (Kunlaya Wanichbancha, 2014; Schumacker & Lomax, 2010). The PNFI of both models was the same (0.489). However, the AIC of the refined model (65.507) was marginally less than the research model (66.370). This indicates that the refined model was a slightly better fit than the research model;

2) The two models supported the same conclusion in relation to hypothesis 1: learning organization was not found to have a positive direct effect on the organizational performance variable at a statistical significance level of 0.05 or less;

3) Under the refined model, competitive advantage had a slightly greater direct effect on organizational performance (a factor loading of 0.311 vs. 0.302, and accounting for 7.6% of variance vs. 7.1%). The statistical significance level of the refined model result was also greater (0.001 vs. 0.010);

4) The results in points 2 & 3 above indicate that Thai SMEs wishing to improve organizational performance should create competitive advantage in association with learning organization.

CHAPTER 5

CONCLUSION, DISCUSSION AND RECOMMENDATIONS

This chapter presents conclusions, discussion and also recommendations for analysis in use and recommendations for further research in the future.

5.1 Conclusions

The purpose of this research on "The Impact of Learning Organization and Competitive Advantage on Organizational Performance in SMEs (Thailand): an Empirical study" is to answer the research questions: “Does being a learning organization have an impact on competitive advantage and the organizational performance of SMEs? If so, how does it impact?” The research develops the concept and tests the influence of variables including learning organization, competitive advantage, and organizational performance.

The research methods used comprise both qualitative study (by interviews and a literature review) and quantitative study (by survey questionnaires which were tested for validity and reliability and then analyzed in order to test the research hypotheses and in turn answer the research questions).

The unit of analysis is the organization, based on data provided by respondents who are decision-makers in the organization. The target population is Thai SMEs that have been operating in labour intensive manufacturing industries for at least three years. The manufacturing sector was selected because it plays a key role in economic progress of the country. The three major labour intensive industries in the manufacturing sector are textile and apparel manufacturing, footwear and leather manufacturing, and jewel and decoration manufacturing. It was decided not to include jewel and decoration manufacturers as initial interviews suggested that typical respondents in that industry would be reluctant to share the required information.

This research began with descriptive research, data collection and cross section analysis. Only one set of data was collected from participants. The results of the 227 returned questionnaires were first analyzed for descriptive statistics using the SPSS statistics program. Structural equation modeling using the AMOS SEM program was then conducted to evaluate the research model and reach the research objectives.

The hypotheses comprise four assumptions, three of which are direct effects and one of which is an indirect effect. The three direct effects are: (H1) Learning organization has a positive direct effect on organizational performance; (H2) Learning organization has a positive direct effect on competitive advantage; and (H3) Competitive advantage has a positive direct effect on organizational performance. The one indirect effect is (H4) Learning organization has a positive indirect effect on organizational performance via competitive advantage. The results of quantitative analysis of the empirical data support the second, third and fourth hypotheses. The results for the first hypothesis were not statistically significant, so that hypothesis was not supported.

A refined model was also analyzed in which the relationship between learning organization and competitive advantage was changed from a direct effect to a correlation. The analysis showed that learning organization is moderately correlated with competitive advantage and that the relationships go in the same direction. The other results of the refined were similar to those of the research model. Although competitive advantage was seen to have a positive direct effect on the organizational performance, learning organization did not have a positive direct effect on the organizational performance to a statistically significant level. Under the refined model, the effect of competitive advantage on organizational performance was slightly greater and had more statistical significance. This variance can be explained by the combined influence of learning organization and competitive advantage on organizational performance.

The material collected in the qualitative study was consistent with and supportive of the quantitative analysis for both the research model and the refined model, and helped clarify the features of the relationship between the three variables.

5.2 Discussion

SMEs in the Thai textile and apparel manufacturing and footwear and leather manufacturing industries are similar in a number of ways. Both are involved in the fashion industry, which means that they must be able to keep up with and quickly adapt to trends in a fast-changing market. They are also labor-intensive and export-oriented, thus playing an important role in the national economy in terms of employment and contribution to GDP.

Both industries are considered to have a high level of learning organization. They have a relatively small chain of command, which tends to be horizontal and flexible in structure. Management focuses on performance rather than rules, and supports organizational learning by sending senior members to attend courses, seminars, trade shows, etc. Communication is informal, which means that decisions can be made, communicated and implemented quickly. Structure is team-based, where each member is able to perform a variety of duties. It can be seen that the industries encompasses four of the elements which are necessary to become a learning organization: a flexible structure, performance-orientation, informal communication, and teamwork.

As indicated above, a flat organization structure can be a positive factor in becoming a learning organization. Fewer management levels can result in more efficient communication and enhanced flexibility. However, it can also represent a barrier to becoming a learning organization (Tippawan Lorsuwannarat, 2005). Major decisions will depend solely on the vision, knowledge and decision-making qualities of the owner. It any of these are lacking, the organization may not gain fully from the other existent elements.

Moreover, there are several other key components of organizational learning which were found to be lacking in the two industries:

1) Decentralization and member empowerment. Owners have the perception that lower level workers have minimal understanding of work processes and little interest in improving them. Accordingly, they do not involve members in decision-making. Decisions of owners or managers are regarded as final, and are rarely questioned by members. This is partly cultural, as Thai culture emphasizes respect for

seniority. It conditions people to think that they should not question their seniors or cause problems for them (Thanit Suwancharoen, 2007), and leads to inappropriate reward and punishment systems (Nystrom & Starbuck, 1984). Because of this, members usually wait for an order from authority rather than trying to brainstorm ideas and solve problems themselves. This is a major obstacle to the learning organization. The leader's role in overcoming this attitude is considered to be the key to learning organization creation (Farrukh & Waheed, 2015; Singh, 2010; Wasin Phomboot, 2012). Decentralization encourages members to learn and leads to innovation and greater flexibility. Centralization could well explain why learning organization in Thai SMEs was not found to directly affect organizational performance.

2) Knowledge and data recording and transfer. Few non-essential records of business developments, past problems and solutions, operational processes, etc. are maintained. Additionally, knowledge transfer to lower level members tends to be limited to explaining what is needed for them to do their job. Once this initial training is completed, members are left to run their operations by themselves. Additional learning is mostly based on experience. The organization is at risk of losing important knowledge from resignation of specialized members, leading to wasted time, resource depletion, higher costs, etc.

Both industries are highly competitive and subject to rapid change. Achieving some sort of continuing competitive advantage is therefore critical to long term success. This results in an environment which encourages organizational learning. Two of the most important aspects of competitive advantage in the fashion industry are product differentiation and brand building. As fashion trends are becoming more and more global, knowledge of international markets is important. However, any product-based advantage does not last long. Successful designs are soon imitated, and new styles come and go. Thus, product-based advantage is of secondary importance. Service-based advantage, which addresses customer needs in comprehensive, quick and attentive way, builds loyalty in customers and increases their willingness to pay more. As indicated previously, the industry is highly competitive and the number of participants in it is growing rapidly. Because of this, cost-based advantage is of lowest importance. It is very difficult for a labor-intensive industry to compete by price,

especially in the global marketplace where other countries have lower labor costs. Organizations must create competitive advantage in other ways, the most powerful being branding.

The performance of the Thai SME sector increased slightly in 2014. The survey results indicated that the financial performance and internal processes of the textile and apparel industry increased in line with the overall trend, while those of the footwear and leather industry remained unchanged. The two industries were directly affected by an economic slowdown in domestic and foreign markets, especially the European Union and the United States which are the main export markets for the two industries. In addition, both of the industries were adversely affected by two domestic events. The first was a major flood, which heavily damaged many industrial estates in areas in which they operate. The second was a substantial increase in the government mandated minimum wage, which resulted in a huge cost increase for labor-intensive industries.

The study found no increase in organizational performance among SMEs with learning organization characteristics. This does not support the first hypothesis that "Learning organization has a positive direct effect on organizational performance". It is also inconsistent with a number of studies which suggest that businesses that exhibit organizational learning, organizational characteristic and knowledge management will outperform those that don’t. However, the research is consistent with other studies which: (a) found that learning organization has an indirect impact on organizational performance (Niti Rattanaprichavej, 2010; Wasan Sakulkijkarn, 2014; Yang et al., 2004; etc.); (b) examined the limitations of organizations which lack direction and true understanding of learning concepts, or promote learning to achieve international standards or for social values only (Niti Rattanaprichavej, 2010); (c) considered the impact of vague or difficult to measure goals (Levitin & Redman, 1995; Wasan Sakulkijkarn, 2014).

Although this study found no direct link between learning organization and organizational performance, learning organization was shown to have an indirect effect via competitive advantage. To date there have been few substantial research studies on the relative influence of these three variables. Most of the studies used elements of learning organization (such as organizational learning and knowledge

transfer) as independent variables. These indicate learning organization should still be considered as an important variable. This study should help to fill this research gap.

Many scholars believe that learning organization is a significant factor in increasing capacity and creating permanent competitive advantage for businesses operating in uncertain or quickly changing environments. Although some competitors will be able to produce at a quality and/or for a price close to a market leader over time, a market leader which is a learning organization will have developed and advanced their product further by that time. Research has shown that the culture of learning organizations provides flexibility to learn and quickly adapt to change. New knowledge is found or created, then transferred or distributed throughout the organization and analyzed for use in operations. Members consistently exchange results and learn as a team. This increases competitive advantage by providing increased service and/or value for customers. It also makes the organization distinct or different to its competitors. Products can be produced at a lower cost or higher standard than competitors, and buyers may be willing to pay a higher price. Naveed (2009) and Sudharatna & Li (2004) found that as learning organization grows, competitive advantage increases as well. This idea is supported by many other scholars such as Davenport & Prusak (1999), De Geus (1997), Djonlagic et al. (2013), Saroj O'pitagchewin (2010), etc. It can therefore be concluded that learning organization is important for Thai SMEs to gain competitive advantage.

In this study, organizational characteristic was found to have the greatest influence on learning organization, followed by knowledge management and organizational learning respectively. Some other scholars such as Marquardt (2002) have suggested that it is organizational learning which has the most influence. Although organizational learning may be an important requirement to become a learning organization, it could also be that inappropriate organizational characteristic or knowledge management are major obstacles to organizational learning.

There are many research studies which suggest that competitive advantage is a mediator for organizational performance. When competitive advantage increases, organizational performance also increases. This study supported those findings. The results of third hypothesis testing (that competitive advantage has a positive direct effect on organizational performance) found that if Thai SMEs create competitive

advantages focusing on service-based advantage, product-based advantage, and cost-based advantage, organizational performance increases. Service-based advantage was found to have the highest influence, followed by product-based advantage and cost-based advantage respectively. This research is consistent with the findings of Eisenhardt & Brown (1998), Ismail et al. (2010), Li et al. (2006), Majeed (2011), Newbert (2008), Nham Phong & Yoshi (2010), Rose et al. (2009), Sanchez (1993, 1995), Stalk (1990), Zhou et al. (2009), so it can be said that this study supports most of the academicians and researches in the field.

In a highly competitive environment, creating competitive advantage is essential in order to increase organizational performance. Organizational performance consists of financial performance (as measured by sales growth, market share, and return on investment) and internal process (as measured by productivity, time to market, and lead-time). Financial performance has the greatest influence to organizational performance and, although internal process must also be taken into account, financial performance is considered the most important measurement for organization survival.

In summary it can be said that, if Thai SMEs build learning organization, this will lead to higher competitive advantage and in turn higher organizational performance. Moreover, if Thai SMEs create learning organization together with competitive advantage, organizational performance will be even greater than from creating learning organization alone. In an uncertain, rapidly changing environment, organizations have to be able to quickly adapt and create competitive advantage. Learning organization plays a key part in the process of creating competitive advantage and adds value to it as well. Building competitive advantage along with learning organization is important for survival.

Although the review did not find a direct relationship between the learning organization and competitive advantage, the findings are consistent with the research of Oyeniyi (2011), which found a relationship between organizational learning (which is a key component of learning organization) that is associated with competitive advantage.

A conclusion of this study is that learning organization of Thai SMEs affects organizational performance with competitive advantage as mediator. This appears to

be the first time that this result has been demonstrated empirically in research. In addition, if there is competitive advantage along with learning organization, this will lead to even greater organizational performance. Learning organization is therefore critically important, even if in the context of Thai SMEs it was not found to directly affect organizational performance. Finally, Thai SMEs were found to lack learning organization components in the areas of decentralization or member empowerment, Knowledge and data recording and transfer.

5.3 Recommendations

The study found that creating learning organization and competitive advantage is important to significantly develop SMEs in Thailand. Recommendations are divided into two parts: the recommendations for analysis in use and recommendations for further research.

5.3.1 Recommendations for Analysis in Use

1) The research showed that learning organization greatly influences competitive advantage creation in Thai SMEs. Additionally, learning organization contributes indirectly to organizational performance of SMEs. These two findings, which confirm the importance of learning organization, should be used to encourage SMEs to give priority to becoming a learning organization. The organization leader is of major importance in moving towards a learning organization. Therefore, leaders need to fully understand their role before introducing organizational learning to members. In a learning organization, the role of leadership is not to command. Rather, it is to create a shared vision with members and inspire, motivate, support and encourage them.

2) The study found that Thai SMEs lack decentralization and empowerment. Leaders have to understand that in addition to helping the business to run smoothly and effectively, these are the keys to becoming a learning organization. Involving members in decision-making provides an incentive for them to learn and innovate, which in turn will improve organizational performance. Empowerment can be introduced incrementally, starting with limited powers and gradually increasing them.

This has the advantage of mitigating any concerns that members may lack understanding of their work and/or enthusiasm for learning.

3) The research showed that Thai SMEs don't understand the importance of knowledge and data storage systems. These have to be built to systematically and securely store information so that knowledge and experiences gained are not lost. Leaders should urge organizational members to store and use knowledge gained, starting from clearly documented procedure manuals. This will make it easy to transfer knowledge to new members without relying on the memory of existing or past members. Similarly, a record of past problems and how they were solved can assist in dealing with them if they reoccur and more importantly, prevent members repeating the same mistakes. Technologies other than paper can be helpful, such as short training videos. An important aspect is that knowledge storage systems should be clearly documented and simple to use, so that information can be easily found when needed and transferred smoothly.

4) As part of becoming learning organizations, Thai SMEs need to improve their measurement of organizational performance to provide data that can be analyzed to monitor competitive advantage. The monitoring should consider both financial and non-financial indicators that show the progress in all aspects of the organization. Performance results should be communicated to all members to encourage organizational learning and creation of competitive advantage.

5) The findings showed that Thai SMEs which have high competitive advantage also have higher organizational performance. This demonstrated the importance of creating competitive advantage. Organizations should use the six-forces model to analyze their competitive position, and use the model of generic industry structure to find ways to create bargaining power over suppliers and buyers, and analyze the threat of new entrants and substitute products or services, rivalry among existing competitors, and government policies. This will enable them to better understand the competitive situation and formulate strategies to create competitive advantage. Such analyses require complete and accurate information. Therefore, the organization must collect data and related material not only from within the organization, but also in relation to their competitors and industry.

6) The government's role is very important in promoting or constraining the development of the organizational performance of SMEs in Thailand. Therefore, the government should promote, support, and urge SMEs of Thailand to recognize the importance of becoming a learning organization. The government should provide training and workshops to educate entrepreneurs in both the theoretical and practical concepts of learning organizations. The trainers have to understand not only learning organization theory and concepts, but the practical needs of SMEs. In addition, a center should be set up to provide advice and assist SMEs in implementing learning organization methodology. Moreover, the government should implement special measures to encourage entrepreneurs to create learning organizations. These could include rewards such as favorable participation in government programs, low-interest loans, etc. This research showed that creating learning organizations should be an urgent matter for government policy.

7) Government should promote, support, and urge SMEs in Thailand to recognize the importance of creating a competitive advantage. The government should provide training and workshops to educate entrepreneurs as to how to create competitive advantage for their organization. Leaders need to know how to analyze the competitive status of their organization, competitors and industry group and apply that information in creating competitive advantage. Moreover, the government should collect and make readily available any information that would be helpful in creating competitive advantage for Thai SMEs. Examples include analysis of trends in both domestic and foreign markets, effects of Thai and foreign trade and other government policies, etc. This research showed that creating competitive advantage could be a lower priority than creating learning organizations. However, due to the importance of SMEs as driving forces of the economy, the two policies would be better implemented at the same time.

5.3.2 Recommendations for Further Research

1) This research focused on the influence and relationship between the three main variables: learning organization, competitive advantage, and organizational performance. Further research should study the relationship of other variables such as

the beliefs of the leader and the impact of Thai cultural values to gain even more extensive research.

2) This study is in the context of SMEs in two industries in Thailand. Further studies should be in other contexts in order to get more comprehensive results.

3) This research study focuses on structural equation modeling, which is based on quantitative research. A further study should concentrate on qualitative research, such as in-depth interviews, in order to understand the links between each variable more clearly.

4) This study used cross-sectional research that collects data once during a given period of time. It should be repeated over a longer period of time to see if time affects the analysis. Moreover, further research should use empirical data collected continuously over a much longer term to confirm the consistency of the models developed from the cross-sectional studies.

5) This research focused on the private sector. Therefore, further research should study other types of businesses, state enterprises, government sector, or across several such groups to demonstrate any similarities or differences between different types of business.

BIBLIOGRAPHY

Agha, S., Alrubaiee, L., & Jamhour, M. (2012). Effect of core competence on competitive advantage and organizational performance. *International Journal of Business and Management*, 7(1), 192-204.

Al-alak, B. A. & Tarabieh, S. A. (2011). Gaining competitive advantage and organizational performance through customer orientation, innovation differentiation and market differentiation. *International Journal of Economics and Management Sciences*. *1*(5), 80-91.

Anderson, H. (1997). *Conversation, language, and possibilities: A postmodern approach to therapy*. New York: Basic Books.

Argyris, C., & Schön, D. A. (1978). *Organizational learning: A theory of action perspective.* Reading, MA: Addison-Wesley.

Arporn Lummana, Jindarat Peemanee & Nithipong Songsriroj. (2011). The relationship between characteristics of learning organization and performance of the branch of Siam city bank public company limited. *Journal of Accounting and Management. Maha Sarakham University*, *3*(1), 1-12. (In Thai)

Bain, J. S. (1956). *Barriers to new competition.* Cambridge, MA: Harvard University Press.

Barnett, C. K. (1994). *Organisational learning and continuous quality improvement in automotive manufacturing organizations*. (Unpublished doctoral dissertation). University of Michigan, MI.

Baumback, C. M. (1988). *How to organize and operate a small business* (8th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Bernardin, H. J., Kane, J. S., Ross, S., Spina J. D., & Johnson D. L. (1995). Performance appraisal design, development and implement. In G. R. Ferris, S. D. Rosen, & D. T. Barnum (Eds.), *Handbook of Human Resource Management* (pp. 462-493). Cambridge: Blackwell.

Bhaskaran, S. (2006). Incremental innovation and business performance: Small and medium-size food enterprises in a concentrated industry environment. *Journal of Small Business Management, 44(*1), 64–80. doi:10.1111/j.1540-627x.2006.00154.x

Blackman, D., & Henderson, S. (n.d.). Does a learning organisation facilitate knowledge acquisition and transfer?. Retrieved December 14, 2013 from http://www.mngt.waikato.ac.nz/ejrot/Vol7_1/blackman.pdf

Bourne, M., Mills, J., Wilcox, M., Neely, A., & Platts, K. (2000). Designing, implementing and updating performance measurement systems. *International Journal of Operations & Production Management, 20*(7), 754–771. doi:10.1108/01443570010330739

Bowen, D. E., & Ostroff, C. (2004). Understanding HRM-Firm performance linkages: The role of the "strength" of the HRM system. *Academy of Management Review, 29*(2), 203–221. doi:10.5465/amr.2004.12736076

Brumback, G. B. (1988). Some ideas, issues and predictions about performance management. *Public Personnel Management, 17*(4), 387–402. doi:10.1177/009102608801700404

Bureau of Agricultural Economic Research. (n.d.). Learning organization. Retrieved May 23, 2013, from http://www.oae.go.th/ewtadmin/ewt/oae_baer/ewt_news.php?nid=3708&filename=index

Business Online (PCL.) (2012). *Summary for administrator of deep survey in 55 provinces project.* Bangkok: Office of small and medium enterprises promotion. Retrieved from http://119.63.93.73/smebiweb/img/doc02.pdf (In Thai)

Campbell, J. P. (1990). Modeling the performance prediction problem in industrial and organizational psychology. In M. D. Dunnette, & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed. Vol. 1, 687–732). Palo Alto, CA: Consulting Psychologists Press.

The CEO game. (2009). Six forces model. Retrieved June 24, 2013, from http://www.theceogame.com/2009/09/six-forces-model/

Chrisman, J. J., Hofer, C. W., & Boulton, W. B. (1988). Toward a system for classifying business strategies. *Academy of Management Review, 13*(3), 413–428. doi:10.5465/amr.1988.4306963

Christensen, K. & Fahey, L. (1984). Building distinctive competences into competitive advantage. *Strategic Planning Management, (February),* 113-23.

Costa, Maria da Penha Braga & Cabral, Jose Ednilson de Oliveira. (n.d.). The relationship knowledge, learning, innovation and competitive advantages: A conceptual model. *The International Journal of Technology, Knowledge and Society, 6*(3), 21-36.

Giménez, C., & Ventura, E. (2003). Supply chain management as a competitive advantage in the Spanish grocery sector. *The International Journal of Logistics Management, 14*(1), 77–88. doi:10.1108/09574090310806558

Daft, R. L. (2001). *Organization theory and design* (7th ed.). Cincinnati, OH: South-Western College Publishing.

Dave, U. (2008). *Learning and performance matter*. Singapore: World Scientific.

Davenport, Thomas H. & Prusak, Laurence. (1999). *Working knowledge: How organizations manage what they know*. Boston: Harvard Business School Press.

Davis, D. (2005). *The learning organization and its dimensions as key factors in firm performance.* (Unpublished doctoral dissertation). University of Wisconsin-Madison, WI.

Davis, D., & Daley, B. J. (2008). The learning organization and its dimensions as key factors in firms' performance. *Human Resource Development International, 11*(1), 51–66. doi:10.1080/13678860701782352

Dess, G. G., & Davis, P. S. (1984). Porter's (1980) generic strategies as determinants of strategic group membership and organizational performance. *The Academy of Management Journal, 27*(3), 467-488.

De Geus, A. (1997). *The living company: Habits for survival in a turbulent environment.* Boston, MA: Longview.

Dixon, N. (1994). *The organizational learning cycle*. New York: McGraw Hill.

Dixon, P. (1998). *Futurewise: Six faces of global change*. London: Harper Collins.

Djonlagic, S., Delic, A., & Kovacevic-Rahmanovic, A. (2013, June). Development learning organizations for achievement of competitive advantages in enterprises in Bosnia and Hercegovina. In *Management, Knowledge and Learning.* International conference. Croatia.

Dokukina, A. (2003, June). *Enterprise as a learning organization: Creating a new competitive advantage. International Tendencies and Perspective in Russia.* Paper presented at 43rd European Congress of the Regional Association, Juvaskyla, Finland.

Dror, Y. (1964). Muddling through-science or inertia?. *Public Administration Review, 24*(3), 103-117. doi:10.2307/973640

Drucker, P. F. (1995). The Information executives truly need. *Harvard Business Review, 73*(1), 54-62.

Eisenhardt, K. M., & Brown, S. L. (1998). *Competing on the edge: Strategy as structured chaos.* Boston, MA: Harvard Business School Press.

Ellinger, A. D., Ellinger, A. E., Yang, B., & Howton, S. W. (2002). The relationship between the learning organization concept and firms' financial performance: An empirical assessment. *Human Resource Development Quarterly, 13*(1), 5-22. doi:10.1002/hrdq.1010

Fahy, J. (2000). The resource-based view of the firm: some stumbling-blocks on the road to understanding sustainable competitive advantage. *Journal of European Industrial Training, 24*(2/3/4), 94–104. doi:10.1108/03090590010321061

Farrukh, M., & Waheed, A. (2015). Learning organization and competitive advantage-An integrated approach. *Asian Economic and Social Society, 5*(4), 73-79.

Fitzgerald, L., Johnston, R., Brignall, S., Silvestro, R., & Voss, C. (1991). *Performance measurement in service business.* London: Chartered Institute of Management Accountants (CIMA).

Gartner, W. B., Shaver, K. G., Gatewood, E., & Katz, J. A. (1994). Finding the entrepreneur in entrepreneurship. *Entrepreneurship, Theory and Practice: ET & P, 18*(3), 5-10.

Garvin, D. A. (1993). Building a learning organization. *Harvard Business Review, 71*(4), 78-91.

Garvin, D. A. (2000). *Learning in action: A guide to putting the learning organization to work*. Boston, MA: Harvard Business School Press.

Gefen, D., Straub, D., & Boudreau, M. (2000). Structural equation modeling techniques and regression: Guideline for research practices. Retrieved June 10, 2013 from http://aisel.aisnet.org/cais/vol4/iss1/7/

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1992). *Multivariate data analysis with readings* (3rd ed.). Macmillan, New York.

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W.C. (1998). *Multivariate data analysis* (5th ed.). Upper Saddle River, NJ: Prentice Hall.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective.* Upper Saddle River, NJ: Pearson, Originally.

Hartle, F. (1995). *Transforming the performance management process.* London: Kogan Page.

Hatten, T. S. (2009). *Small business management.* New York: Houghton Mifflin.

Herrera, D. A. (2007). *A validation of a learning organization as a driver of performance improvement*. (Unpublished doctoral dissertation). Capella University, MN.

Hill, C. W. L. (1988). Differentiation versus low cost or differentiation and low cost: A contingency approach. *Academy of Management Review, 13*(3), 401-412.

Hinkle, D. E., William, W., & Stephen, G. J. (1998). *Applied statistics for the behavior sciences* (4th ed.). New York: Houghton Mifflin.

Investopedia. Six forces model. Retrieved June 24, 2013, from http://www.investopedia.com/terms/s/six-forces-model.asp

Ismail, A. I., Rose, R. C., Abdullah, H., Uli, J. (2010). The relationship between organizational competitive advantage and performance moderated by the age and size of firms. *Asian Academy of Management Journal*, *15*(2), 157-173.

Ismail, A. I., Ruduan, C. R., Uil, J., & Abdulah, H. (2012). The relationship between organizational resources, capabilities, systems and competitive advantage. *Asian Academy of Management Journal, 17*(1). 151-173.

Jashapara, A. (1993). The competitive learning organization: A quest for the holy grail. *Management Decision, 31*(8), 52-62. doi: 10.1108/00251749310047160

Johnson, H. T., & Kaplan, R. S. (1987). *Relevance lost – The rise and fall of management accounting*. Boston, MA: Harvard Business School Press.

Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard--measures that drive performance. *Harvard Business Review*, *70*(1), 71-79.

Kaplan, R. S., & Norton, D. P. (1993). Putting the balanced scorecard to work. *Harvard Business Review*, *71*(5), 134-147.

Kay, J. (1993). The structure of strategy. *Business Strategy Review*, *4*(2), 17-37.

Keegan, D. P., Eiler, R. G., & Jones, C. R. (1989). Are your performance measures obsolete?. *Management Accounting*, 70(12), 45–50.

Kelloway, K. E. (1998). *Using LISREL for structural equation modeling*. Thomson Oaks: Sage.

Kennerley, M., & Neely, A. (2002). A framework of the factors affecting the evolution of performance measurement systems. *International Journal of Operations & Production Management, 22*(11), 1222–1245. doi:10.1108/01443570210450293

Kim, L. & Lim, Y. (1988). Environment, generic strategies, and performance in a rapidly developing country: A taxonomic approach. *Academy of Management Journal, 31*(4), 802-827. doi:10.2307/256339

Kliener, A. (2008). *"Doggie treats and the core group" in learning and performance matter*. Singapore: World Scientific.

Kline, R. B. (2005). *Principles and practice of structural equation modeling*. New York. The Guiford Press.

Kosol Deeseantham. (2003). Learning organization. *For Quality, 9*(63), 101-105. (In Thai)

Krich Rangsungnern. (2011). *Factor analysis for research by SPSS and AMOS*. Bangkok: SE-ED. (In Thai)

Kumar, P. (2008). "Moving ahead of change" in learning and performance matter. Singapore: World Scientific.

Kunlaya Wanichbancha & Thita Wanichbancha. (2014). *Using SPSS for Windows to analyze data* (14th ed.). Bangkok: Printery Samrada. (In Thai)

Kunlaya Wanichbancha. (2014). *Structural equation model (SEM) analysis by AMOS* (2nd ed.). Bangkok: Samrada. (In Thai)

Lai, K. H., Ngai, E. W. T., Cheng, T. C. E. (2002). Measures for evaluating supply chain performance in transport logistics. *Transportation Research Part E: Logistics and Transportation Review, 38*(6), 439–456.

Lei, D., Slocum, J. W., & Pitts, R. A. (1999). Designing organizations for competitive advantage: The power of unlearning and learning. *Organizational Dynamics, 27*(3), 24–38. doi:10.1016/s0090-2616(99)90019-0

Lertchai Suthunmanon. (2004). Strategically integrated HRD and designing and developing performance improvement. Retrieved June 24, 2013 from http://www.gotoknow.org/posts/104917

Levitin, A., & Redman, T. (1995). Quality dimensions of a conceptual view. *Information Processing and Management, 31*(1), 81-88.

Li, S., Ragu-Nathan, B., Ragu-Nathan, T. S., & Subba Rao, S. (2006). The impact of supply chain management practices on competitive advantage and organizational performance. *Omega, 34*(2), 107–124. doi:10.1016/j.omega.2004.08.002

Lynch, R. L., & Cross, K. F. (1991), *Measure up!*. Cambridge, MA: Blackwell.

Maa, H. (2000). Competitive advantage and firm performance. *Competitive review, 10*(2), 15-32.

Mahmood, R., & Hanafi, N. (2013a). Learning orientation and business performance of women-owned SMEs in Malaysia: The mediating effect of competitive advantage. *British Journal of Arts and Social Sciences*, *11*(2), 150-161.

Mahmood, R., & Hanafi, N. (2013b). Entrepreneurial orientation and business performance of women-owned small and medium enterprises in Malaysia: competitive advantage as a mediator. *International Journal of Business and Social Science, 4*(1), 82-90.

Majeed, S. (2011). The impact of competitive advantage on organizational performance. *European Journal of Business and Management, 3*(4). 191-196.

Marquardt, M. J. (2002). *Building the learning organization: Mastering the five elements for corporate learning*. Palo Alto, CA: Davies-Black Press.

Marquardt, M., & Reynolds, A. (1994). *The global learning organization*. Burr Ridge, IL: Irwin Professional.

Martinette, L. A., & Obenchain-Leeson, A. (2009). A view based on organizational size: how competitive advantage moderates the learning orientation/business performance relationship. *International Journal of Global Management Studies, 1*(4), 45-74.

Martinette, L. A., & Obenchain-Leeson, A. (2012). The relationship between learning orientation and business performance and the moderating effect of competitive advantage: A service organization perspective. *Journal of Service Science. 5*(1), 43.

McDonald, R. P., & Marsh, H. W. (1990). Choosing a multivariate model: Noncentrality and goodness of fit. *Psychological Bulletin, 107*(2), 247–255. doi:10.1037/0033-2909.107.2.247

Miller, A., & Dess, G. (1993). Assessing Porter's (1980) model in terms of its generalizability, accuracy and simplicity. *Journal of Management Studies. 30*(4), 553-85. doi:10.1111/j.1467-6486.1993.tb00316.x

The Ministerial Regulations Defined Amount of Employment and Value of Fixed Assets of Small and Medium Enterprises B.E.2545

Morgan, N. A., Kaleka, A., & Katsikeas, C. S. (2004). Antecedents of export venture performance: A theoretical model and empirical assessment. *Journal of Marketing, 68*(1), 90–108. doi:10.1509/jmkg.68.1.90.24028

Munizu, M. (2013). The impact of total quality management practices towards competitive advantage and organizational performance: Case of fishery industry in south Sulawesi province of Indonesia. *Pakistan Journal of Commerce and Social Sciences, 7*(1). 184-197.

Murray, A. (1988). A contingency view of Porter's generic strategies. *Academy of Management Review. 13*(3), 390-400. doi:10.5465/AMR.1988.4306951

Musasizi, Y. (2010). *Expatriate capabilities, knowledge transfer, competitive advantage and financial performance of foreign direct investments in the Ugandan*. (Unpublished master's thesis). Makerere university, Uganda.

Napaporn Kuntanapa. (2002). Organization and management. Retrieved June 11, 2013, from http://e-book.ram.edu/e-book/inside/html/dlbook.asp?code=GM203

Naveed, A. (2009). *The relationship of organizational learning and competitive advantage: A case study of petroleum companies of Pakistan*. (Unpublished doctoral dissertation). National university of modern languages, Islamabad.

Neely, A. (2005), The evolution of performance measurement research: Developments in the last decade and a research agenda for the next. *International Journal of Operations & Production Management, 25*(12), 1264–1277. doi:10.1108/01443570510633648

Nevis, E. C., DiBella, A. J., & Gould, J. M., (1995). Understanding organizations as learning systems. *Sloan Management Review, 36*(2), 73-85.

Newbert, S. L. (2008). Value, rareness, competitive advantage, and performance: A conceptual-level empirical investigation of the resource-based view of the firm. *Strategic Management Journal, 29*(7), 745–768. doi:10.1002/smj.686

Nham Phong, T., & Yoshi, T. (2010). Organisation capabilities, competitive advantage and performance in supporting industries in Vietnam. *Asian Academy of Management Journal*. *15*(1). 1-21.

Niti Rattanaprichavej. (2010). *Organizational performance of small and medium enterprises (SMEs) from the concepts of learning organization and organizational innovation*. (Unpublished doctoral dissertation). National Institute of Development Administration, Thailand.

Nystrom, P. C., & Starbuck, W. H. (1984). To avoid organizational crises, unlearn. *Organizational Dynamics, 12*(4), 53–65. doi:10.1016/0090-2616(84)90011-1

Oyeniyi, O. (2011). Organizational learning and sustainable competitive advantage (SCA): The Nigerian experience. *Journal of Economics and Business Research, 17*(1),102-116.

Panom Petchchatuporn & Taweeka Tangprapa (n.d.). Organizational learning and learning organization [Lecture Slide]. Retrieved June 11, 2013, from http://www.msit2005.mut.ac.th/msit_media/2_2554/ITEC3613/Lecture/20120 2272326 18Yr.pdf. (In Thai)

Pedler, M., Burgoyne, J., & Boydell, T. (1991). *The learning company: A strategy for sustainable development*. London: McGraw-Hill.

Phongpetra, V., & Johri, L. M. (2011), Impact of business strategies of automobile manufacturers in Thailand. *International Journal of Emerging Markets*, 6(1), 17–37. doi:10.1108/17468801111104359

Porter, M. E. (1980). *Competitive strategy: Techniques for analyzing industries and competitors*. New York: The Free Press.

Porter, M. E. (1990). *The competitive advantage of nations*. New York: Free Press.

Rampsey, P. (2008). *"Learning and performance: Rethinking the dance" in learning and performance matter*. Singapore: World Scientific.

Ray, G. & Barney, J. B. & Muhanna, W. A. (2004). Capabilities, business processes, and competitive advantage: Choosing the dependent variable in empirical tests of the resource-based view. *Strategic Management Journal, 25*(1), 23–37. doi:10.1002/smj.366

Richardo, R. (2001). *Corporate performance management: How to build a better organization through measurement driven strategies alignment.* Boston: Butterworth-Heinemann.

Rose, R. C., Uli, J., Abdullah, H., & Ismail, A. I. (2009). Management, Strategic management theories and the linkage with organizational competitive advantage from the resource-based view. *European Journal of Social Sciences, 11*(3), 402-418.

The Royal Decree of Rules and Procedures of Good Governance B.E. 2546

Sanchez, R. (1993). Strategic flexibility, firm organization, and managerial work in dynamic markets: A strategic-options perspective. In *Advances in Strategic Management* (pp.251- 291). Greenwich, CT: JAI Press..

Sanchez, R. (1995). Strategic flexibility in product competition. *Strategic Management Journal, 16*(S1), 135–159. doi:10.1002/smj.4250160921

Santos-Vijande, M. L., López-Sánchez, J. Á., & Trespalacios, J. A. (2012). How organizational learning affects a firm's flexibility, competitive strategy, and performance. *Journal of Business Research, 65*(8), 1079–1089. doi:10.1016/j.jbusres.2011.09.002

Saroj O'pitagchewin. (2010). *Learning from CEO*. Bangkok: Thai Effect Studio.

Schumacker, R. E., & Lomax, R. G. (2010). *A beginner's guide to structural equation modeling* (3rd ed). New York: Routledge.

Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. New York: Doubleday/Currency.

Singer, S. J., & Edmuondson, A. C. (2008*). "When learning and performance are at odds: Confronting the tension" in learning and performance matter*. Singapore: World Scientific.

Singh, K. (2010). An analysis of relationship between the learning organization and organization culture in Indian business organization. *Organizations and Markets in Emerging Economies, 1*(1), 142-165.

Skinner, D. J. (1994). Why firms voluntarily disclose bad news. *Journal of Accounting Research, 32*(1), 38-60. doi:10.2307/2491386

Small and Medium Enterprises Master Plan Vol.3 (2012-2016)

Small and Medium Enterprises Status Report 2013

Smith, B., Hornsby, J., & Schirmeyer, R. (1996). Current trends in performance appraisal: An examination of managerial practice. *SAM Advanced Management Journal, 61*(3).

Song, J. H., Joo, B.-K. (Brian), & Chermack, T. J. (2009). The dimensions of learning organization questionnaire (DLOQ): A validation study in a Korean context. *Human Resource Development Quarterly, 20*(1), 43–64. doi:10.1002/hrdq.20007

Stalk, G. (1990). Time-the next source of competitive advantage. *Harvard Business Review, 68*(4), 41-51.

Strategic Management Insight. (2013). Competitive advantage Retrieved May 17, 2013, from http://www.strategicmanagementinsight.com/topics/competitive-advantage.html

Suchart Prasitrattasin. (2007). *Social sciences research methodology* (14th ed.). Bangkok: Samrada. (In Thai)

Sudarat Polcharoen & Sunipa Siripattananon. (2004). *Guidelines of building learning organization: Case study of Thai carbon black PLC.* (Unpublished master's independent study). National Institute of Development Administration, Thailand. (In Thai)

Sudharatna, Y., & Li, L. (2004). Learning organization characteristics contributed to its readiness-to-change: A study of the Thai mobile phone service industry. *Managing Global Transitions, 2*(2), 163-178.

Surasit Wachirakajorn. (2010). *Balanced scorecard: Concept and approach*. Bangkok: Thanesuan (1999) Printing. (In Thai)

Teeradej Childaroon. (2015). Structural equation models. Retrieved May 3, 2016 from http://ns2.ph.mahidol.ac.th/phklb/knowledgefiles/SEM2015.pdf

Thaiware (2015). Random number generator. Retrieved July 24, 2013 from http://random.thaiware.com/

Thanin Sincharu. (2012). *Research and statistical analysis with SPSS and AMOS* (13th ed.) Bangkok: S.R. Printing Mass Product. (In Thai)

Thanit Suwancharoen. (2007). Thai culture “Obstacle” of “Thinking”, Retrieved March 12, 2016 from https://www.gotoknow.org/posts/103654

Therin, F. (2003). *Learning organization and innovation performance in high-tech small firms*. Working paper Serie RMT (WPS 03-06).

Tippawan Lorsuwannarat. (2005). *Knowledge organization: From concept to practice* (3rd ed). Bangkok: Rattanatri. (In Thai)

Tippawan Lorsuwannarat. (2010). *Modern organization theory*. Samut Prakan: D.K. Printing World. (In Thai)

Tippawan Lorsuwannarat. (2013). *Organization theory: Multi-paradigm perspectives*. Samut Prakan: D.K. Printing World. (In Thai)

TRIS Academy of Management. (2013). Building learning organization at your organization. Retrieved June 10, 2013 from http://trisacademy.wordpress.com/tag/garvin/

Waleeporn Thanathikom. (2005). Entrepreneurship. In *Creative entrepreneurship in Asia* (pp.112-118). Tokyo: Asian Productivity Organization.

Wang, Y., & Lo, H. (2003). Customer-focused performance and the dynamic model for competence building and leveraging: A resource-based view. *Journal of Management Development, 22*(6), 483–526. doi:10.1108/02621710310478486

Wasan Sakulkijkarn. (2014). *The total quality management (TQM) Model: The mediating role of organisational learning and quality improvement on Thai E-government performance*. (Unpublished doctoral dissertation).National Institute of Development Administration, Thailand.

Wasin Phomboot. (2012). *Characteristics of learning organization and effects on service quality: Empirical study of hospitals in Thailand*. (Unpublished Doctoral dissertation). Dhurakij Pundit University, Thailand. (In Thai)

Watkins, K. E., & Marsick, V. J. (1997). *Dimensions of learning organization questionnaire*. Warwick, UK: Partners for the Learning Organization.

Weldy, T. G. (2009). Learning organization and transfer: Strategies for improving performance. *The Learning Organization, 16*(1), 58–68. doi:10.1108/09696470910927678

Wiklund, J., & Shepherd, D. (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. *Strategic Management Journal, 24,* 1307–1314. doi:10.1002/smj.360

Worrapat Phucharoen. (2005). *Learning organization and knowledge management* (2nd ed.). Bangkok: Ariyachon. (In Thai)

Yang, B., Watkins, K. E., & Marsick, V. J. (2004). The construct of the learning organization: Dimensions, measurement, and validation. *Human Resource Development Quarterly, 15*(1), 31–55. doi:10.1002/hrdq.1086

Yutt kraiwan. (2013). *Structural equation model analysis by AMOS*. Bangkok: V. Print (1991). (In Thai)

Zhou, K. Z., Brown, J. R., & Dev, C. S. (2009). Market orientation, competitive advantage, and performance: A demand-based perspective. *Journal of Business Research, 62*(11), 1063–1070. doi:10.1016/j.jbusres.2008.10.001

APPENDIX

No. _____

Research Questionnaire

Instruction

(1) This questionnnaire was intended to examine the impact of learning organization and competitive advantage on organizational performance in SMEs. Information obtained from you would be academically beneficial and valueble, leading to improvement of competitive advantage and performance of the industries in Thailand

(2) To obtain proper information, the researcher would like to get information from the owner or business heir or partnership or executive involved in organizational policy formulation

(3) The questionnaire consists of 5 parts as follows: 1) General Information of the Respondents 2) General Information of the Business 3) Information of Learning Organization 4) Information of Competitive Advantage and 5) Information of Organizational Performance

(4) Information obtained from you will be kept confidential and will not be disclosed without your consent.

Thank you for your valuable time and your cooperation in answering
this questionnaire completely
Your Sincerely,

(Ms. Pawinee Sumsiripong)
Doctor of Public Administration
School of Public Administration
National Institute of Development Administration

Part 1: General Information of the Respondents.

Please put a ✓ in the box closet to your sentiment.

1. Sex ☐ 1) Male ☐ 2) Female

2. Age ☐ 1) Under 30 years ☐ 2) 30 – 40 years ☐ 3) 41 – 50 years

☐ 4) 51 – 60 years ☐ 5) Over 60 years

3. Highest educational level

☐ 1) Undergraduate ☐ 2) Bachelor's degree

☐ 3) Master's degree ☐ 4) Doctor's degree

☐ 5) Others, Please specify ……

4. Business status of Respondent

☐ 1) Single owner ☐ 2) Partnership ☐ 3) Business heir

☐ 4) Executive involved in organizational policy formulation

☐ 5) Others, Please specify ……

Part 2: General Information of the Business.

Please put a ✓ in the box closet to your sentiment.

1. Type of industry.

☐ 1) Textile and apparel manufacturing

☐ 2) Footwear and leather manufacturing

☐ 3) Others, Please specify ……

2. Fixed assets of business.

☐ 1) Less than 50 million baht ☐ 2) 51 – 100 million baht

☐ 3) 101 – 150 million baht ☐ 4) 151 – 200 million baht

☐ 5) More than 200 million baht

Fixed Assets refers to physical property used more than 1 year to produce products or services for benefits of the business such as real estate, buildings, cars, mechanics, etc.

3. Number of employees.

☐ 1) Less than 50 persons ☐ 2) 51 – 100 persons ☐ 3) 101 – 150 persons

☐ 4) 151 – 200 persons ☐ 5) More than 200 persons

4. Age of business.

☐ 1) 3 – 5 years ☐ 2) 6 – 10 years ☐ 3) 11 – 15 years

☐ 4) 16 – 20 years ☐ 5) Over 20 years

5. Type of manufacturing. (Can choose more than 1 choice)

☐ 1) Original Equipment Manufacturer: **OEM**

☐ 2) Original Design Manufacturer: **ODM**

☐ 3) Original Brand Manufacturer: **OBM**

☐ 4) Others, Please specify ……

Part 3: Information of Learning Organization.

Please put a ✓ in the box closet to your sentiment.

	Questions	**Opinion Levels**					
		Agree most	Agree more	Agree quite	Agree less	Agree lesser	Agree least
1	Your business learns from failures and successes in the past.						
2	In your business, the employees talk and discuss for solving problems.						
3	Your business can learn new ideas quickly.						
4	Your business regularly uses two-way communications (a receiver responds a messenger by interacting, discussing, and exchanging ideas with each other).						

Questions		Opinion Levels					
		Agree most	Agree more	Agree quite	Agree less	Agree lesser	Agree least
5	Your business set up a cross-division team to solve the problem together.						
6	In your business, teams learn from each other and share the acquired knowledge in different ways.						
7	Your business encourages global thinking to the employees.						
8	Your business translates the visions into details for operating concretely						
9	Your business allows the employees easy and quick accessing knowledge and information for efficient operating.						
10	Your business has culture to encourage learning new concepts and new methods.						
11	Your business supports opportunities for learning and training to the employees.						
12	Your business uses technologies and techniques, e.g. computer and internet, to acquire, transfer, store, and analyze knowledge and information.						
13	Your business rewards individual and team for learning and helping others to learn.						
14	Your business has flexibility and less hierarchy to increase efficiency of communicating and learning in all the level.						

Questions		Opinion Levels					
		Agree most	Agree more	Agree quite	Agree less	Agree lesser	Agree least
15	Your business disseminates new knowledge in all the level of the organization.						
16	Your business provides training to the employees adequately and consistently.						
17	Your business encourages the employees studying and researching documents for using in real practice e.g. study knowledge to address problems, study manuals to invent machine etc.						
18	In your business, the employees are aware of the need to preserve and share the knowledge with others.						
19	During last 3 years, your business has rising amount of skilled workers comparing with the total labors of the organization.						
20	Your business regularly uses database of the organization e.g. sales data, inventory data, production data etc. to support the work.						
21	Your business shares knowledge and internal data to solve organizational problems.						

Part 4: Information of Competitive Advantage.

Please put a ✓ in the box closet to your sentiment.

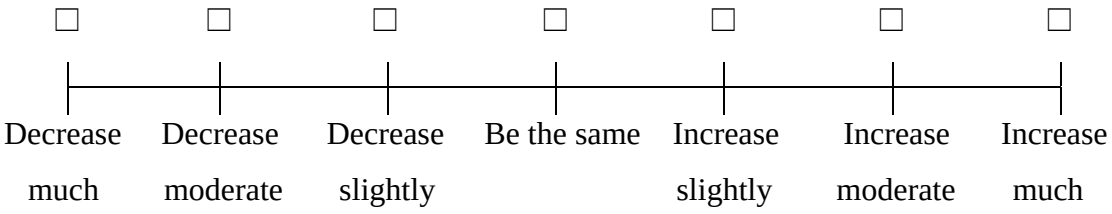
	Questions	Opinion Levels					
		Agree most	Agree more	Agree quite	Agree less	Agree lesser	Agree least
1	Your business has better reputation than the main competitors.						
2	Your business has lower production cost than the main competitors.						
3	Your business has lower service cost than the main competitors.						
4	Your business has lower shipment cost than the main competitors.						
5	Product prices of your business are competitive prices.						
6	Product prices of your business are lower than the main competitors' prices.						
7	Products of your business are competitive quality.						
8	Products of your business are high durability.						
9	Products of your business are unique design.						
10	Products of your business are difficult to copy.						
11	Products of your business have significant advantages in other areas leading to superior competitors.						

Questions		Opinion Levels					
		Agree most	Agree more	Agree quite	Agree less	Agree lesser	Agree least
12	Products of your business have various types.						
13	During last 3 years, your business has increased number of products.						
14	Your business has a comprehensive service both before and after sell.						
15	Your business encourages the employees to bring the customer perspective into their decision making process.						
16	Your business is able to meet the needs of customers quickly.						
17	Your business is able to respond customer complaining quickly.						
18	Your business delivers products to the customer's order correctly.						
19	Your business delivers products to the customer on time.						

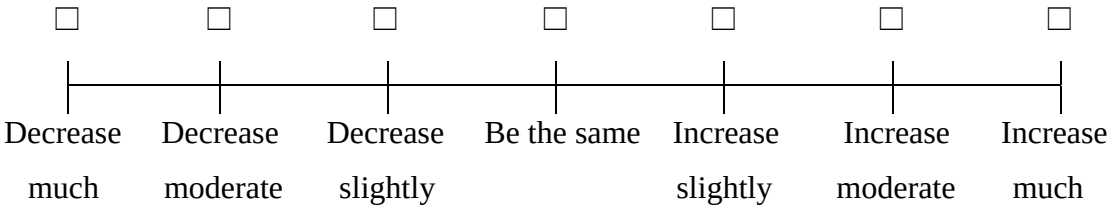
<u>Part 5</u>: Information of Organizational Performance.

Please put a ✓ in the box closet to your sentiment.

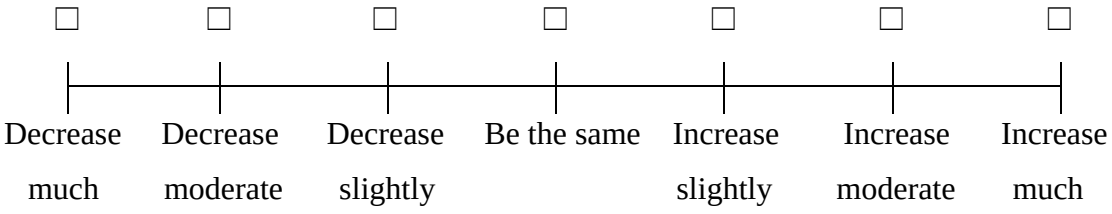
1. How was <u>sale growth</u> of your business in year 2014 comparing with year 2013?



2. How was <u>market share</u> of your business in year 2014 comparing with year 2013?



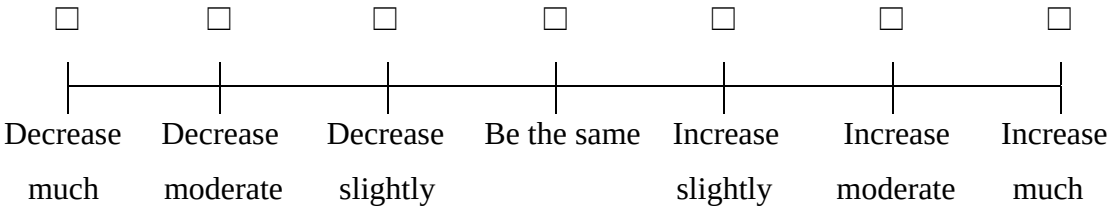
3. How was <u>return on investment</u> of your business in year 2014 comparing with year 2013?



Return on Investment (ROI) refers to a ratio between Net Profit and Investment as the formula shown below:

$$ROI\ (\%) = \frac{\text{Net Profit}}{\text{Investment}} \times 100$$

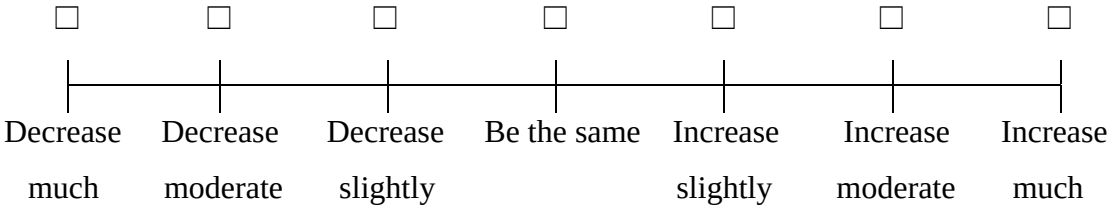
4. How was <u>productivity</u> of your business in year 2014 comparing with year 2013?



Productivity refers to a ratio between the output and input showing the capacity to produce output from 1 unit of input, measured from the formula shown below:

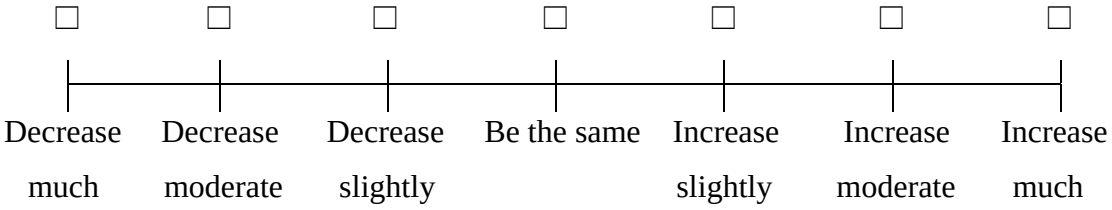
$$\text{Productivity} = \frac{\text{Output}}{\text{Input}}$$

5. How was <u>time to market</u> of your business in year 2014 comparing with year 2013?



Time to market refers to the time duration from the beginning of creating a product through the end of the process of product distribution.

6. How was <u>lead time</u> of your business in year 2014 comparing with year 2013?



Lead time refers to the time duration from the beginning from making an order by a customer through the process of receiving the product.

Suggestion:

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_____

Thank you for your cooperation

BIOGRAPHY

NAME	Ms. Pawinee Sumsiripong
ACADEMIC BACKGROUND	2004 Bachelor of Engineering (Electrical Engineering) Thammasat University 2008 Master of Science (Criminal Justice Leadership and Management) Sam Houston State University
EXPERIENCES	2004 - Present Director Gamma Interplast Ltd.