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THESIS

THE EFFECT OF LEARNING ORGANIZATION ON ORGANIZATIONAL  
PERFORMANCE: CASE STUDY OF TOYOTA MOTOR THAILAND CO., LTD.



LANLALIT CHUAYBAMRUNG

A Thesis Submitted in Partial Fulfillment of  
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Lanlalit Chuaybamrung 2015: The Effect of Learning Organization on Organizational Performance: Case Study of Toyota Motor Thailand Co., Ltd. Master of Business Administration, Major Field: Business Administration, Faculty of Business Administration. Thesis Advisor: Mr. Nantawut Leeamornsiri, Ph.D. 114 pages.

The main objective of this study was to investigate the effect of learning organization on organizational performance in Toyota Motor Thailand Co., Ltd. The sample size of quantitative technique in this research was 400 employees who were knowledgeable and working in Toyota Motor Thailand Co., Ltd at Samutphakran province. The theoretical framework of this study took learning organization as independent variable which used Peter Senge's concept with five dimensions, i.e. personal mastery, shared vision, mental model, team learning and systems thinking. Moreover, organizational performance was also used as dependent variable, which consists of financial perspective, customer perspective, internal process perspective and learning and growth perspective. A balanced scorecard used to measure four perspectives. In the data collection, 41 questions were used in a questionnaire-based survey which was proved by experts. Chronbach's alpha was tested the reliability of questionnaire which can acceptable result was 0.915. For data analysis, a regression analysis was applied to test hypotheses.

The findings indicated that the current level of dimensions of learning organization that characterize Toyota Company has a moderately positive association with organizational effectiveness and has a strongly positive relation with organizational performance with statistical significance at 0.05 level. In conclusion, the results obtained from this study could be used as a strategy of characteristics of the learning organization applied for the Toyota Company to enhance performance and to be used as a guideline for improvement and planning in order to gain competitive advantage.

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Student's signature

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Thesis Advisor's signature

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## TABLE OF CONTENTS

	<b>Page</b>
LIST OF TABLES	iii
LIST OF FIGURES	vi
LIST OF ABBREVIATIONS	vii
CHAPTER I INTRODUCTION	1
Statement of the Problem	1
Importance of the Study	3
Objectives	5
Study Hypotheses	5
Scope of the Study	6
Definitions of Terms	6
CHAPTER II LITERATURE REVIEW	8
Definition of the Learning Organization	8
The Characteristics of the Learning Organization	10
Case Study Learning Organization: Toyota Company	17
Organizational Performance	24
Linkage between Organizational Learning and Organizational Performance	27
A Multi-Dimensional View of Performance Measurement:	
The Need for Balanced Scorecard Approach	28
Background Organization	34
Related Research	35
Conceptual Framework	44
CHAPTER III METHODOLOGY	45
Research Design	45

## TABLE OF CONTENTS (CONTINUED)

	<b>Page</b>
Data Collection	46
Research Instrument	47
Data analysis	49
Statistic Used in the Study	49
<b>CHAPTER IV RESULTS AND DISCUSSIONS</b>	<b>52</b>
The analysis of demographic information of samples	52
The analysis of learning organization	54
The analysis of organizational performance	60
The effect of learning organization on organizational performance	65
Discussion	73
<b>CHAPTER V CONCLUSION AND RECOMMENDATIONS</b>	<b>80</b>
Conclusions	80
Recommendations	82
<b>REFERENCES</b>	<b>84</b>
<b>APPENDICES</b>	<b>96</b>
Appendix A Questionnaire in English Version	97
Appendix B Questionnaire in Thai Version	103
Appendix C Letters for Questionnaire Survey	111
<b>BIOGRAPHICAL DATA</b>	<b>114</b>

## LIST OF TABLES

<b>Table</b>		<b>Page</b>
1	Senge's dimensions of a learning organization	16
2	The key kaizen practices	19
3	Selected Components of the Kaizen Toolkit	20
4	The frequency and percentage of demographic information	53
5	The mean ( $\bar{X}$ ) and standard deviation (S.D.) of learning organization	54
6	The mean ( $\bar{X}$ ) and standard deviation (S.D.) of learning organization in-term of personal mastery	55
7	The mean ( $\bar{X}$ ) and standard deviation (S.D.) of learning organization in-term of mental model	56
8	The mean ( $\bar{X}$ ) and standard deviation (S.D.) of learning organization in-term of share vision	57
9	The mean ( $\bar{X}$ ) and standard deviation (S.D.) of learning organization in-term of team learning	58
10	The mean ( $\bar{X}$ ) and standard deviation (S.D.) of learning organization in-term of system thinking	59

## LIST OF TABLES (CONTINUED)

<b>Table</b>		<b>Page</b>
11	The mean ( $\bar{X}$ ) and standard deviation(S.D.) of organizational performance	60
12	The mean ( $\bar{X}$ ) and standard deviation (S.D.) of organizational performance in-term of financial perspective	60
13	The mean ( $\bar{X}$ ) and standard deviation (S.D.) of organizational performance in-term of customer perspective	61
14	The mean ( $\bar{X}$ ) and standard deviation (S.D.) of organizational performance in-term of internal process perspective	62
15	The mean ( $\bar{X}$ ) and standard deviation (S.D.) of organizational performance in-term of learning/ growth/ innovation perspective	63
16	Personal mastery, shared vision, mental model, team learning, systems thinking and organizational performance	66
17	Characteristics of learning organization have an effect on organizational performance in terms of financial perspective	67
18	Characteristics of learning organization have an effect on organizational performance in terms of customer perspective	69
19	Characteristics of learning organization have an effect on organizational performance in terms of internal process perspective	70

**LIST OF TABLES (CONTINUED)**

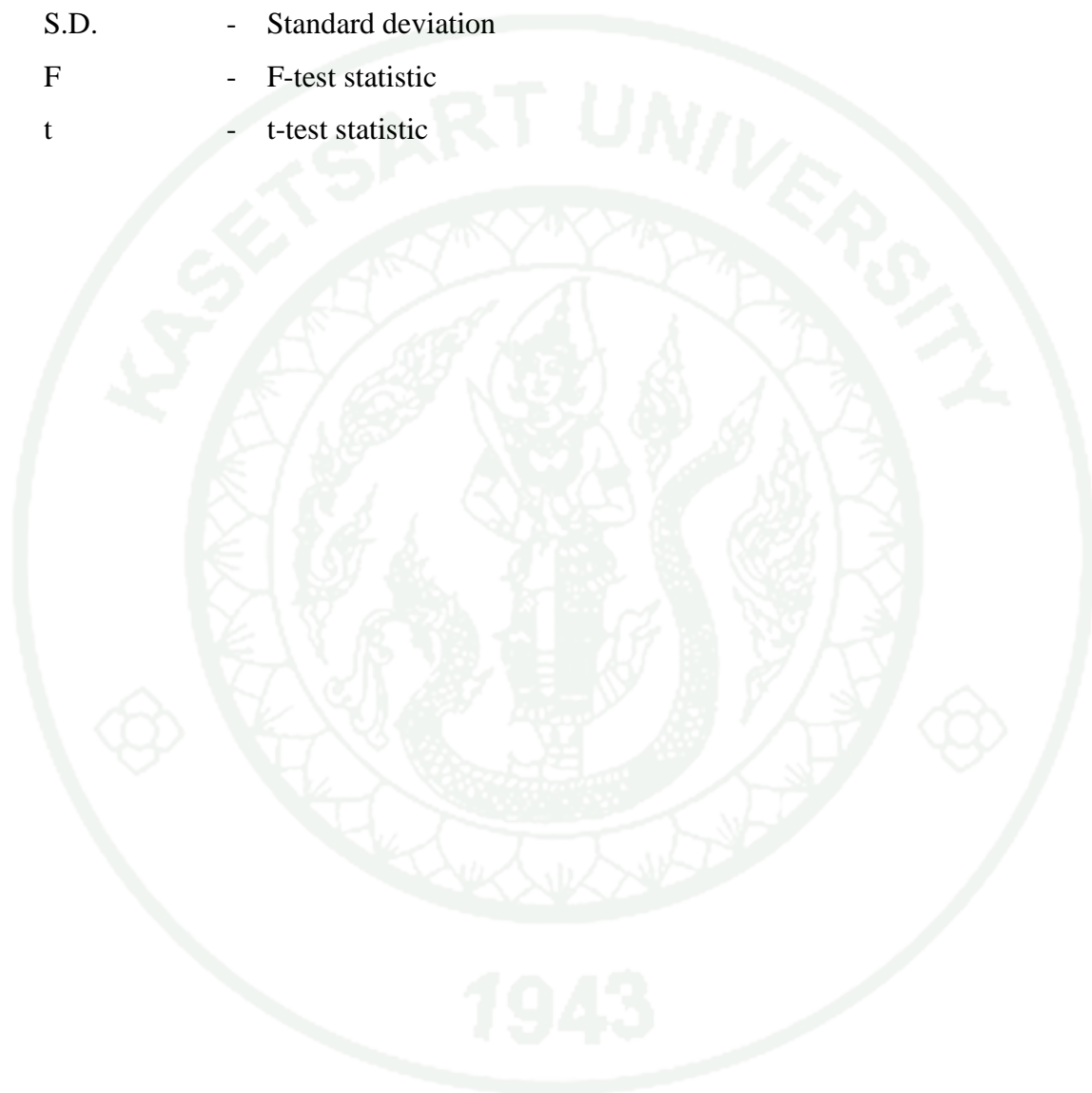
<b>Table</b>		<b>Page</b>
20	Characteristics of learning organization have an effect on organizational performance in terms of learning/ growth/ innovation perspective	71
21	Summary of characteristic of learning organization that have an effect on organizational performance	72

**LIST OF FIGURES**

<b>Figure</b>		<b>Page</b>
1	Kaizen-continuous improvement	18
2	Implementation of 5S	21
3	Kaizen and Management	23
4	Balanced scorecard	33
5	Research Model	44

## LIST OF ABBREVIATIONS

n	-	Sample Size
$\bar{X}$	-	Mean
S.D.	-	Standard deviation
F	-	F-test statistic
t	-	t-test statistic



# CHAPTER I

## INTRODUCTION

### Statement of the Problem

The globalization of the twenty-first century has developed particular financial, cultural, educational, and also political framework. It has dissolved national borders, improved financial integration, made location and also period less important and created brand new invention. Globalization affects organizations and also affects their particular capacity to continue leading the way regarding innovation and environmentalism. In addition, it has established the unified actively playing area that will attaches countless end users across the world to several services or products created around the globe. Pertaining to enterprise surroundings beneath this competition regarding no national limits as a result of technological advancement and the knowledge-based financial system, a lending broker should always get ready to adapt. Suppleness along with a beneficial reaction to these kinds of problems is a essential aspect regarding enterprise corporations for being success and also environmentally friendly along with competitive strengths. Nevertheless, so as to endure and also preserve inside the globalization time, these kinds of corporations must not just adapt to this completely new atmosphere, but get ready to take care of various thrashing adjustments and also intense competition, and then estimate the specific development regarding ecological adjustments beforehand. This requires the particular development regarding suitable techniques which have been rich in components, and it is additionally necessary for corporations to fix their particular enterprise actions constantly.

Immediately after Senge (1990a) through the publication “The Fifth Self-control: The Skill and also Training of the Mastering Corporation,” offered the idea of central exercises to generate learning, and several corporations began to agree to a new paradigm adjustment. They shifted from being classic lifestyle and performance-

based firm to being learning firm, as introduced through Senge. He pressured the value of the learning firm with generating and also preserving organizational modify and also in helping corporations to retain competitive ability inside the “age of the information business.” The training firm boasts been offered as a fundamental arranged procedure and the just environmentally friendly competitive advantages into the future DeGeus (1988: 70-74). This is targeted on exactly how corporations really should function, must be handled, and may manage ecological modify in order to make this company endure along with quality efficiency. Consequently, several corporations have made an effort to produce a learning lifestyle of developing, buying, and moving information, as well as adjusting their particular habits to echo completely new information and also experience Garvin (1993: 78–91).

In order to be a learning firm, attitudinal modification becomes necessary for the people inside the firm. This will, influence what and also how procedures or chores will be executed. Conduct modification, leading to efficiency development, will probably be achieved by way of process of learning via people inside the firm. Senge (1990a: 3) suggests that learning corporations are usually “organizations where by men and women regularly develop their particular ability to build the final results they genuinely wish, where by completely new and also extensive patterns regarding contemplating are usually nurtured, where by group hope is determined totally free, and also where by consumers are regularly finding out understand the full in concert.” The essential reasoning regarding such corporations will be that will with predicaments regarding speedy modify, just corporations which have been adaptable, adaptive also successful will certainly endure. For this to take place, it can be suggested that-, corporations should see how to increase people’s determination and expertise Senge (1990a: 4). Schon (1973: 73) suggested that to deal with people regarding corporations should be able to fully grasp information, have an effect on, and also take care of this change. They need to have the convenience of venture these kinds of transformations to themselves in order to their particular corporations. Organization’s people should come to be good from learning, have the ability to convert their particular corporations because predicaments and also demands modify. These organizations will be able to adapt quickly market conditions. Also, they need

to additionally invent and also produce their particular corporations to be able to lead the way to their particular continuous change. Mastering corporations build a place where men and women can certainly "create the final results they genuinely wish," and also whereby they can be able to find out in concert regarding improving the entire firm Rheem (1995: 10). So, the ability to builds up and also learn can certainly enhance the ability for an enterprise to increase and the innovation of the firm. This is why, staff are usually no longer passive players inside corporations; they need to be able to exhibit their own ideas and also difficult task themselves to promote a greater work environment through being engaged in the paradigm adjustment from the classic authoritarian place of work philosophy to one where the structure will be categorized and people will be heralded.

The aim of this paper is to illustrate the most profitable businesses on earth and also explain the accomplishment of learning firm. "The Fifth Discipline" as well as working of Seng (1990) have been studied so as to discover qualities the regarding learning firm Toyota corporation.

In summary, the learning firm will be one that regularly increases its capacity to continue in the long term. To get a modern-day, knowledge-based, providers centered enterprise to program and stay profitable, learning has to be linked to the arranged objectives of the firm. The organization's aim is to make regular learning easy, in order to help the company sustain.

### **Importance of the Study**

A "kaizen" is a small improvement that is made by those who do the work. It is a small, low-cost, low-risk improvement that can be easily implemented. Kaizen is an ongoing methodology and philosophy for challenging and empowering everyone in the organization to use their creative ideas to improve their daily work. The word, "kaizen," in the way it typically is used, is synonymous with the phrase, "continuous improvement." An effective kaizen approach is about making improvements that are connected to measurable results and a deeper purpose. Kaizen, which in Japanese

means good (zen) change (kai) is a philosophy that motivates people to constantly improve their surroundings Imai (1990).

The kaizen methodology promotes the sustainable continuous improvement as a daily way of life for every member within the organization. It supports the flow, implementation and recognition of improvement proposals made by all collaborators. Kaizen is an original concept that has been used by Toyota until today, and it has become the culture in all Toyota sites in Japan and overseas. It provides a structure to channel the opportunities for improvement detected by any employee and converts them into realized changes that have a positive impact in the way people perform and perceive their work. Kaizen requires a formalized structure within the organization, where collaborator's proposals are evaluated, implemented, reviewed and recognized according to their alignment to the company's declared objectives for continuous improvement. The recognition system also helps motivate collaborators to participate, either individually or through team work, in the proposal and implementation of their improvement ideas Liker (2004).

The Toyota Production System empowers team members to optimize quality by constantly improving processes and eliminating unnecessary waste in natural, human and corporate resources. The Toyota Production System influences every aspect of Toyota's organization and includes a common set of values, knowledge and procedures. It entrusts employees with well-defined responsibilities in each production step and encourages every team member to strive for overall improvement. As a result, the Toyota Production System delivers the following key benefits:

- Quality inherent in Toyota's products
- Costs are kept to a minimum thanks to a good return on investment
- Delivery is on time, and to the expected standard, allowing Toyota's customers to plan and maintain their operations successfully
- Environmental concerns are shared by Toyota and its customers, from manufacturing through to recycling at end-of-life

- Safety is Toyota's constant concern – both for its employees and for its customers.

This paper takes a first step toward connecting theory concerning the effect of a learning organization on organizational performance. It does so through the lens of one organizational type, institutions of higher education, to sharpen and particularize conclusions and recommendations.

### **Objective**

The primary objective is to examine the effect of learning organization on organizational performance.

### **Study Hypotheses**

Considering the problem statement of this study, the principal hypotheses of this research are as follows:

**H1:** Personal mastery, shared vision, mental model, team learning and systems thinking have an effect on organizational performance.

**H2:** Personal mastery, shared vision, mental model, team learning, and system thinking have an effect on organizational performance in terms of financial perspective.

**H3:** Personal mastery, shared vision, mental model, team learning, and systems thinking have an effect on organizational performance in terms of customer perspective.

**H4:** Personal mastery, shared vision, mental model, team learning, and system thinking have an effect on organizational performance in terms of internal process perspective.

**H5:** Personal mastery, shared vision, mental model, team learning and system thinking have an effect on organizational performance in terms of learning and growth perspective.

## **Scope of the Study**

### **1. Scope of Content**

The variables of research that were presented in this study consist of the following:

1.1 The independent variables were from the fifth discipline of a learning organization.

- Personal mastery
- Shared vision
- Mental models
- Team learning
- Systems thinking

1.2 The dependent variable was organizational performance

### **2. Scope of the Study**

This research study focused on 400 participants who were working in Toyota Motor Thailand Co., Ltd in Samutprakarn province. The duration of this research was from December,-2013 to August,-2014.

## **Definition of Terms**

To assist in performing this research study the following definitions are provided for clarification of the terms used in the paper.

**Learning organization theory** is defined as a reflection of the transitional thinking about organizational activity as focused on information, knowledge, and creative thinking. Its purposes are aimed at sustaining the resources of an organization, or what has been termed its intellectual capital Edvinsson and Malone (1997).

**Fifth Discipline** is defined by Seng (1990) that is critical to organization today if they are to cope with the rapid changes taking place in the world. Those five disciplines are: personal mastery, shared vision, mental models, team learning, and systems thinking.

**Performance** is defined by Burke and Litwin (1992: 533) as "the outcome or result as well as the indicator of effort and achievement". These outcomes include productivity, profit, service quality, and customer or employee satisfaction. In Holton (1999), performance is defined as the actual outcomes produced by the organizational efforts; that is, the actual products or services.

**Performance Measurement** is the regular collection and reporting of information about the efficiency, quality, and effectiveness of human programs Holton (1999) and is directly related to an entity's resources learning, and achievement or results.

**Organization** is Toyota Motor Thailand Co., Ltd in Samutprakarn province.

## CHAPTER II

### LITERATURE REVIEW

This part of the research was presented a review of the literature focusing on the definition and characteristic of learning organization, the relationship between the models of the learning organizational and assessing organization performance. Also, there are recent research about balance scorecard which is strategy to measure performance in organization are presented. Besides, the thesis is located with the context of the Toyota organization. In the rest of this chapter Toyota examined within the framework of the company's history in relation to the major concepts of Kaizen, the Toyota Way. An analysis is also presented of the development of Toyota's operations in Thailand.

#### Definition of the Learning Organization

According to Senge, one of the leaders in the field of the learning organization (LO) defined the LO as one where: “people continually expand their capacity to create results they truly desire; new and expansive patterns of thinking are nurtured; collective aspirations are set free; people are continually learning to learn together” Senge (1990: 3). Since Senge published his book the Fifth Discipline (1990), the concept LO has been very popular and attracted many theorists from sociology, anthropology, social psychology, management, and philosophy, who have attempted to define this concept. Pedler *et al.* (1994:1) defined the learning company “as a vision of what might be possible it is not brought about simply by training individuals; it can only happen as a result of learning at the whole organization level. A learning company is an organization that facilitates the learning of all its members and continuously transforms itself. It emphasizes the importance of organizational flexibility, responsiveness, adaptability and conscious approach to change and underscores the importance of breaking down outmoded ideas, attitudes and practices before building new skills, structures and values Pettigrew and Whip (1991).

Farago and Skyrme (1995) defined LOs as “those that have in place systems, mechanisms and processes, that are used to continually enhance their capabilities and those who work with it or for it, to achieve sustainable objectives for themselves and communities in which they participate.

Malhotra (1996) defined the LO as an “organization with an ingrained philosophy for anticipating, reacting and responding to change, complexity and uncertainty”.

The key ingredient of the LO, Malhotra commented, is in how organizations process their managerial experiences. Overmeer (1997) viewed the LO as “a particular organizational environment facilitating individual learning, which in turn is harnessed by the organization and encourages the continuous development of new behaviors and practices”. Drew and Smith in Teare and Dealtry (1998) defined the LO as “a social system whose members have learned conscious, communal processes for continually generating, retaining and leveraging individual and collective learning leading to improve performance of the organizational system.

Kerka (1995) commented on the great number of attempts to define LO “there is little consensus on the definition of an LO. Five years later, Garvin (2000:9) observed that a clear definition of the learning organization has proved to be elusive. Thomas and Allen (2006) recently commented “literature indicates a little agreement on what LO or OL means and even less on how to create an LO”. A number of themes and notions can be drawn from these, and other definitions of the LO.

- Learning is required at the individual, team and organizational levels.
- Learning must be continuous.
- Learning should be goal-oriented, use to reach desired goals-individual, team and organizational.
- Individual performance must be linked with organizational performance.

- LO must foster inquiry and dialogue, making it safe for people to share knowledge openly and take risks.
- Embrace “creative tension” as a source of energy and renewal.
- LOs are continuously aware of and interact with their environment Kerka (1995).
- Learning combines both adaptive learning and generative learning it is not enough for an organization to adapt to change, but it is necessary, as well, to learn to create its future Senge (1994) and Peter (1996).
- What distinguishes LOs from other organizations is their ability to continually expand their respective capacities to create their future or learn and transform themselves Watkins and Marsick (1993).

In summary, learning organization is the adequate organizational structure for a fast changing environment, which is especially due to its capability to anticipate change. It provides new ways to manage in the circumstances of almost permanent economic uncertainty and turbulence that dictates need for rapid adjustments to a market environment. A starting point in creating a learning organization seems to be when an organization starts to recognize the need for change.

### **The Characteristics of the Learning Organization**

The following section is dedicated to the learning organization’s characteristics. The beginning of section is given an overview of partially different, partially overlapping opinions from various authors about the conditions that must be presented in a learning organization.

The idea of a learning organization is more or less as an ideal and a desirable goal that is rather difficult to articulate in practice. Thus, theorists are trying to emulate those elements that are deemed characteristic of a learning organization. So far, there does not exist generally admitted understanding, which elements are essential for a learning organization.

Therefore there are some researcher determined the characteristics of the learning organization follow by,

Confessore (1997) determines three conditions that are present in a learning organization:

1. Individuals have opportunities to exploit their work environment to increase their individual knowledge bases;
2. There are opportunities for individuals to work collaboratively and share and create new knowledge; and,
3. There are mechanisms to ensure that these activities are valued, encouraged, and integrated into daily practice.

Watkins and Marsick (1993) identify six features that are characterizing a learning organization:

1. Creating continuous learning opportunities.
2. Promoting inquiry and dialogue.
3. Encouraging collaboration and team learning.
4. Establishing systems to capture and share learning.
5. Empowering people to a collective vision.
6. Connecting the organization to the environment.

Senge, in his landmark book “The Fifth Discipline” (1990) identifies five disciplines that are critical to organizations today if they are to cope with the rapid changes taking place in the world. Those five disciplines are:

1. Systems thinking.
2. Personal mastery.
3. Mental models.
4. Shared vision.
5. Team learning.

Senge pays especially great attention to the systems thinking as this is supposed to link all the others and is a cornerstone for developing new kind of organizations. Another well-known set of characteristics of a learning organization is presented by Pedler (1994):

1. Learning approach to strategy, what means that company policy and strategy formation, together with implementation, evaluation and improvement, are consciously structured as a learning process.
2. Participative policy-making to give for all members of the company a chance to take part, to discuss and contribute to major policy decisions.
3. Informating - the state of affairs in which information technology is used to inform and empower people.
4. Formative accounting and control to ensure that systems of accounting, budgeting and reporting are structured to assist learning.
5. Internal exchange - all internal units and departments see themselves as customers and suppliers.
6. Reward flexibility - the exploration of new, alternative ways of rewarding people.
7. Enabling structures - roles are loosely structured, in line with the needs of internal customers and suppliers. Departmental boundaries can flex in response to changes.
8. Boundary workers as environmental scanners.
9. Inter-company learning - learning activities with customers and suppliers, including joint training, sharing in investment, in research and development and job exchanges
10. Learning climate - managers see their primary task as facilitating members' experimentation and learning from experience. Mistakes are allowed.

Porth *et al.* (1999), comparing different approaches, found that at least three characteristics of a learning organization consistently emerge:

1. Employee development and continuous learning within the organization,

focusing on topics such as how individuals learn, stages of the learning process, cognitive styles, and obstacles to learning.

2. Information sharing and meaningful collaboration stress beside the theme of information processing and sharing also that organizational change is a shared responsibility and that innovation and change require employee participation and involvement.

3. Team building and shared purpose with a strong sense of community as fundamental to the learning organization.

### **A. The Learning Organization – theoretical Base**

Much has been written about the theory of the LO since Senge (1990) seminal text. Some of these writings have used the UK construction industry as a backdrop and are discussed at length in this chapter. Senge (1990) suggested that the most successful organizations are LOs and that the ability to learn faster than competitors is the only sustainable advantage.

Senge *et al.* (1990) proposed that five disciplines comprised what he deemed to be a LO. Those disciplines are: mental models, personal mastery, shared vision, team learning, and systems thinking. The five disciplines have remained as the core elements of the LO. With respect to such departures or augmentations of the LO model, this research will remain framed within five discipline model.

### **B. Mental Models – theoretical base**

Mental Models are the assumptions and accepted norms which influence the way in which individuals and organizations view and interact with the wider world. These assumptions are ingrained to a point where the individual or organization does not realize the extent to which they influence behavior. Senge *et al.* (1990, 1994) proposes that LOs need to reflect inwardly to better understand these assumptions. They need to expose their thinking to external parties to allow

them to influence it in order for them to grow and develop. Senge *et al.* (1990, 1994) proposed that organizations must implement change at the institutional level to enable their individuals to develop fresh outlooks and learn new skills. This means transcendence of internal politics that creates the incumbent Mental Models that can undermine any attempt to create change through the other disciplines of the LO. One of the key elements is the distribution of business responsibility more widely while still maintaining an excellent level of coordination.

### **C. Personal Mastery – theoretical base**

It is postulated by Senge *et al.* (1990, 1994) that in order for the organization to learn, the individuals within it must learn. This is not to say that individual learning guarantees the organization will learn, but that it is an essential element. Personal Mastery is about individuals being in a continual learning mode not just in terms of skills, but also in terms of personal vision and spirituality. It is not meant as a destination or an achievement, but is defined as a continual journey. In addition, those individuals with high personal mastery have awareness as to where they lack competence and knowledge and where there is scope for growth. This is demonstrated in Senge *et al.* (1990, 1994) as holding a personal creative tension which is the gap between a person's current reality and their personal vision. Addressing this tension is the concern of the personal mastery journey.

### **D. Shared Vision – theoretical base**

Shared Vision is described by Senge *et al.* (1990, 1994) as the capacity to hold a shared picture of the future that the organization is trying to achieve. He suggests that creating a vision in this way will encourage innovation and give members of the organization the feeling that the organization is focused upon the longer term. This vision is kept well distanced from the standard vision statement issued often by senior management within some organizations. If individuals are part of a shared vision, they are much more likely want to learn and develop rather than be instructed to do. Senge *et al.* (1990, 1994) further stated that the vision must grow

through a process of continual reinforcement. This reinforcement occurs through the interaction of individuals growing the vision organically and thus fostering enthusiasm for the journey towards that vision.

#### **E. Team Learning – theoretical base**

Senge *et al.* (1990, 1994) described Team Learning as developing team skills to enable it to create the outcomes which the team members want. This is the skill set element of creating the environment for individuals and groups to be able to work together as a unit. In order to achieve this, individuals need to learn as part of a team rather than just as individuals. Senge *et al.* (1990, 1994) promotes the concept of dialogue over discussion to allow the team to gain greater insight into problems and opportunities.

#### **F. Systems Thinking – theoretical base**

Systems Thinking is the concept of the LO which integrates the others into the coherent body of theory and practice. System thinking addresses the whole and examines the interrelationship between the parts, thus providing the means to integrate the other disciplines. Senge *et al.* (1990, 1994) suggests that one of the problems with management is that simple solutions are applied to complex system problems. Standard solutions tend to focus on organizational parts rather than viewing the organization as an interlinked dynamic process. Therefore postulates that Systems Thinking leads to more appropriate managerial action. Senge *et al.* (1990, 1994) further postulated that managers tend to think that cause and effect are adjacent in terms of time and space. This thinking has driven the behavior that when faced with a problem, solutions that are adjacent in time or space are focused upon. In particular, actions that create improvements in a shorter time span are generally adopted. Senge *et al.* (1990, 1994) argued that short term improvements can create very significant long term costs. Cutting the training budget, for example, can create cost savings, but can also severely damage the organization in the long term.

Senge *et al.* (1990, 1994) suggested that the problem is the feedback received from the initial action. Some feedback is ‘reinforcing’ – where small changes build on themselves. In the example above, cutting the training budget shows an immediate fiscal benefit with no short term visible outcome; so the manager seeks to trim another budget and gets the same result. In the short term there may still be negligible impact on the organization’s performance, but longer term the decline in visibility may have a detriment to performance. This is an aspect of the delay which Senge *et al.* (1990, 1994) suggests means that some significant consequences of an action are not felt until sometime after the action is taken.

Senge *et al.* (1990, 1994) proposes the use of ‘systems maps’ which show the systems and how they connect. It takes effort to recognize the systems and map them within an organization. Failure to understand systems can lead to blame and self-defense actions. As cause and effect cannot easily be seen, someone else must have caused the problem.

Several multi-dimensional models have been proposed to describe the characteristics of a learning organization. One of leading model used within the academic literature, which actually originates from the practitioner literature, in this thesis has focus the model proposed by Senge (1990) which are includes fifth discipline that are summarized in Table 1:

**Table 1** Senge’s dimensions of a learning organization.

Shared Vision	The discipline of creating a shared picture of the future that fosters genuine commitment and engagement. In an organization, a shared vision binds people together around a common identity and a sense of destiny, giving a sense of purpose and coherence to all activities undertaken.
Team Learning	The discipline of raising the collective IQ of a group and

**Table 1** (Continue)

	capitalizing on the greater knowledge and insights of the collectivity. This implies dialogue and overcoming patterns of defensiveness that undermine group learning.
Personal Mastery	The discipline of continually clarifying and deepening employees' personal visions, and focusing their energies. This includes awareness of personal weaknesses and growth areas as well as humility, objectivity and the persistent willingness to pursue self-development.
Mental Models	The discipline of clarifying deeply ingrained assumptions, pictures/images that influence employees' understanding of the world and the actions they take. Change in organizations rarely takes place in the absence of systematic attempts at unearthing these internal pictures, bringing them to surface and holding them rigorously to scrutiny.
Systems Thinking	A framework for identifying patterns and inter-relationships, seeing the big picture, avoiding over-simplification, overcoming linear thinking and dealing with issues holistically and comprehensively.

Note: This table synthesizes the work from Senge

Source: Jamali and Sahyoun (2006: 343)

### **Case Study Learning Organization: Toyota Company**

The Kaizen concept is used to study learning organization of Toyota. Kaizen concept involves every employee in making change- in most cases small, incremental changes. It focuses on identifying problems at their source, solving them at their source, and changing standards to ensure the problem stays solved. It's not unusual for Kaizen to result in 25 to 30 suggestions per employee, per year, and to have over 90%

of those implemented. For example, Toyota is well-known as one of the leaders in using Kaizen. In 1999 at one U.S. plant, 7,000 Toyota employees submitted over 75,000 suggestions, of which 99% were implemented.

#### A. Kaizen is the heart of the Toyota Production System.

The Kaizen philosophy assumes that our way of life-be it our working life, our social life, or our home life-should focus on constant-improvement effort. Kaizen has contributed greatly to Japan's competitive success Imai (1997: 1).

The two key features of kaizen are incremental and continuous improvement and involvement of the entire workforce in that process. The workforce, even workers, need to participate in producing small but frequent changes by making suggestions for improvement in both process and product. Beyond that, the logical structure of the concept of kaizen, the precise relationship among its tools, and concrete measures and sequences adopted on the factory floor, are difficult to pin down since there are many different schools of teaching that emphasize different aspects and tools of kaizen relative to others. Even among excellent companies, Toyota's way is different from Honda's way, and the Panasonic philosophy is quite distinct from Canon's.



**Figure 1** Kaizen - continuous improvement

Source: Imai (1997)

According to Masaaki Imai, who introduced kaizen to the international audience with his seminal book, *Kaizen: The Key to Japan's Competitive Success*, kaizen is concept for a large number of Japanese business practices (see Table 2). It could even be argued that, like Zen Buddhism, it is not just a management technique but philosophies which instruct show a human should conduct his or her life. Kaizen focuses on the way people approach work. It shows how management and workers can change their mindset together to improve their productivity. As Edwards C. Johnson, CEO of Fidelity Investment, puts it, while there are many strategies for management success, kaizen is different since it helps focus in a very basic way on how people conduct their work Imai (1997).

**Table 2** The Key Kaizen Practices

<b>The Key Kaizen Practices</b>	
<b>Continuous Improvement Culture</b>	<b>Production Process</b>
A) customer orientation	A) automation & robotics
B) quality control (QC) circles	B) automation
C) suggestion system	C) zero defects
D) discipline in the workplace	D) total productive maintenance (TPM)
E) small-group activities	E) kamban
F) cooperative labor-management relations	F) Just-in-Time (JIT)
G) total quality management(TQM)	G) productivity improvement
H) quality improvement	H) new product development

Source: Imai (1986: 4)

There are a large number of related and often overlapping components that belong to the kaizen toolkit such as: 5S, Suggestion System, Quality Control Circles (QCC) or Quality Circle (QC), Total Quality Control (TQC), Total Quality Management (TQM), Toyota Production System (TPS), Just-In-Time (JIT) System, Kamban System, and so on. Among these, 5S is generally considered to be the most basic step for improving quality and productivity. Beyond that, the emphases vary

according to the particular author or expert. A brief explanation of each is provided Table 3 as below.

**Table 3** Selected Components of the Kaizen Toolkit

Term	Explanation
5S	5S is a philosophy and checklist for good housekeeping to achieve greater order, efficiency and discipline in the workplace.
Suggestion System	A Suggestion System is the methods by which the ideas and suggestions of employees are communicated upwards through the management hierarchy to achieve cost savings or improve product quality, workplace efficiency, customer service, or working conditions. Examples rang from simply placing suggestion boxes in common areas, to implementing formal programs with committees reviewing ideas and rewards given for successful adoption of that idea.
Quality Control Circle (QCC)	QCC is a small group of workers who collectively find a problem, discuss alternative remedies, and propose a solution. QCCs voluntarily perform improvement activities within the workplace, as part of a company-wide program of mutual education, quality control, self-development and productivity improvement.
Total Quality Management (TQM)	TQM represents a number of management practices, philosophies and methods to improve the way an organization does business, makes its products, and interacts with its employees and customers. QCC activities function as an integral part of TQM. Historically, statistical quality control was born in the US, and Japan imported and developed the concept.

Term	Explanation
Toyota Production System (TPS)	TPS is the philosophy which organizes manufacturing and logistics at Toyota, including interaction with suppliers and customers. It focuses on the elimination of waste and defects at all points of production including inputs, process and final output (delivery). The term “Lean Production System” can be used interchangeably.
Just-In-Time (JIT) System	JIT, a part of TPS, is a production system aimed at eliminating non-value adding activities of all kinds and achieving a lean production system flexible enough to accommodate fluctuations in customer orders.
Kamban System	Kamban refers to a communication tool in the JIT production and inventory control system, developed at Toyota. A kamban (signboard) is attached to a given number of parts and products in the production line, instructing the delivery of a given quantity. When the parts have all been used, the kamban is returned to its origin where it becomes an order to produce more.

**Global Implementation of 5S**

5S are practiced in various countries as 5S sign boards in *gemba* symbolize implementation.

From left to right: a local company in Thailand; a Japanese company in Indonesia; a multinational company in Kenya; and, a local company in Kenya.

While Toyota's kaizen model contributed to systematically developing the kaizen concept and method, the kaizen approach (i.e. bottom-up decision making process, housekeeping activities involving all the workers, and step-by-step improvement with eliminating wastes) is culturally common in the Japanese managerial system. Therefore, Japanese manufacturers did not have to take drastic efforts to establish kaizen. Moreover, leading Japanese assemblers consider that implementation of 5S is a minimum requirement for becoming their suppliers. Since 5S implementation is visually observable at gemba, all their suppliers are urged to implement 5S. These are the reasons why kaizen is the de facto standard in most of the successful manufacturers in Japan and became the core of the success of the Japanese industry.

## **B. Kaizen and Management**

Management has two major components:

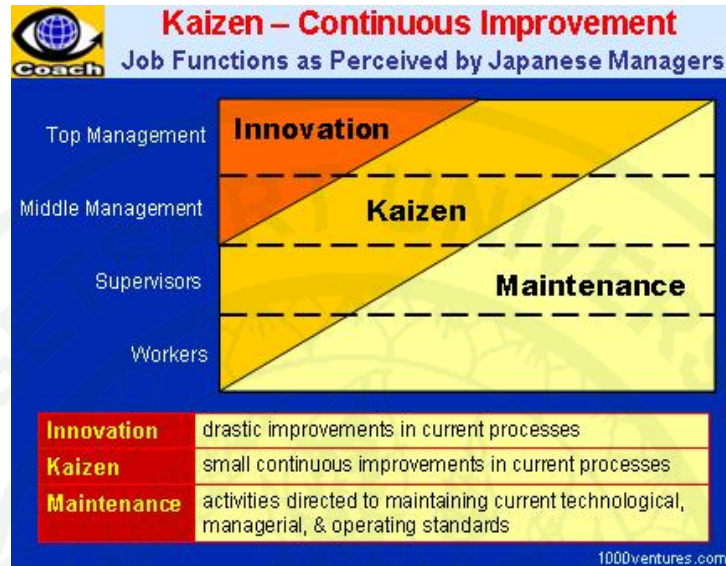
1. maintenance, and
2. improvement.

The objective of the maintenance function is to maintain current technological, managerial, and operating standards. The improvement function is aimed at improving current standards.

Under the **maintenance** function, the management must first establish policies, rules, directives and standard operating procedures (SOPs) and then work towards ensuring that everybody follows SOP. The latter is achieved through a combination of discipline and human resource development measures.

Under the **improvement** function, management works continuously towards revising the current standards, once they have been mastered, and establishing higher ones. Improvement can be broken down between innovation and Kaizen. Innovation involves a drastic improvement in the existing process and

requires large investments. Kaizen signifies small improvements as a result of coordinated continuous efforts by all employees.



**Figure 3** Kaizen and Management

Source: Japanese perception of tasks per level, Imai (1990: 31)

It is essential for a Kaizen program to get acceptance from the employees and eliminate resistance. Imai states that in order to achieve this you need Imai (1990: 259).

- To improve internal relationships
- Training and education
- Informal leaders amongst the employees
- Quality control circles
- Support and acknowledgement for Kaizen activities (p-criteria)
- To make the work floor a place to achieve your life goals
- To integrate social life in business environment
- To train managers to cooperate well with their staff
- Discipline

### C. The Result From Kaizen

We have seen the critical success factors needed for Kaizen implementation and sustenance. If a company pays enough attention to these factors, it can lead them to continuously improving results. According to Emiliani (2004) when Kaizen is implemented well it can lead to “higher quality products and services Emiliani and Stec (2004: 371).

Finally as mention the improvements Kaizen gives a company according to Imai (1990).

- Productivity can increase between 30 and 100% without capital investments.
- It lowers the breakeven point between revenues and costs.
- It focuses manager’s attention to the desires of the customer.
- It improves competitiveness and gives more profit.
- It strives for undivided attention for process as well as result.
- It awards employees for their efforts regarding process improvements (p-criteria)
- It stops the wear of an innovation

### Organizational Performance

Literature on organizational performance clearly shows that there is no single universal measure that can be used to assess overall organizational performance. Traditional financial measures are not accepted as the sole indicators for organizational performance. Moreover, we can hardly find an organization that is very successful or failure in every aspect.

Many performance measures and models have been developed and advocated by various writers, such as: profitability, productivity, efficiency, effectiveness, adaptability, growth, innovation, etc. Organizational performance can be judged by

many different constituencies, resulting in many different interpretations of “successful performance”. Each of these perspectives of organizational performance can be argued to be unique. Further, each organization has a unique set of circumstances, making performance measurement inherently situational Cameron and Whetton (1983). Both of these issues are problematic for researchers, since theory building involves making and testing assertions that explain or predict a particular phenomenon (generally represented as a value of a dependent variable in a model) that holds true across a broad range of specific instances Weick (1989). While it is possible to develop a multiattribute model of organizational performance, building a model that addresses multiple constituencies becomes problematic, since each group may have contradictory objectives. Therefore, a unified perspective of overall organizational performance is necessary to execute research. Accordingly, this dissertation examines organizational performance from a single constituency perspective, that of the common stockholder of for-profit organizations. From this perspective, successful organizational performance can be equated to successful value creation for common stockholders.

### **A. Definition of Performance**

Despite the great relevance of individual performance and the widespread use of job performance as an outcome measure in empirical research, relatively little effort has been spent on clarifying the performance concept. The conceptualizing performance one has to differentiate between an action (i.e., behavioral) aspect and an outcome aspect of performance. The behavioral aspect refers to what an individual does in the work situation. It encompasses behaviors such as assembling parts of a car engine, selling personal computers, teaching basic reading skills to elementary school children, or performing heart surgery. Not every behavior is subsumed under the performance concept, but only behavior which is relevant for the organizational goals: “Performance is what the organization hires one to do, and do well” Campbell *et al.* (1993: 40). Thus, performance is not defined by the action itself but by judgmental and evaluative processes. Moreover, only actions which can be scaled, i.e., measured, are considered to constitute performance Campbell *et al.* (1993). The

outcome aspect refers to the consequence or result of the individual's behavior. The above described behaviors may result in outcomes such as numbers of engines assembled, pupils' reading proficiency, sales figures, or number of successful heart operations. In many situations, the behavioral and outcome aspects are related empirically, but they do not overlap completely. Outcome aspects of performance depend also on factors other than the individual's behavior.

Anthony (1994: 268-274), classified performance criteria into three groups: efficiency, effectiveness, and humanism. Effectiveness measures include four models/approaches: goal/output achievement, resources acquisition, internal processes and satisfaction of main constituencies; these models/approaches complement each other.

Robbins (1998: 483) suggested four performance indicators to assess organizational effectiveness: profit maximization, organizational ability to acquire inputs and transform them successfully into outputs, maintaining stability and balance, and identifying and satisfying customers' needs.

Kotler (2000: 40-42) identified four key dimensions to achieve competitive performance which are stakeholders, internal process, resources and organizational management.

Among the performance measures that received much attention is effectiveness. Daft (2004: 66) pointed that "organizational effectiveness included: goal approach, resource-based approach and internal process approach." Robbins and Coulter (2005: 466) suggested that "organizational effectiveness included four approaches/models: goal/output achievement, systems resources, internal processes, and multiple constituencies' models." One of the approaches/models of assessing organizational performance that became popular and widely applied is the "balanced scorecard". It is a comprehensive management control system that makes a balance between traditional financial measures and operation measures related to factors that are critical to the organizational success, and high concern with markets, customers

and employees Kaplan and Norton (1992). The balanced scorecard is a performance measurement tool that focuses on four areas: financial performance, customer service, internal processes and people/ innovation/ growth. These four measures are interdependent indicators/ measures. Daft (2004: 293) commented on this model "This model has attracted much attention and became the main management system in many giant firms, and managers can use it for setting goals, resource allocation, budget planning and reward.

### **Linkage between Organizational Learning and Organizational Performance**

Previous studies that underline the positive effects that organizational learning has on business performance differ on what they understand by performance. The prescriptive literature considers financial results as business performance Lei *et al.* (1999). Although these outcomes are important, there may be more proximate outcomes that may mediate the relationship with financial results. For example, outcomes of organizational learning behaviors may include changes in values and assumptions Argyris and Schön (1978), systems and structures core competencies Prahalad and Hamel (1990) organizational innovativeness and competitiveness corporate success, and employee satisfaction. It has been established, on the base of credit union industry in Ohio Dimovski (1994) and Slovenian companies with more than 100 employees in 2003 and 2004 that better developed organizational learning contributes to improved organizational performance in financial as well as nonfinancial terms. Many authors consider organizational learning as the fundamental aspect of competitiveness and link it with knowledge acquisition and performance improvement.

Although links between learning and business performance have often been assumed, there is a little empirical evidence to support this perspective, especially in terms of transitional economics. Positive changes in the way people act (behavioral changes) and perceive their internal and external environments (cognitive changes) are expected to have a positive impact on organizational performance Kagioglou *et al.* (2001) emphasizes the importance of organizational learning for organizational

performance defining it as ‘a process through which manager’s try to increase organizational members’ capabilities in order to understand better and manage an organization and its environment to accept decisions that increase organizational performance on a continuous basis. Research conducted by Dimovski (1994) demonstrated the statistically significant positive and strong impact of organizational learning on organizational performance from the employee perspective. Companies which invest efforts into the systematic approach to organizational learning profit in terms of an augmented level of employee trust in the leadership, improved efficiency of work organization, a more committed workforce, decreased costs of work per employee, increased employee satisfaction and increased employee flexibility.

### **A Multi-dimensional View of Performance Measurement: The Need for Balanced Scorecard Approach**

#### **A. Introduction**

Information about performance management is critical to the effective functioning of any business Kaplan *et al.* (1992) and McWilliams (1996). However, what constitutes good performance and what constitutes good measures of performance are continuously being debated Kaplan and Norton (1998). For instance, do financial performance indicators provide the necessary information for operating within environments that are classified as turbulent, given that are backward looking? Armstrong (2000) and Kaplan (1983). Is it important to utilize non-financial information for organizations are facing changes in demand? Chang (2007).

In order to answer these questions and more, this chapter reviews literature on performance management of learning organization and describes the factors that influence performance measures. In addition, why there is a need for organizations to focus both traditional financial and non-financial indicators of performance in order to meet organization objectives, irrespective of competitive environment, is reviewed. Specific frameworks, which can be utilized by organizations to measure performance in this way, are also reviewed; with a particular focus on the Balanced Scorecard

(BSC) as a measurement tool which meets the demands of contemporary organizations Duursema (1999) and Ittner (1998a).

## **B. Role of Performance Measures in an Organization**

To function successfully in a business environment, an organization depends upon the decision-making ability of its managers, who in turn, depend upon the availability of useable information about performance is important in different ways to the various stakeholders within a business. For example, owners and investors are interested in company performance to ensure that their investment decision are correct, and if not, to look for alternative investments. Managers look at the performance of a company's subunits as a way of prioritizing the allocation of resources Duursema (1999); Euske *et al.* (1993) and Lockamy (1994).

In a more strategic sense, performance measurement is seen as an important way of keeping a company on track in achieving the company's objectives and as a monitoring mechanism employed by the owners of a company where ownership and management are separated Bushman (1995).

If measures of performance are to be effective, the measures need be performance driven and linked with company strategy. This view is supported by a number of researcher who note that measures of performance need to be based on a company's strategic objectives in order for employees to understand and be committed to the achievement of those objectives Becker *et al.* (1996); Hronec (1993) and Kaplan *et al.* (2001a).

Specifically, Williams (2000); Mayo and Brown (1999) argue that within the contemporary work environment, a good performance measurement system should be:

- Supportive and consistent with an organization's goals, actions, people/culture, and key success factor
- Driven by the customer

- Appropriate to the internal and external environment
- Developed by a combined top-down and bottom-up effort
- Communicates and integrated throughout the organization
- Focused more on managing resources and inputs, not just simply costs
- Committed to providing action-oriented feedback
- Supportive of individual and organizational learning

Although there is agreement that these types of characteristics will make for better performance measures Devenport (2000), how performance is actually measured is still a “black box” for many organizations Cross and Lynch (1992) particularly as performance measures used in one company may not be appropriate for another company facing a different situation or different set of circumstances Otley (1980).

### **C. The Balanced Scorecard (BSC) Framework**

The BSC provides a framework, which encourages the use of both financial and non-financial measures of performance, allowing the organization to pinpoint its strategic objectives via balancing four perspective – financial, customers, internal, internal business process, and learning and growth – to measure firm performance. Since the introduction of balanced scorecard, companies using it have been able to implement new strategies rapidly and effectively, leading to dramatic performance improvements Kaplan *et al.* (1992).

The scorecard’s customer perspective measures the entity’s performance with targeted customer and market segments by using such outcome measures as market share, customer retention, new customer acquisition, and customer profitability. This perspective should also measure the *value proposition*- how the organization creates value for its targeted customer. This internal process perspective includes measures of operating performance (cost, quality, and cycle times) of critical processes that deliver value to customers and reduce operating expenses. In addition,

the internal perspective can include measures of innovation processes that create entirely new products and service. Organizational learning and growth arise from such sources as people and systems. Typical measure for the learning and growth perspective includes employee motivation, retention, capabilities, and alignment, as well as information system capabilities.

The balanced scorecard approach involves identifying the key components of operations, setting goal for them, and then finding ways to measure progress toward achieving those goals. Taken together, the measures provide a holistic view of what is happening both inside and outside the organization or operational level, thus allowing each constituent of the organization to see how their activities contribute to attainment of the organization's overall mission.

According to Kaplan and Norton (1996) the BSC can help the organization to clarify its corporate vision and strategy; communicate and link strategic objectives and measures to plan; set targets and align strategic initiatives; and to enhance strategic feedback and learning.

#### **D. The Four BSC Pillars**

The BSC framework, four categories of measures are identified in order to achieved balance between the financial and the non-financial, between internal and external and between current performance and future performance Kaplan *et al.* (1992). The four perspectives: financial, customer, processes, and learning and growth – represent the view of four essential stakeholders in any business.

**The financial perspective**, as reflected in financial measures, is the most traditional and still most commonly used measurement tool. Financial measures are valuable in conveying the readily measurable economic consequences of action already taken. Financial measures are typically focused on profitability-related measures such as return on capital, return on equity, return on sales, etc. Kaplan *et al.* (1992). The customer perspective typically includes several core or general measures

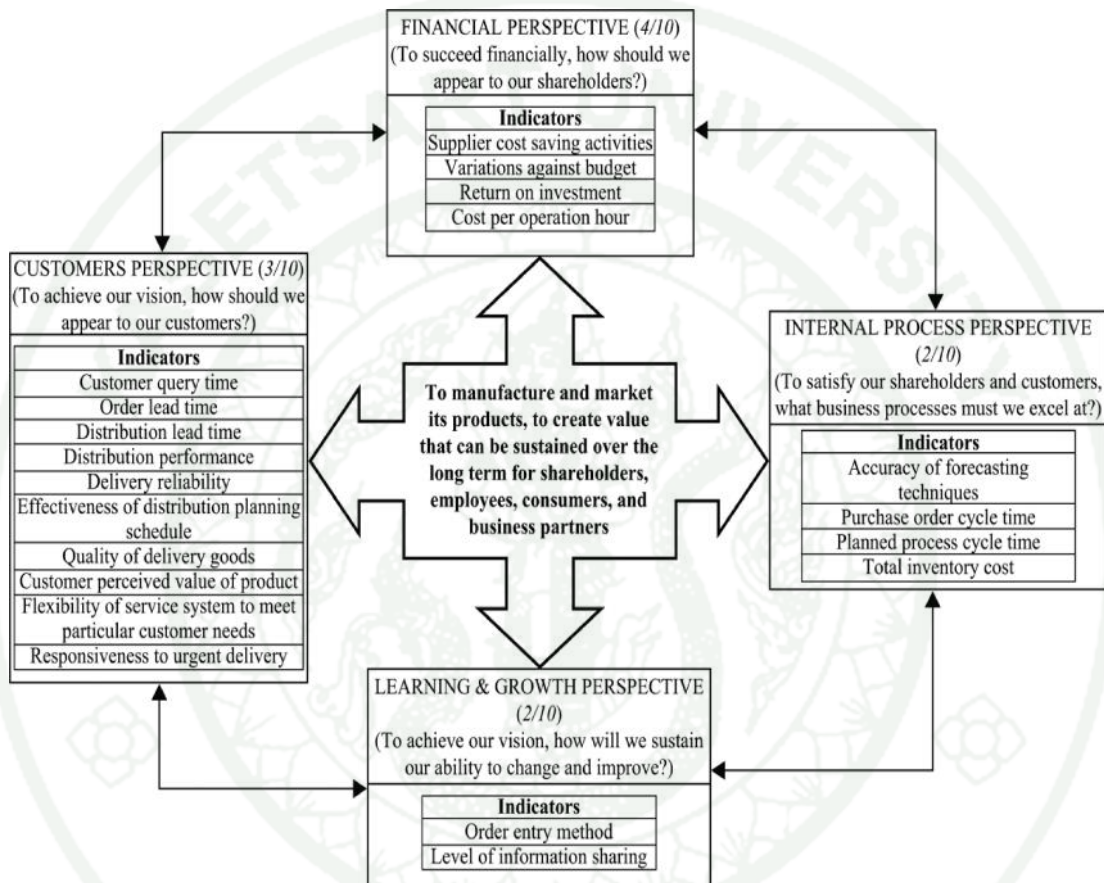
derived from the desired successful outcomes of a well-formulated and implemented strategy. These core customer complaints, customer lost/won, sales from new products, and on-time delivery Kaplan (1998). Measure related to customers includes results from customer surveys, sales from repeat customers, and customer profitability.

**The customer perspective** is a core of any business strategy which describes the unique mix of product, price, service, relationship, and image that a company offers Kaplan *et al.* (2000). The customer perspective defines how the organization differentiates itself from competitors to attract, retain, and deepen relationships with targeted customers. The value of the customer perspective is crucial because it helps an organization connect its internal processes to improved outcomes with its customers. Of the four BSC perspectives, the customer is at the core of any business and is crucial to long-term improvement of company performance Kaplan *et al.* (1992) and Pineno (2002). Heskett *et al.* (1994) point out the customer-based virtuous circle, whereby investment in employee training leads to improved service quality; which in turn result in higher customer satisfaction leading to increased customer loyalty, which boosts revenues and margins.

**Internal business process perspective** relate specifically to the operational processes of the business unit. Internal business process measures represent the perspective of the operations management within the BSG model. The internal process perspective is based on the notion that to satisfy customers and earn a financial return, the business must be efficient and effective at what it does. The internal process measures are typically based on the objective of most efficiently and effectively producing products or services that meet customer needs. For example, such measures may include order conversion rate, on-time delivery from supplier, cost of non-conformance, and lead-time reduction Kaplan *et al.* (1996b).

**Learning and growth perspective** represent the employees as part of the four pillars used to measure performance with the BSC framework. The innovation and learning perspective is all about developing the capabilities and processes needed

for the future. Acknowledging that performance measures relating to learning and growth are the most difficult to select, Kaplan and Norton (1996b: 127) suggest measures of employees capabilities, information systems capabilities, and employee motivation and empowerment as examples.



**Figure 4** Balanced scorecard

Source: Kaplan and Norton (2001), Used with permission.

### E. Linkage between Performance Measures and Balance Scorecard

The significance of using the Balanced Scorecard (BSC) approach in measuring project performance has previously been addressed in this connection Amaratunga *et al.* (2000). The BSC was developed by Professor Robert Kaplan and Professor Davis Norton in 1992. It has been described as an approach to evaluate whether the predetermined project goals are achieved in terms of 'financial, customer

perspective, internal business processes, and learning and growth' aspects. Kagioglou *et al.* (2001) further described performance indicators with regard to the financial aspect as the 'lagging' indicators which report 'the results and decisions made in the past and therefore are of little use in improving current performance'. Performance indicators which relate to the customer perspective, internal business processes, and learning and growth aspects were described as the 'leading indicators' which help identifying mistakes and wrong strategies for project goals achievement. Nevertheless, 'lagging indicators' are rarely found in the performance measurement systems developed in previous studies Kagioglou *et al.* (2001). As such, BSC is an approach for translating the organization's strategy into operational terms, aligning organization into strategy, making strategy everyone's job and making strategy a continual process, in which it can cope with what objectives the partnering intends to achieve Kaplan and Norton (1996, 2001). In construction, a number of performance measurement systems were developed by the BSC approach.

### **Background Organization**

Thailand was the first country where Toyota Motor Corporation started to expand its business overseas. The history of Toyota in Thailand started since 1956 when Toyota initially entered into Thai market as Toyota Motor Sales Co., Ltd. then transformed to Toyota Motor Thailand Co., Ltd (TMT) in 1962 with the capital of 11 million Baht. The continuous growth of TMT becomes visible with the capital of 7520 million Baht together with three production plants including Samrong plant, Gateway plant and Ban Pho plant with total production capacity of 550,000 units per year. Currently, TMT employ 13,500 workers. For the past 40 years TMT has adopted procedures and management techniques from guiding principles introduced by TMC that bring TMT into success and present as number one in Thai's automotive industry. Until today, TMT has become the production center for product range of Corolla, WISH, Camry, VIOS, Yaris, VIGO and Fortuner in Asia by set up Toyota Motor Asia Pacific Engineering & manufacturing Co., Ltd (TMAP-EM) for products supporting and production development Toyota (2007).

## **A. Toyota's Vision and Mission Statement**

### **Vision**

"Rewarded with a smile by exceeding your expectations" – Toyota aims to exceed customers' expectations through their commitment to quality, continuous innovation and respect for the planet.

### **Mission**

"To sustain profitable growth by providing the best customer experience and dealer support."

Therefore in this chapter, independent variables which is the factors of learning organization model Senge (1990) and dependent variable was organization performance.

## **Related Research**

### **A. Thai related research**

Thongwang (2010) This study aims to investigate 1) the relationship of influencing factors which created the learning organization and an Innovative organization 2) The relation of the level of a learning organization towards the level of an innovative organization; case study at the National Science and Technology Development Agency (NSTDA). This study involved 7 factors influencing (1) an organization structure; (2) learning culture; (3) job empowerment and responsibility; (4) knowledge creation and transfer; (5) technology for learning; (6) working atmosphere and (7) teamwork environment. The research data are collected from primary source by questionnaire and secondary sources by necessary information such as company's documents. The data was analyzed through quantitative methods such as descriptive statistics, chi-square test, and structural equation model are applied. It was found that all factors effect on the level of a learning organization. The ability to

be learning organization has related to the level of an innovative organization as well. However, all factors effect on the level of an innovative organization except empowerment and responsibility.

Wiriyapinit (2011) Transforming the Organizations in Thai Public Sector into Learning Organizations: An Explanatory Case Study Research. This paper reports the research findings that generate concrete guidelines on how to transform organizations within the Thai public sector into learning organizations. The research method employed was semi-structured interviewing. Interviewees were experts and top management people who had experience in creating a learning culture and managing knowledge in organizations. The key suggestions concerning the transformation are: 1) to establish an awareness in transforming the organization into a learning organization, 2) to put in place the roles of leaders as corresponds to learning, 3) to manage human resources as corresponds to learning, 4) to have knowledge efficiently and effectively managed, and 5) to create a shared vision. Details on 'how to' under each of these suggestions – how to administer and how to evaluate – are provided.

Waisayarat (2010) A Causal Model of Organizational performance in Energy Sector: Stock Exchange of Thailand. The objective of this study was to determine the causal relationships model among leadership style, organizational culture, learning organization as they related to organizational performance of the Energy sector in Stock Exchange of Thailand. This dissertation represents one of the few efforts at conceptualizing leadership style and organizational culture, and one of the first attempts to empirically test their influence on direct effect and indirect effect (mediating effect) on the learning organization and organizational performance relationship.

The proposed model was tested in the energy sector in Stock Exchange of Thailand (SET). Survey data were collected: 224 sets of completed questionnaire were collected by means of random sampling of company managements selected from the list of companies in Stock Exchange of Thailand. A confirmatory factor analysis

was conducted with all constructs; leadership style, organizational culture, learning organization and organizational performance. The factor analysis results showed that all constructs fitted well with the empirical data. And, a structural equation model utilizing the observed and latent variables produced a model that showed the direct and indirect effects of leadership style, organizational culture and learning organization on organizational performance. The results showed that four out of the six hypotheses were supported, and two hypotheses were rejected. Consistent with hypotheses, the results indicated that, learning organization had strong direct effect on organizational performance (0.57,  $p < 0.001$ ), leadership style and organizational culture both had direct effect on learning organization (0.56 and 0.63,  $p < 0.001$ , respectively). Moreover, leadership style and organizational culture both had indirect effect on organizational performance (0.13 and 0.36, respectively). However leadership style and organizational culture were not found to provide direct effect on organizational performance. As the results of high degree of organizational performance; the relationship between leadership style has been linked directly with the organizational performance (0.36,  $p < 0.001$ ) but the in the low degree of organizational performance has been linked directly to the learning organizational performance but it was shown little relative to the organizational performance. Therefore, in the differences contexts, the scenarios of management level who respond to the questionnaires have different perceptions form the relationship of leadership style to organizational performance and organizational culture to organizational performance respondents who report high levels of learning organization were likely to have high level organizational performance.

#### **A. International related research**

The research was to investigate the relationship between perceptions of learning organization characteristics as defined by Marsick and Watkins (2003) and a firm's financial performance. Financial performance was measured using two profitability ratios (i.e. return on assets and return on sales); these ratios relate profit to some aspect of management performance such as using assets profitably, creating a return on owner's investment and generating a profit on sales. Return on assets is

calculated as net income divided by total assets and return on sales is calculated as net income divided by sales.

Systems thinking recognize the complexity and interdependence between the sales interaction and the ability for the rest of the organization to deliver customer satisfaction. For this reason, the customer interaction cannot be left to the whims of individual sales people. Rather, clear mental models must be defined that defines how the organization will engage with customers and one another in order to deliver exceptional service to customers and optimize sales performance. Moreover, these models must be part of a shared vision that everyone on the team owns. If individuals or teams don't buy-in to the model, it won't be adopted.

The result of the team processes and conceptualized in a multidimensional way. Outputs can occur at different levels: the individual, group, unit, or organization. And output is usually defined by the degree to which a goal is reached Brodbeck, (1996).

- Measures of performance effectiveness assessed in terms of quantity and quality of outputs, e.g. efficiency, productivity, response times, quality, customer satisfaction, and innovation,
- Member attitudes, e.g. employee satisfaction, commitment, and trust in management, and
- Behavioral outcomes, e.g. absenteeism, turnover, and safety

In line with this Hackman (1987) makes a distinction between performance outcomes (performance quality, speed of solution, number of errors) and other outcomes (member satisfaction, cohesiveness, attitude change, social metric structure). Thus, he suggests three criteria to evaluate group outcomes: 1) the result of the groups' work, i.e. quality or quantity of the output, 2) the willingness and capability of the group to continue working together in the future, and 3) the individual consequences of the collaboration, i.e. satisfaction, and physical and mental health. A further complication when defining "team outcome" is nomenclature as similar variables might be labeled differently, e.g. "performance", "effectiveness", or

“productivity” Brodbeck (1996) gives an overview about operationalization used by different authors on “work group effectiveness”. According to his collection, effectiveness includes: innovation, performance (sales revenues, self-reported performance, delivery of products, productive outcome), production (number of products) or productivity (delivery of products and services), social criteria (ability of members to work together), satisfaction (with the team, with meeting customer needs, with extrinsic rewards and work), workers’ values to personal criteria (satisfaction of members’ needs). Sometimes, the term “performance” is also used for behavior that is relevant for group goals and therefore focuses more on the process component of outcomes, for instance effort, task commitment, knowledge, skills, coordination, conflict, supportiveness, etc. Research findings the dimensions of the learning organization, except shared vision, had moderate-strong relationship with financial performance scale. Organizational culture dimension had the highest correlation coefficient ( $r = 0.821$ ), followed by learning environment, with  $r = 0.754$ . As for the relationship between dimensions of the learning organization and customer service, it has been found that four scales of the learning organization had strong positive relationship with customer service indicators, and the other two scales (systems thinking and shared vision) had a weak positive relationship.

The relationship between dimensions of the learning organization and internal processes does not differ much from their relationship with customer service. Systems thinking and shared vision had a weak positive relationship, whereas the remaining four dimensions had a significant positive relationship. These findings were consistent with those reported by Suzik (1998). Research findings showed a positive relationship between each of the six dimensions of the learning organization and learning/growth/innovation scale. In fact, four of the dimensions of the learning organization had strong positive relationship with learning/growth/innovation, and the other two dimensions—systems thinking and shared vision – had weak positive relationships with learning/growth/innovation. Similar findings were reported by Lopez (2004) and Hernandez (2003), which stressed the effect of organizational culture on organization.

Overall, learning organization characteristics are able to flourish in their financial performance. since most of the companies are for profit, Perhaps their financial stability accompanied by their inspiring goals lead to better financial performance which is indicated by an increased return on investment, average productivity per employee, expending time to market for product and services, response time for customer complaints, market share and cost for business transaction. The positive and significant relationships of the learning organization and knowledge performance improvement measure support the findings by Ellinger *et al.* (2002) and Davis (2005).

Ellinger *et al.* (2002) was studied the Impacts of the Dimensions of the Learning Organization on Organizational Performance. The foundation of the Watkins and Marsick perspective is based upon seven complementary action imperatives that they have identified that characterize organizations journeying toward this goal: (1) create continuous learning opportunities; (2) promote inquiry and dialogue; (3) encourage collaboration and team learning; (4) establish systems to capture and share learning; (5) empower people toward a collective vision; (6) connect the organization to its environment; and, (7) use leaders who model and support learning at the individual, team, and organizational levels. Performance outcome is dependent variable which is consists of Financial Performance and Knowledge Performance. The first performance variable, Financial Performance, is assessed in the following areas: return on investment, average productivity per employee, time to market for products and services, response time for customer complaints, market share, and the cost per business transaction. The second performance variable, knowledge performance, is assessed in the following areas: customer satisfaction, the number of suggestions implemented the number of new products or services, the percentage of skilled workers compared to the total workforce. The two performance outcome measures on the dimension of the Learning Organization Questionnaire (DLOQ) instrument Watkins and Marsick (1993). Canonical correlation is a technique for examining the association between two sets of variables. Findings suggest positive associations between the learning organization concept and firm performance.

Li Ming-fei *et al.* (2007) examined the construct validity of the learning organization concept and its influence upon firm performance in mainland China. Based on the theoretical framework proposed by Watkins and Marsick, the results showed that the learning organization in the Chinese context consisted of four dimensions as following: support individual learning for achieving collective vision, build communication and innovation mechanism, encourage team learning and collaboration, and advocate system thinking and strategic leadership. A balanced scorecard-based performance evaluation questionnaire was developed. Regression analyses were used to examine the relationship between learning organization and firm performance. The results indicate that learning organization has positive influence on firm performance. The study proves the necessity to construct learning organization for the purpose of improving the enterprise performance.

Hussein (2010) examined the relationship between learning organization and organizational performance in the pharmaceutical industry in Jordan. A descriptive analytical methodology was used, and a sample of (400) employees was selected representing (5) pharmaceutical firms, which were selected on the basis of size, age and location. For the purpose of the study, six core dimensions of learning organization were identified: systems thinking, shared vision, teamwork and collaboration, leadership and empowerment, organizational culture, and learning environment. For organizational performance, four scales were identified: financial performance, customer service, internal processes and learning/ growth/ innovation. Research findings indicated a strong positive relationship between learning organization and performance and between each of the learning organization dimensions and each scale of organizational performance. The study provided a number of recommendations that would help management of pharmaceutical firms to maintain and even upgrade continual learning organizations, and consequently improve performance.

Arphon *et al.* (2011) was studied The Relationships between Characteristics of the Learning Organization and Performance of the Siam City Bank Public Company Limited Branches. The purpose of this study was to verify the

relationships between the characteristics of the learning organization and performance. The sample is the 200 accountants of managers of the Siam City Bank selected by a stratified random sampling technique. Questionnaire was used to collect data and 173 questionnaires, with 86.50% returned. The statistics used for analyzing the collected data were multiple regression analyses. The results showed the characteristics of learning organization regarding mental models and systems learning had positive relationships with and impact on performance as in customers perspective and internal process perspective ; 2) characteristics of learning organization in team learning had positive relationships with and impacts on performance as customers perspective ; 3) characteristics of learning organization regarding personal mastery and systems learning had positive relationships with and impacts on performance as learning and growth perspective and ; 4) characteristics of learning organization in share vision learning had positive relationships with and impacts on performance as financial perspective. In conclusion, the results obtained from this study could be used as a strategy of characteristics of the learning organization applied for the Siam City Bank Public Company Limited to enhance performance and to be used as a guideline for improvement and planning.

Rajnish *et al.* (2014) was studied the Impact of Learning Organization on Organizational Performance in Consulting Industry. The objective of this study is to analyze learning organization, organizational performance and study the relationship between the two. The discipline measures organizational performance such as customer satisfaction, productivity and employee satisfaction. A convenient sampling has been used to collect the data by survey. The tool used for learning organization is a “designed questionnaire for data collection”. The correlation and regression of learning organization and organizational performance is calculated through SPSS. After the analysis, conclude that organizational performance is affected by learning organization but to a very limited extent. Also, learning organization and its eight parameters e.g. Holistic Frame, Strategic thrust, Shared vision, Empowerment, Information flow, Learning and Synergy show a positive correlation, which means there is no negative impact on the organization. Organizational performance and its respective parameters also exhibit a strong positive correlation, much higher than that

of learning organization. It could be suggested that the organizations need to be proactive in nature and be more connected to the environment to be able to scan it and further adapt to changes.

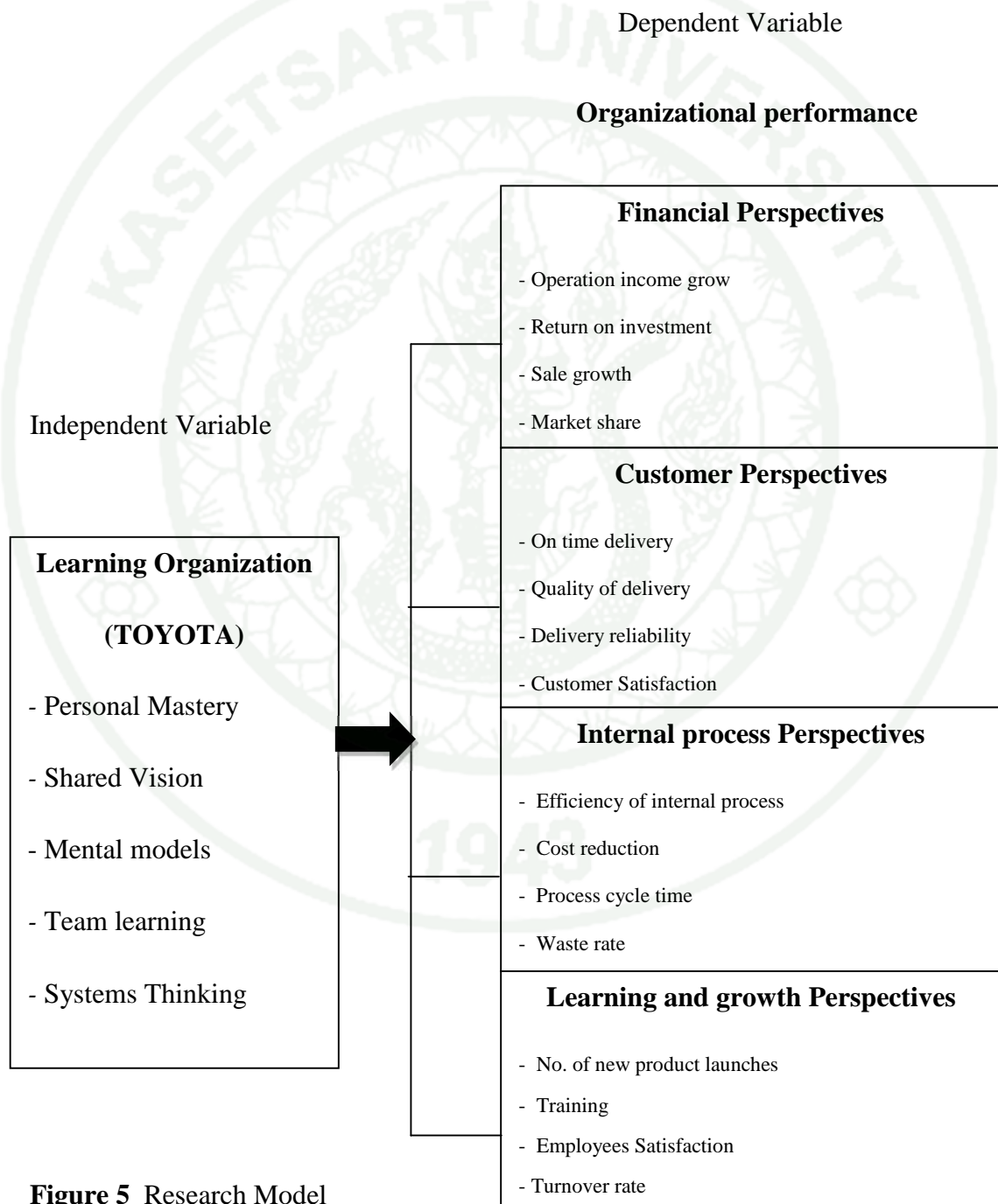
Kontoghioehes *et al.* (2005) examined the relationship between certain learning organization dimensions and change adaptation, innovation as well as bottom-line organizational performance. Open communication and information sharing, risk taking and new idea promotion, and information, facts, time, and resource availability to perform one's job in a professional manner are the learning organization dimensions that were found to be the strongest predictors of rapid change adaptation, quick product or service introduction, and bottom-line organizational performance.

Rahimi *et al.* (2011) explored a relationship between the learning organization and transfer of training strategies for learning and managing knowledge to make performance improvements gain or maintain a competitive advantage. It was found that a positive relationship suggesting that learning organization is more likely to practice transfer of training. Any relationship between the learning organization and transfer of training could lead to performance improvements and maximize the benefits gained and enable organizations to remain competitive in the face of global competition, a constantly changing environment, and unstable economic conditions.

Som *et al.* (2012) investigated how learning organization elements (LOE) were implemented amongst non-profit organizations (NPO's) in Singapore. Findings suggested that elements such as clarity of mission and vision, experimentation and intrinsic motivation, leadership commitment and empowerment, and organizational learning practices were deemed to be essential for NPOs to be transformed into a learning organization. Other elements such as individual learning and team-problem solving as well as organizational learning practices were also mentioned by respondents as important elements toward NPOs performance.

## Conceptual Framework

Based upon above mentioned literature review, Therefore in this chapter independent variables which is the factors of learning organization by using Senge (1990) model and dependent variable was organization performance as Figure 5.



**Figure 5** Research Model

## CHAPTER III

### RESEARCH METHODOLOGY

This chapter mainly presents the procedure of the research and its methodology which were conducted through the process of gathering information, collecting primary data, and data analysis. The content of this chapter includes the following topics;

- I. Research Design
- II. Data Collection
- III. Research Instrument
- IV. Data Analysis
- V. Statistic Used in the Study

#### Research Design

This research used quantitative technique to examine the effect of learning organization which has fifth disciplines as independent variables on organizational performance as dependent variable by creating questionnaire.

##### A. Population

Approximately 5000 total employees have been working in Toyota Motor Co. Ltd., Samutprakarn, Thailand (Based on human resource data in 2014, Source: <http://www.toyota.co.th>).

##### B. Sample Size

Sample size was the selective respondent from the total population have been working in Toyota Motor Co. Ltd., Samutprakarn, Thailand. Thus, the sample size was calculated by using formula of Yamane (1973:75). The researcher desired a 95% confidence level.

$$n = \frac{N}{1 + Ne^2}$$

n represent sample size  
 N represent population  
 e represent the desired level of precision (5%)

will get  $n = (5000) / 1 + (5000) (0.05)^2$

$$n = 370.37$$

From the above calculation, the sample size was 370 samples. It means that the sample size for this research should be at least 370 samples. Therefore, the researcher would collect the number of sample size at 400 samples.

### **Data Collection**

The letter sent by the Researcher to the HR manager to take an appointment for distributing questionnaires among the employees or upper level workers. The researcher sent 400 questionnaires to the HR representative via post office and 375 questionnaires were collected out of 400 questionnaires distributed, the response rate was 93.75%.

#### **A. Internal consistency**

Researcher searched from journals and researches to create the questionnaire. The questionnaire was improved and adapted to appropriateness and consistency with the theories used in this study. The questions sent to thesis advisor to review and give the suggestion. After that, bring the questionnaire to try out at CP ALL Public Company Limited with sample amount 30 persons to find co-efficient of internal consistency. Internal consistency was measured with Cronbach's alpha. According to George and Mallery (2003). Cronbach's alpha at least 0.7 is acceptable. The Cronbach's Alpha part of this questionnaire is 0.915. Consequently, this study could be concluded that research instrument had good reliability.

## Research Instrument

### A. Secondary Data:

Several sources of secondary data, including academic journals, articles, case studies, previous researches, books, and international articles etc. were used for conducted.

### B. Primary Data:

In primary data for the study was collected using a structured questionnaire. The questionnaire consisted of close-ended questions that were translated from English to Thai, native language. Moreover, this questionnaire was developed for the purpose of collecting field data and consisted of three parts.

#### Part 1 General information

The first part was about the demography of employees, which included six questions with multiple choices, i.e. gender, age, education, position, time working in the organization, and knowledge about learning organization. (see Appendix A)

#### Part 2 Learning organization

The second part dealt with the learning organization and included twenty-five statements (see Appendix A). This part was drawn based on Senge's model (1990) as well as on Tseng (2010) and Jamali *et al.*, (2008). Rating scale was applied to this technique.

1. Personal mastery : Statement 1-5
2. Shared vision : Statement 6-10
3. Mental models : Statement 11-15
4. Team learning : Statement 16-20

5. Systems thinking: Statement 21-25

### **Part 3 Organizational performance**

The third part focused on the organizational performance and included sixteen statements (see Appendix A) that cover four performance measures based on the balanced scorecard. Moreover, it was a modified version of the one used in a previous study by Giannopoulos *et al.* (2013). Rating scale was applied to this technique.

1. Financial perspective: Statement 1-4
2. Internal perspective: Statement 5-8
3. Customer perspective: Statement 9-12
4. Learning / growth / innovation perspective: Statement 13-16

Rating scale, which is used closed-ended questions for Part 2 and Part 3 in survey research. The respondents were given a list of predetermined responses from which to choose their answer. The level of attitude was divided into 5 levels, as follows:

Level 5 means Very High

Level 4 means High

Level 3 means Moderate

Level 2 means Low

Level 1 means Very Low

The interpretation of data will be using the class interval Sharma (2007: 33), as follows:

$$\text{Width of class interval} = \frac{\text{Max} - \text{Min}}{N}$$

Average 4.21 – 5.00 means Very High

Average 3.41 – 4.20 means High

Average 2.61 – 3.40 means Moderate

Average 1.81 – 2.60 means Low

Average 1.00 – 1.80 means Very Low

### **Data Analysis**

In this study, the following relevant statistical methods and tools were used:

The first part of the questionnaire was the demographic data. Descriptive analysis was used, i.e. analysis of frequency, percentage, mean, and standard deviation.

The second part was used descriptive analysis to describe the learning of the organization. Moreover, third part was also used descriptive analysis to describe organizational performance, which used the balanced scorecard as an indicator. Multiple regression analysis was used to test hypotheses both of this part.

### **Statistics Used in the Study**

In this study, the following relevant statistical methods and tools were used:

#### **A. Descriptive statistics**

Sekaran (2003) said that descriptive statistics is used to transformation of new raw data into a form that would provide information to describe a set of factors in a situation. Descriptive statistics such as the mean and the standard deviations; for describing the participants' responses to questions of both the independent variable (the learning organization) and the dependent variable (organizational performance).

## **B. Mean**

The mean (also known as average), is the sum of the scores in a distribution divided by the number of scores in the distribution. It is the most commonly used measure of central tendency. It is often reported with its companion statistic, the standard deviation, which shows how far things vary from the average.

## **C. Standard deviations**

The most stable measure of variability, it takes into account each and every score in normal distribution. This descriptive statistic assesses how far individual scores vary in standard unit lengths from its midpoint of 0. For all normal distributions, 95% in the area is within 1.96 standard deviations of the mean.

## **D. Cronbach Alpha coefficient**

Cronbach's alpha technique' which basically calculate the average reliability coefficient. This technique calculates the standard intercorrelations between items to concept McDaniel and Gates (2007); Bryman and Cramer (1995). Generally, alpha score less than 0.60 represents a lack of reliability, the alpha which can acceptable should be between 0.7-0.8 ranges, and over 0.8 is more internally reliable Saunders *et al.* (2007); Cronbach (1990). Sekaran (2003) stated that 10-20 respondents were appropriate for a pilot study; thus, ten questionnaires were carried out as a pilot survey. For example, to pilot surveys, the reliability coefficient alpha for 10 variables is 0.819 therefore; this questionnaire is acceptable to conduct actual research.

## **E. Regression analysis**

Regression analysis is a statistical process for estimating the relationships among variables. It includes many techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent variable and one

or more independent variables. More specifically, regression analysis helps one understand how the typical value of the dependent variable (or “criterion variable”) changes when any one of the independent variables is varied, while the other independent variables are held fixed. Most commonly, regression analysis estimates the conditional expectation of the dependent variable given the independent variables – that is, the average value of the dependent variable when the independent variables are fixed. Less commonly, the focus is on a quintiles, or other location parameter of the conditional distribution of the dependent variable given the independent variables. In all cases, the estimation target is a functional of the independent variables called the regression function. In regression analysis, it is so of interest to characterize the variation of the dependent variable around the regression function which can be described by a probability distribution.

#### **F. Multiple Regression**

The purpose of multiple regressions is to predict a single variable from one or more extension of linear regression with two predictor variables. A linear transformation of the X variables is done so that the sum of squared deviations of the observed and predicted Y is a minimum. The computations are more complex, however, because the interrelationships among all the variables must be taken into account in the weights assigned to the variables. The interpretation of the results of a multiple regression analysis is also more complex for much the same reason.

## CHAPTER IV

### RESULTS AND DISCUSSIONS

This chapter was analyzed and discussed the effect of learning organization on organizational performance: Case study of Toyota Motor Thailand Co., Ltd. The objective in this study was to examine the effect of learning organization on organization performance. The author presents the empirical study of the research along with an analysis of the empirical study. The analysis part was conducted by using the framework of references from the second chapter and method given in the third chapter. The results from the data analysis were divided into four parts as follows:

- I. The analysis of demographic information of samples by using frequency and percentage
- II. The analysis of learning organization by using mean ( $\bar{X}$ ) and standard deviation (S.D)
- III. The analysis of organizational performance by using mean ( $\bar{X}$ ) and standard deviation (S.D)
- IV. The analytical results for hypothesis testing

#### **The analysis of demographic information of samples**

In content, the first part of questionnaire was defiled by demographic information which consists of gender, age, education, position, time working in the organization and knowledge about learning organization were presented in term of frequency and percentage as follows.

**Table 4** The frequency and percentage of demographic information

<b>Demographic and General Information</b>	<b>Frequency</b>	<b>Percentage</b>
<b>1. Gender</b>		
Male	221	58.90
Female	154	41.10
<b>Total</b>	<b>375</b>	<b>100.00</b>
<b>2. Age</b>		
Less than 20 years	12	3.20
20 – 29 years	50	13.30
30 – 39 years	172	45.90
40 – 49 years	100	26.70
More than 50 years	41	10.90
<b>Total</b>	<b>375</b>	<b>100.00</b>
<b>3. Education</b>		
Below Bachelor's Degree	155	41.30
Bachelor's Degree	168	44.80
Upper Bachelor's Degree	52	13.90
<b>Total</b>	<b>375</b>	<b>100</b>
<b>4. Position</b>		
Employee	274	73.10
Manager	77	20.50
Head	17	4.50
<b>Total</b>	<b>375</b>	<b>100</b>
<b>5. Time working in the organization</b>		
Less than 5 years	110	29.30
5 – 10 years	217	57.90
More than 10 years	48	12.80
<b>Total</b>	<b>375</b>	<b>100</b>

From Table 4, the result showed the demographic information data of 375 respondents as follows:

The majority of respondents work at Toyota Motor Thailand Co., Ltd. in Samutprakarn province were male (221 persons, 58.90%) and female (154 persons, 41.10%). The most commonly reported age group was between 30 – 39 years old (172 persons, 45.90%) followed by 40 – 49 years old (100 persons, 26.70%) and the last group is the 12 respondents (3.20%) were less than 20 years old. Most of the respondents held bachelor's degree (168 persons, 44.80%) followed by below bachelor degree and the last group was upper bachelor's degree (52 persons, 13.90%). Most of respondents were company employees (274 persons, 73.10%) and the remaining as followed by manager, head and the last group was an executive (7 persons, 1.90%). In term of time working in the organization, there are many respondents work about 5-10 years (217 persons, 57.90%) and followed by person less than 5 years and the last group were more than 10 years.

### The analysis of learning organization

**Table 5** The mean ( $\bar{X}$ ) and standard deviation (S.D.) of learning organization.

Learning Organization	$\bar{X}$	S.D.	Interpretation
Personal Mastery	3.74	0.57	High
Mental Model	3.71	0.55	High
Share Vision	3.39	0.61	Moderate
Team learning	3.56	0.63	High
System thinking	3.50	0.59	High
$\bar{X}$	<b>3.58</b>	<b>0.47</b>	<b>High</b>

Table 5 represented the results of Discipline for learning organization reveal the overall attitudes of respondents is a high level ( $\bar{X} = 3.58$ , S.D. = 0.47). As a result, it was found that Personal Mastery was ranked in the high level and was followed by Mental Model, Team learning, System thinking, respectively. In addition,

the last item is Share Vision was ranked at the moderate level.

**Table 6** The mean ( $\bar{X}$ ) and standard deviation (S.D.) of learning organization in-term of personal mastery.

Learning Organization	$\bar{X}$	S.D.	Interpretation
1. You have seeked more knowledge from internal and external in order to develop organization.	3.61	0.81	High
2. You learn from success and failures as responsibility in your job to improve organization.	3.77	0.76	High
3. In learning organization, you have learned from procedure to develop a job both individual and group.	3.65	0.89	High
4. You can describe changing of learning organization by clearly.	3.65	0.73	High
5. You have opportunity received a budget to support such as seminar in order to gain knowledge more in company.	4.03	0.74	High
$\bar{X}$	<b>3.74</b>	<b>0.57</b>	<b>High</b>

Table 6 represented the results of learning organization in-term of Personal Mastery revealed the overall attitudes of respondents in a high level ( $\bar{X} = 3.74$ , S.D. = 0.57). As a result, it was found that question No. 5 “You have opportunity received a budget to support such as seminar in order to gain knowledge more in company” was ranked at the high level and followed by No. 2 “You learn from success and failures as responsibility in your job to improve organization”, No.3 “In learning organization, you have learned from procedure to develop a job both individual and group”, No.4 “You can describe changing of learning organization by clearly”, respectively. The last item is No.1 “You have seeked more knowledge from internal and external in order to develop organization” was ranked at the high level.

**Table 7** The mean ( $\bar{X}$ ) and standard deviation (S.D.) of learning organization in-term of mental model.

<b>Learning Organization</b>	$\bar{X}$	<b>S.D.</b>	<b>Interpretation</b>
6. You can adapt by utilize the idea and potentiality in variety models.	3.72	0.71	High
7. You can bring the potentiality by giving a creative opinion about learning organization.	3.65	0.73	High
8. In learning organization, You have an idea to achieve success in output and will be not discouraged from issue.	3.52	0.90	High
9. In your organization try to think the way how to resolve issues in very methods which can achievement.	3.86	0.78	High
10. There is some meeting or discussion about an issue has happened by sharing the idea and acceptable opinion each other in learning organization.	3.79	0.78	High
$\bar{X}$	<b>3.71</b>	<b>0.55</b>	<b>High</b>

Table 7 represented the results of learning organization in-term of mental model revealed the overall attitudes of respondents in a high level ( $\bar{X} = 3.71$ , S.D. = 0.55). As a result, it was found that question No. 9 “In your organization try to think the way how to resolve issues in very methods which can achievement” was ranked at the high level and followed by No. 10 “There is some meeting or discussion about an issue has happened by sharing the idea and acceptable opinion each other in learning organization”, No.6 “You can adapt by utilize the idea and potentiality in variety models”, No.7 “You can bring the potentiality by given a creative opinion about learning organization”, respectively. The last item is in learning organization, No.8 “You have an idea to achieve success in output and will be not discouraged from issue was ranked at the high level”.

**Table 8** The mean ( $\bar{X}$ ) and standard deviation (S.D.) of learning organization in-term of share vision.

<b>Learning Organization</b>	$\bar{X}$	<b>S.D.</b>	<b>Interpretation</b>
11. Employees in organization can design and find the way help to improve working success.	3.45	0.84	High
12. There are communicate about vision strategy and goal between organization and employees have known.	3.29	0.87	Moderate
13. You can bring the successful method to share other people and develop organization.	3.49	0.87	High
14. Manager gives the opportunities to employees' grow and also support their idea for new innovation.	3.24	0.84	Moderate
15. Manager has informed and shared vision in order to let's everyone known. Also it can practice as same goal.	3.47	0.89	High
$\bar{X}$	<b>3.39</b>	<b>0.61</b>	<b>Moderate</b>

Table 8 represented the results of learning organization in-term of share vision revealed the overall attitudes of respondents in a high level ( $\bar{X} = 3.39$ , S.D. = 0.61). As a result, it was found that question No.13 “You can bring the successful method to share other people and develop organization” was ranked at the high level and followed by No.15 “Manager has informed and shared vision in order to let’s everyone known. Also it can practice as same goal”, No.11 “Employees in organization can design and find the way help to improve working success”, No.12 “There are communicate about vision strategy and goal between organization and employees have known”, respectively. The last item is No.14 “Manager gives the opportunities to employees’ grow and also support their idea for new innovation” was ranked at the moderate level.

**Table 9** The mean ( $\bar{X}$ ) and standard deviation (S.D.) of learning organization in-term of team learning.

Learning Organization	$\bar{X}$	S.D.	Interpretation
16. Culture in your organization has encouraged employees working as a team.	3.88	0.78	High
17. Manager and employees have the opportunity design an action plan to specific the direction of learning organization will be successful	3.43	0.93	High
18. When we have improved or revise the action plan in organization. So, there will be frequency of meeting or sharing together.	3.47	0.91	High
19. The organization has continued to support everyone to exchange idea and experience each other.	3.41	0.87	High
20. Both manager and employees have followed an evaluation and goal together.	3.62	0.85	High
$\bar{X}$	<b>3.56</b>	<b>0.63</b>	<b>High</b>

Table 9 represented the results of learning organization in-term of team learning revealed the overall attitudes of respondents in a high level ( $\bar{X} = 3.56$ , S.D. = 0.63). As a result, it was found that question No.16 “Culture in your organization has encouraged employees working as a team” was ranked at the high level and followed by No.20 “Both manager and employees have followed an evaluation and goal together”, No.18 “When we have improve or revise the action plan in organization. So, there will be frequency of meeting or sharing together”, No.17 “Manager and employees have the opportunity design an action plan to specific the direction of learning organization will be successful”, respectively. The last item is No.19 “The organization has continued to support everyone to exchange idea and experience each other” was ranked at the high level.

**Table 10** The mean ( $\bar{X}$ ) and standard deviation (S.D.) of learning organization in-term of system thinking.

<b>Learning Organization</b>	$\bar{X}$	<b>S.D.</b>	<b>Interpretation</b>
21. You can predict the result that could be affected on organization. And make a decision by yourself.	3.42	0.85	High
22. You have understood linking of procedure and learning organization.	3.47	0.74	High
23. You have system thinking and follow this step by considering the factor such as Input, Process, and Output.	3.42	0.86	High
24. You work by following 4 steps, 1) Plan 2) Do 3) Check 4) Action.	3.52	0.78	High
25. You have participated to revise some issue in order to success in working.	3.66	0.67	High
$\bar{X}$	<b>3.50</b>	<b>0.59</b>	<b>High</b>

Table 10 represented the results of learning organization in-term of system thinking revealed the overall attitudes of respondents in a high level ( $\bar{X} = 3.50$ , S.D. = 0.59). As a result, it was found that question No.25 “You have participated to revise some issue in order to success in working” was ranked at the high level and followed by No.24 “You work by following 4 steps, 1) Plan 2) Do 3) Check 4) Action”, No.22 “You have understood linking of procedure and learning organization”, No.21 You can predict the result that could be affected on organization. And make a decision by yourself, respectively. And the last item is No.23 You have system thinking and follow this step by considering the factor such as Input, Process, and Output was ranked at the high level.

### The analysis of organizational performance

**Table 11** The mean ( $\bar{X}$ ) and standard deviation (S.D.) of organizational performance.

Organizational Performance	$\bar{X}$	S.D.	Interpretation
Financial Perspective	3.55	0.58	High
Customer Perspective	3.53	0.63	High
Internal Processes Perspective	3.68	0.66	High
Learning/ growth/ innovation Perspective	3.56	0.48	High
$\bar{X}$	<b>3.58</b>	<b>0.43</b>	<b>High</b>

Table 11 represented the results of organizational performance revealed the overall attitudes of respondents ( $\bar{X} = 3.58$ , S.D. = 0.43). As a result, it was found that Internal Processes Perspective was ranked at the high level follow by Learning/ growth/ innovation Perspective, Financial Perspective, respectively. And the last item is Customer Perspective was ranked at the high level also.

**Table 12** The mean ( $\bar{X}$ ) and standard deviation (S.D.) of organizational performance in-term of financial perspective.

Financial Perspective	$\bar{X}$	S.D.	Interpretation
1. Using 5 dimensions of learning organization to develop can help operation income grow	3.53	0.70	High
2. Developing with learning organization as result of high return on investment.	3.55	0.75	High
3. Developing on system thinking as a result of will sale of product grow	3.57	0.76	High
4. Learning organization techniques to achieve a market share increase	3.57	0.76	High

**Table 12** (Continue)

<b>Financial Perspective</b>	$\bar{X}$	<b>S.D.</b>	<b>Interpretation</b>
$\bar{X}$	<b>3.55</b>	<b>0.58</b>	<b>High</b>

Table 12 indicated in-term of financial perspective that there was an attitude of respondents totally at a high level ( $\bar{X} = 3.55$ , S.D. = 0.58). Question No.3 “Developing on system thinking as a result of will sale of product grow” and No.4 “Learning organization techniques to achieve a market share increase” are first rank of financial perspective followed by No.2 “Developing with learning organization as result of high return on investment”. And No.1 is “Using 5 dimensions of learning organization to develop can help operation income grow”, respectively. All indicators of financial perspective were interpreted in a high level.

**Table 13** The mean ( $\bar{X}$ ) and standard deviation (S.D.) of organizational performance in-term of customer perspective.

<b>Customer Perspective</b>	$\bar{X}$	<b>S.D.</b>	<b>Interpretation</b>
5. Developing with learning organization will help customer receive product on time delivery	3.63	0.78	High
6. Developing with learning organization help customer getting products which have quality of delivery	3.48	0.81	High
7. On time delivery and service can be increased reliability of customer in organization	3.43	0.79	High
8. Developing with learning organization help customer satisfaction of product and service.	3.59	0.76	High
$\bar{X}$	<b>3.53</b>	<b>0.63</b>	<b>High</b>

Table 13 indicated in-term of customer perspective that there was an attitude of respondents totally at a high level ( $\bar{x} = 3.53$ , S.D. = 0.63). Question No.5 “Developing with learning organization will help customer receive product on time delivery” is first rank followed by No.8 “Developing with learning organization help customer satisfaction of product and service”, No.6 “Developing with learning organization help customer getting products which have quality of delivery”. And No.7 is “On time delivery and service can be increased reliability of customer in organization”, respectively. All indicators of customer perspective were interpreted in a high level.

**Table 14** The mean ( $\bar{x}$ ) and standard deviation (S.D.) of organizational performance in-term of internal process perspective.

Internal Processes Perspective	$\bar{x}$	S.D.	Interpretation
9. Developing with learning organization can increase efficiency of internal process	3.67	0.80	High
10. Developing employees by gaining knowledge can help them to find the way about cost reduction in order to improve organization	3.66	0.92	High
11. Team building can be reduced process cycle time.	3.73	0.93	High
12. Using “Continuous Improvement” concept can be reduced waste rate	3.67	0.94	High
$\bar{x}$	<b>3.68</b>	<b>0.66</b>	<b>High</b>

Table 14 indicated in-term of internal processes perspective that there was an attitude of respondents totally at a high level ( $\bar{x} = 3.68$ , S.D. = 0.66). Question No.11 “Team building can be reduced process cycle time” is first rank followed by No.9 “Developing with learning organization can increase efficiency of internal process”, No.12 “Using “Continuous Improvement” concept can be reduced waste rate”. And No.10 is “Developing employees by gaining knowledge can help them to find the

way about cost reduction in order to improve organization”, respectively. All indicators of customer perspective were interpreted in a high level.

**Table 15** The mean ( $\bar{X}$ ) and standard deviation (S.D.) of organizational performance in-term of learning/ growth/ innovation perspective.

Learning/ growth/ innovation Perspective	$\bar{X}$	S.D.	Interpretation
13. Developing employees to have knowledge and also create a new innovation in organization will help the number of new product launches increase in a market	3.51	.95	High
14. Employees have stratified management about learning organization	3.69	.93	High
15. Employees in organization continue get training to gain more knowledge	3.54	.52	High
16. Management by learning organization as a team building and having share idea of everyone as a result of turnover rate can be reduced	3.51	.65	High
	$\bar{X}$	<b>3.56</b>	<b>0.48</b>
			<b>High</b>

Table 15 indicated in-term of Learning/ growth/ innovation perspective that there was an attitude of respondents totally at a high level ( $\bar{X} = 3.56$ , S.D. = 0.48). Question No.14 “Employees have stratified management about learning organization” is first rank followed by No. 15 “Employees in organization continue get training to gain more knowledge”, No.13 “Developing employees to have knowledge and also create a new innovation in organization will help the number of new product launches increase in a market”. And No.16 is “Management by learning organization as a team building and having share idea of everyone as a result of turnover rate can be reduced”, respectively. All indicator of customer perspective was interpreted were in a high level.

### The analytical results for hypothesis testing

The statistics used for the analysis is Multiple Regression Analysis. We use the value of the test statistic to make a decision about the null hypothesis. The decision is based on the probability of obtaining a sample mean, given that the value stated in the null hypothesis is true. If the probability of obtaining a sample mean is less than 5% when the null hypothesis is true, then the decision is to reject the null hypothesis. If the probability of obtaining a sample mean is greater than 5% when the null hypothesis is true, then the decision is to retain the null hypothesis. In sum, there are two decisions a researcher can make:

1. Reject the null hypothesis. The sample mean is associated with a low probability of occurrence when the null hypothesis is true.
2. Retain the null hypothesis. The sample mean is associated with a high probability of occurrence when the null hypothesis is true.

A  $p$  value is the probability of obtaining a sample outcome, given that the value stated in the null hypothesis is true. The  $p$  value for obtaining a sample outcome is compared to the level of significance. Significance, or statistical significance, is described a decision made concerning a value stated in the null hypothesis. When the null hypothesis is rejected, we reach significance. When the null hypothesis is retained, we fail to reach significance. When the  $p$  value is less than 5% ( $p < .05$ ), we reject the null hypothesis. We will refer to  $p < .05$  as the criterion for deciding to reject the null hypothesis, although note that when  $p = .05$ , the decision is also to reject the null hypothesis. When the  $p$  value is greater than 5% ( $p > .05$ ), we retain the null hypothesis. The decision to reject or retain the null hypothesis is called significance. When the  $p$  value is less than .05, we reach significance; the decision is to reject the null hypothesis. When the  $p$  value is greater than .05, we fail to reach significance; the decision is to retain the null hypothesis.

### The effect of learning organization on organizational performance

**Hypothesis 1:** Personal mastery, shared vision, mental model, team learning, and system thinking have an effect on organizational performance.

Based on the regression analysis to find five independent variables that has an effect on organizational performance which shown in Table 16.

The result of initial model shown that there are four independent variables, i.e. personal mastery, mental model, team learning, and system thinking, which have an effect on organizational performance. The remaining independent variable (shared vision) plays no role increasing on organizational performance at 0.05 significance level. Therefore, we run new regression models that choose only four independent variables have an effect on the dependent variable.

After running a new regression model, the result indicated that final model has a rather moderate prediction power 50.60% (adjust  $R^2 = 0.506$ ,  $p < 0.05$ ) of total organizational performance variance. The most important predictor variable is team learning ( $\beta = 0.209$ ,  $p = 0$ ) which is positively related to organizational performance, followed by systems thinking ( $\beta = 0.196$ ,  $p = 0$ ), mental model ( $\beta = 0.133$ ,  $p = 0$ ), and personal mastery ( $\beta = 0.081$ ,  $p = 0.028$ ). Based on the statistical results of final regression model, we found that this model includes four independent variables, i.e. personal mastery, mental model, team learning, and system thinking, which have an effect on organizational performance at 0.05 significance level. The estimated organizational performance (y) is based on team learning, system thinking, mental model, and personal mastery.

According to Hypothesis 1, the final equation model can be written as:

$$y = 1.355 + .209 (\text{team learning}) + .196 (\text{system thinking}) + .133 (\text{mental model}) + .081 (\text{personal mastery}).$$

**Table 16** Personal mastery, shared vision, mental model, team learning, systems thinking and organizational performance.

Independent Variables	Organizational performance (Initial model)			Organizational performance (Final model)		
	Beta	t	p-value	Beta	t	p-value
(Constant)	1.316	-	-	1.355	-	-
Personal mastery	.080	2.176	.030*	.081	2.206	.028*
Shared vision	.055	1.687	.093	-	-	-
Mental model	.116	3.017	.003*	.133	3.601	.000*
Team learning	.209	5.521	.000*	.209	5.524	.000*
System thinking	.175	4.407	.000*	.196	5.200	.000*
	<b>Dependent variable:</b>			<b>Dependent variable:</b>		
*Significance at .05 level	Organizational performance			Organizational performance		
	Adjust R <sup>2</sup> : .509 df: 5, 369			Adjust R <sup>2</sup> : .506 df: 4, 370		
	F: 78.485 p = .000			F: 96.912 p = .000		

**Hypothesis 2:** Personal mastery, shared vision, mental model, team learning, and system thinking have an effect on organizational performance in-terms of financial perspective.

Based on the regression analysis to find five independent variables that has an effect on organizational performance in terms of the financial perspective which shown in Table 17.

The result of initial model shown that there are three independent variables, i.e. shared vision, team learning, and system thinking, which have an effect on organizational performance in terms of financial perspective. Personal mastery and mental model play no role increasing on the financial perspective at 0.05 significance level. Therefore, we run a new regression model that chooses only three independent variables have an effect on the dependent variable.

After running a new regression model, the result indicated that final model has a rather moderate prediction power 49.30% (adjust  $R^2 = 0.493$ ,  $p < 0.05$ ) of total organizational performance in terms of financial perspective. The most important predictor variable is team learning ( $\beta = 0.375$ ,  $p = 0$ ) which is positively related to organizational performance in terms of financial perspective, followed by system thinking ( $\beta = 0.286$ ,  $p = 0$ ), and shared vision ( $\beta = 0.107$ ,  $p = 0.012$ ). Based on the statistical results of final regression model, we found that this model includes three independent variables, i.e. shared vision, team learning, and system thinking which have an effect on organizational performance in terms of the financial perspective at 0.05 significance level. The estimated organizational performances of the financial perspective ( $y$ ) are based on team learning, system thinking, and shared vision.

According to Hypothesis 2, the final equation model can be written as:

$$y = 0.853 + .375 (\text{team learning}) + .286 (\text{system thinking}) + .107 (\text{shared vision}).$$

**Table 17** Characteristics of learning organization have an effect on organizational performance in terms of financial perspective

Independent Variables	Financial Perspective (Initial model)			Financial Perspective (Final model)		
	Beta	t	p-value	Beta	t	p-value
(Constant)	0.495	-	-	.853	-	-
Personal mastery	.091	1.871	.062	-	-	-
Shared vision	.170	3.311	.001*	.107	3.311	.012*
Mental model	.053	1.231	.219	-	-	-
Team learning	.287	5.692	.000*	.375	5.692	.000*
System thinking	.252	4.760	.000*	.286	4.760	.000*
*Significance at .05 level	<b>Dependent variable: F</b>			<b>Dependent variable: F</b>		
	Adjust $R^2$ : .517 df: 5, 369			Adjust $R^2$ : .493 df: 3, 371		
	F: 81.154 $p = .000$			F: 122.408 $p = .000$		

**Hypothesis 3:** Personal mastery, shared vision, mental model, team learning, and systems thinking have an effect on organizational performance in terms of customer perspective.

Based on the regression analysis to find five independent variables that has an effect on organizational performance in terms of customer perspective which shown in Table 18.

The result of initial model shown that there are three independent variables, i.e. Personal mastery, team learning, and system thinking, which have an effect on organizational performance in terms of customer perspective. Shared vision and mental model play no role increasing on customer perspective at 0.05 significance. Therefore, we run a new regression model that chooses only three independent variables have an effect on the dependent variable.

After running a new regression model, the result indicated that final model has a rather moderate prediction power 41.10 % (adjust  $R^2 = 0.411$ ,  $p < 0.05$ ). Most important predictor variable is system thinking ( $\beta = 0.308$ ,  $p = 0$ ), followed by team learning ( $\beta = 0.280$ ,  $p = 0$ ), and personal mastery ( $\beta = 0.197$ ,  $p = 0$ ), which are positively related to organizational performance in terms of customer service. Based on the statistical results of final regression model, we found that this model includes three independent variables, i.e. system thinking, team learning, and personal mastery which have an effect on organizational performance in terms of customer perspective at 0.05 significance level. The estimated organizational performance of customer perspective ( $y$ ) is based on team learning, system thinking, and personal mastery.

According to Hypothesis 3, the final equation model can be written as:

$$y = 0.721 + .308 (\text{system thinking}) + .280 (\text{team learning}) + .197 (\text{personal mastery})$$

**Table 18** Characteristics of learning organization have an effect on organizational performance in terms of customer perspective

Independent Variables	Customer Perspective (Initial model)			Customer Perspective (Final model)		
	Beta	t	p-value	Beta	t	p-value
(Constant)	1.316	-	-	.721	-	-
Personal mastery	.147	2.545	.011*	.197	3.582	.000*
Shared vision	.116	1.905	.058	-	-	-
Mental model	.094	1.830	.068	-	-	-
Team learning	.254	4.250	.000*	.280	4.706	.000*
Systems thinking	.241	3.850	.000*	.308	5.242	.000*
*Significance at .05 level	<b>Dependent variable: C</b>			<b>Dependent variable: C</b>		
	Adjust R <sup>2</sup> : .423 df: 5, 369			Adjust R <sup>2</sup> : .411 df: 3, 371		
	F: 55.884 p = .000			F: 88.148 p = .000		

**Hypothesis 4:** Personal mastery, shared vision, mental model, team learning, and system thinking have an effect on organizational performance in terms of internal process perspective.

Based on the regression analysis to find five independent variables that has an effect on organizational performance in terms of internal process perspective which shown in Table 19.

The result of initial model shown that there is no effect of independent variables on organizational performance in terms of internal process perspective at 0.05 significance level. Therefore, we run a new regression model and change the method from entering to stepwise in order to find the significance of this model. It was found that there is only one independent variable which is system thinking has an effect on the dependent variable.

The result of final model indicated that the model has a rather low prediction

power 2.7 % (adjust  $R^2 = 0.027$ ,  $p < 0.05$ ) of total organizational performance in terms of internal process perspective. System thinking was the single best predictor for the final model ( $\beta = 0.192$ ,  $p = 0.001$ ), which is positively related to organizational performance in terms of internal perspective. Therefore, the estimated organizational performances of internal process perspective ( $y$ ) are based on system thinking.

According to Hypothesis 4, the final equation model can be written as:

$$y = 3.010 + .192 (\text{system thinking}).$$

**Table 19** Characteristics of learning organization have an effect on organizational performance in terms of internal process perspective

Independent Variables	Internal Process Perspective (Initial model)			Internal Process Perspective (Final model)		
	Beta	t	p-value	Beta	t	p-value
(Constant)	3.020	-	-	3.010	-	-
Personal mastery	-.066	-.841	.401	-	-	-
Shared vision	.096	1.168	.244	-	-	-
Mental model	.053	.760	.448	-	-	-
Team learning	.085	1.050	.294	-	-	-
System thinking	.085	.996	.320	.192	3.365	.001*
*Significance at .05 level	<b>Dependent variable: I</b>			<b>Dependent variable: I</b>		
	Adjust $R^2$ : .028 df: 5, 369			Adjust $R^2$ : .027 df: 1, 373		
	F: 3.143 $p = .009$			F: 11.312 $p = .001$		

**Hypothesis 5:** Personal mastery, shared vision, mental model, team learning and system thinking have an effect on organizational performance in terms of learning and growth perspective.

Based on the regression analysis to find five independent variables that has an effect on organizational performance in terms of learning and growth perspective

The result of initial model shown that there are three independent variables, i.e. personal, team learning, and systems thinking that have an effect on organizational performance in terms of learning and growth perspective. Shared vision and Mental model play no role increasing on learning and growth perspective at the 0.05 significance level. Therefore, we run a new regression model that chooses only three independent variables have an effect on dependent variable which shown in Table 20.

After running a new regression model, the result indicated that final model has a rather moderate prediction power 33.40% (adjust  $R^2 = 0.334$ ,  $p < 0.05$ ). Most important predictor variable is team learning ( $\beta = 0.223$ ,  $p = 0$ ), followed by personal mastery ( $\beta = 0.175$ ,  $p = 0$ ), and systems thinking ( $\beta = 0.146$ ,  $p = 0.003$ ), which are positively related to organizational performance in terms of learning and growth perspective. Based on the statistical results of final regression model, we found that this model includes three independent variables, i.e. team learning, personal mastery, and system thinking which have an effect on organizational performance in terms of learning and growth perspective at 0.05 significance level. The estimated organizational performance of learning and growth perspective ( $y$ ) is based on team learning, personal mastery, and system thinking.

According to Hypothesis 3, the final equation model can be written as:

$$y = 1.602 + .223 (\text{team learning}) + .175 (\text{personal mastery}) + .146 (\text{system thinking})$$

**Table 20** Characteristics of learning organization have an effect on organizational performance in terms of learning and growth perspective

Independent Variables	Learning and Growth (Initial model)			Learning and Growth (Final model)		
	Beta	t	p-value	Beta	t	p-value
(Constant)	1.316	-	-	1.602	-	-
Personal mastery	.146	3.056	.002*	.175	3.883	.000*

**Table 20** (Continued)

Independent Variables	Learning and Growth (Initial model)			Learning and Growth (Final model)		
	Beta	t	p-value	Beta	t	p-value
Shared vision	.082	1.630	.104	-	-	-
Mental model	.019	.443	.658	-	-	-
Team learning	.208	4.220	.000*	.223	4.585	.000*
System thinking	.121	2.337	.020*	.146	3.044	.003*
	<b>Dependent variable: L</b>			<b>Dependent variable: L</b>		
*Significance at .05 level	Adjust R <sup>2</sup> : .336 df: 5, 369 F: 38.904 p = .000			Adjust R <sup>2</sup> : .334 df: 3, 371 F: 63.417 p = .000		

According to the hypothesizes, the characteristics of learning organization that have an effect on each dimension of organizational performance can be summarized as shown in Table 21 below.

**Table 21** Summary of characteristic of learning organization that have an effect on organizational performance

Organizational Performance learning organization	Financial Performance	Customer Service	Internal Process	Learning/ growth/ innovation	Overall of Organizational Performance
Personal mastery	-		-		
Mental model	-	-	-	-	
Shared vision		-	-	-	-
Team learning			-		
Systems thinking					

## Discussion

This research investigates the effect of learning organization (Personal Mastery, Mental Model, Share Vision, Team learning and System thinking) on organization performance of Toyota Motor Thailand Co., Ltd.. The results confirms four variables (Personal Mastery, Mental Model, Team learning and System thinking).

1. There is a positive influence found among Personal mastery, mental model, Team learning and Systems thinking and organizational performance was significantly that had P-values  $< 0.05$  that can be explain like that :

There is a positive influence found between Personal Mastery and organizational performance was significantly that had P-values  $< 0.05$ . It supports Víctor (2007) Influence of personal mastery on organizational performance through organizational learning and innovation in large firms and SMEs that this paper analyzes the influences of personal mastery on organizational performance, both directly and indirectly through the dynamic capabilities of organizational learning and innovation. Although these indirect interrelations are very important for improving organizational performance, they are not usually explored in research. We confirm these influences empirically in both large firms and SMEs, basing our research on a sample of 401 Spanish firms. The results reveal that in both types of firms: (1) personal mastery influences organizational performance directly and indirectly through organizational learning and innovation; (2) organizational learning influences organizational performance positively, both directly and indirectly through organizational innovation; (3) organizational innovation influences organizational performance positively. Organizational culture dimension had the highest correlation coefficient ( $r = 0.821$ ), followed by learning environment, with  $r = 0.754$ . As for the relationship between dimensions of the learning organization and customer service, it has been found that four scales of the learning organization had strong positive relationship with customer service indicators, and the other two scales (systems thinking and shared vision) had a weak positive relationship.

2. There is a positive influence found between Mental Model and organizational performance was significantly that had P-values  $< 0.05$ . It supports Ellis (2012) Effects of Organizational Learning Mechanisms on Organizational Performance and Shared Mental Models during Planned Change that the study investigated the interrelations among use of organizational learning mechanisms, organizational mental models, and organizational outcomes. It was conducted in a bank, 10 of whose branches were soon to undergo organizational change designed to improve customer service and another 10 were to undergo the same organizational change a few months later. The results demonstrated that customer satisfaction was greater for branches that used organizational learning mechanisms intensively than for branches that used these mechanisms less intensively. The learning branches also showed richer shared knowledge (more constructs and causal links within their cognitive cause maps) and more congruent mental models (cause maps). Furthermore, the content of the learning branches' shared knowledge reflected more closely the messages delivered by organizational management in favor of the structural change. The hypothesis that the use of organizational learning mechanisms moderates the success of an organizational change program was supported by the cause maps data but only partially supported by the customer satisfaction data. According to kaizen concept involves every employee in making change-in most cases small, incremental changes. It focuses on identifying problems at their source, solving them at their source, and changing standards to ensure the problem stays solved.

3. There is a positive influence found between Team learning and organizational performance was significantly that had P-values  $< 0.05$ . It supports Akhtar (2011) Impact of organizational learning on organizational performance: study of higher education institutes that The education sector is the most important sector of any country as it is involved in the building of the future human capital. Education has achieved the status of an industry in Pakistan. The present study is conducted to investigate the impact of organizational learning on organizational performance of higher education institutes of Pakistan. Non-probability purposive sampling strategy

was adopted, and a sample of size 150 was chosen amongst the employees. The response rate obtained was 66 percent. The data were collected by using DLOQ. Regression analysis was performed to estimate the impact of explanatory variable 'organizational learning' on the response variable 'organizational performance' with "Culture" as a moderator. The results revealed a significant positive impact of the organizational learning on organizational performance. Inquiry and dialogue, and systems connection were the two dimensions which were found to be highly significant; however, five of them (continuous learning, team work, embedded systems, empowerment and leadership) were insignificant in relation to the organizational performance. According to Li Ming-fei *et al.* (2007) examined the construct validity of the learning organization concept and its influence upon firm performance in mainland China. Based on the theoretical framework proposed by Watkins and Marsick, the results showed that the learning organization in the Chinese context consisted of four dimensions as following: support individual learning for achieving collective vision, build communication and innovation mechanism, encourage team learning and collaboration, and advocate system thinking and strategic leadership. A balanced scorecard-based performance evaluation questionnaire was developed. Regression analyses were used to examine the relationship between learning organization and firm performance. The results indicate that learning organization has positive influence on firm performance. The study proves the necessity to construct learning organization for the purpose of improving the enterprise performance.

4. There is a positive influence found between System thinking and organizational performance was significantly that had P-values  $< 0.05$ . It supports Lee (2011) using systems thinking to improve organizational learning in the public sector: perspective of public officials that this study examines how public officials who have completed a one semester two-credit systems thinking graduate course consider how systems thinking training affect their way of thinking and daily administration behavior. Additionally, this study also focuses on how these public officials perceive the barriers to adopting systems thinking for the improvement of organizational learning in the public sector. This study employs a self-evaluated

survey as the research method. The research results demonstrate that, after finishing the systems thinking course, questionnaire respondents request more from leaders to clarify organizational goals and to provide incentives for members to bring up innovative ideas. Meanwhile, respondents believed that they considered communication and teamwork important more than before taking the course. However, respondents appeared not to highly value their own role in achieving organizational goals, and to doubt their own willingness to incorporate new ideas into daily routines. Additionally, public officials believe that organizational leaders lack concepts and practice of systems thinking, and public organizational inertia, thus leading to the failure of systems thinking practice to improve organizational learning. This study provides suggestions for systems thinking course design based on the survey results. According to Hussein (2010) examined the relationship between learning organization and organizational performance in the pharmaceutical industry in Jordan. A descriptive analytical methodology was used, and a sample of (400) employees was selected representing (5) pharmaceutical firms, which were selected on the basis of size, age and location. For the purpose of the study, six core dimensions of learning organization were identified: systems thinking, shared vision, teamwork and collaboration, leadership and empowerment, organizational culture, and learning environment. For organizational performance, four scales were identified: financial performance, customer service, internal processes and learning/ growth/ innovation. Research findings indicated a strong positive relationship between learning organization and performance and between each of the learning organization dimensions and each scale of organizational performance. The study provided a number of recommendations that would help management of pharmaceutical firms to maintain and even upgrade continual learning organizations, and consequently improve performance.

5. There is a positive influence found between Personal Mastery which is positively related to organizational performance in term of Customer Service, Learning/ growth/ innovation and Overall of Organizational Performance was significantly that had P-values < 0.05. It supports Robbins (1998: 483) suggested four performance indicators to assess organizational effectiveness: profit maximization,

organizational ability to acquire inputs and transform them successfully into outputs, maintaining stability and balance, and identifying and satisfying customers' needs. Kottler (2000: 40-42) identified four key dimensions to achieve competitive performance: stakeholders, internal process, resources and organizational management. According to study about Learning Organization and Organizational Performance Relationship: Empirical Study of Pharmaceutical Firms in Jordan. This study examined the relationship between LO and organizational performance in the pharmaceutical industry in Jordan. A descriptive, analytical empirical methodology was used. For the purpose of the study, six core dimensions of LO was identified: systems thinking, shared vision, teamwork and collaboration, leadership and empowerment, organizational culture, and learning environment. For organizational performance, four scales were identified: financial performance, customer service, internal processes and learning/ growth/ innovation. Research findings indicated a strong positive relationship between LO and performance and between each of the LO dimensions and each scale of organizational performance.

6. There is a positive influence found between Mental Model which is positively related to organizational performance was significantly that had  $p$ -values  $< 0.05$ . It supports Webber *et al.* (2000) that said mental models specify relevant knowledge content as well as the relationships between knowledge components. An individual's mental model (of, for example, a car, a disease, or a process such as child development) reflects the individual's perception of reality. Furthermore, there are study about Shared Mental Models on the Performance of e-Learning Content Development Teams. The primary purpose of the study was to investigate team-based e-Learning content development projects from the perspective of the shared mental model (SMM) theory. The researcher conducted a study of 79 e-Learning content development teams in Korea to examine the relationship between task work and teamwork SMMs and the performance of the teams. Structural equation modeling (SEM) was used to analyze the parameter estimations. As hypothesized, the results indicated that interaction among e-Learning ID team members led to higher SMMs which in turn improved the team performance. Meanwhile, the interaction decreased with the progression of ID projects and with the role differentiation. The implications

of the findings and directions for instructional design (ID) practices are discussed.

7. There is a positive influence found between Share Vision which is positively related to organizational performance in term of Financial Performance was significantly that had P-values  $< 0.05$ . It supports Metin (2014) study about the relationship between organizational learning and financial performance: a study of small-sized businesses in turkey founded shared vision refers to an organization-wide focus on teach. Shared vision influences the direction of learning and leads to increase in the quality of learning. In fact, without shared vision, learning of individuals in organization will be extremely meaningless. In the other words, even though individuals are stimulated for learning, their problem is that they don't know what to learn unless they have a shared vision.

8. There is a positive influence found between team learning which is positively related to organizational performance in term of Financial Performance, Customer Service, Learning/ growth/ innovation and overall of organizational performance was significantly that had P-values  $< 0.05$ . It supports Farhad (2014) study about learning organization and organizational performance: mediation role of entrepreneurship. The main objective of this study is to investigate theoretically the role of learning organization dimensions in entrepreneurship, and organizational performance to create an alternative model of how learning organization leads to performance improvement in organizations. The proposed model explores how entrepreneurship acts as a mediating variable and contributes to organizational performance. It is recommended that the model may help human resource development practitioners to better understand the link between the learning organization and organizational performance and how entrepreneurship modifies this relationship in organizations. Moreover, to improve their performance, organizations need to focus on continuous learning and use of knowledge, which can serve as a critical key to success for facilitating individual, team, and organizational learning leading to continuous improvement and innovation in business operations. In order for organizations to achieve these ends, they need to have the qualities of learning organization. It is an organization that helps facilitate the learning of all its members

and consciously modifies itself and affects its context Watkins & Marsick (1996).

9. There is a positive influence found between System thinking which is positively related to organizational performance in term of Financial Performance, Customer Service, Internal Processes, Learning/ growth/ innovation and Overall of Organizational Performance was significantly that had P-values  $< 0.05$ . It supports Li Ming-feiet *al.* (2007) examined the construct validity of the learning organization concept and its influence upon firm performance in mainland China. Based on the theoretical framework proposed by Watkins and Marsick, the results showed that the learning organization in the Chinese context consisted of four dimensions as following: support individual learning for achieving collective vision, build communication and innovation mechanism, encourage team learning and collaboration, and advocate system thinking and strategic leadership. A balanced scorecard-based performance evaluation questionnaire was developed. Regression analyses were used to examine the relationship between learning organization and firm performance. The results indicate that learning organization has positive influence on firm performance. The study proves the necessity to construct learning organization for the purpose of improving the enterprise performance. Moreover, Suzik (1998) and Kumar (2006) research findings showed a positive relationship between each of the six dimensions of the learning organization and learning/growth/innovation scale. In fact, four of the dimensions of the learning organization had strong positive relationship with learning/growth/innovation, and the other two dimensions-systems thinking and shared vision – had weak positive relationships with learning/growth/innovation.

## CHAPTER V

### CONCLUSIONS AND RECOMMENDATIONS

This chapter discusses the purpose of this study and its one objective, which is to examine the effect of learning organization on organization performance. This is followed by the conclusion and recommendations for further study.

#### Conclusions

In this study, the author examined the effect of learning organization and identified the contributing elements between of personal mastery, mental model, shared vision, team learning, and systems thinking towards organization performance of Toyota Motor Thailand Co., Ltd. Data in the study were collected by questionnaire from 375 staff from Toyota Motor Thailand Co., Ltd., located in Samutprakarn. The non-probability method, convenience sampling, was used. The results of this study can be beneficial in two aspects, which are the organization aspect and the academic aspect. In the organization aspect, executive, director, managers, and staff can use the result of this study as a standard for acceptable organizational performance or in order to create a new dimension in organizational performance that can raise more advantages over competitors and differentiate their organization from others.

**The demographic information data of the 375 respondents can be divided as follows:**

The majorities are examined here. 221 respondents (58.90%) were male, 172 respondents (45.90%) were between 30-39 years old, 168 respondents (44.80%) held bachelor's degrees, the 274 respondents (73.10%) were employees, 217 respondents (57.90%) had worked at Toyota for 5-10 years, and 230 respondents (61.30%) had knowledge of learning organization.

The results of the Fifth Discipline for learning organization revealed the overall attitudes of the respondents in a high level ( $\bar{X} = 3.58$ , S.D. = 0.47). As a result, it was found that personal mastery was ranked in the high level and was followed by mental model, team learning, and system thinking, respectively. The last item was share vision, which was ranked at the moderate level. In addition, the results of organizational performance revealed the overall attitudes of respondents ( $\bar{X} = 3.58$ , S.D. = 0.43). As a result, it was found that an internal process was ranked as the high level, followed by learning/ growth/ innovation. Financial performance was ranked at the high level. The last item is customer service, which was ranked at the high level also.

Based on the hypotheses, it was found that this model included four independent variables, which are personal mastery, mental model, team learning, and systems thinking, which all have an effect on organizational performance. There is a positive influence found among personal mastery, mental model, team learning and systems thinking, organizational performance was significant. The remaining independent variable (shared vision) played no role in increasing the organizational performance at the 0.05 level of significance.

### **Limitations of the Study**

This study has the following limitations:

1. As this study was conducted with only 375 staff from Toyota Motor Thailand Co., Ltd, in Samutprakarn province, the findings may not be applied broadly to all staff from Toyota Motor Thailand Co., Ltd. in the other provinces.

2. This study was limited to interactivity and attitudes of only staff from Toyota Motor Thailand Co., Ltd., in Samutprakarn province. There were more staff at other branches, such as Chachoengsao and Samutsakorn and etc. Therefore, the findings may not accurately represent the relationship and contributing elements

between effect of a learning organization (Personal Mastery, Mental Model, Share Vision, Team Learning and System Thinking) on organization performance.

## **Recommendations**

### **Recommendations for Further Research**

The researcher recommends the following points for further research:

1. Management of Toyota should maintain and reinforce the current levels of learning organization their firms have developed. In fact, they should keep moving steadily towards reaching a higher level of continual learning.

2. In order for organizations to develop higher levels of continual learning, and consequently attain a higher performance level, management should give prompt special attention to the following areas:

2.1 In terms of shared vision, HR also needs to concentrate employees efforts to enhance and reinforce their acceptance and commitment to the company's mission, vision and goals.

2.2 Managers need to discuss constructively with employees about their mistakes in order to avoid these mistakes in the future.

2.3 Managers should develop employees to have knowledge and also support their ideas for new innovation.

2.4 Team learning and system thinking should encourage, support, and even reward experimentation in every level.

2.5 The automotive organizations should take benefit from this research

result by providing a meaningful job where they can learn in order to develop their knowledge.

### **Recommendations for Further Study**

The researcher recommends the following points for further study:

1. A comparative study on the relationship and identification of contributing elements in a learning organization (personal mastery, mental model, shared vision, team learning, and systems thinking) on organization performance from Toyota Motor Thailand Co., Ltd. at different branches, such as Chachoengsao or Samutsakorn, should be conducted. The study will be one effective way of indicating the effectiveness of the relationship and identification of contributing elements in a learning organization on organizational performance at different locations. The results can help executives, heads of departments, and managers realize both strong and weak points of others and can adapt these points to improve their relationship and identify contributing elements in a learning organization on organization performance from Toyota Motor Thailand Co., Ltd. at different branches.

2. The study of relationship and identification of contributing elements in a learning organization on organization performance from Toyota Motor Thailand Co., Ltd. to compete with rivals and fulfill the needs of its staff.

3. A similar study should be conducted in other organizations, such as government or private organizations, to gain better understanding of organizational learning in different cultures and levels of learning.

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**APPENDICES**



**Appendix A**  
Questionnaire in English Version

### Questionnaire

**Subject:** The Effect of Learning Organization on Organizational Performance:

Case Study Toyota Motor Thailand Co., Ltd.

**Objective:** The purpose of this study is to examine the effect of learning organization on organization performance of Toyota Motor Thailand Co., Ltd. in Samprakan province. This research is being undertaken as part of the requirement for a master's thesis at Kasetsart International MBA Program. I would greatly appreciate if you would take a few of your time (approximately 5 minutes) to complete this questionnaire. All your information would be kept confidential and used for educational purpose only. Thank you very much for your cooperation.

Lanlalit Chuaybamrung (researcher)

**Explanation:** The questionnaire consists of 3 parts as follows.

Part1: Demographic Characteristics

Part2: Learning Organization

Part3: Organizational Performance

#### Part1: Demographic Characteristics

Please mark ✓ in the  or fill in the blank that accurately reflect your answer.

1. Gender

Male       Female

2. Age

Below 20 years old       20-29 years old       30-39 years old

40-49 years old       more than 50 years old

3. Education

Below Bachelor's Degree       Bachelor's Degree

Upper Bachelor's Degree

4. Position

Employee       Manager       Head       Executive

5. Time working in the organization

Less than 5 years     5-10 years     More than 10 years

### **Part 2: Learning Organization**

**Please mark ✓ in the in the table that accurately reflect your answer.**

(Opinion level; 5 =Very High to level 1 = Very Low)

No	Items	Theory	Opinion level				
			1	2	3	4	5
<b>Personal Mastery</b>							
1	You have seeked more knowledge from internal and external in order to develop organization.	Senge (1990)					
2	You learn from success and failures as responsibility in your job to improve organization.	Watkins , Marsick (1993)					
3	In learning organization, you have learned from procedure to develop a job both individual and group.	Senge (1990), Porth et al (1999)					
4	You can describe changing of learning organization by clearly.	Watkins (1993)					
5	You have opportunity received a budget to support such as seminar in order to gain knowledge more in company.	Porth et al (1999), Kerka (1995)					
<b>Mental Model</b>							
6	You can adapt by utilize the idea and potentiality in variety models.	Senge (1990), Confessore (1997)					
7	You can bring the potentiality by giving a creative opinion about learning organization.	Senge (1990), Pedler et al (1994)					
8	In learning organization, You have an idea to achieve success in output and will be not discouraged from issue.	Farago, Skyrme (1995)					
9	In your organization try to think the way how to resolve issues in very methods which can achievement.	Senge (1990)					
10	There is some meeting or discussion about an issue has happened by sharing the idea and acceptable opinion each other in learning organization.	Senge (1990)					

**Part2: (Continued)**

No	Items	Theory	Opinion level				
			1	2	3	4	5
<b>Share Vision</b>							
11	Employees in organization can design and find the way help to improve working success.	Farago, Skyrme (1995)					
12	There are communicate about vision strategy and goal between organization and employees have known.	Senge (1990), Pedler et al (1994)					
13	You can bring the successful method to share other people and develop organization.	Pedler et al (1994)					
14	Manager gives the opportunities to employees' grow and also support their idea for new innovation.	Thomas, Allen (2006)					
15	Manager has informed and shared vision in order to let's everyone known. Also it can practice as same goal.	Senge (1990), Boydell (1991)					
<b>Team learning</b>							
16	Culture in your organization has encouraged employees working as a team.	Senge (1990)					
17	Manager and employees have the opportunity design an action plan to specific the direction of learning organization will be successful	Senge (1990), Pedler et al (1994)					
18	When we have improved or revise the action plan in organization. So, there will be frequency of meeting or sharing together.	Thomas, Allen (2006)					
19	The organization has continued to support everyone to exchange idea and experience each other.	Senge (1990), Boydell (1991)					
20	Both manager and employees have followed an evaluation and goal together.	Thomas, Allen (2006)					
<b>System thinking</b>							
21	You can predict the result that could be affected on organization. And make a decision by yourself.	Kerka (1995)					
22	You have understood linking of procedure and learning organization.	Watkins, Marsick (1993)					
23	You have system thinking and follow this step by considering the factor such as Input, Process, and Output.	Senge (1990)					

**Part2: (Continued)**

No	Items	Theory	Opinion level				
			1	2	3	4	5
24	You work by following 4 steps, 1) Plan 2) Do 3) Check 4) Action.	Senge (1990)					
25	You have participated to revise some issue in order to success in working.	Senge (1990)					

**Part 3: Organizational Performance**

Please mark ✓ in the in the table that accurately reflect your answer.

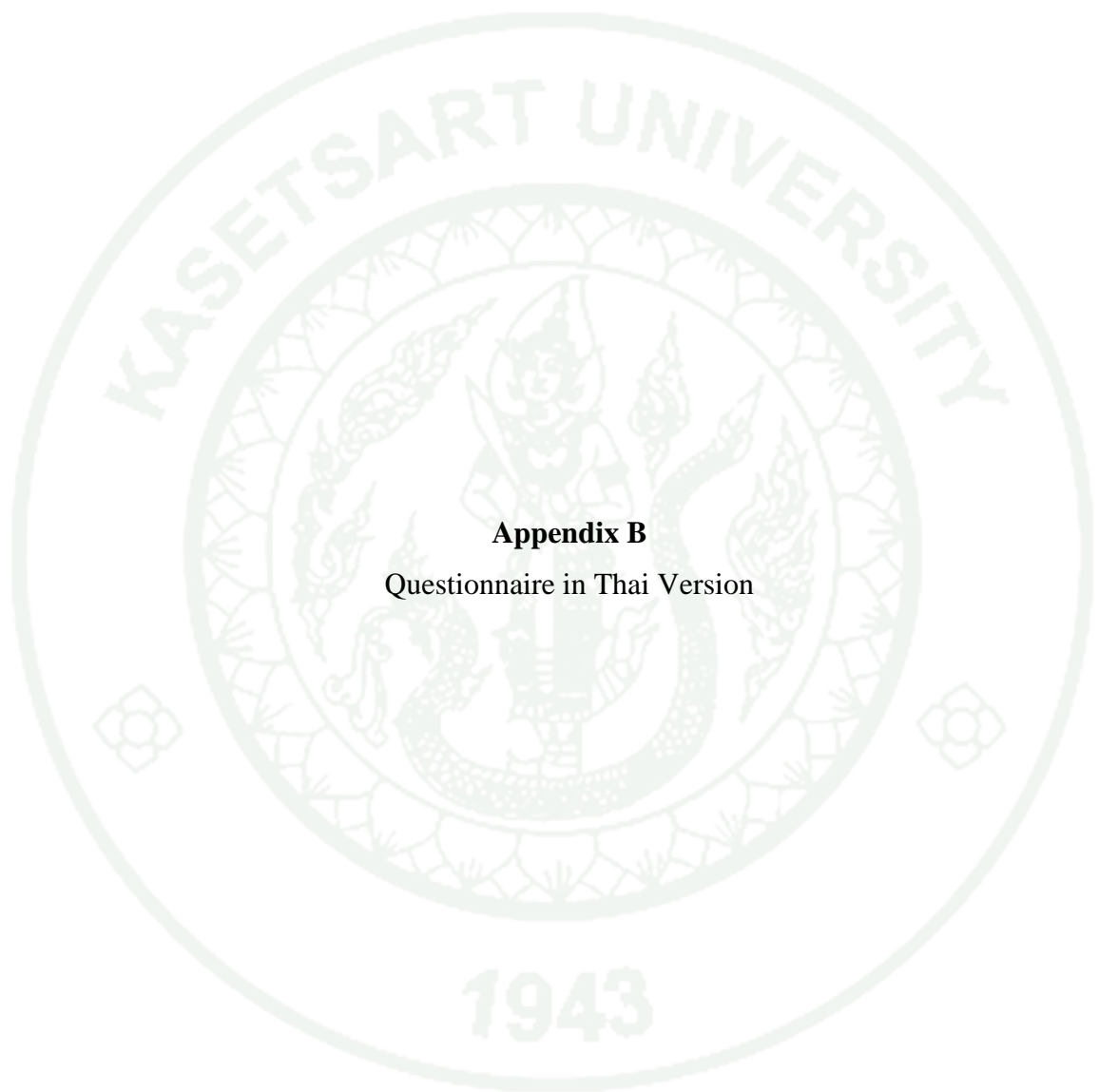
(Opinion level; 5 =Very High to level 1 = Very Low)

No	Items	Opinion level				
		1	2	3	4	5
<b>Financial Perspective</b>						
1	Using 5 dimensions of learning organization to develop can help operation income grow					
2	Developing with learning organization as result of high return on investment.					
3	Developing on system thinking as a result of will sale of product grow					
4	Learning organization techniques to achieve a market share increase					
<b>Customer Perspective</b>						
5	Developing with learning organization will help customer receive product on time delivery					
6	Developing with learning organization help customer getting products which have quality of delivery					
7	On time delivery and service can be increased reliability of customer in organization					
8	Developing with learning organization help customer satisfaction of product and service.					
<b>Internal Processes Perspective</b>						
9	Developing with learning organization can increase efficiency of internal process					
10	Developing employees by gaining knowledge, can help them to find the way about cost reduction in order to improve organization					
11	Team building can be reduced process cycle time.					
12	Using “Continuous Improvement” concept can be reduced waste rate					

**Part3: (Continued)**

No	Items	Opinion level				
		1	2	3	4	5
<b>Learning/ growth/ innovation Perspective</b>						
13	Developing employees to have knowledge and also create a new innovation in organization will help the number of new product launches increase in a market					
14	Employees have stratified management about learning organization					
15	Employees in organization continue get training to gain more knowledge					
16	Management by learning organization as a team building and having share idea of everyone as a result of turnover rate can be reduced					

-----Thank You for Operation-----



**Appendix B**  
Questionnaire in Thai Version

### แบบสอบถาม

**เรื่อง:** ผลขององค์กรแห่งการเรียนรู้ที่มีต่อผลการดำเนินงานในองค์กร: กรณีศึกษา บริษัท โตโยต้า มอเตอร์ ประเทศไทย

**วัตถุประสงค์:** แบบสอบถามนี้ถูกจัดทำขึ้นเพื่อศึกษาถึงผลขององค์กรแห่งการเรียนรู้ต่อผลการดำเนินงาน กรณีศึกษา บริษัท โตโยต้า มอเตอร์ ประเทศไทย จังหวัดสมุทรปราการ แบบสอบถามนี้เป็นส่วนหนึ่ง วิทยานิพนธ์ ของนิสิตปริญญาโทสาขาการจัดการทั่วไปคณะบริหารธุรกิจ (นานาชาติ) มหาวิทยาลัยเกษตรศาสตร์ผู้ศึกษาจึงขอความกรุณาจากท่านในการตอบแบบสอบถามตามความเป็นจริง โดยแบบสอบถามนี้จะใช้เวลาประมาณ 5 นาทีข้อมูลของท่านจะถูกเก็บเป็นความลับและใช้เพื่อการศึกษาทางสถิติเท่านั้นผู้ศึกษาขอขอบพระคุณท่านมา ณ ที่นี้ด้วย

ถลันลลิต ช่วยบำรุง (ผู้วิจัย)

**คำชี้แจง:** แบบสอบถามนี้ประกอบไปด้วย 3 ส่วนดังนี้

ส่วนที่ 1: ข้อมูลทั่วไปเกี่ยวกับผู้ตอบแบบสอบถาม

ส่วนที่ 2: ตัวแปรองค์กรแห่งการเรียนรู้

ส่วนที่ 3: ตัวแปรผลการดำเนินการ

**ส่วนที่ 1: ข้อมูลทั่วไปเกี่ยวกับผู้ตอบแบบสอบถาม**

กรุณาทำเครื่องหมาย ✓ ในช่อง  หรือเติมคำในช่องว่างที่ตรงกับความเป็นจริงมากที่สุด

1. เพศ

ชาย       หญิง

2. อายุ

ต่ำกว่า 20 ปี       20-39 ปี       30-39 ปี

40-49 ปี       50 ปี ขึ้นไป

3. ระดับการศึกษา

ต่ำกว่าปริญญาตรี       ปริญญาตรี

สูงกว่าปริญญาตรี

## 4. ตำแหน่งงาน

พนักงาน       ผู้จัดการ       หัวหน้างาน       ผู้บริหาร

## 5. ระยะระยะเวลาที่ปฏิบัติงานในองค์กร

น้อยกว่า 5 ปี       5-10 ปี       มากกว่า 10 ปี

## ส่วนที่ 2: ตัวแปรด้านองค์กรแห่งการเรียนรู้

กรุณาทำเครื่องหมาย✓ในช่องว่างที่ตรงกับความเป็นจริงมากที่สุด(ระดับความเห็น; 5 = มากที่สุด ถึง 1= น้อยที่สุด)

ข้อ	รายการ	ทฤษฎี	ระดับความเห็น				
			1	2	3	4	5
<b>ด้านการเป็นบุคคลที่รอบรู้</b>							
1	ท่านใช้วิธีการแสวงหาความรู้จากภายนอกและแหล่งการเรียนรู้ที่หลากหลาย เพื่อพัฒนาองค์กรของท่าน	Senge (1990)					
2	ท่านเรียนรู้ความสำเร็จและความล้มเหลวต่าง ๆ ที่เกี่ยวข้องกับงานในหน้าที่ของตนเองเสมอเพื่อเป็นการปรับปรุงพัฒนางานในองค์กร	Watkins , Marsick (1993)					
3	ท่านศึกษาเรียนรู้เกี่ยวกับแนวปฏิบัติองค์กรแห่งการเรียนรู้เพื่อพัฒนางานทั้งในกลุ่ม/งานตนเอง และกลุ่มงานอื่น	Senge (1990), Porth et al (1999)					
4	ท่านสามารถอธิบายการเปลี่ยนแปลงการบริหารองค์กรแห่งการเรียนรู้ ในหน่วยงานได้ชัดเจนถูกต้อง	Watkins (1993)					
5	ท่านและบุคลากรในองค์กรของท่านได้รับการสนับสนุนงบประมาณในการเข้าอบรมสัมมนา เพื่อนำความรู้มาพัฒนาองค์กรอยู่เสมอ	Porth et al (1999), Kerka (1995)					

## ส่วนที่ 2: (ต่อ)

ข้อ	รายการ	ทฤษฎี	ระดับความเห็น				
			1	2	3	4	5
<b>ด้านการมีแบบแผนความคิด</b>							
6	ท่านสามารถปรับเปลี่ยนคั้งประโยชน์จากความคิดสร้างสรรค์และศักยภาพบุคลากรมาใช้ได้หลากหลายวิธี	Senge (1990), Confessore (1997)					
7	ท่านสามารถนำศักยภาพของตนเอง แสดงความคิดเห็นเกี่ยวกับการบริหารงานในองค์กรแห่งเรียนรู้ได้อย่างสร้างสรรค์	Senge (1990), Pedler et al (1994)					
8	ผู้บริหารและบุคลากรในองค์กรแห่งการเรียนรู้มีความคิดที่มุ่งสู่ความสำเร็จ ผลลัพธ์ที่ต้องการไม่ย่อท้อต่อปัญหาหรืออุปสรรค	Farago, Skyrme (1995)					
9	องค์กรของท่านคิดหาหนทาง แนวคิดในการแก้ไขปัญหาคด้วยวิธีการต่าง ๆ เพื่อให้บรรลุเป้าหมาย	Senge (1990)					
10	ในองค์กรแห่งการเรียนรู้ของท่านมีการประชุมพูดคุย เกี่ยวกับปัญหาข้อสงสัยที่เกิดขึ้นและมีการยอมรับฟังความคิดเห็นซึ่งกันและกัน	Senge (1990)					
<b>ด้านการมีวิสัยทัศน์ร่วมกัน</b>							
11	บุคลากรในองค์กรของท่านสามารถกำหนดแนวทางวิธีการพัฒนาและปรับปรุงการทำงานให้บรรลุเป้าหมายได้เป็นแนวเดียวกันได้	Farago, Skyrme (1995)					
12	องค์กรของท่านมีการสื่อสารวิสัยทัศน์ กลยุทธ์ และเป้าหมายในการบริหารองค์กรแห่งการเรียนรู้ให้พนักงานทุกคนรับรู้และเข้าใจชัดเจน	Senge(1990),Boydell (1991)					
13	บุคลากรในองค์กร ของท่านนำเอาวิธีการทำงานที่ประสบความสำเร็จมาเผยแพร่ เพื่อประโยชน์ในการพัฒนาบุคลากรและองค์กร	Pedler et al (1994)					

## ส่วนที่ 2: (ต่อ)

ข้อ	รายการ	ทฤษฎี	ระดับความเห็น				
			1	2	3	4	5
14	ผู้บริหารของท่านเปิดโอกาสให้ทุกคนมีความก้าวหน้า สนับสนุนให้ทุกคนนำความรู้มาสร้างผลงานใหม่	Thomas, Allen (2006)					
15	ผู้บริหารของท่านมีการชี้แจง ประชาสัมพันธ์ และเผยแพร่วิสัยทัศน์เพื่อให้พนักงานทราบ เพื่อการปฏิบัติไปสู่เป้าหมาย	Senge (1990), Boydell (1991)					
<b>ด้านการเรียนรู้เป็นทีม</b>							
16	องค์กรของท่านมีวัฒนธรรมที่ส่งเสริมการทำงานเป็นทีม	Senge (1990)					
17	ผู้บริหารกับพนักงานในองค์กรของท่านร่วมกันวางแผนงานเพื่อกำหนดทิศทาง การดำเนินการขององค์กรแห่งการเรียนรู้ไปสู่ความสำเร็จ	Senge (1990), Pedler et al (1994)					
18	ในองค์กรของท่านมีการประชุมร่วมกันอย่างสม่ำเสมอ เมื่อมีการปรับปรุงและแก้ไขแผนการดำเนินงาน	Thomas, Allen (2006)					
19	ในองค์กรของท่านได้สนับสนุนให้บุคลากรมีการแลกเปลี่ยนข้อมูล ความคิดเห็น ประสพการณ์ ซึ่งกันและกันอย่างต่อเนื่อง	Senge (1990), Boydell (1991)					
20	ผู้บริหารและพนักงานในองค์กรมีการติดตาม ประเมินผล ภารกิจ และเป้าหมายร่วมกัน	Thomas, Allen (2006)					
<b>ด้านการคิดอย่างเป็นระบบ</b>							
21	ท่านคาดการณ์ถึงผลลัพธ์และผลกระทบที่อาจเกิดขึ้นต่อองค์กร ซึ่งจากการตัดสินใจ	Kerka (1995)					
22	ท่านรู้ถึงความเกี่ยวข้องและเชื่อมโยงของภารกิจที่ทุกคนในองค์กรแห่งการเรียนรู้ปฏิบัติอยู่	Watkins, Marsick (1993)					

## ส่วนที่ 2: (ต่อ)

ข้อ	รายการ	ทฤษฎี	ระดับความเห็น				
			1	2	3	4	5
23	ท่านใช้วิธีการคิดเชิงระบบโดยคำนึงถึงข้อมูลนำเข้า, กระบวนการและผลงานในการปฏิบัติงานในองค์กรของท่าน	Senge (1990)					
24	ท่านสามารถปฏิบัติงานโดยยึดหลัก 4 ขั้นตอนคือ 1) การปฏิบัติตามแผน 2) การวางแผน 3) การติดตามและตรวจสอบ 4) การปรับปรุงแก้ไขให้ดีขึ้น	Senge (1990)					
25	ท่านและบุคลากรในองค์กรร่วมกันแก้ไขจุดที่บกพร่องในวิธีการปฏิบัติงานเพื่อไปสู่ความสำเร็จ	Senge (1990)					

### ส่วนที่3: ตัวแปรด้านผลการดำเนินงาน

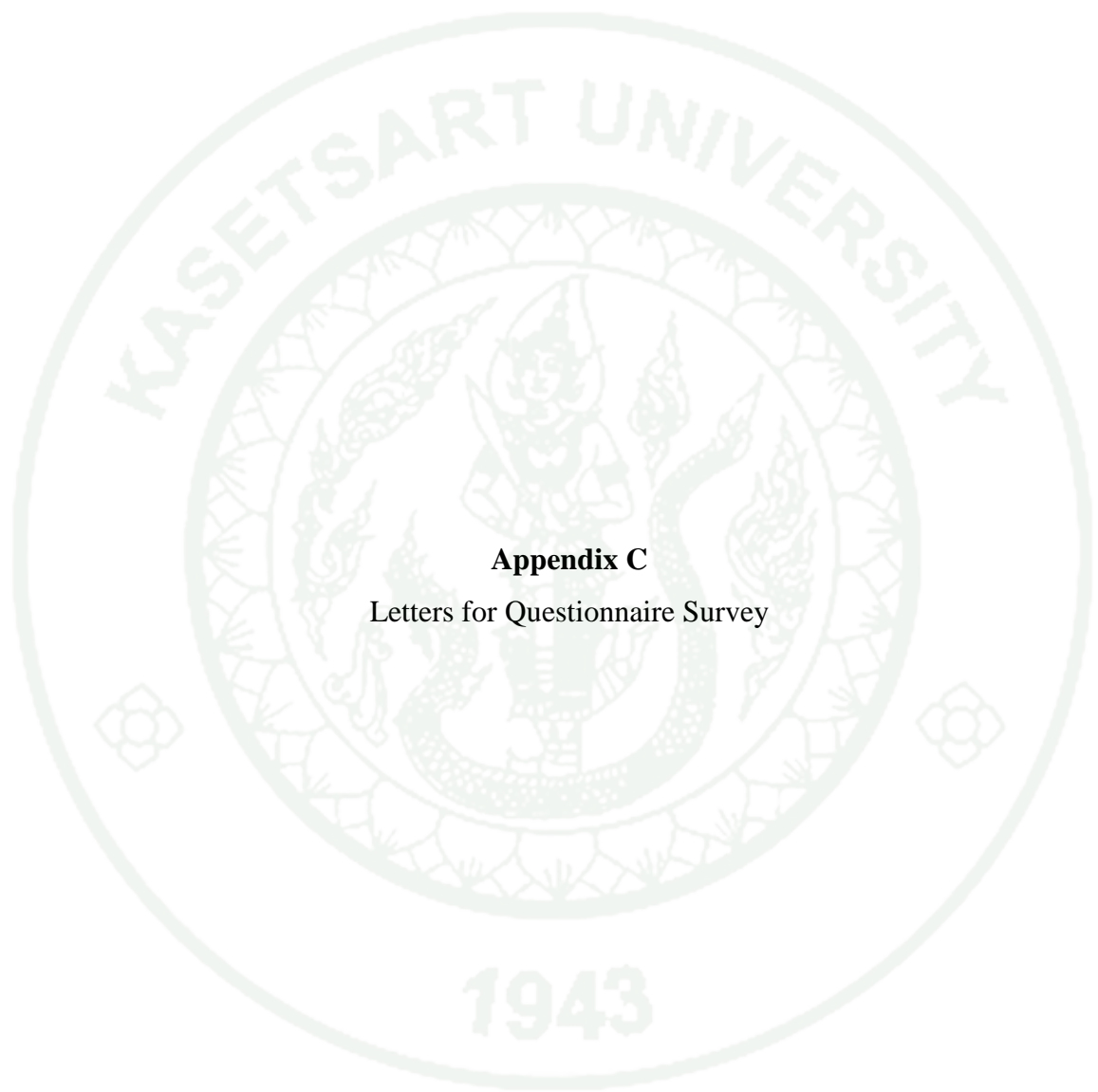
กรุณาทำเครื่องหมาย✓ในช่องว่างที่ตรงกับความเป็นจริงมากที่สุด(ระดับความเห็น; 5 = มากที่สุด ถึง 1= น้อยที่สุด)

ข้อ	รายการ	ระดับความเห็น				
		1	2	3	4	5
<b>มุมมองด้านการเงิน</b>						
1	การพัฒนาองค์กรของท่านโดยแนวคิดทั้ง 5 ข้อ ส่งผลให้องค์กรมีกำไรสูงขึ้น					
2	การพัฒนาองค์กรแห่งการเรียนรู้ทำให้อัตรผลตอบแทนจากการลงทุนกับบุคลากรในองค์กรของท่านสูงขึ้น					
3	การพัฒนาด้านการคิดอย่างเป็นระบบส่งผลให้ยอดขายผลิตภัณฑ์ในองค์กรของท่านสูงขึ้น และเป็นที่ยอมรับมากที่สุด					
4	การพัฒนาองค์กรแห่งการเรียนรู้ สามารถเพิ่มส่วนแบ่งการตลาด					
<b>มุมมองด้านลูกค้า</b>						
5	การพัฒนาองค์กรแห่งการเรียนรู้ช่วยให้ผู้บริโภคได้รับสินค้าทันเวลาที่กำหนด					
6	การพัฒนาองค์กรแห่งการเรียนรู้อย่างเป็นระบบ ทำให้ผู้บริโภคได้รับ สินค้าที่มีคุณภาพ					
7	การจัดส่งสินค้าและบริการเป็นไปตามข้อกำหนด ช่วยสร้างความเชื่อมั่นของลูกค้าต่อที่มีองค์กรเพิ่มขึ้น					
8	การพัฒนาองค์กรแห่งการเรียนรู้ทำให้ลูกค้ามีความพึงพอใจผลิตภัณฑ์และบริการทั้งก่อนและหลังขาย					
<b>มุมมองด้านกระบวนการภายในองค์กร</b>						
9	การพัฒนาด้วยองค์กรแห่งการเรียนรู้ช่วยให้บุคลากรในองค์กรมีแนวคิดในการทำงานไปในทิศทางเดียวกันส่งผลให้องค์กรมีความแข็งแกร่ง					

## ส่วนที่ 3: (ต่อ)

ข้อ	รายการ	ระดับความเห็น				
		1	2	3	4	5
10	การพัฒนาบุคลากรของท่านให้เป็นผู้รอบรู้ จะช่วยให้เกิดการคิดค้นเพื่อหาแนวทางลดราคาค่าต้นทุนการผลิตภายในองค์กรได้					
11	การบริหารงานเป็นทีมในองค์กรของท่าน ช่วยลดระยะเวลาการผลิตในแต่ละขั้นตอน					
12	การนำหลัก “การปรับปรุงอย่างต่อเนื่อง” มาใช้ในองค์กร ส่งผลให้อัตราการเกิดของเสียลดลง					
	<b>มุมมองการเติบโต</b>					
13	การพัฒนาบุคลากรในองค์กรของท่านอย่างต่อเนื่องให้เป็นบุคคลที่รอบรู้ คิดสร้างนวัตกรรมใหม่ ๆ ทำให้มีผลิตภัณฑ์ที่มีประสิทธิภาพสามารถนำไปแข่งขันในตลาดได้สูง					
14	พนักงานมีความพึงพอใจการบริหารองค์กรแห่งการเรียนรู้ จากการที่บุคลากรในองค์กรได้แสดงความสามารถได้เต็มศักยภาพและการยอมรับของบุคคลในองค์กร					
15	พนักงานในองค์กรได้รับการฝึกอบรม เพื่อพัฒนาการเรียนรู้อย่างต่อเนื่อง					
16	การบริหารงานในองค์กรแห่งการเรียนรู้ พนักงานในองค์กรมีการทำงานเป็นทีม ยอมรับฟังความคิดเห็นซึ่งกันและกัน มีสัมพันธภาพในหมู่บุคลากร ทำให้อัตราการลาออกของพนักงานลดลง					

ขอบคุณที่ท่านให้ความร่วมมือในการตอบแบบสอบถาม



**Appendix C**  
Letters for Questionnaire Survey



ที่ ศษ 0513.10310/397

โครงการบัณฑิตศึกษาระดับปริญญาโท (นานาชาติ)  
คณะบริหารธุรกิจ มหาวิทยาลัยเกษตรศาสตร์  
โทรศัพท์ 02-9428691-2 โทรสาร 02-942-8692

วันที่ 18 กรกฎาคม 2557

เรียน ผู้อำนวยการฝ่ายทรัพยากรบุคคล บริษัท โตโยต้า มอเตอร์ ประเทศไทย จำกัด

เรื่อง ขอบความอนุเคราะห์เพื่อตอบแบบสอบถามงานวิจัย (Actual test)

เนื่องด้วยนางสาวลลิต นิลิต ช่วยบำรุง รหัสนิสิต 5515353072 นิสิตของโครงการบัณฑิตศึกษาระดับปริญญาโท สาขาบริหารธุรกิจ (นานาชาติ) คณะบริหารธุรกิจ มหาวิทยาลัยเกษตรศาสตร์ กำลังดำเนินการวิจัย เพื่อทำการศึกษาวิทยานิพนธ์ (Thesis) เรื่อง ผลขององค์กรแห่งการเรียนรู้ที่มีผลต่อการดำเนินงานในองค์กร : กรณีศึกษาบริษัท โตโยต้า มอเตอร์ ประเทศไทย จำกัด The Effect of Learning Organization on Organizational Performance: Case Study of Toyota Motor Thailand Co., Ltd. ภายใต้การดูแลของ ดร. นันธวุฒิ ลือมรสิริ

ดังนั้น ทางโครงการฯ จึงใคร่ขอความอนุเคราะห์ให้ นางสาวลลิต นิลิต ช่วยบำรุง แจกแบบสอบถามจำนวน 400 ชุด ประกอบการศึกษาวิทยานิพนธ์ต่อไป

จึงเรียนมาเพื่อโปรดพิจารณาให้ความอนุเคราะห์ด้วย จักขอบคุณยิ่ง

ขอแสดงความนับถือ

(ดร. หฤทัย นำประเสริฐชัย)

ประธานกรรมการดำเนินงาน  
โครงการบัณฑิตศึกษาระดับปริญญาโท (นานาชาติ)



ที่ ศษ 0513.10310/397

โครงการบัณฑิตศึกษาสาขาบริหารธุรกิจ (นานาชาติ)  
คณะบริหารธุรกิจ มหาวิทยาลัยเกษตรศาสตร์  
โทรศัพท์ 02-9428691-2 โทรสาร 02-942-8692

วันที่ 18 กรกฎาคม 2557

เรียน ผู้บริหารสำนักพัฒนาบุคคลและระบบคุณภาพ, บริษัท ซีพีออลล์ จำกัด (มหาชน)

เรื่อง ขออนุญาตเพื่อทดลองใช้ (Try out) เครื่องมือในการวิจัย แบบสอบถาม

เนื่องด้วยนางสาวลลิต์ลลิต ช่วยบำรุง รหัสนิสิต 5515353072 นิสิตของโครงการบัณฑิตศึกษาสาขาบริหารธุรกิจ (นานาชาติ) คณะบริหารธุรกิจ มหาวิทยาลัยเกษตรศาสตร์ กำลังดำเนินการวิจัย เพื่อทำการศึกษาวิทยานิพนธ์ (Thesis) เรื่อง ผลขององค์กรแห่งการเรียนรู้ที่มีผลต่อการดำเนินงานในองค์กร : กรณีศึกษาบริษัท ซีพีออลล์ จำกัด (มหาชน) The Effect of Learning Organization on Organizational Performance: Case Study of CP All Public Co., Ltd. ภายใต้การดูแลของ ดร. นันทวุฒิ ลือมรสิริ

ดังนั้น ทางโครงการฯ จึงใคร่ขออนุญาตเพื่อให้ นางสาวลลิต์ลลิต ช่วยบำรุง แจกแบบสอบถามจำนวน 30 ชุด ประกอบการศึกษาวิทยานิพนธ์ต่อไป

จึงเรียนมาเพื่อโปรดพิจารณาให้ความอนุเคราะห์ด้วย จักขอบคุณยิ่ง

ขอแสดงความนับถือ

1943

(ดร. หฤทัย นำประเสริฐชัย)

ประธานกรรมการดำเนินงาน

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