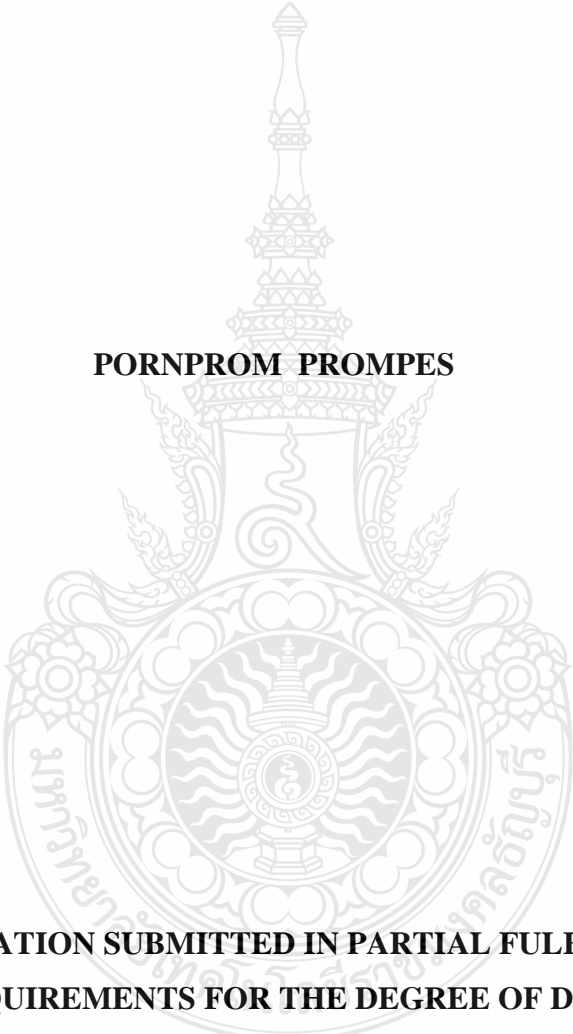


**EFFECTS OF ORGANIZATIONAL LEARNING ON ORGANIZATIONAL
SUCCESS IN HIGHER EDUCATION CONTEXT**

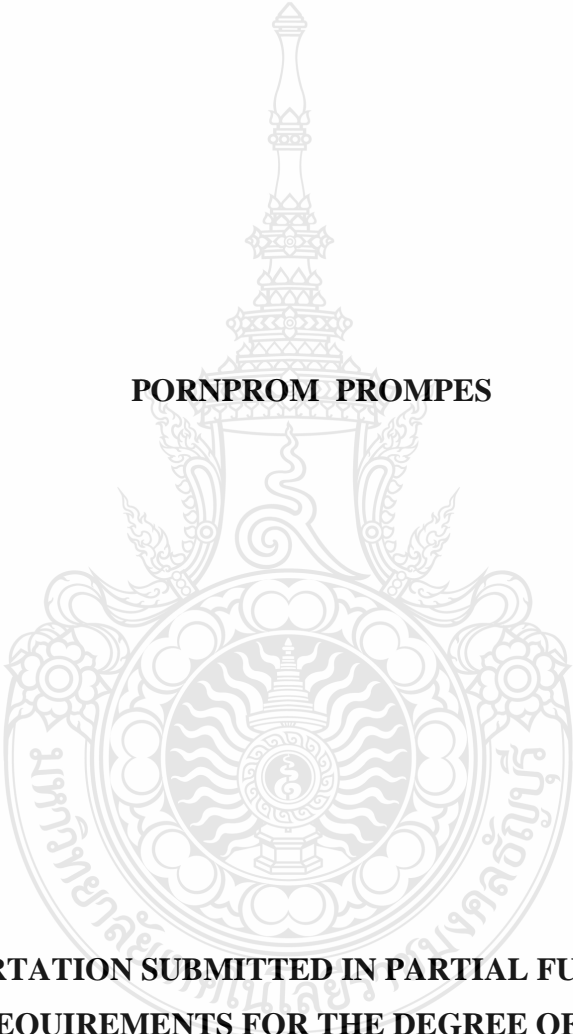
PORNPROM PROMPES



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FACULTY OF BUSINESS ADMINISTRATION
RAJAMANGALA UNIVERSITY OF TECHNOLOGY THANYABURI
ACADEMIC YEAR 2016
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Dissertation Title Effects of Organizational Learning on Organizational
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Name-Surname Miss Pornprom Prompes
Program Business Administration
Dissertation Advisor Associate Professor Chanongkorn Kuntontbutr, D.B.A.
Dissertation Co-advisor Assistant Professor Natnarong Jaturat, Ph.D.
Academic Year 2016

DISSERTATION COMMITTEE

..... Chairman
(Associate Professor Wai Chamornmarn, Ph.D.)

.....Committee
(Assistant Professor Sungworn Ngudgratoke, Ph.D.)

.....Committee
(Mr. Krisada Chienwattanasook, D.B.A.)

.....Committee
(Assistant Professor Natnarong Jaturat, Ph.D.)

.....Committee
(Associate Professor Chanongkorn Kuntontbutr, D.B.A.)

Approved by the Faculty of Business Administration Rajamangala University of
Technology Thanyaburi in Partial Fulfillment of the Requirements for the Degree of
Doctor of Philosophy in Business Administration

..... Dean of Faculty of Business Administration
(Assistant Professor Nartraphee Chaimongkol, Ph.D.)

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Dissertation Title	Effects of Organizational Learning on Organizational Success in Higher Education Context
Name-Surname	Miss Pornprom Prompes
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Dissertation Co-advisor	Assistant Professor Natnarong Jaturat, Ph.D.
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ABSTRACT

This research was designed to analyze the relationship between organizational learning and organizational success in higher education institutions in Thailand. There were three appropriate constructs developed in this research as follows: a) knowledge acquisition and knowledge interpretation, b) organizational memory, and c) knowledge distribution. The aforementioned constructs were established following a review of the theories on organizational learning and other related literature. Moreover, this study also investigated the effects of organizational learning on different aspects of organizational success.

This research used secondary data collected from the CHEQA online database, which was published by the Office of the Higher Education Commission (OHEC). The Structural Equation Model (SEM) investigated the data collected from 675 higher education faculties and the convergent validity of the data was measured using Confirm Factor Analysis.

The findings revealed that organizational learning in higher education institutions significantly created impact on their success. Additionally, the findings revealed that organizational learning has considerable impact on process effectiveness success, outcome effectiveness success, and innovativeness success. It is further recommended that policy planning for Thailand's higher education institutions should prioritize precedence to all areas of higher education. In doing so, teaching, research, academic services, and promotion of Thai arts and culture can be applied to all aspects of the organizational learning construct.

Keywords: organizational learning, organizational success, higher education

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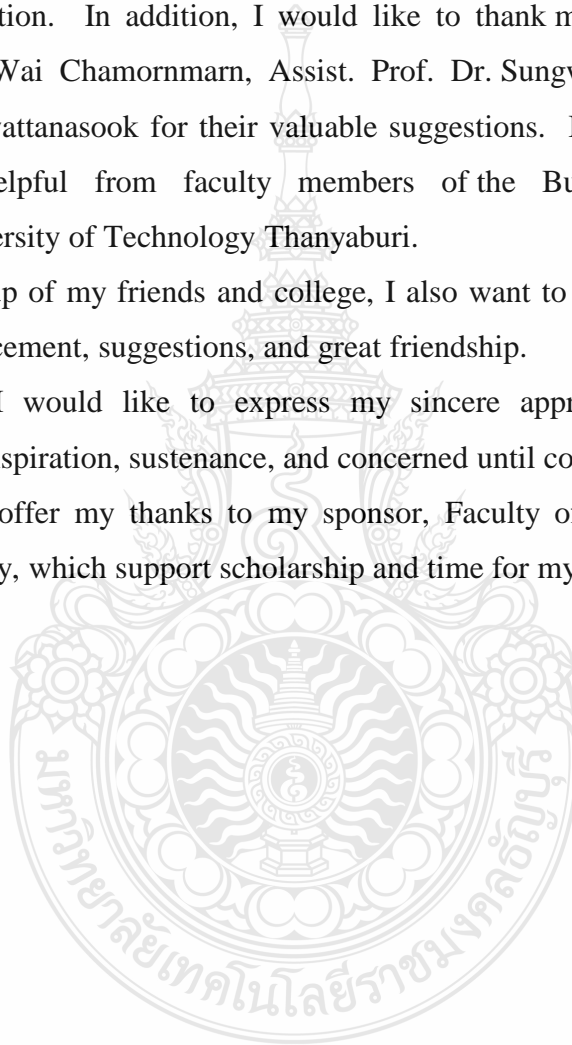


Table of Contents

	Page
Abstract	(3)
Declaration	(4)
Acknowledgements	(5)
Table of Contents	(6)
List of Table	(8)
List of Figure	(9)
CHAPTER 1 INTRODUCTION	10
1.1 Introduction	10
1.2 Background and Statement of problem	10
1.3 Importance of the Study	12
1.4 Purpose of the Study	12
1.5 Research Question and Hypothesis	12
1.6 Conceptual Framework	15
1.7 Definition of Terms	17
1.8 Limitation of the study	18
1.9 Scope of the Study	19
1.10 Organization of the Study	19
CHAPTER 2 REVIEW OF THE LITERATURE	21
2.1 Introduction	21
2.2 Learning	21
2.3 Organizational Learning	25
2.4 Organizational Success	33
2.5 Organizational Learning and Organizational Success	35
2.6 Thailand's Higher Education Institutions	37
2.7 Quality Assurance System of Thailand's Higher Education System	38
CHAPTER 3 RESEARCH METHODOLOGY.....	41
3.1 Introduction	41
3.2 Research Design	41

Table of Contents (Continued)

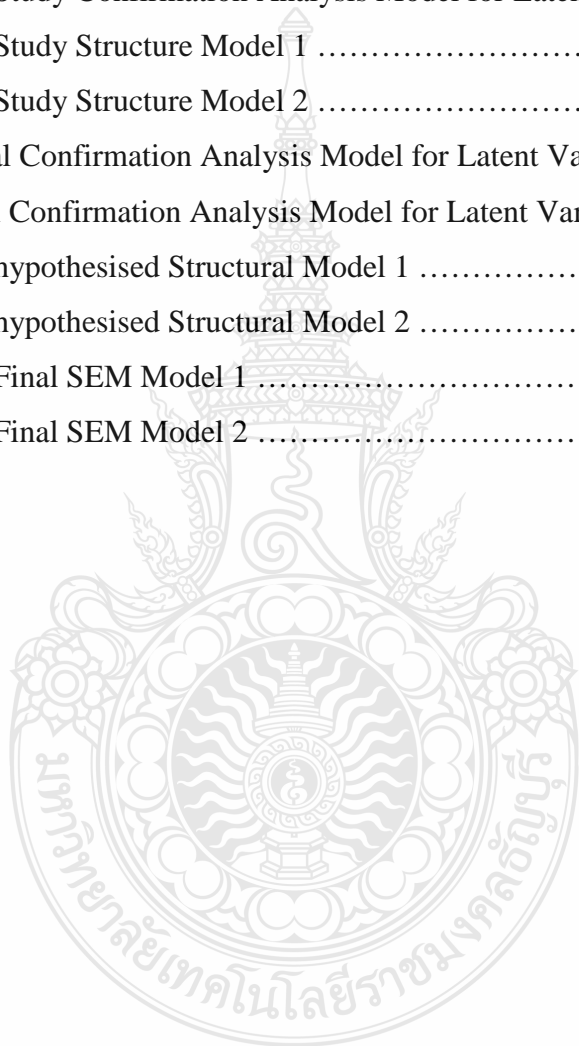
	Page
3.3 Population and Sampling	41
3.4 Data Collection	42
3.5 Research Instrumentation	42
3.6 Abbreviation	43
3.7 Measurement	43
3.8 Result Methodology	49
3.9 Sequence of Analysis	54
CHAPTER 4 RESERCH RESULT	58
4.1 Introduction	58
4.2 Editing and Calculating Data	58
4.3 Quantitative Result	58
4.4 Structural Equation Model	62
4.5 Construct Research Model	70
4.6 Structural Model Assessment	73
CHAPTER 5 CONCLUSIONS AND RECOMMENDATIONS.....	81
5.1 Introduction	81
5.2 Summary of Study.....	81
5.3 Discussions of the Conclusions	82
5.4 Implications	86
5.5 Limitations of Study and Recommendations for Future Research	86
Bibliography	89
Appendix	105
Biography	116

List of Tables

		page
Table 3.1	List of Abbreviations	43
4.1	The Descriptive Statistic of Faculty of Thailand's Higher Education Institutions	59
4.2	Descriptive Statistic of Organizational Learning	60
4.3	Descriptive Statistic of Dependent Variable	62
4.4	Reliability Statistic	63
4.5	Multicollinearity Statistics Testing with KA1	65
4.6	Measurement of Model Fit of Latent Variables	66
4.7	Composite Reliability and Average Variance Extracted of Organizational Learning	69
4.8	Correlation Values between Latent Variables of Organization Learning	70
4.9	List of Underlying Hypotheses	73
4.10	Measurement of Model Fit of Hypothesised Model 1	74
4.11	Measurement of Model Fit of Hypothesised Model 2	76
4.12	Hypotheses Testing of the Proposed Theoretical Framework	78
4.23	Summary of Hypotheses Testing	80

List of Figures

	page
Figure 1.1 Conceptual Framework	17
Figure 2.1 Relationship between Internal Quality Assurance and External Assessment	30
Figure 3.1 The Study Confirmation Analysis Model for Latent Variables ...	51
Figure 3.2 The Study Structure Model 1	52
Figure 3.3 The Study Structure Model 2	53
Figure 4.1 Initial Confirmation Analysis Model for Latent Variables	67
Figure 4.2 Final Confirmation Analysis Model for Latent Variables	68
Figure 4.3 The hypothesised Structural Model 1	71
Figure 4.4 The hypothesised Structural Model 2	72
Figure 4.5 The Final SEM Model 1	75
Figure 4.6 The Final SEM Model 2	77



CHAPTER 1

INTRODUCTION

1.1 Introduction

The dissertation is entitled the effects of organizational learning on organizational success, of Thailand's higher education institutions. This chapter gave an overview of the research problems, and the area of focus in examining the research problems. The chapter included the background and statement of the problem as well as the importance and purposes of the study. The research questions and hypotheses were later discussed, followed by conceptual framework, definitions of terms, and delimitations and limitations of the study.

1.2 Background and Statement of the Problem

As various organizations are becoming competitive in knowledge-based economy, human resources have to continuously develop their knowledge and skills (Burke & Ng, 2006) while human capital becomes a key source of sustainable competitive advantage (Rowden, 2007). Human Resource Management (HRM) performance linkage model, which was recovered by Becker and Huselid (1998), cited in Wright, Gardner, and Moynihan (2003), was recognized as "most logical and definite model of the processes through which HR practices affect firm performance." The core philosophy of HRM-performance linkage model is that HR practices have the direct impacts on employee skills and motivation, which are finally translated into improved organizational performance (Katou, 2009). Becker (1993) studied on human resources investment and identified that human capital is the investment in education and training to raise productivity and output. Most of the organizations require not only individuals' skill improvement but also their adaptability, being good team players, and readiness to function in a complex global environment.

According to the ecology formula, $L \geq C$, Revans (1980) noted that an organism must be able to learn (L) at a rate equaling or exceeding the changes (C) which are occurring in its environment in order to survive. Then, the organizations which want to grow and compete in the market have to continue their ability to learn.

Human resource development in the learning organizations can help gain skills and knowledge from other members having past experiences along with present well working practice. Then, these obtained skills and knowledge would be transferred to be their working method resulting in an effective work (Saatchi, 2006). Tsang (1997) also commented that “Organisational learning is a concept used to describe certain types of activity that take place in an organization while the learning organisation refers to a particular type of organisation in and of itself” (Tsang, 1997: 74-75). Nevis, DiBella, & Gould (1995) found that the learning organization must be improved as a system since the organization that would like to continue having a competitive advantage over their competitors must be the learning organization. Thus, organizational learning is the strategy to reach that position. Learning in organization is either individual level educated or organization level system facilitated to provide information understanding. Then, there are the relationships between organizational learning and the organizational performance. This study is interested in analyzed the scope of significance of organizational learning to organizational success in the context of Thailand.

Thailand’s higher education institutions are major sectors assigned to be responsible for both fostering valuable human capital for national development and conveying knowledge to social in the form of research and professional relationships with non-educational sectors. Furthermore, according to the appropriate for joining the Asian Economic Community (AEC) in 2015, Thailand’s higher education institutions are required not only to help correct the mindset of Thai people and supply them with sufficient knowledge to be ready and realistic for the integrated regional society (Ashayagachat, 2013) but also to expedite their own competitive advantage to compete with other countries and to be the educational hub of the region.

Even though there have been a growing number of studies on educational institutions among Asian countries (Kitcharoen, 2011), only a few mentioned the importance of organizational learning and the impact on organizational success, especially the study from collected data expressing the realistic operations of Thailand’s higher education institutions. This study aimed at investigating the effect of organizational learning on organizational success. The focus area of this study is on the higher education institutions in Thailand.

1.3 Importance of the Study

The contributions of this study to organizations are infinite. It bridges the gap between organizational learning to a performance in the context of Thailand's higher education institutions. Organizational learning is organizational strategy for sustaining competitive advantage and survival (Wang & Ellinger, 2011). Therefore, the study investigating the effect of organizational learning and organizational success could provide an appropriate alternative for organizations to boost their competitive advantage.

The population of this study was Thailand's higher education institutions which included the organizations that play the major role in conveying knowledge to the students who would become human resources of both private and the government sector. The data of this study were collected from practical operation of organization. The result would be useful for both the private and the government sectors in policy planning about learning in the organizations. Undoubtedly, results of the would be useful for local, national, or international organizations not only in the current organization routine operation level but also in the future national executive planning level. It can be concluded that the establishment of this study is exploring the national level contribution.

1.4 Purpose of the Study

This study emphasized on finding the relationships among variables in organizational learning and organizational success area. The purposes of the study were (1) to investigate the effects of organizational learning on organizational success, (2) to investigate the effects of organizational learning on each aspect of organizational success.

1.5 Research Question and Hypotheses

This study attempted to reply the research questions as followed: (1) does organizational learning affect organizational success?; (2) does organizational learning affect process effectiveness success?; (3) does organizational learning affect

outcome effectiveness success?; and (4) does organizational learning affect innovativeness success?

The research questions mentioned above are the direction to specify the hypotheses of the study. In the book “The fifth discipline: The art and practice of the learning organization,” authored by Senge (1994: 3), it is stated that “In the long run, the only sustainable source of competitive advantage is your organization's ability to learn faster than its competition.”

Most organizations try to find the way to encourage their human resources to constantly improve their knowledge and skills (Burke & Ng, 2009). Similarly, the research of Aghazadeh (2007) found that workplace learning supports human resources to improve their performance, leading to an ultimate organization success. Likewise, Santos-Vijande, López-Sánchez, & Trespalacios (2012) found organizational learning positively had an impact on customer performance and business performance.

There are a few researchers who took in- depth research on the relationship between each process stage of organizational learning and innovation and effective performance (Jimenez-Jimenez & Sanz-Valle, 2011; Pham & Swierczek, 2006; Tippins & Sohi, 2003; Wang et al., 2011). Tippins & Sohi (2003) showed that the five stages they distinguished within the organizational learning process (information acquisition, information dissemination, shared interpretation, declarative memory, and procedural memory) have positive effects on the organizational performance. Later, Pham, and Swierczek (2006) indicated that knowledge acquisition and knowledge utilization have significant and positive impacts on performance improvement. In addition, Jiménez-Jiménez et al. (2007, 2011) found that all stages of organizational learning (knowledge acquisition, knowledge distribution, knowledge interpretation, and organization memory) have positive effects on both firm performance and innovation. Moreover, the result from the study of Wang et al. (2011) was revealed that all four stages of organizational learning (information acquisition, information distribution, information interpretation, and organization memory) are significant to both individual- and organization-level innovation performance and contributed more to the individual-level than the organizational-level innovation performance. Some studies clarified that the learning helps to enhance performance in the organizations (Goh et al., 1997; Jacobs,

1995). Ellinger, et al., (2003) empirically found a relation between organizational learning and organizational performance. Similarly, some studies reported a direct relationship of organizational learning and performance (Bontis, et al., 2002; Mahmood, et al., 2015; Tippins, et al., 2003). Some scholars proposed that organizational learning is a key variable in enhancing organizational performance and gaining sustainable competitive advantage (Brockmand, et al., 2003; Dodgson, 1993). Various studies acknowledged that next source of the competitive advantage comes from firms that learn continuously, as learning is believed to be the key to unlock organizational success (Lukas, 1996). From the above discussion it is found that empirical findings support the relationship between organizational learning and performance.

Therefore, the hypotheses should be conducted as follows:

H1: There is a positive effect of organizational learning on organizational success.

Fawcett and Myers (2001) surveyed of 58 American managers and revealed that employee training and learning are important antecedents of lean production and process performance. In addition, learning on advanced manufacturing, including automation strategy, strongly affect operations performance. Modern information technology is the most important factor that can radically affect process performance. Internet technology revolution can be integrated into process automation systems and reduce the knowledge and learning requirements of process automation (Samad et al., 2007). While a study in 211 manufacturing organizations in China discovered that learning orientation does not affect process technology and operations performance (Fang, et al., 2016). On the basis of the aforementioned literature, the existence of a positive relationship between organizational learning and internal process perspective performance is unclear. Therefore, this study also proposes the hypothesis 2.

H2: There is a positive effect of organizational learning on process effectiveness success.

Organizational learning is priceless in terms of providing better insight about customers and efficiently meeting their requirements and needs through new products, services and ways of doing business (Slater & Narver, 1995). Firms that learn about customers, competitors and regulators have superior perceiving and acting upon

incidents and tendencies in the market and this leads directly to greater superior customer retention, higher customer-defined quality and, ultimately superior growth and profitability (López et al., 2005). Ho (2011) studied effect of organizational learning on organization performance by focus on financial performance and market performance, and adopt these two factors for the organization performance dimension. Then disclosed that organizational learning has a direct and significant impact on organizational performance. Therefore, this study also proposes the hypothesis 3.

H3: There is a positive effect of organizational learning on outcome effectiveness success.

Jimenez-Jimenez and Sanz-Valle (2011) found a positive relationship between organizational learning and performance in Spanish firms. Interestingly, their finding shows that the effect of organizational learning on innovation. An empirical study of technological companies in Taiwan is revealed that organizational learning has a direct and significant impact on organizational innovative (Ho, 2011). A recent study of firms of turkey indicated a positive relationship between organizational learning and innovation performance (Uğurlu & Kurt, 2016). Therefore, this study also proposes the hypothesis 4.

H4: There is a positive effect of organizational learning on innovativeness success.

1.6 Conceptual Framework

Organizational learning is noticed as one approach to study the method for organization to adapt in the changing environment. The term of organizational learning is often used interchangeably with the term of learning organization (Bayraktaroglu & Kutanis, 2002). Conversely, these terms are different as Tsang (1997: 74) indicated that “Organisational learning is a concept used to describe certain types of activity that take place in an organisation while the learning organisation refers to a particular type of organisation in and of itself.” The study of Huselid (1995) provided the evidence for the research on the relationship between human resource practices and organizational performance which revealed that human resource practices were significantly related to

profitability. The latter research also discovered the positive impact of organization learning on organizational performance (Everett, 2009; Mabey & Gooderham, 2005).

This study was conducted to examine organizational learning and its concept on organizational success which explored the three constructs of organizational learning comprising knowledge acquisition and knowledge interpretation, organizational memory, and knowledge distribution (Dixon, 1992; Gnyawali & Stewart, 2003; Jiménez-Jiménez et al., 2011; Huber, 1991; Wang et al., 2011). This concept viewed information and knowledge as logistical processes that convey knowledge for learning of the entire organization. There were some obvious studies which found that organizational learning has an effect on creating innovations finally affecting the organizational performance (Chen & Chen, 2010; Van Deusen, 1997; Kitapci et al., 2012).

Organizational status could be considered as an asset of the organization which affects its organizational performance in the way that is improved with status until a very high level of status is reached (Mathew, Kim, & Bishop, 2012). According to the study, the organization status on the main purpose of operating moderates the relationship between organization learning and organizational performance (Jiménez-Jiménez et al., 2011; Prajogo, 2006; Vega-Jurado et al., 2008). Furthermore, due to the perspective of the literatures reviewed regarding the status on the concept of time, when time passed, it provides an organization experience which helps improve its competencies on learning and develop its performance (Hitt, Hoskisson, & Kim, 1997; Jiménez-Jiménez et al., 2011; Sorensen & Stuart, 2000).

The following hypotheses were conducted based on the studies mentioned:

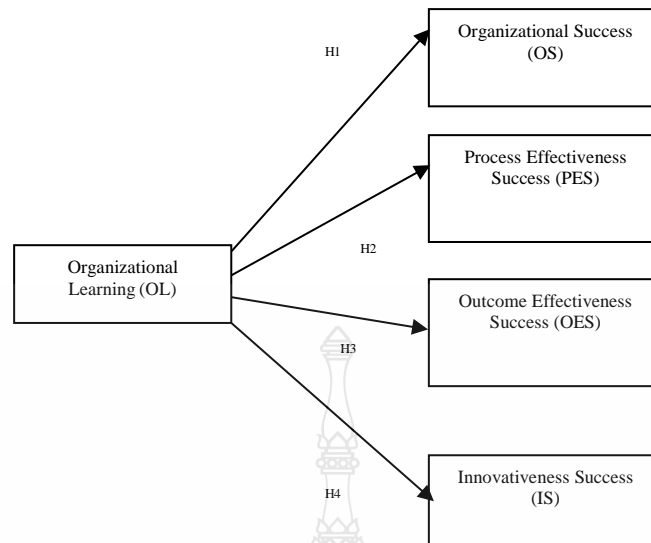


Figure 1.1 Conceptual Framework

1.7 Definition of Terms

Organizational learning: Certain types of activities, implications, and systems (Stacey, 1996; Morgan, 1997; Tsang, 1997) facilitating the organization to continuously transform itself through the development and involvement of all of its members (West, 1994; Burgoyne, Pedler, & Boydell, 1995). The three constructs of organizational learning were knowledge acquisition and knowledge interpretation, organizational memory, and knowledge distribution (Dixon, 1992; Gnyawali & Stewart, 2003; Jiménez-Jiménez et al., 2011; Huber, 1991; Wang et al., 2011).

Knowledge acquisition and knowledge interpretation: Any activities conducted by faculty which acquire new knowledge and information (Jiménez-Jiménez & Sanz-Valle, 2011) through external or internal sources (Dixon, 1992; Huber, 1991). Including of the ways to identify knowledge meaning (Dixon, 1992) through process of developing the shared understanding (Wang et al., 2011) which will lead to the common operations of organization’s framework (Santos-Vijande et al., 2012).

Organizational memory: The approaches of how faculty retains what it has learnt as organization knowledge stored for all faculty’s members accessing to learn or

use in the present and the future (Dawson, 2007; Huber, 1991; Lopez, Peon, & Ordas, 2005) as a human capital that are collective of knowledge, skills, and information that necessary for working abilities (Snell & Dean, 1992).

Knowledge distribution: The actions and mechanisms which the faculty disseminates knowledge from different sources lead to more expanding based organizational learning. Knowledge transferred is not only for new information but also for new understanding of how to work (Huber, 1991; Santos-Vijande et al., 2012).

Organizational Success: The consequences of the organizational management or accomplishment of organizational goals (Mahmood, 2015). The three constructs of organizational learning were process effectiveness success, outcome effectiveness success, and innovativeness success (Norton and Caplan, 1996; Andreadis, 2009).

Process Effectiveness Success: level of faculty's goal achievement on vital elements roles of Thailand's higher education institutions to convey knowledge to learners (Wang, et al., 2002). Important faculty's process is on lecturers who are crucial role on convey knowledge to learners. The evidence of successful organization's process operations is a goal achievement.

Outcome Effectiveness Success: Level of faculty's goal reaching on quality of, graduated students, faculty's output (Bui & Baruch, 2011).

Innovativeness Success: The faculty's achievement that evident by new products, processes, or invention development (Jiménez-Jiménez et al., 2011; Katou, 2009).

1.8 Limitations of the Study

Some limitations were addressed in this study. First of all, since each site is unique, and each individual construct reality is different, generalizations are eschewed (Morrow, 2005). In addition, the respondents to the study were from academic industry. The results could be different if other industries or other stakeholders were chosen for the study. Besides, the result of the study was appropriate to explain the phenomenon, but it was limited to academic environment. Moreover, the samples and the sampling size limited our conclusion to Thailand academic industry only. Thus, the specific scope of study population has been limited. Finally, secondary data was collected

from results of academic quality assurance and used for variables' definitions of this study. Due to this reason, some variables could not completely represented as the proper variable for organizational learning theory as primary data from questionnaire.

1.9 Scope of the Study

This study aimed to extend the body of knowledge regarding the relationship between organizational learning and organizational success. The research design was a quantitative correlation providing the advantage of addressing the path analysis among the study's variables. In addition, in order to answer the research questions and to test the hypotheses, the samples of academic faculties of Thailand's higher education institutions were selected. Secondary data of institution's academic quality assurance from the Office of the Higher Education Commission (OHEC) and the Office for National Education's and Quality Assessment's standard (ONES), of academic year 2012 (June, 2012 – May, 2013) was gathered.

1.10 Organization of the Study

This dissertation was organized into five chapters. The overviews of these chapters were provided as follows:

Chapter 1: Introduction

The purpose of this chapter was to provide the overview and scope of the study. The chapter started with the background and statement of the problem, followed by the purpose of the study, research question and hypothesis, importance of the study, definition of terms, limitation of the study, and scope of the study.

Chapter 2: Review of the Literature

This chapter was structured to provide a critical review of the existing theories and studies relating to this study. The chapter provided a review of the literature on organizational learning and the relevant aspects of the higher education and quality assurance system in Thailand's higher education institutions.

Chapter 3: Research Methodology

This chapter provided the discussion of the research methodology in order to answer the research questions and hypotheses. The discussion began with research

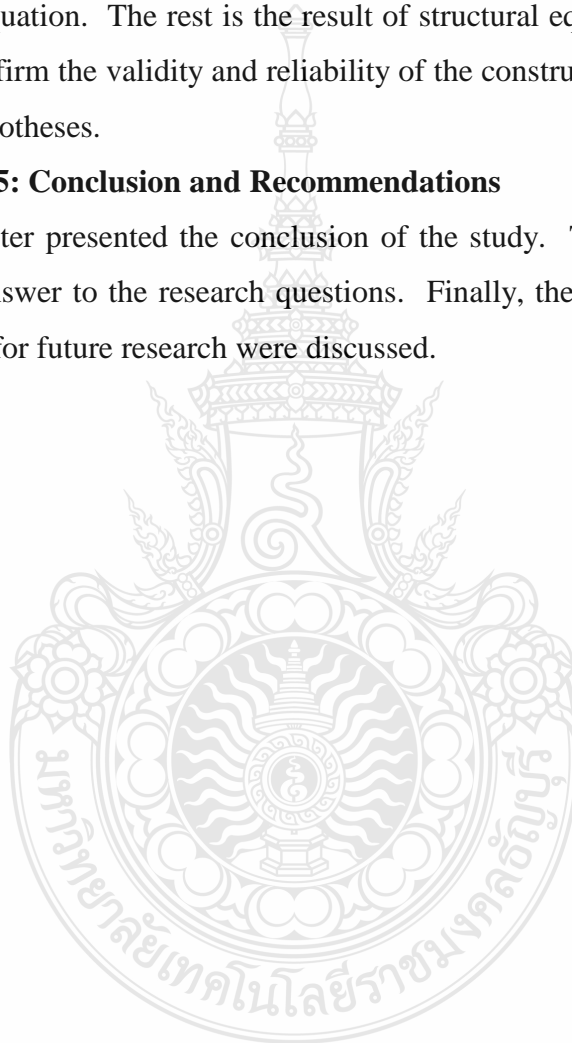
design, population and sampling, data collection, research instrumentation, measurement, validity and reliability, result methodology, and sequence of analysis.

Chapter 4: Research Result

The purpose of this chapter was to analyze the result of hypothesis testing. It started with description statistics. Then, create model from research framework and define observe and latent to present the result of the factors appropriate for further structural model equation. The rest is the result of structural equation model where the first stage is to confirm the validity and reliability of the constructs and the second stage aims to test the hypotheses.

Chapter 5: Conclusion and Recommendations

This chapter presented the conclusion of the study. The main findings were presented as the answer to the research questions. Finally, the limitation of this study and possible areas for future research were discussed.



CHAPTER 2

REVIEW OF THE LITERATURE

2.1 Introduction

In this study, the researcher proposes to investigate the effect of organizational learning on organizational success in the context of Thailand's higher education institutions. The chapter provided a review of the literature on the concept of organizational learning which discussed of base concept of learning and the stream of processing information as the operational organization learning. Then, explained the relevant aspects of the higher education and the rest was quality assurance system in Thailand's higher education institutions.

2.2 Learning

This part of the chapter proposed two main schemes of learning including the definitions and approaches of learning and the levels of learning. The details were discussed in the following paragraphs.

2.2.1 Definitions and Approaches of Learning

Fiol and Lyles (1985) reviewed learning constructs on the stream of the strategy research and defined learning as primarily cognitive which is "the development of insights, knowledge, and associations between past actions, the effectiveness of these actions, and future actions" (Fiol & Lyles, 1985, p. 811). The argument of term definition continued since there are a variety of the term learning such as "a change in the range of potential behavior" (Huber, 1991, p. 89) and "a dynamic process, occurring over time and across levels, that involves a tension between new and existing learning" (Crossan, Lane, & White, 1999, p. 532). Argiris (1994) also proposed that learning is thought to have occurred when the outcome of intended action matches that intention. It can be implied from the above concepts that learning is the shift of behavior, position, or level of action or result. The next of this part is concentrated on how human resource can learn. According to Bandura's (1986), social learning theory provided a robust set of propositions that can be useful in informing human resource development of theory, research, and practice. Observational learning, the method for human resource learning

from their social, is explained as a natural propensity for humans' behavior to imitate what they see others do (Hergenhahn & Olson, 1997). Similarly, Miller and Dollard (1941) indicated in the book called "Social Learning and Imitation" that beliefs were based on stimulus-response and reinforcement theory. The researchers propose that humans must observe, imitate, and reinforce what has been observed (Gibson, 2004).

Later, the study of Bandura (1977) was interested in the other point of observational learning, which is more toward the cognitive processes involved in the observation. The study found that humans could learn through observation without the need for imitation. It means that learning could be direct or indirect through observing others' behaviors and the consequences (Bandura, 1977). Then, the researcher further stated that learning is mainly conceptualized as knowledge acquisition through cognitive processing of information. This concept of Bandura was found to be more on the concept of self-efficacy, referring to judgment of one's capability to accomplish success in a given situation-influenced by the effectiveness of the ability to interact with the environment and others (Bandura, 1986).

2.2.2 Levels of Learning

Normally, the studies of organizational learning often approach the phenomenon from individual, group, and organizational levels (Crossan et al., 1999; Easterby-Smith, Crossan, & Nicolini, 2000; Kok, 2010).

In contrast, a few researchers have argued that an individual is the starting point and the most meaningful of learning (Bierly & Hamalainen, 1995; Dodgson, 1993; Elkjaer, 2004). Dodgson (1993) stated that "individuals are the primary learning entity in firms and its individuals which create organizational forms that enable learning in ways which facilitate organizational transformations" (Dodgson, 1993, p.337). Individual learning had been widely studied through the use of Kolb's research, established in 1984, on experiential learning and learning cycles (Cunningham & Iles, 2002). According to Kolb (1984), experiential learning is where individuals learn from their experiences, but they do it in different ways. Individuals have different learning styles, so the way they cope with and process their experiences would impact preference of a learning style over others (Sessa & London, 2006). With this reason, two individuals may face the same situation but acquire different kinds of learning due to

their individuality. Kolb (1984) also claimed that individuals follow a learning cycle, a concrete experience, a reflective observation, an abstract conceptualization, and an active experimentation in order to really learn.

The concept of individual learning has been developed through two schemes of theory: cognitivist and behaviorist. Cognitivist perspective of learning believed that learning occurs when individuals perceive circumstance and interpret it by their own cognitive maps in mind (March, 1991). On the other hand, behaviorist perspective proposed that learning takes place when the learners have noticeable behavior change (Stata, 1989). Some researchers took the effort to integrate these two schemes of theory in understanding of individual learning as a part of organizational learning theory. A learning circle contains operational and conceptual parts. Operational learning is related to behavioral change accomplished by testing and implementing new actions. Meanwhile, conceptual learning is the creation of new understanding through reflecting and formulating new conceptions. These two processes affect each other and finally develop the learner's mental model (Kim, 1993). Nonaka (1994) proposed knowledge creation model that specified the relationship between cognition and action. Through their repetitive interactions, individuals create both tacit knowledge and explicit knowledge. Explicit knowledge is highly associated with action because this aspect was explicable and can easily be imitated. Tacit knowledge is related to cognitivist since the quality of this aspect depends on the degree of individuals' commitment to bodily experience.

Other researchers argued that considering learning only on the individual level was a too narrow focus (Glynn, Lant, & Milliken, 1994; Nicolini & Mezner, 1995). The concept of community of practice, introduced by Brown, and Duguid (1991), illustrated the importance of understanding that learning happens in group, and the organizations can benefit from the knowledge and insight created within the community of practice by identifying they exist and allowing them to flourish (Brown & Duguid, 1991). Group learning is not just a collection of individual learning. It is no matter how successful individuals acquire new knowledge since group learning only occurs when the knowledge was exchanged, and individuals had created collective knowledge (Huber, 1991). Huber (1991) continually suggested, based on his own viewpoint of

information process by arguing that learning can take place either in commonality of information interpretation or the variety of interpretation. In other words, better learning occurs when the organization's unit commonly has better understanding of the information. However, learning could also take place when each unit in the organization has various interpretations of information, which could extend the range of that organization's knowledge. Individual learning outcomes were essentially social and could not be produced without any interaction with the environment (Molina Oyarce, 2009). Nonaka and Konno (1998) introduced the concept of "ba" to explain the concept of place or field of group learning. The ba is a shared place in which knowledge is shared, created, and utilized through interaction. Individual learning from others in the organization is finally socialized to the organizational beliefs, norms, rules, and procedures which make up the organization's culture (March, 1991). Bender (1997) studied on team learning and found that some universities have succeeded in creating team learning through organizational learning. Besides, when people were committed to team learning, they tended to set clear goals for the team and themselves to help them find the way to accomplish their jobs (Kofman & Senge, 1993).

There was the need to recognize the third level of learning as distinct from group or individual level because people learn and behave according to their social rules or organizational culture (Casey, 2005). Even though decision-making had commonly been considered an individual learning process, it could also be acknowledged as a social process integrated into the organizational routines and transformed into organizational learning (Oliver & Jacobs, 2007). Learning at the organization level was studied as a process not only institutionalizing knowledge into organizational routines but also aligning the knowledge embedded in the routines with the environmental change (Daft & Weick, 1984; Foil & Lyles, 1985; Huber, 1991; Oliver & Jacobs, 2007). Thus, learning at the organization level involved both the institutionalization of knowledge for the organization and its alignments with the external environment. Foil and Lyles (1985) described the capacity for organization level learning that "organizations, unlike individuals, develop and maintain learning systems that not just influence their immediate members, but are then transmitted to others by way of organization histories and norms.... Organizations do not have brains but they have

cognitive systems and memories” (Foil & Lyles, 1985, p. 804). The more individuals learn in the organization, the more similar individual belief patterns were produced throughout the organization (Weick, 1991; Mintzberg, 1991). Nevis et al. (1995) found that the learning organization must be improved as a system by stating that “learning is a system-level phenomenon because it stays with the organization even if individuals change” (Nevis et al., 1995, p. 73). Likewise, several researchers have argued that organizations could learn from their individual learners’ skills and promises (Chan, 2003; Pham & Swierczek, 2006; Yeo, 2005). This knowledge could be shared among employees in order to increase the company’s productivity.

As discussed in the review of literature, learning takes place not only on the individual level in the context of cognitive scheme but also on the group level in the context of the beliefs and understanding of co-workers. Furthermore, learning takes place on the organization level through the organizational culture, embedded rules and norms. Then, the strategy and structures are storehouses of learning at the level of the organization and have the great impact on learning at the other levels.

Consequently, this study investigated learning at the organization level because it includes the importance of the organizational system, structures, and procedures influencing the organization in terms of its members and competitive advantage.

2.3 Organizational Learning

The concept of organizational learning consisted of four sections including the definition of terms, the levels of learning, the elements of organizational learning process, and the ranges of organizational learning research.

2.3.1 Definition of Organizational Learning

The concept of organizational learning is attended by either researchers from various disciplines or consultants and managers in the business world (Chiva & Alegre, 2005). The definition of organizational learning has been improved in various directions since its interest has been increased. Argyris & Schon (1978) who were accepted as primary researchers on this topic defined organizational learning as a process of detecting and correcting errors. From that point, there were many theorists who studied on the scheme of organizational learning and proposed more details of

organizational learning definitions. Organizational learning is the knowledge occurring when the organizational action reacts to its environment (Daft & Weick, 1984). Correspondingly, organizational learning is an entity learns if through its processing of information the range of its potential behavior is changed (Huber, 1991). Besides, organizational learning is the way and process in which an organization has achieved the capability to transform it continuously through the development (Burgoyne et al., 1995). A similar point on the human resource role is made by Phang, Kan-kanhalli, and Ang (2008) that organizational learning is the process which the organization's members could create new knowledge or modify existing knowledge.

In addition, organizational learning is also defined as a collective proficiency based on experiential and cognitive procedures, and it includes knowledge acquisition, knowledge sharing, and knowledge utilization within the organization (Aragon, Garcia, & Cordon, 2007; Zollo & Winter, 2002). Although there are various different definitions and concepts of organization learning, and there is no common agreement of the phenomenon (Curado, 2006), most researchers proposed the agreement of organizational learning definition as it is the result of the organization's members regarding an involvement in sharing experience and knowledge and later transforming to the organizational capability of adapting and responding to changing environment (Aragon et al., 2007; Phang et al., 2008; Saatchi, 2006; Zollo & Winter, 2002). Consistent with the above arguments, there are some common themes in the set of definitions that a changing environment forces learning, and knowledge obtained from learning can be shared among participants who can take advantage of it while organizational learning can help the organization to manage a changing environment and finally improve its performance. Some researchers defined the phenomenon of organization learning as a continuous process of creating and using knowledge (Huber, 1991; Phang, et al, 2008; Slater & Narver, 1995). The destination of those processes is the learning organization defined as where organizational members obtain knowledge from the organization's previous experiences along with well working practice of other members and then transfer that knowledge to be their working method in order to achieve the effective work result (Saatchi, 2006). The next part of this point is a discussion to discover the levels within an organization in which learning occur.

2.3.2 Core Elements of Organizational Learning

Some researchers recognized organizational learning as the process that an organization operates to become a learning organization (Argyris & Schon, 1978; McLean, 2006). Through the 1980s and 1990s, there had been plenty of conceptualizations of organizational learning. However, the most important idea from these definitions is that organizational learning is the process of developing and sharing new knowledge and understanding at all levels of the organization, which is the essential way for the organization to achieve sustainable competitive advantage, mainly in the knowledge-driven society (Levinthal & March, 1993; Slater & Narver, 1995; Stata, 1989). The integrated understanding of the organizational learning model is described in this section.

Successful learning occurs when the organizations engage in four processes including discovery, invention, production, and generalization (Argyris et al., 1978). The details are discussed in the following sections.

Discovery is a process in which the organizational members identify problems or threats and opportunities. Besides, it is a process that unmatched between the current state and the desired state causing a gap. This perceived gap drives learning in the organizations (Nonaka & Johansson, 1985; Senge, 1994). Discovery processes are involved with an organization's efforts to identify performance gaps, to raise aspirations, or to scan the internal and external environments for opportunities and problems.

Invention is a process that comprises problem solving and decision making activities to reduce errors detected in the discovery process (Crossan et al., 1999). It is generally associated with the cognitive processes although new behaviors and organizational strategies may be created without mindfulness of planning (Mintzberg, 1991).

Production is an effort to enact the invented solutions. Any model of organizational learning must include the actions taken by the members to produce the inventions or to enact the discoveries. Actions could include, for example, trying a new approach to solve a group conflict, experimenting with a new production process, or rolling out a new product (Snyder, 1996).

Generalization is a process to apply knowledge that had been discovered, invented, and produced to other relevant situations (Argyris et al., 1978). Codification, standardization, and institutionalization processes could generalize knowledge across people and time through embedding it in the organization's systems, procedures, and products (Nevis et al., 1995).

Huber (1991) claimed that more organizational learning occurs when more of the organization's components obtain this knowledge and recognize it as being potentially useful. The processes which the organizational members obtain knowledge through the organization are processes of knowledge acquisition, information distribution, information interpretation, and organizational memory.

Knowledge acquisition refers to the process in which knowledge is obtained. Human resource can acquire information from both formal and informal activities (Dixon, 1992; Huber, 1991). Some examples of these activities are doing surveys or research and development activities, reading newspaper or listening to news.

Information distribution refers to the process of sharing knowledge from the different sources leading to more broadly based organizational learning. The organization should manage knowledge transfer process for not only new knowledge but also new understanding (Huber, 1991; Santos-Vijande et al., 2012).

Knowledge interpretation is the process of translating the meaning of information. Organization learning has occurred in both conditions, all units of the organization develop a common interpretation about an item of information, and all units interpret the information differently (Dixon, 1992; Wang & Ellinger, 2011).

Organizational memory is the mean by which the organization's information is stored for decision making used in the present and the future (Dawson, 2007; Huber, 1991; Lopez et al., 2005).

This study also adapted organizational learning on the concept of extending the potential behavioral range by processing information. Moreover, the reviewed of organization learning study found that the process of information can be more or less elements depended on the context of the organizations (Kalkan, 2006; Kitapci et al., 2012).

Knowledge acquisition and knowledge interpretation

Knowledge acquisition and interpretation is ability to continue improve organization performance. In this perspective acquiring the knowledge and interpreting or usage of it should be thought together (Nevis et al., 1995; Teo and Wang, 2006). First, the organization should specify which knowledge is necessary and should be ensured. Besides, acquiring of the knowledge should be a continuous process. Huber et al. (1991) also stated that the continuous improvement of knowledge to match of organization need is the key point for the organization. Nonaka and Takeuchi specified that acquiring knowledge has a loop effect and increasing the total knowledge of the organization (Nonaka and Takeuchi, 1995). Getting the new knowledge into organization and interpreting then storing it will facilitate acquiring new knowledge (Argote, 1999; Huber, 1991).

Knowledge distribution and knowledge spreading

Huber (1991) stated that reaching the information from different sources will spread the organizational learning concept (Huber, 1991). Sinkula (1994) , at the same time, stated that communication with other departments is necessary for generating the knowledge, and also pointed out that it is one of the important dimensions of learning capacity (Teo and Wang, 2005). Disseminating the knowledge is one of the fundamentals, which make that knowledge valuable for the organization (Nonaka and Takeuchi, 1995). The organizational culture should also allow sharing the knowledge. Besides these, there are lots of tools to share the knowledge (Teo and Wang, 2006). Each tool may load different meanings to the knowledge, which would enrich application alternatives. Unless Information sharing and dissemination orientation, the organization will not be able to absorb the knowledge. Furthermore, the experiences were also important which will be shared within the organization for organizational learning (Kalkan, 2006). It will be more effective as the knowledge will be shared and used in different areas within and outside the organization. This will ensure being adapted to new technologies and other environmental conditions (Huber, 1991; Nevis et al., 1995; Teo and Wang, 2006).

2.3.3 Research Ranges of Organizational Learning

The paradigm of organizational learning has been expressed for more than fifty years (Wang & Ellinger, 2011). There is a harmony of the studies that organizational learning could be exogenous and endogenous, methodical and emergent, and it can take place at various levels in the organization (Bapugi & Crossan, 2004). Frost (2010) cited that Chris Argyris and Donald Schon are two of the most noteworthy contributors to the field of organizational learning theory. According to Argyris and Schon (1974) who defined organizational learning as the perception of errors and then processing for fixing, the researcher argued that people have mental maps regarding on how to act in given situations (Frost, 2010). This involved the way they plan, act and review their actions (Smith, 2001, 2011). Furthermore, they declared that these maps are the guide for the organizational members' actions rather than the theories they explicitly espouse. To understand an approach based on the organizational learning theory, the study of these two modes of operation, including espoused theory and theory-in-use, had to be considered (Frost, 2010).

Espoused theory refers to the formalized part of the organization. Every organization tends to have various instructions concerning the way employees should conduct themselves in order to carry out their jobs. These instructions are often specific and narrow, and they are a major role in shaping the individual to a set path of their work activities.

Theory-in-use is the actual way employees have done their jobs. Despite the espoused theory, employees always rely on an interaction and brainstorming to solve a problem. Theory-in-use then refers to the revision, adaptation, and socialization way that employees learn and apply for problem solving.

Argyris and Schon (1978) also proposed that organizational learning is a product of organizational investigation meaning that whenever the expected outcome differs from the actual outcome, an individual (or group) will engage in investigating to understand and, if necessary, solve the problem. The process of organizational investigation is a chance for the individuals to interact with other organization's members, and learning takes place here. Besides, they emphasized

that this interaction often gets along with organizational rules and procedures (Crossan et al., 1999).

Argyris and Schon (1996) investigated that there are three levels of learning which the members present in the organization (Crossan et al., 1999; Frost, 2010). The first level is *single loop learning* relying on the way of the detection and correction of specific error (Frost, 2010). This type consisted of one feedback loop on investigation where something go wrong, and it is suggested to call for many people to look for another strategy which would address and work within the organization. The result is that the strategy will be modified in response to an unexpected result or error correction. The second level is *double loop learning* which mean learning as the result in a change in theory-in-use (Crossan et al., 1999; Frost, 2010). The values, strategies, assumptions, and actions of all directed and related processes are changed to create a more efficient environment. The last level is *deutero learning* which is learning about improving the learning system itself (Crossan et al., 1999). Learning how to learn is a term to clearly explain *deutero learning*. This learning level is composed of structural and behavioral components which determine how learning takes place.

The three levels of learning can be closely linked to the concept of learning organization that Senge (1994) had obviously explained particularly regarding the understanding of mental models to improve learning processes (Senge, 1994).

Mental model is a scheme for developing the organizations' capacity, involving either learning new skills or implementing them so as to bring these skills into a regular practice. Many of good ideas occurring in the organization fail to put this into practice because they are conflicted with deeply held internal pictures on how the world works, and these internal images limit the workforces to the familiar ways of thinking and acting. Then, the discipline of managing mental models, consisting of surfacing, testing, and improving the internal pictures of how the world works, promises to be a major breakthrough for building learning organizations. Obviously, mental model contains data, information, and knowledge of task demand and task performance used for solving problems.

Senge (1994) believed that learning organization must precede their activities in accordance with “The Fifth Discipline.” This is a *personal mastery* which is a discipline of continually clarifying and deepening one’s personal vision, of focusing one’s energies, of developing patience, and of seeing reality objectively, *mental models* referring to an individual pattern of thinking, *building shared vision* which is a practice of unearthing shared pictures of the future that foster genuine commitment and enrollment rather than compliance, *team learning* starting with dialogue, the capacity of members of a team to suspend assumptions and enter into genuine thinking together, and *systems thinking* which need the disciplines of building shared vision, mental models, team learning, and personal mastery to realize its potential.

In addition, there are various disciplinary perspectives presented in the literature review on organizational learning (Easterby-Smith, 1997). Hong (2003) classified three ranges of organizational learning research, namely: cognitive structures, organizational adaptive process, and social practices.

The first research stream is cognitive structures. It concerns with the way that individuals use knowledge structure, schemata, or mental models to interpret and understand the organization’s circumstance for the desired consequence in order to reduce any uncertainty and create new meanings (Porac, Thomas, & Baden-Fuller, 1989; Senge, 1994). There are many conceptual tools which have been adopted to show the different structure and cognitive elements, and the relation among them such as cognitive styles (Hayes & Allinson, 1994), mental models (Kim, 1994), mindsets (Prahalad & Hamel, 1990), and cause-mapping (Laukkanen, 1994).

The second research stream is organizational adaptation which focused on the improvement processes and the development behavior of the organizations in response to the environmental change. This research stream is on the concept of finding methods and mechanisms for the organizations to be able to learn from their own and from other’s experience in guiding their future behavior (Ingram & Baum, 1997). The logical models are proposed to simulate the learning environment and capture the sequence of environmental adaptation and internal decision-making

routines (Lant & Mezias, 1990). Daft and Huber (1987) indicated four modes of organizational learning framework which can be used to specify the essential information for organizational learning when an organization is attempting a change effort. Organizational learning can occur through the information process model together with HRD professionals' role as learning's facilitators (Huber, 1991; Dixon, 1992). Then, the different mechanisms to convert information to actionable knowledge at individual and organizational systemic levels were found by Popper and Lipshitz (2000). Lipshitz, Popper, and Friedman (2002) developed a conceptual framework which has the advantage of considering structural, cultural, psychological, policy, and conceptual factors in its explanation of organizational learning. These factors complement each other in developing productive organizational learning. Furthermore, there is an argument that the cognitive perspective has been generally recognized in organizational learning models, but few researches have examined organizational learning by using a contingency approach (Gnyawali & Stewart, 2003).

The third research stream is social practice whose purpose is to seek a better understanding of the broad practice encompassed by the participants of different societies and the effect on learning through the investigations of their verbal accounts and comparisons of different perspectives (Carroll, 1998). The studies focused on the ongoing process of participation within the social and physical context. In order to address the relational dynamics between the old members and newcomers, the context of activity that people engage in, with the aim of the a way out for operations was considered (Chaiklin, 1993). Song and Chermack (2008) and Yoon, Song, and Lim (2009) stated that individuals play a key role in the establishment of organizational knowledge through the sharing of learned knowledge and experience, which finally spread to group level and organizational level learning processes.

2.4 Organizational Success

Organizational performance is a concept that has been subjected to many definitions (Abu-Jarad, et al., 2010). Performance can be defined as the consequences of

the organizational management or accomplishment of organizational goals (Mahmood, et al.,2015). Performance consists of the famous 3Es which are economy, efficiency, and effectiveness of an organization program or activity (Abu-Jarad, et al., 2010).. Performance prism is another performance measurement system that comprises five perspectives: stakeholder satisfaction, strategies, processes, capabilities, and stakeholder contributions (Youngbantao & Rompho, 2015). Different studies measure organizational performance use various factors, for example financial performance, process performance, market performance, and innovation performance.

Both academicians and business managers examine their performance to indicate most branches of management, including strategic management success (Ozuahin, Zehir, & Acar, 2011). Despite the fact that the concepts of improving and managing organizational performance are widely available, the academic community has been discussed and debated on the issues of terminology, the levels of analysis (e.g. individual, group or organization as a whole), and the conceptual bases for an assessment of performance (Venkatraman & Ramanujam, 1986). Venkatraman and Ramanujam (1986) classified two dimension bases for the assessment of performance. The first scheme is to distinguish financial and operational indicators, and the second scheme is to differentiate between primary and secondary sources of information. The researchers defined that financial performance is related to accounting measures and economic performance (e.g. sales, ROE, and ROA) while operational performance is related to operational success factors partly leading to financial performance (e.g. customer satisfaction, market share, and new product development level). The second scheme is the source of information. The primary data are directly collected from the organizations by using the questionnaire or from observation whereas the secondary data are collected from the external or unoriginal databases. Kaplan and Norton (1996) have proposed a method for capturing and organizing the results that an organization generates, and this known as the balanced scorecard. The balanced scorecard is an innovative and holistic approach to organizational outcomes management. Through the balanced scorecard it is possible not only to measure performance, but to manage it. The balanced scorecard incorporates four perspectives:

financial perspective, customer perspective, internal processes perspective and innovation and learning perspective (Andreadis, 2009).

The variables of organizational performance which can indicate an organization success should be measured from the bottom-line results of that organization (Wang et al., 2002). Katuo (2009) proposed the indicators for organizational performance variable measure construct which is indicated by the items such as effectiveness (if the organization meets its objectives or not), efficiency (if the organization uses as fewest as possible resources to meet its objectives or not), development (if the organization can develop its capacity to meet appropriate future opportunities and challenges or not), satisfaction (if the organization can meet all participants desire – customers, owners and investors, employee, and society), innovation (if organization can develop new products and processes or not), and quality (percentage of high quality products).

On the other hand, performance outcomes are measured by the organization achievement of customer service orientation and rewards offered to employees, and they can be used as a customer service orientation, a sense of pride in work industry, a self-reported performance, and a number of promotions to point out an organization success (Chow, Lo, Sha, & Hong, 2006).

2.5 Organizational Learning and Organizational Success

The association between organizational learning and organization success or performance is that organizational learning is either endogenous or exogenous. On one side, Huber (1991) reviewed organizational learning literature and found the wonder of the concept that when organizational researchers think about organizational learning, they often think of it as a deliberate process which an organization attempts to improve its effectiveness. On other side, some researchers (Argyris & Schon 1996; Fiol & Lyles 1985) had implied that organizational success expressed by an enhancement of organizational effectiveness could help claim that organizational learning has occurred. The researchers studying on organizational learning found that organizational learning capacity could enhance an ability which finally increases the firm's performance (Fang et al., 2011; Kitapci et al., 2012;

Murray, 2003). Similarly, Pham and Swierczek (2006) explored that an organizational learning that enhances the organization's knowledge can be managed to contribute to the firm's innovation performance. In addition, the researchers who studied on organizational learning capacity have normally emphasized on the factors affecting its role on increasing the organizational performance (Hult & Ferrell, 1997; Hult et al., 2001; Nevis et al., 1995; Teo et al., 2006). It is obvioued that organizational learning has an effect on creating both exploratory and exploitative innovations and finally affects the organizational performance (Chen & Chen, 2010; Van Deusen, 1997; Kitapci et al., 2012). Organizational learning is a direct effect towards creating useful knowledge for the organization to achieve the organizational goals such as productivity or innovation by thoroughly sharing of experience and the reflection on practice (Easterby-Smith, 1997).

Recent research could express more in details that there is a significant effect of organizational learning on both individual- and organization-level innovation performances (Wang et al., 2011). Similarly, there are researches showing that exploratory and exploitative studies have positive relationships with the organization's financial performance (Jansen et al., 2006).

There are several items required to be taken into consideration including organization strategies (Horwitz, 1999), firm size and industry (Jacobs, 1997), staffing strategies having an impact on training strategies (Noe, 2002), and organizational culture (Baldwing & Danielson, 2007). The contingency model argued the universalistic model that an organization's human resource management of policies and practices will be effective if it is consistent with other organization strategies (Wood, 1999). Organizational context is expected to be negatively (Trompenaars, 1993) or positively (Budhwar and Sparrow, 1997) associated with human resource management of policies and performance. Moreover, Ferris et al. (2009) indicated that the impact of HRD on organizational performance is positive and moderated by organizational strategies.

2.6 Thailand's Higher Education Institutions

This last section contained the description of four constructs consisting of Thailand's higher education system, the types of higher education institutions, the quality assurance system of Thailand's higher education institution, and internal and external quality assurance.

2.6.1 Thailand's Higher Education System

Thailand's higher education system is mainly provided in the universities. Higher education in Thailand falls under the supervision of the Office of the Higher Education Commission (OHEC), Ministry of Education. It was divided into two levels, the associate degree and the degree levels.

Higher education in the associate degree or diploma level is mainly offered by either state or private colleges. The majority of courses offered were related to vocational education requiring two years of study. The degree level however, supported the study program which required two years of study for the students who have completed a diploma course and wish to study further, and four to six years of study for the fresh graduates of secondary school education or equivalent courses (International Business Publications, 2011).

2.6.2 Types of Thailand's Higher Education Institutions

Thai higher education institutions could be classified into six categories which were: 1) public universities and institutions under the supervision of the Ministry of Education, 2) Rajamangala Universities of Technology, 3) Rajabhat universities, 4) autonomous universities, 5) private universities and institutions and colleges, and 6) community colleges under the supervision of the Ministry of Education.

There were fourteen public universities and institutions under the supervision of the Ministry of University Affairs, consisting of twelve universities and two institutions. Moreover, there are nine Rajamangala Universities of Technology and forty-nine Rajabhat Universities. Meanwhile, there were also fourteen autonomous universities, and these comprise one specialized institute, which was the Mahachulalongkorn Buddhist University. Besides, there were forty private universities and institutions and twenty three private colleges. The last category was amount as twenty (Office of the Higher Education Commission, 2012).

2.7 Quality Assurance System of Thailand's Higher Education Institutions

The Office of the Higher Education Commission (2011) indicated that the higher education institutions in Thailand have four main missions: 1) to organize teaching and learning process; 2) to conduct research studies; 3) to provide academic services to the society; and 4) to preserve arts and culture. A quality assurance system was needed for the higher education institutions to achieve these missions and to meet both short-term and long-term objectives to develop the nation. Additionally, there were many internal and external factors accentuating the need for a higher education quality assurance system. First of all, the quality levels of higher education institutions and graduates tended to be inequitable due to increasing numbers of newly established institutes, and there was the intense competition for the quality of educational higher education institutions. Moreover, the higher education institutions needed to develop the body of knowledge in order to gain recognition in the global educational community for future international cooperation and national development as well as to establish confidence in the community in order to produce capable graduates to compete in the international context. Besides, the higher education institutions had to provide public information for the benefit of students, employers, parents, government, and the citizens while the society demands for a transparent and accountable higher education system. In addition, the National Educational Act 1999 (2nd amendment in 2002) required all education institutions to establish the internal quality assurance system while the office of the National Education Standards and Quality Assurance certifies educational standards and assesses that the institutes' quality is established. Furthermore, the cabinet agreed in the meeting held on October 26, 2004 to establish the sets of National Education Standards proposed by the Ministry of Education. Every education institution at every level was subjected to use these standards as their guidelines for education administration. Finally, the Ministry of Education later announced the Higher Education Standards on August 7, 2006 to be employed as the national framework to implement standard systems for all units in the higher education institutions.

2.7.1 Internal and external quality assurance

The quality assurance system of Thailand's higher education institutions fell under two offices: 1) the supervision of the Office of Higher Education Commission (OHEC), which is a controller of internal quality assurance, and 2) the Office for National Education Standard (ONES), which is a controller of external quality assurance.

Internal quality assurance system was related to input, process, and output of higher education institution assessment whereas external quality assurance system was emphasized on the result of education administration. Naturally, the two standards of quality assurance assessment criteria and process were practically congruent as expressed in figure 2-1.

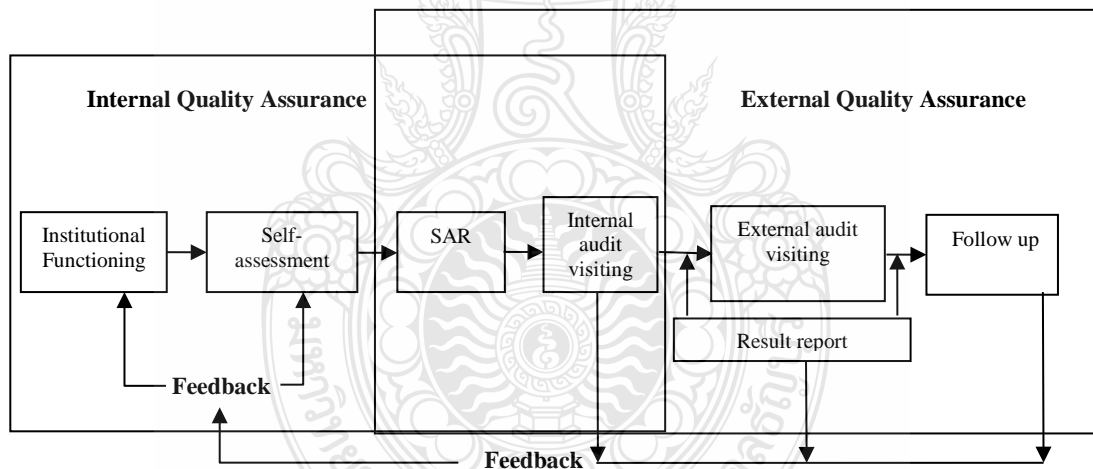


Figure 2.1 Relationship between Internal Quality Assurance and External Assessment

As shown in figure 2.1, when the educational establishments had completed the necessary actions for internal quality assurance, SAR was prepared. This report, based on self-review, would be submitted to the committee and the parent organization and would be prepared for the external assessment. The report facilitates the task of external assessors in planning on the purpose of collecting and analyzing relevant data.

The external assessment exercise could consequently be completed in a relatively short time period. Self-evaluation was indeed an essential tool for external quality assessment. It is emphasized that self-evaluation not only mean the collection and analysis of data, it also means showing the teaching results, research and social services provided. It also included a review of all aspects pertaining to administration and management of the educational establishments.



CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provided the discussion of the research methodology with a view to answer the research questions and hypotheses. The discussion is as follows: research design, population used and sampling, data gathering, research instrumentation, measurement, validity and reliability, result methodology, and the analysis sequence.

3.2 Research Design

This study had the aim of investigating the effect of organizational learning at the whole organization level on the success of an organization with regard to its effectiveness and innovation schemes. The main theories of the study were firstly, organizational learning, exploring the three constructs of knowledge acquisition and knowledge interpretation; knowledge distribution, and organizational memory. Secondly, the success of an organization in terms of three components: process effectiveness success, innovativeness success and outcome effectiveness success.

The study applied quantitative methods to investigate the different hypotheses. The scores collected for this study were from various academic faculties within Thailand's higher education quality assurance (QA) system in the academic year 2012 (June, 2012 – May, 2013). The main source of secondary data was gathered from the database of Higher Education Commission (OHEC) which is under the standard of two institutions: the Office of Higher Education Commission (OHEC) and the Office for National Education Standard (ONES).

3.3 Population and Sampling

The study focused on higher education institutions in Thailand and the population is taken from the faculties within these institutions. The universities have been classified into five categories. First, were those private universities and institutions that come under the supervision of the Ministry of Education (MoE) and comprise of two hundred and nineteen faculties operating during academic year 2012. Second, were

the public universities and institutions that are also under the supervision of the MoE with one hundred and sixty six faculties operating during academic year 2012. Third, were the Rajamangala Universities of Technology with fifty nine faculties operating during academic year 2012. Fourth were those autonomous universities with sixty faculties operating during academic year 2012. The fifth category are the Rajabhat Universities with one hundred and seventy one faculties operating during academic year 2012 (www.cheqa.mua.go.th, 2013).

Regarding the sample size, Hair et al. (2010) suggested two assumptions for a research sample size. These are guided by conceptual and practical considerations that suggest an adequate sample size can be obtained for the number of variables to be examined. As a general rule, the minimum sample size should be at least five times that of the number of observed variables to be analyzed, and the more acceptable sample size would be a 10:1 ratio. According to this theory, the study initially targeted the population with approximately six hundred faculties of higher education institution.

3.4 Data Collection

This study emphasized on a quantitative research where data were gathered from the database of OHEC on the standard of two institutions, the OHEC and the ONES, both of which hold the responsibilities on the internal and the external academic quality assurance control. The data were during the academic year 2012.

3.5 Research Instrumentation

The key instruments of the study were secondary data gathering from academic quality assurance scores on the standard of two institutions which hold the responsibilities on the internal and the external academic quality assurance control: OHEC, and the ONES. All variables were collected from an academic quality assurance control standard scale. Therefore, data for all variables of this study were secondary data gathered via CHE QA online system. Besides, the data were secondary data assessed by coding method to be the proxies for each study variable. Research

exogenous and endogenous variables were totally proxied by the higher education quality assurance codes.

The scores of all the criteria of individual faculty databases were not only from their own internal assessment but also derived from an internal and the external auditing committee adjustment.

The data used for measuring the relationships among variables had been derived in terms of indicator scores from the academic quality assurance criteria.

3.6 Abbreviation

Table 3.1 List of Abbreviations

Construct	Abbreviation
Organizational learning	OL
Knowledge acquisition and knowledge interpretation	KA_KI
Organizational memory	OM
Knowledge distribution	KD
Organizational success	OS
Process effectiveness success	PES
Outcome effectiveness success	OES
Innovativeness success	IS

3.7 Measurement

3.7.1 Independent Variables

Organizational learning

OL referred to the result of the organization's members concerning an involvement in distribute experience and knowledge that lastly transforming to the organizational proficiency of adapting and responding to changing environment (Phang et al.,2008, Aragón et al.,2007, Zollo 2002). These variable measurements consisted of

the three constructs of organizational learning mentioned earlier. KA_KI refers to the process during which knowledge is obtained. Human resource can acquire information from both formal and informal activities (Dixon, 1992; Huber, 1991). Examples given are surveys or research and development activities, reading newspaper, or listening to news. In addition use and translation of the meaning of information is a second element of this process. Organizational learning has occurred under and within both, and all units in an organization tend to develop a common interpretation about an item of information and yet can interpret the information differently (Dixon, 1992; Wang et al, 2011). OM is the mean by which organization information is stored for decision making in both the present and future (Dawson, 2007; Huber, 1991; Lopez et al, 2005). KD is the process of sharing knowledge from the different sources leading to a more broadly based organizational learning. Organizations should manage knowledge transfer process for not only gaining new knowledge but also for new developing understanding (Huber, 1991; Santos-Vijande et al., 2012).

This study complied each indicator of the faculty quality assurance which defined as 1 and 0 for presence and absence of data collection in each indicator respectively.

Knowledge acquisition and knowledge interpretation

KA1 was a five item summation of the academic QA scores of: 1) a survey of the characteristics of graduates at the bachelor level as required by graduate users, and were conducted regularly for every curriculum according to the learning and teaching plan of the curriculum; 2) the adequacy of 'in place' university systems and mechanisms for curricula development and revision. Under the leadership of the Academic Affairs Department, all curricula should be facilitated in terms of curriculum evaluation and modification; 3) university systems and mechanisms for opening and closing any curriculum according to the OHEC regulations, and whether there is a plan in place for lecturer management and development in terms of academic content, teaching techniques and methodologies as well as learning assessments; 4) university plan for human resource management and development with an empirical data analysis, and 5) assessment of the success of the management plans, lecturers and supporting personnel development plans.

KA2 was a seven item summation of the academic QA scores of: 1) the development of research or academic work potential and provision of knowledge on research ethics for full-time lecturers and researchers; 2) implementation of the results evaluation in support of the mission statement on research or creative works of a faculty; 3) the surveys of community needs from the public and private sectors or professional organizations to determine the directions and set up plans for academic services in line with the mission statement of a faculty; 4) the cooperation between the academic services to aid learning and strengthening of the community, public and private sectors as well as professional organizations; 5) the evaluation of the implementation of the integration of academic services and teaching/ learning and research activities; 6) the evaluation of success of integration of the promotion of Thai arts and culture in learning and teaching management and students' activities, and 7) the evaluations of the implementation and the impact of academic services.

KA3 was a four item sum result of the academic QA scores of: 1) assessment according to the objectives of the student activities development plan; 2) projects or activities which promote the ethics and morals of students, based on indicators and objectives as specified, where the assessed results of the achieved criteria exceeded 90 percent of the indicators; 3) participation in the education QA by all parties concerned, particularly students and graduate users, which included service users according to the mission of the faculty, and. 4) the system to promote creation of a QA network for the exchange and transfer of knowledge outside the institution through mutually organized activities.

KI1 was the six item sum result of the academic QA scores of: 1) the results of the surveys of the characteristics of graduates as used in curriculum improvement, teaching and learning, evaluation of learning, and the learning achievement level, which enhance career skills and quality of the graduates; 2) developments and improvements to/for teaching and learning, teaching strategies, and evaluation of learning of all courses; 3) the application of knowledge derived during the current or previous academic year (explicit knowledge), and knowledge derived from skills and experience (tacit knowledge) where this knowledge was

utilized to improve actual work. 4) lecturer and human resource management and development aligned with the set plans; 5) the follow-up system of the lecturers and staff to ensure that after the skills are acquired from the development program, they would be employed in the teaching and learning methodologies and in assessing the learners and other related tasks, and 6) the results of the assessment used for improving the lecturers, human resource management and development plans support.

KI2 was a five item sum result of the academic QA scores of: 1) the management system and the mechanism for research and creative works to achieve the objective of the institution's research plan and its implementation based on the outlined system; 2) the funding allocation of the institution for creative and research work grants; 3) the faculty use made of the assessment results from the research support systems to support the research and creative works mission; 4) the system and mechanism when/for collecting, selecting, analyzing, and synthesizing the knowledge gained from research or creative works to provide the know-how and system for the general public to follow, and 5) the system and mechanism for the utilization and assistance in the protection of research and academic works rights with laid down system.

KI3 was a six item sum result of the academic QA scores of: 1) the guidelines as prepared for the promotion of student activities aligned with the higher educational level characteristics for graduates according to the standard qualifications; 2) written documentation concerning a students' ethical and moral behavior; 3) projects or activities which promote and develop the ethical and moral behavior of students, which includes comprehensible indicators and success objective measurements; 4) activities provided at the undergraduate and graduate level by the institute for students that promote ethics and morals; 5) policies formulated, and the importance attached, to the internal QA by the policy – making body and the top executives of the faculty, and 6) the result of an internal education QA that should take into consideration working improvements, and thus lead to the development of operational results in line with all the indicators defined under the strategic framework.

Organizational memory

OM1 was the academic QA score for the full-time lecturers holding doctoral degrees.

OM2 was the academic QA score for the full-time lecturers holding academic titles.

Knowledge distribution

KD1 was a four item sum result of the academic QA scores of: 1) the formulation of issues relating to the knowledge and the goals of knowledge management, which are strategically in line with the faculty mission to produce graduates and carry out research; 2) promotion of human resource development aiming to expand both the faculty's and staff knowledge and skill potential to produce quality graduates, demonstrating they had completed research on the issues of knowledge and goals of knowledge management as outlined in the strategy of the faculty mission for producing graduates and doing research; 3) their policy for sharing and exchanging the faculty and staff's knowledge, experience and skills (tacit knowledge) with a view to finding the best practices relating to those issues of knowledge and goals of knowledge management outlined in the faculty strategy for producing graduates and doing research, and 4) curriculum management measured against the standard criteria and framework of the higher education curriculum requirement and key performance indicators to assure the quality of the curriculum and teaching-learning activities.

KD2 was a four items sum result of the academic QA scores of: 1) knowledge development from academic services, and knowledge transferred to staff, within the institution and to the general public; 2) the integration of the research or creative work process through learning and teaching management; 3) whether the research results or the knowledge management process were used to improve the provision of teaching and learning in curriculum development; 4) the system and mechanism supporting the dissemination of research results and creative works from academic conferences and publications in national and international journals and that there was dissemination of research results or creative works at academic conferences in both national and international arenas.

KD3 was a five items sum result of the academic QA scores of: 1) information regarding the ethics and behavior of students with the aim of promoting moral development by the administration, lecturers, students, and individuals concerned as indicated and publicized; 2) the knowledge of ethics provided and practiced by lecturers and human resources staff; 3) the efficiency of education QA practices and research studies, which were developed by the institution, and which should be publicized and disseminated for the benefits of other work units; 4) those activities that provide quality assurance knowledge and skills to students, and 5) student quality development networks within and among faculties and the university.

KD4 was a five item sum result of the academic QA scores of: 1) the system and mechanism for academic services implementation; 2) the level of integration of academic services and teaching/learning activities; 3) the integration of academic services and research activities; 4) the evaluation of the results which were used to improve the integration of academic services, teaching/learning and research, and 5) the evaluation of the results of those/the academic services that is/are used to develop the system and mechanism or academic service activities.

3.7.2 Dependent Variables

Organizational Success: The consequences of the organizational management or accomplishment of organizational goals (Mahmood, 2015). The three constructs of organizational learning are process effectiveness success, outcome effectiveness success, and innovativeness success (Norton and Caplan, 1996; Andreadis, 2009).

Process effective success: the total of lecturers' development and the result of quality assurance QA

Outcome effectiveness success: has been collected from the academic QA score; the sum results of employed bachelor degree graduates and the result of surveys of graduate qualities from an evaluation by graduates.

Innovativeness success

IS1 was the academic QA score used for research or creative works.

IS2 was the academic QA score for the quality approved for academic works.

3.8 Result Methodology

The methodology used to analyze the result of this study was separated into three analytical steps. The first step involved the descriptive statistics for quantitatively describing the main features of data collection. This beginning step aimed to summarize a set of the samples such as frequency, percentage, and standard deviation. The second step is the measurement reliability and validating and it provides a standardized factor loading and error variance terms for the validity and reliability of the calculated study model. The third step is factor analysis for testing the interrelationship among the variables in an effort to find a set of appropriate variables for the structural equation modeling (SEM) analysis in the subsequent step. The final step is the structural theory which was represented by specifying the set of the relationship between the studied construct in the model with a structural model.

3.8.1 Reliability and Validity

Reliability

This study had analyzed the degree to which a set of indicators, of a latent construct, is internally consistent with their measurements using Cronbach's alpha. The lower limit of acceptability is considered to be above 0.70 is accepted for the study (Hair et al., 2010).

Validity

A validity test had been employed in this study in order to ensure that the instrument measures what it is intended to measure and to confirm that there is a relationship between a construct and its indicators (Babbie, 2007). Validity refers to a match between the research data collected and the concept that the researcher wants to examine in the research model (Gray, Williamson, Karp, & Dalphin, 2007; Denscombe, 2010). Three validity tests were applied in this study consisting of content validity, construct validity, and Confirmatory Factor Analysis (CFA)

Content validity was conducted to investigate the correspondence between the individual items and the concept through ratings by the expert judges (Hair et al., 2010). Five professional raters who are experts with the constructs of attention were asked to evaluate the quality of the proxies to ensure the content validity.

Construct validity could be referred to as the ability of a measure to confirm a network within related hypotheses generated from a theory that is based on the concepts (Zikmund, 2003). This study had assessed the construct validity by examining the convergent validity and discriminant validity.

Convergent validity testing verifies indicators can be represented into latent variables. In other words, convergent validity examines the degree to which the measurement is similar to other measurements to which it should theoretically be similar. In this study, convergent validity had been assessed by factor loading. The factor loading of all items should exceed 0.6 and factor loading 0.3 to 0.4 are considered to meet the minimal level for interpretation of structure (Hair et al., 2010 : 117).

Discriminant validity testing is performed to shows that an observed variable represent on the same latent variable and is not associated with other observed variable of the other latent variables. It provides evidence that the construct is unique and captures some phenomena that are not similar to other constructs.

Besides, the correlation between constructs and the correlation between observed variables were used to determine whether constructs in measurement model were empirically distinguishable in this study. A large correlation value greater than 0.85 suggests a lack of discriminant validity (Kline, 2010)

The following figures 3.1, 3.2, and 3.3 show the theoretical model for measurement and the structural theory of the study, respectively. Figure 3.1 expressed the study confirmation analysis model for latent variables. Figure 3.2 was for SEM of hypotheses1 testing, and Figure 3.2 was for SEM of hypotheses 2-4 testing

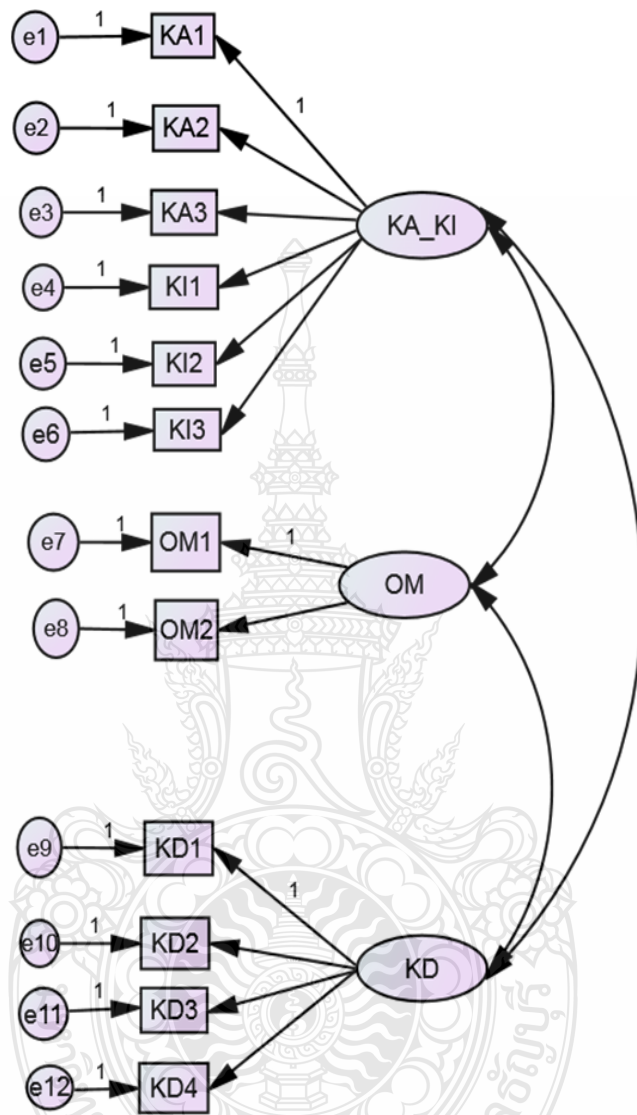


Figure 3.1 The Study Confirmation Analysis Model for Latent Variables

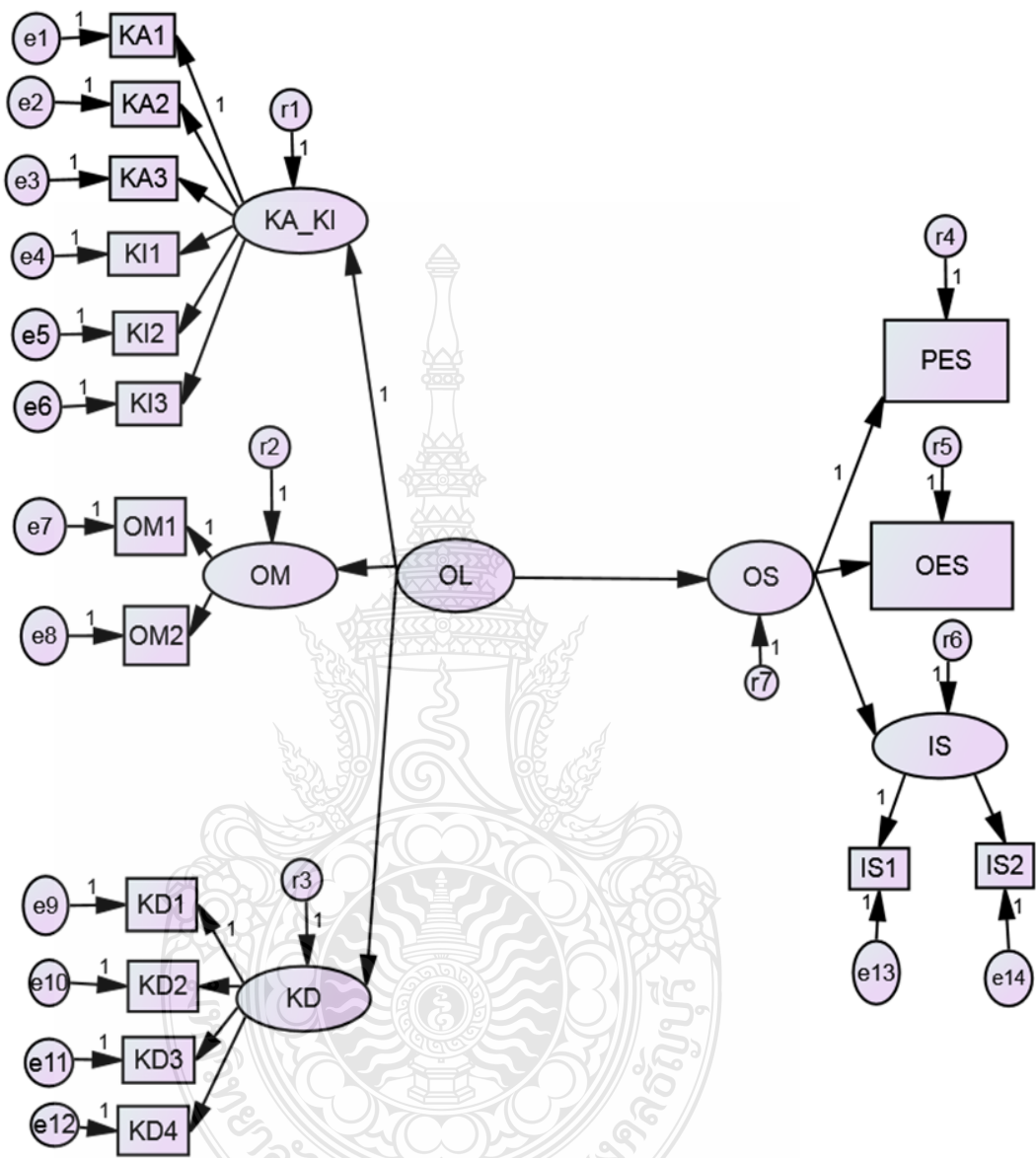


Figure 3.2 The Study Structural Model 1

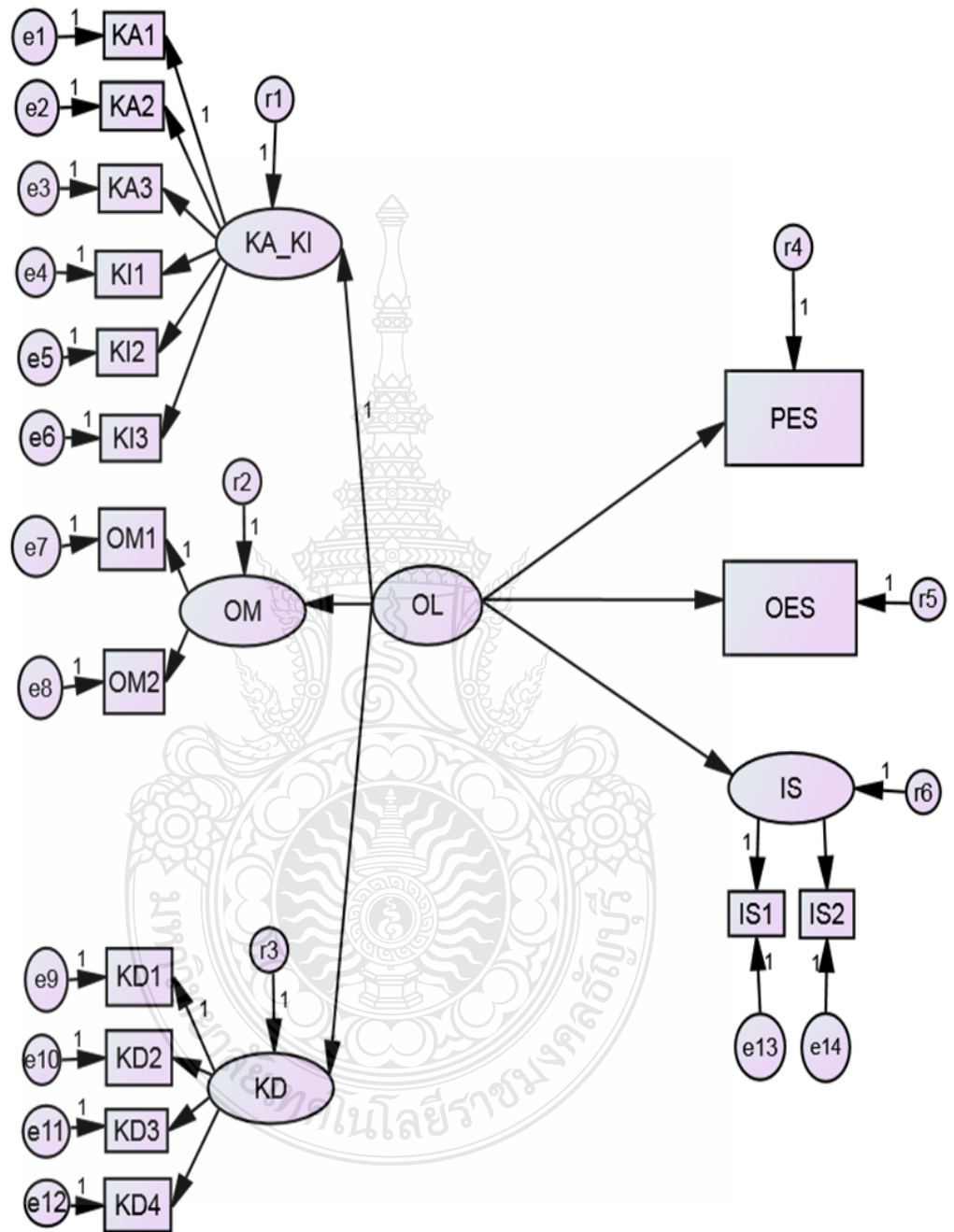


Figure 3.3 The Study Structural Model 2

3.9 Sequence of Analysis

The sequence to the analysis of this study expressed a process of data analysis after collecting all necessary data from the population. The process of the analysis is described as follows.

Data screening process The process began with editing, coding, and getting the data ready for the multivariate analysis. The data screening process used in this study enhanced the interpretation of the research results and helped the researcher become familiar with the data set as well as the relationships between the variable under investigation (Sekaran & Bougie 2010). Several sources of data needing examination and needed to be converted into a format suitable to answer the research questions (Zikmund, 2003).

Data analysis process The SPSS, a statistical analysis program for PCs, was used to analyze the descriptive statistics for quantitatively describing the main features of the collected data, frequency, percentage, standard deviation, minimum and maximum value of each variable.

The AMOS program has been used, the objective of which was, to discover the best model that makes theoretical sense, and has reasonable statistical correspondence to, the structural equation model (SEM). In addition it aimed to test the study model of the hypothesis used for testing the proposed measurement and structural model of the study (Kline, 2010).

The SEM was analyzed by investigating and examining the effects between the latent variables and the statistical significance of the parameter estimates for the path between the latent variables.

Investigation of **H1**: There is a positive effect of organizational learning on organizational success. The structural equation model (SEM) was used to reflect the direct effect of OL on OS. The study structural model I (Figure3-2) was SEM model to investigate the direct effects between the latent variables OL and OS. The statistical significance of the parameter estimates for the path between the latent variables was examined.

In order to find the answer of **H2**: There is a positive effect of organizational learning on process effectiveness success. The structural equation model (SEM) was

used to reflect the direct effect of OL on PES. SEM was analyzed by investigating the direct effects between the variables. The statistical significance of the parameter estimates for the path between the latent variables was examined.

In order to test **H3**: There is a positive effect of organizational learning on outcome effectiveness success. The structural equation model (SEM) was used to reflect the direct effect of OL on OES. SEM was analyzed by investigating the direct effects between the variables while the statistical significance of the parameter estimates for the path between the latent variables was examined.

In order to study **H4**: There is a positive effect organizational learning on innovativeness success. The structural equation model (SEM) was used to reflect the direct effect of OL on IS. SEM was analyzed by investigating the direct effects between the variables, and the statistical significance of the parameter estimates for the path between the latent variables was examined.

The study structural model II (Figure3-3) was used to test H2-H4. The investigated the effect of latent variable OL on observed variables PES, OES, and IS

Sequence of statistical analysis

1) Descriptive statistical analysis

The descriptive statistics for quantitatively describing the main features of data collection and aims to summarize a set of the samples; such as, frequency, percentage, and standard deviation.

2) Reliability testing

SPSS program were used for Cronbach's alpha testing in this study. The lower limit of acceptability Cronbach's alpha is considered to be above 0.70 is accepted for the study (Hair et al., 2010), then which result is above 0.70 is accepted that there is reliability of that variable.

3) Validity Testing

- Confirm Factor Analysis (Convergent validity)

Convergent validity examines the degree to which the measurement is similar to other measurements to which it should theoretically be similar. In this study, convergent validity had been assessed by factor loading. The factor loading of all items

should exceed 0.6 and factor loading 0.3 to 0.4 are considered to meet the minimal level for interpretation of structure (Hair et al., 2010: 117). In this study, convergent validity had been assessed by factor loading. The factor loading of all items in this study should exceed 0.3 that is the minimal level for interpretation of variable.

- SEM method (Discriminant validity)

Discriminant validity testing is performed to show that an observed variable represents on the same latent variable and is not associated with other observed variables of the other latent variables. Discriminant validity was examined by the factor loading examination. The correlation between constructs and the correlation between observed variables were used to determine whether constructs in measurement model were empirically distinguishable in this study. A large correlation value greater than 0.85 suggests a lack of discriminant validity (Kline, 2010). This study accepted a correlation value that not greater than 0.85.

4) Structural Equation Model Testing

4.1) Create Model

This step was factor analysis for testing the interrelationship among the variables in an effort to find a set of appropriate variables for the structural equation modeling (SEM) analysis.

4.2) Analysis Model

This step was the structural theory which was represented by specifying the set of the relationship between the studied construct in the model with a structural model.

4.3) Measure of fit

Measurements of model fit were considered of Chi-Square / degree of freedom (CMIN/DF), GFI, AGFI, and RMSEA. If model not fit, it had to see modification indices and analyze the model again. If model fit, then analyze the regression weight, and direct and indirect relationship. The acceptable level value in the study were CMIN/DF should less than 3, GFI should not less than 0.90, AGFI should not less than 0.80, and RMSEA should not less than 0.05

5) Conclusion, discussion and recommendation

This part presented the conclusion of the study. The main findings were presented as the answer to the research questions. Finally, the limitation of this study and possible areas for future research were discussed.



CHAPTER 4

RESEARCH RESULT

4.1 Introduction

The results presented were based on the secondary data acquired from Thailand's higher education institutions academic quality assurance. To begin with, data processing are discussed. Next, the descriptive statistics were shown. Finally, the structural equation model of the proposed model for the theoretical framework and the hypotheses testing and results were presented.

4.2 Editing and Calculating Data

Before doing multivariate analysis in this study it was important to examine the data to avoid the possible of error while organizing the data into the most suitable format. It further involved examination for missing data and outliers. On completion of the data calculating process variable measurements could then be performed.

4.3 Quantitative Result

4.3.1 Content Validity

The content validity was assessed by experts who include five scholars that are proficient in both organizational learning and academic assurance indicators. The five experts were: Assoc. Prof. Dr. Sanay Aekawipat, Assoc. Prof. Dr. Thanarat Tavattana, Assoc. Prof. Dr. Amnaj Theeravanich, Assoc. Prof. Jatuporn Banchuen, and Dr. Peerapong Tareeyachoen. The assessment used the Index of Item-objective Congruence (IOC) to score each proxy according to theory and accurate meaning. After testing each proxy, the results of IOC score were between 0.60 - 1.00 which were accepted in term of content validity. If the results of the IOC score of the items was greater than 0.5 it can be concluded that there is only one valid construct being measured by each item.

4.3.2 Descriptive Statistic

This study collected data from 675 institutions. The descriptive statistic is presented as follows.

Table 4.1 The Descriptive Statistic of Faculty of Thailand's Higher Education Institutions

	Frequency	Percentage
Groups of university and institution		
Private university and institutions	219	32.4
Public university and institutions	166	24.6
Rajamagala University of Technology	59	8.7
Autonomus university	60	8.9
Rajabhat university	171	25.3
Types of university and institution		
Under graduate study institution	436	64.6
Specific knowledge for graduate study and research institutions	45	6.7
Specific knowledge for under graduate study institutions	88	13.0
High level research and graduate study institution	106	15.7

Groups of university and institution

According to table 4.1, the faculties that were private university and institutions 219 (32.4%), Rajabhat university 171 (25.3%), public university and institutions 166 (24.6%), autonomus university 60 (8.9%) that nearly as Rajamagala University of Technology 59 (8.7%). It shown that the majority of group of university and institution was private university and institution.

Types of university and institution

According to table 4.1, the faculties that were under graduate study institutions 436 (64.6%), high level research and graduate study institutions 106 (15.7%), specific

knowledge for under graduate study institutions 88 (13%), and specific knowledge for graduate study and research institutions 45 (6.7%). It shown that the most type of university and institution was under graduate study institutions.

Table 4.2 Descriptive Statistic of Organizational Learning

	Min	Max	Mean	S.D.
Knowledge Acquisition and Knowledge Interpretation				
KA1	2	5	4.67	0.613
KA2	2	7	6.44	0.947
KA3	0	4	3.68	0.623
KI1	0	6	4.92	0.382
KI2	0	5	4.52	1.264
KI3	3	6	5.73	0.803
Organizational Memory				
OM1	0	5	3.36	1.609
OM2	0	5	1.96	1.433
Knowledge Distribution				
KD1	0	4	3.65	0.747
KD2	0	4	3.72	0.559
KD3	2	5	4.34	0.599
KD4	1	5	4.50	0.819

According to table 4.2, the independent variable of the study was organizational

learning that divided into three variables which were knowledge acquisition and knowledge interpretation, organizational memory, and knowledge distribution. The results of statistical analysis of all independent variables were:

Knowledge acquisition and knowledge interpretation

KA1 was the sum of five variables reflecting academic quality assurance scores. The average of this variable was 4.67 with an S.D. of 0.613.

KA2 was the sum of seven variables reflecting academic quality assurance scores. The average of this variable was 6.44 with an S.D. of 0.947.

KA3 was the sum of four variables reflecting academic quality assurance scores. The average of this variable was 3.68 with an S.D. of 0.623.

KI1 was the sum of six variables reflecting academic quality assurance scores. The average of this variable was 4.92 with an S.D. of 0.382.

KI2 was the sum of five variables reflecting academic quality assurance scores. The average of this variable was 4.52 with an S.D. of 1.264.

KI3 was the sum of six variables reflecting academic quality assurance scores. The average of this variable was 5.73 with an S.D. of 0.803.

Organizational memory

OM1 was the academic quality assurance score for the full-time lecturers holding doctoral degrees. The average of this variable was 3.36 with an S.D. of 1.609.

OM2 was collected from the academic quality assurance score for the full-time lecturers holding academic titles. The average of this variable was 1.96 with an S.D. of 1.433.

Knowledge distribution

KD1 was the sum of four variables reflecting academic quality assurance scores. The average of this variable was 3.65 with an S.D. of 0.747.

KD2 was the sum of four variables reflecting academic quality assurance scores. The average of this variable was 3.72 with an S.D. of 0.559.

KD3 was the sum of five variables reflecting academic quality assurance scores. The average of this variable was 4.34 with an S.D. of 0.599.

KD4 was the sum of five variables reflecting academic quality assurance scores. The average of this variable was 4.50 with an S.D. of 0.819.

Table 4.3 Descriptive Statistic of Dependent Variable

	Min	Max	Mean	S.D.
Process Effectiveness Success	3.10	9.74	6.95	1.058
Outcome Effectiveness Success	5.29	10	8.60	0.699
Innovativeness Success				
IS1	0	5	3.32	1.758
IS2	0	5	2.30	1.844

The dependent variables of this study were process effectiveness success, outcome effectiveness success, and innovativeness success.

Process effective success which was the total of lecturers' development and the result of quality insurance. The average of this variable was 6.95 with an S.D. of 1.058.

Outcome effectiveness success was collected from the academic quality assurance score which was the sum result of employed bachelor degree graduated and the result of surveys of the qualities of graduates as evaluated by graduate users. The average of this variable was 8.60 with an S.D. of 0.699.

Innovativeness success included IS1 and IS2.

IS1 was the academic quality assurance score used for/by research or creative works used by research or creative works. The average of this variable was 3.32 with an S.D. of 1.758.

IS2 was the academic quality assurance score for the quality approved of academic works. The average of this variable was 2.30 with an S.D. of 1.844.

4.4 Structural Equation Model

4.4.1 Reliability Testing

One of Structural Equation Model Analysis requirement is the observe variables should have reliability. The Cronbach's alpha which is above 0.70 is accepted for the study. The results of reliability analysis for each scale were presented in the next sections.

Table 4.4 Reliability Statistic

	Cronbach's alpha Based on Stanadardize Items	Cronbash's alpha if Item Deleted
Knowledge Acquisition and Knowledge		
Interpretation	0.802	
KA1		0.754
KA2		0.740
KA3		0.762
KI1		0.730
KI2		0.755
KI3		0.779
Organizational Memory	0.712	
OM1		0.703
OM2		0.708
Knowledge Distribution	0.726	
KD1		0.713
KD2		0.702
KD3		0.724
KD4		0.707
Innovativeness Success	0.734	
IS1		0.709
IS2		0.740

Tables 4.4 shown the analysis result of reliability testing have detail as following:

Knowledge acquisition and knowledge interpretation

The final instrument Cronbash's alpha was 0.802 which KA1 was 0.754, KA2 was 0.740, KA3 was 0.762, KI1 was 0.730, KI2 was 0.755, and KI3 was 0.779. Thus, it could be concluded that the knowledge acquisition and knowledge interpretation

instrument of the study was reliable for the measurement of knowledge acquisition and knowledge interpretation.

Organizational memory

The final instrument Cronbach's alpha was 0.712 which OM1 was 0.703, and OM2 was 0.708. Thus, it could be concluded that the organizational memory instrument of the study is reliable for the measurement of organizational memory.

Knowledge distribution

The final instrument Cronbach's alpha was 0.726 which KD1 was 0.713, KD2 was 0.702, KD3 was 0.724, and KD4 was 0.707. Thus, it could be concluded that the knowledge distribution instrument of the study is reliable for the measurement of knowledge distribution.

Innovativeness success

The final instrument the Cronbach's alpha was 0.734 which IS1 was 0.709, and IS2 was 0.740. Thus, it could be concluded that the innovation success instrument of the study is reliable for the measurement of innovation success.

According to all variables, Cronbach's alpha score more than 0.70, it indicated that they were reliability.

4.4.2 Multicollinearity Testing

Since the SEM is based on regression analysis, then this study must apply multicollinearity testing. The assumption for regression analysis has a limitation that each variable should not be highly correlated with others. The Tolerance and Variance Inflation Factor (VIF) measurement was used for testing. The Tolerance should be greater than 0.1 or VIF should be less than 10 ($VIF = 1 / \text{Tolerance}$) to prove no multicollinearity problems (Hair, Black, Babin, & Anderson, 2009 cited in Jaturat, 2011). In this study there is no pair of observation items with a Tolerance less than 0.1 or greater than 10. Thus there was no significant evidence for multicollinearity in this study. The result of muticollinearity of variable were shown in table 4.5

Table 4.5 Multicollinearity Statistics Testing with KA1

Variable	Collinearity Statistic	
	Tolerance	VIF
KA2	0.395	2.532
KA3	0.677	1.478
KI1	0.592	1.690
KI2	0.618	1.619
KI3	0.731	1.369
OM1	0.554	1.806
OM2	0.611	1.636
KD1	0.629	1.589
KD2	0.584	1.713
KD3	0.840	1.191
KD4	0.449	2.227
IS1	0.791	1.264
IS2	0.817	1.224

4.4.3 Construct Validity

The next tests before creating model for SEM analysis were Convergent Validity Testing and Discriminant Validity Testing. The Convergent Validity is the extent to which indicators of a specific construct convergent or share a high proportion of variance in common (Hair et al., 2010), whereas Discriminant Validity is the extent to which a construct is truly distinct from other constructs (Hair et al., 2010).

Convergent validity

Convergent validity testing examines the degree to which a measurement is similar to other measurements that should theoretically be similar.

The variable model in this study has used six items to measure KA and KI, which themselves in turn were used to measure OM, and four items were used to measure.

Although the result of all the standardized parameter estimates were all significant ($p > 0.000$), in the initial CFA model showed chi-square = 465.583, DF = 51, CMIN/DF = 9.129, GFI = 0.893, AGFI = 0.836 RMSEA = 0.110, as shown in table 4.6 and Figure 4.1. The chi-square and other statistics indices were expressed that the initial measurement model needed to be re-specified. After many rounds of trial and run, one items of knowledge distribution had been removed (Items KD3). Then, the study model were added covariance between e1 and e4, e3 and e6, and e2 and e12 to provide a better-fitting model.

Even though those items of the construct were removed, the construct still provided a cogent concept and subsequently the revised model provided an acceptable model for the study use. The revised model provided a satisfactory model. The fit indices represent a better-fitting model to the data: chi-square = 113.82, DF = 38, CMIN/DF = 2.99, GFI = 0.97, AGFI = 0.95 RMSEA = 0.05, as shown in table 4.6

Table 4.6 Measurement of Model Fit of Latent Variables

Model fit criteria	Value		Acceptable level value
	Initial Model	Final Model	
Chi-Square	465.58	113.82	-
Degree of freedom (DF)	51	38	-
Chi-Square / Degree of freedom (CMIN/DF)	9.13	2.99	Less than 3
p-value	0.000	0.000	$p > .05$
GFI	0.890	0.97	≥ 0.90
AGFI	0.84	0.95	≥ 0.80
CFI	0.84	0.97	> 0.90
RMSEA	0.11	0.05	< 0.05
Hoelter	113	363	> 200

According to table 4.6, the result of model fit testing shown that they were consistent with data. The diagram of better-fitting model was present in figure 4.2

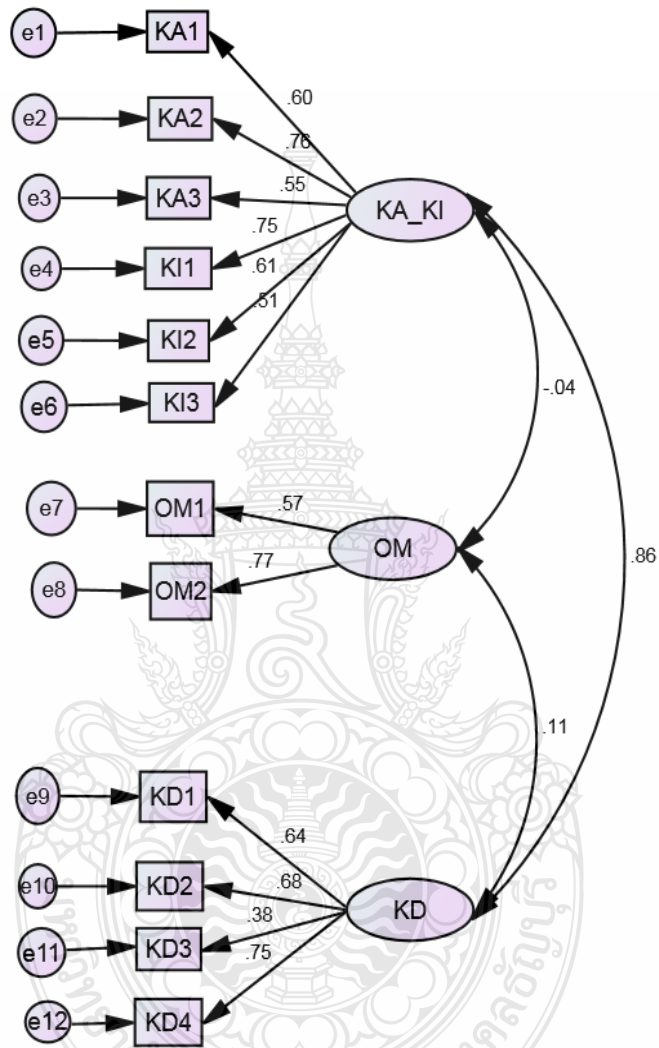


Figure 4.1 Initial Confirmation Analysis Model for Latent Variables

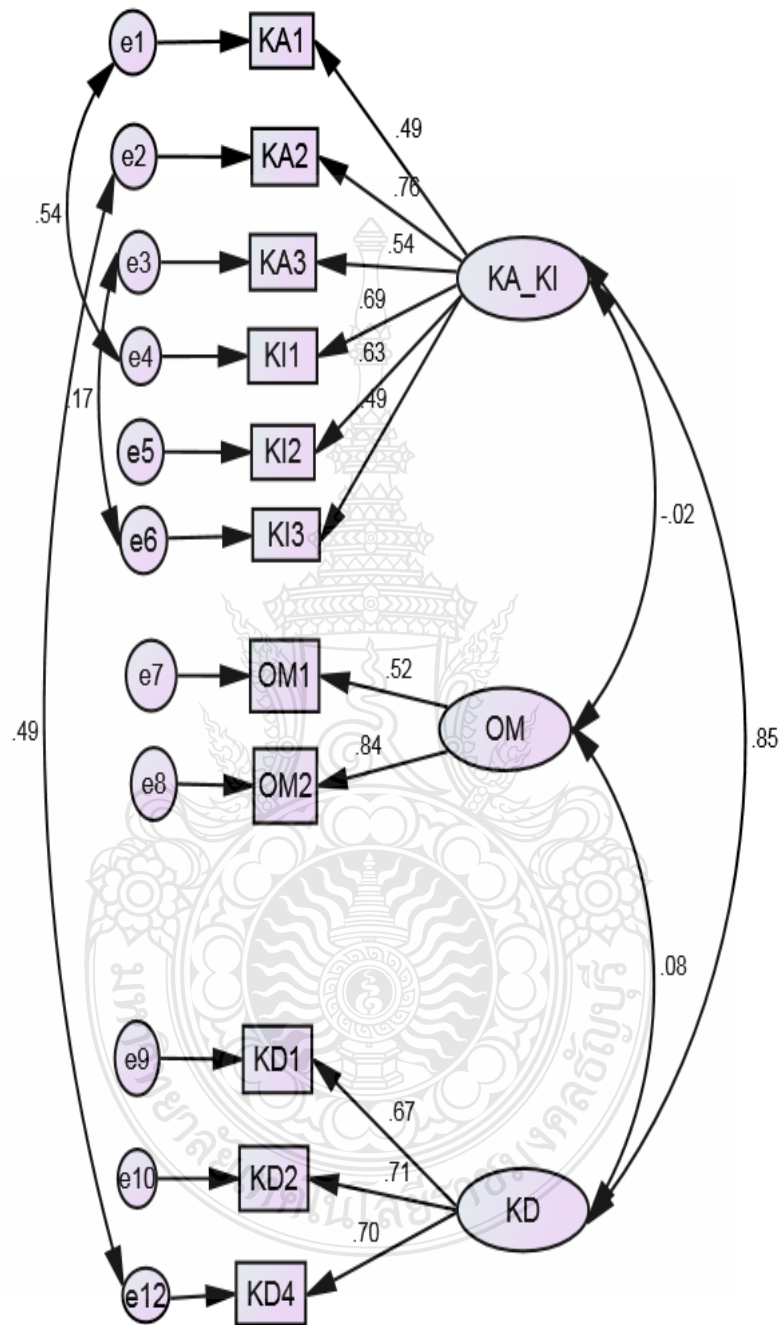


Figure 4.2 Final Confirmation Analysis Model for Latent Variables

Since, all average variance extracted (AVE) of all variable were not above 0.5. as showed in table 4.7

Table 4.7 Composite Reliability and Average Variance Extracted of Organizational Learning

Factor	Observed variable	Standardized Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
KA_KI	KA1	0.492	0.80	0.77	0.37
	KA2	0.763			
	KA3	0.546			
	KI1	0.698			
	KI2	0.631			
	KI3	0.496			
OM	OM1	0.525	0.71	0.64	0.48
	OM2	0.844			
KD	KD1	0.674	0.74	0.74	0.48
	KD2	0.713			
	KD4	0.705			

$$CR = (\Sigma \text{ of standardized loading})^2 / [(\Sigma \text{ of standardized loading})^2 + \Sigma \text{ of } \epsilon_j];$$

$$AVE = \Sigma \text{ of (standardized loading)}^2 / [(\Sigma \text{ of (standardized loading)}^2) + \Sigma \text{ of } \epsilon_j];$$

Then, in this study, convergent validity had been assessed by factor loading whereby items should be greater than 0.3 (Hair et al., 2010). The measurement model was assessed using Confirmatory Factor Analysis (CFA) using the AMOS program to assess the goodness of the measurement model. The set of constructs under consideration in this study comprised five items: KA and KI, OM, and KD.

Discriminant Validity

Discriminant validity testing is undertaken to show that observe variables represent on the same latent variable and are not in themselves associated with observe variables of the other latent variables. It is designed to provide evidence that the construct is unique and captures some phenomena that are not similar to other constructs.

The correlation between constructs and the correlation between observed variables were used to determine whether constructs in measurement model were empirically distinguishable in this study. A large correlation value between latent variables greater than 0.85 suggests a lack of discriminant validity (Hair et al., 2010)

Discriminant validity was examined through use of the correlations among latent constructs. A high correlation between latent constructs greater than 0.85 was not found in the correlations between these four constructs (Table 4.8 and Figure 4.2).

Table 4.8 Correlation Values between Latent Variables of Organizational Learning

Variables	KA_KI	OM	KD
KA_KI	1		
OM	-0.02	1	
KD	0.85	0.08	1

4.5 Construct Research Model

The structural path model is defined as ‘the portion of the model that specifies how the latent variables are related to each other’ (Arbuckle, 2005). The purpose of structural path model is to specify the structural relationship between latent constructs.

A path diagram plays a fundamental role in structural modeling. It shows variables connected by lines that indicate causal flow and is used to describe the directed dependencies among a set of variables. Figure 4.3 and 4.4 presented the hypothesised models of this study. The structural model in this study was separated to two model to demonstrate the underlying hypothesised model of relationship model between variables. The hypothesised structural model 1 (Figure 4.3) showed result of effect of organizational learning on organizational success (H1). The hypothesised

structural model 2 (Figure 4.4) showed result of effect of organizational learning on process effectiveness success (H2), outcome effectiveness success (H3), and innovativeness success (H4).

The summary of underlying hypotheses was presented in table 4.16

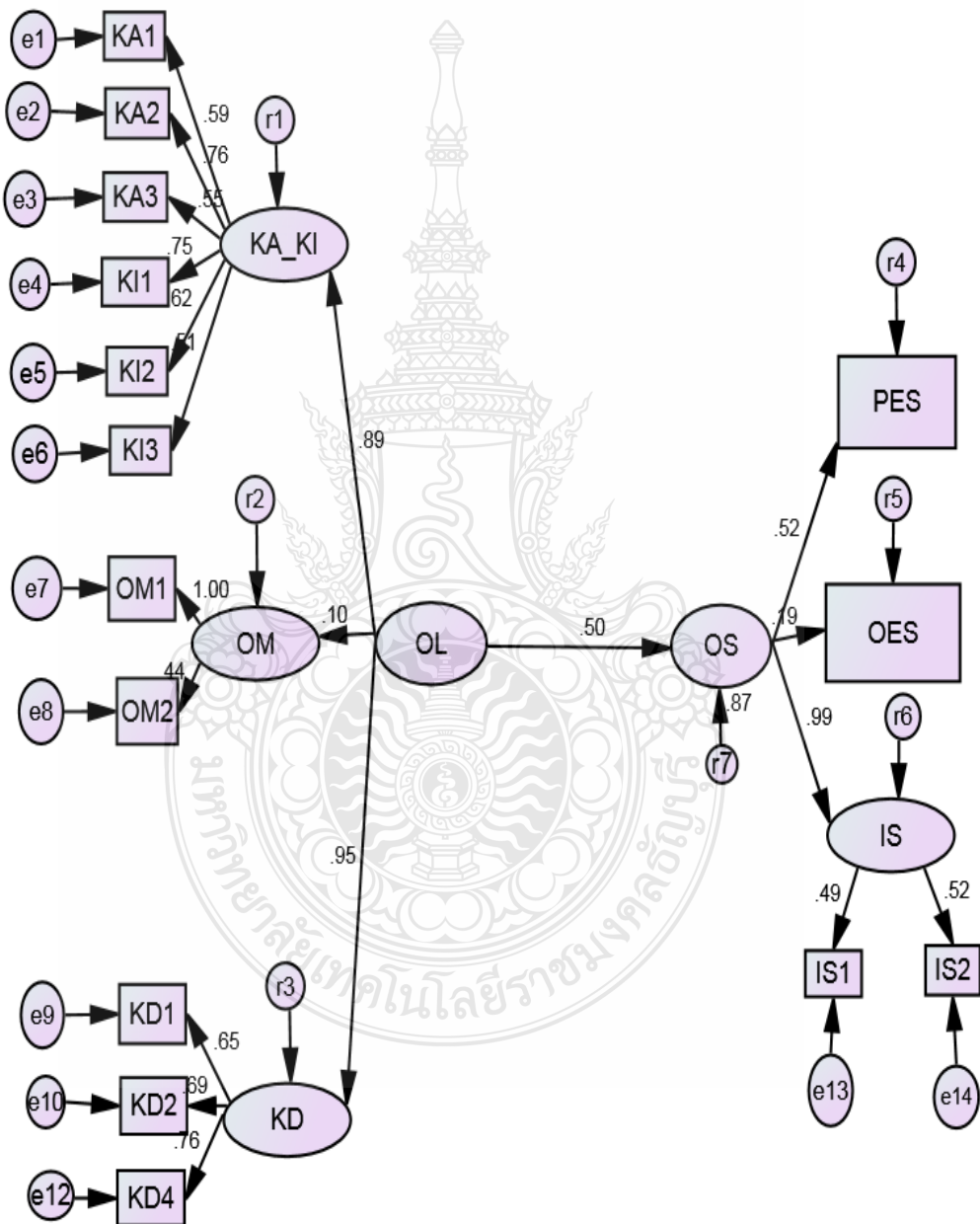


Figure 4.3 The Hypothesised Structural Model 1

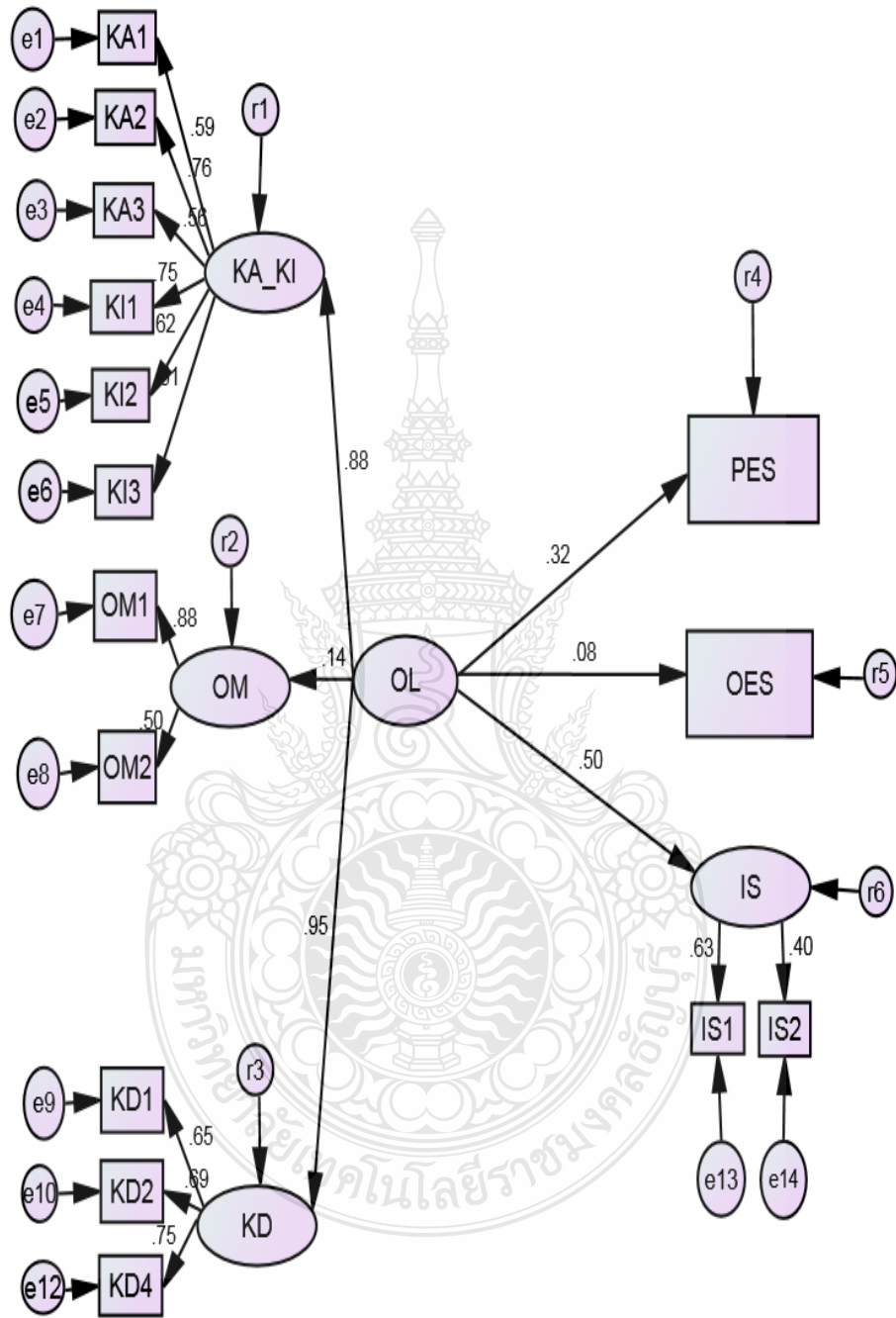


Figure 4.4 The Hypothesised Structural Model 2

Table 4.9 List of Underlying Hypotheses

Hypothesised path	Hypotheses
H1: OL → OS	There is a positive effect of organizational learning on organizational success
H2: OL → PES	There is a positive effect of organizational learning on process effectiveness success
H3: OL → OES	There is a positive effect of organizational learning on outcome effectiveness success
H4: OL → IS	There is a positive effect of organizational learning on innovativeness success

4.6 Structural Model Assessment

Structural model can be assessed in terms of model-data congruence by using a two-step approach within SEM framework. Once all the measurable models are validated and satisfactory fit achieved (Kline, 2010), then the hypothesized model is specified by the path diagram. The structural model is evaluated by goodness-to-fit indices. If the model does not fit according to the SEM strategy of this study to generate the model, the model is re-specified until it fits both acceptable statistical criteria and a theoretically meaningful representation of the observed data (Hair et al., 2010).

Table 4.10 Measurement of Model Fit of Hypothesised Model 1

Model fit criteria	Value		Acceptable level value
	Initial Model	Final Model	
Chi-Square	1074.31	235.09	-
Degree of freedom (DF)	85	81	-
Chi-Square / Degree of freedom (CMIN/DF)	12.64	2.90	Less than 3
p-value	0.00	0.00	$p > .05$
GFI	0.84	0.96	≥ 0.90
AGFI	0.78	0.93	≥ 0.80
CFI	0.69	0.95	> 0.90
RMSEA	0.13	0.05	< 0.05
Hoelter	75	326	> 200

Although the result of all the standardized parameter estimates were all significant ($p > 0.000$), in the initial hypothesised model 1 showed chi-square = 1074.31, DF = 85, CMIN/DF = 12.64, GFI = 0.84, AGFI = 0.78 RMSEA = 0.13, as shown in table 4.10

As a result of several trial and runs, the modification indices for the error items indicate that the values for the covariance between the error terms have an acceptability high value. Then, the study model was added covariance between e1 and e4, e2 and e12, e8 and r6, and r2 and r4. These changes were made in conjunction with statistics, and when deciding to make these changes the researcher considered theory justification in order to improve the model fit. After all the treatments above had been completed, the model accurately fits with the data as shown in figure 4-5. The fit indices represent a better-fitting model to the data: chi-square = 235.09, DF = 81, CMIN/DF = 2.90, GFI = 0.96, AGFI = 0.93 RMSEA = 0.05, as shown in table 4.10

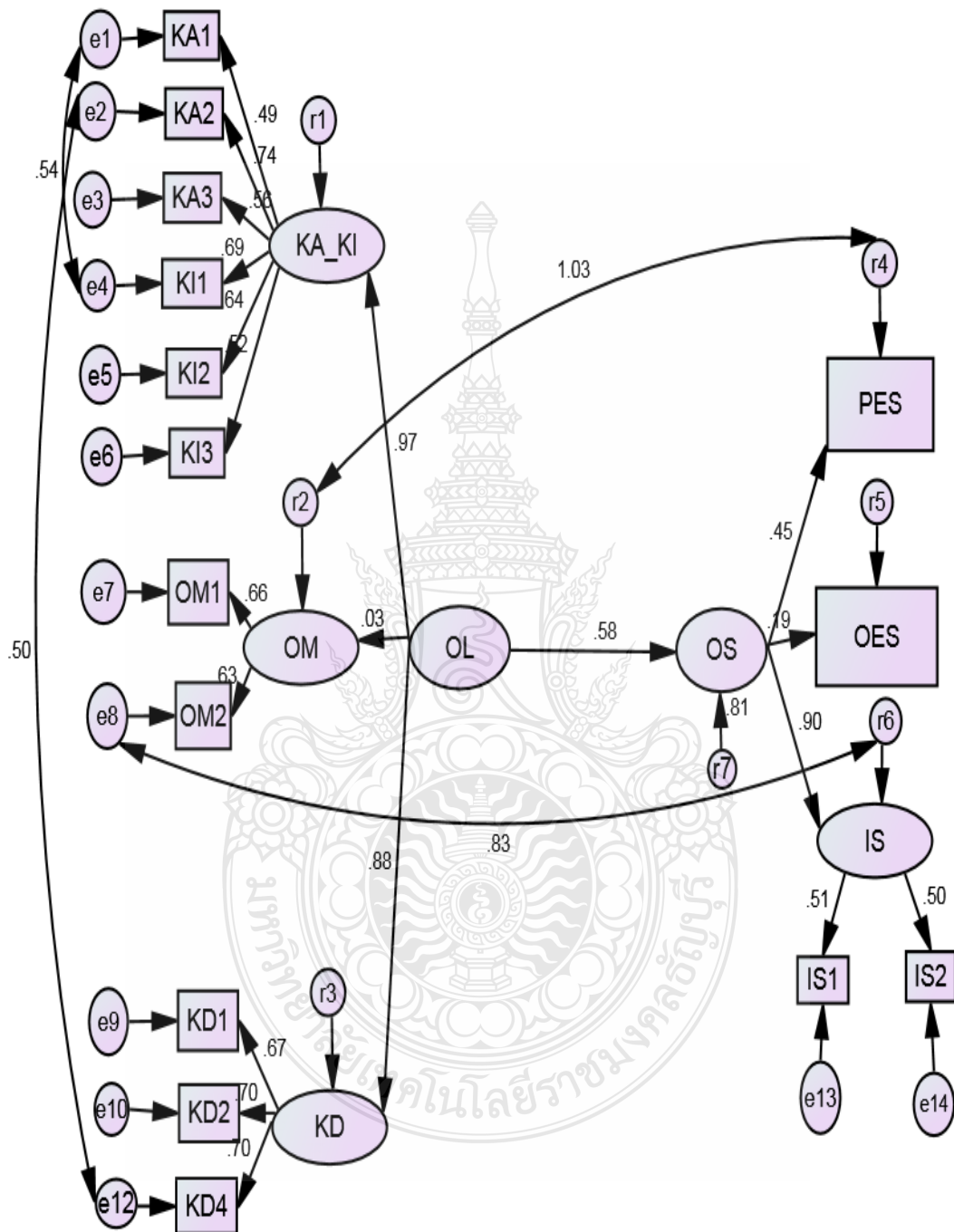


Figure 4.5 The Final SEM Model 1

Table 4.11 Measurement of Model Fit of Final SEM Model 2

Model fit criteria	Value		Acceptable level value
	Initial Model	Final Model	
Chi-Square	1118.831	242.19	-
Degree of freedom (DF)	86	81	-
Chi-Square / Degree of freedom (CMIN/DF)	13.01	2.09	Less than 3
p-value	0.00	0.00	$p > .05$
GFI	0.83	0.95	≥ 0.90
AGFI	0.77	0.93	≥ 0.80
CFI	0.68	0.95	> 0.90
RMSEA	0.13	0.05	< 0.05
Hoelter	72	313	> 200

Although the result of all the standardized parameter estimates were all significant ($p > 0.000$), in the initial hypothesised model 2 showed chi-square = 1118.83, DF = 86, CMIN/DF = 13.01, GFI = 0.83, AGFI = 0.77 RMSEA = 0.13, as shown in table 4.11.

As a result of several trial and runs, the modification indices for the error items indicate that the values for the covariance between the error terms have an acceptability high value. Then, the study model were added covariance between e1 and e4, e2 and e12, e3 and e6, e9 and e10, and r2 and r4. These changes were made in conjunction with statistics, and when deciding to make these changes the researcher considered theory justification in order to improve the model fit. After all the treatments above had been completed, the model accurately fits with the data as shown in figure 4.6. The fit indices represent a better-fitting model to the data: chi-square = 242.19, DF = 81, CMIN/DF = 2.09, GFI = 0.95, AGFI = 0.93 RMSEA = 0.05, as shown in table 4.11.

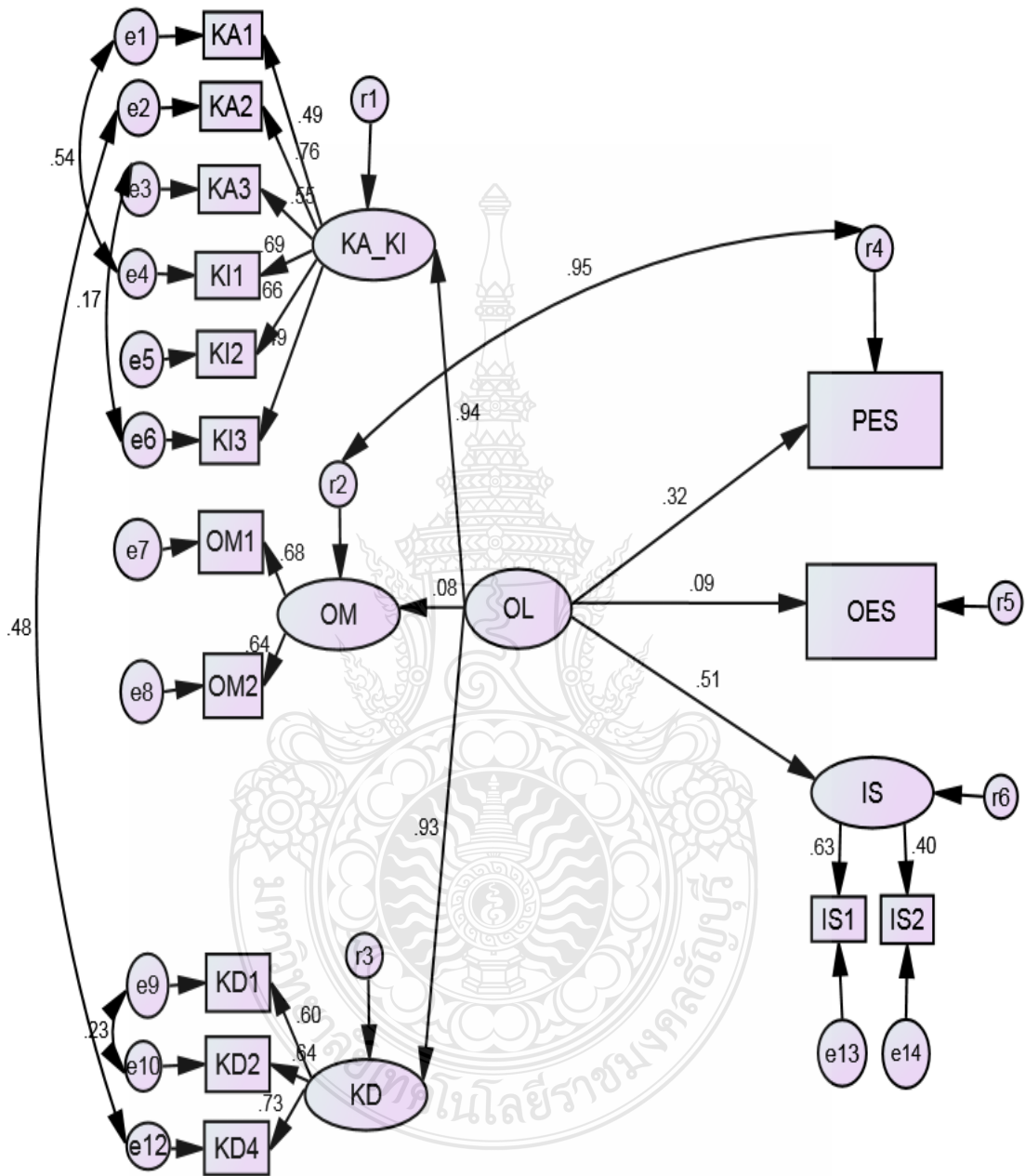


Figure 4.6 The Final SEM Model 2

4.7 Hypotheses Testing and Results

This section presented the results of the four research questions: (1) does organizational learning affect organizational success?; (2) does organizational learning affect process effectiveness success?; (3) does organizational learning affect outcome effectiveness success?; and (4) does organizational learning affect innovativeness success?

The results of significant for the final model were presented in table 4.12. The final model demonstrated that three paths were statistically significant at the level 0.001 (path coefficients that were statistically significant with the p-value less than .001), and one paths were statistically significant at the level 0.05

Table 4.12 Hypotheses Testing of the Proposed Theoretical Framework

			Estimate	S.E.	C.R.	p-value
H1: OL	-->	OS	0.584	0.170	5.461	***
H2: OL	-->	PES	0.317	0.190	6.299	***
H3: OL	-->	OES	0.089	0.110	2.015	***
H4: OL	-->	IS	0.514	0.317	6.427	0.040

***p-value < 0.001 (p-value less than 0.001 was at the significant at 0.001 level)

Result from this study for hypotheses 1

H1: There is a positive effect of organizational learning on process organizational success.

According to table 4.12, the value of t-test revealed that the estimated value was 0.584, standard error (S.E.) was 0.170, critical ratio (C.R.) was 5.461, and p-value was 0.000 indicating that there is a significant positive effect of organizational learning on organization success at a significance level of 0.001. The result showed that the standardized regression factor loading for organizational learning to organizational success was 0.584. Therefore, it could be concluded that H1 was supported.

Result from this study for hypotheses 2

H2: There is a positive effect of organizational learning on process effectiveness success.

According to table 4.12, the value of t-test revealed that the estimated value was 0.317, standard error (S.E.) was 0.190, critical ratio (C.R.) was 6.299, and p-value was 0.000 indicating that there is a significant positive effect of organizational learning on process effectiveness success at a significance level of 0.001. The result showed that the standardized regression factor loading for organizational learning to process effectiveness success was 0.317. Therefore, it could be concluded that H2 was supported.

Result from this study for hypotheses 3

H3: There is a positive effect of organizational learning on outcome effectiveness success.

According to table 4.12, the value of t-test revealed that the estimated value was 0.089, standard error (S.E.) was 0.110, critical ratio (C.R.) was 2.015, and p-value was 0.000 indicating that there is a significant positive effect of organizational learning on outcome effectiveness success at a significance level of 0.001. The result showed that the standardized regression factor loading for organizational learning to outcome effectiveness success was 0.089. Therefore, it could be concluded that H3 was supported.

Result from this study for hypotheses 4

H4: There is a positive effect of organizational learning on innovativeness success.

According to table 4.12, the value of t-test revealed that the estimated value was 0.514, standard error (S.E.) was 0.317, critical ratio (C.R.) was 6.427, and p-value was 0.040 indicating that there is a significant positive effect of organizational learning on innovativeness success at a significance level of 0.05. The result showed that the standardized regression factor loading for organizational learning to innovativeness success was 0.514. Therefore, it could be concluded that H4 was supported.

Table 4.13 Summary of Hypotheses Testing

Hypotheses	Result
H1: There is a positive effect of organizational learning on process organizational success.	Supported
H2: There is a positive effect of organizational learning on process effectiveness success	Supported
H3: There is a positive effect of organizational learning on outcome effectiveness success	Supported
H4: There is a positive effect of organizational learning on innovativeness success	Supported



CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides an overview of the research leading to certain conclusions that can be made about the study. It begins with a summary of the objectives and key findings were presented as answers to the research questions. Also the covered details here are the implications and suggestions for future research, and conclusions with an outline of the limitations of the study.

5.2 Summary of Study

The data were derived from secondary data dealing with Thailand's higher education institutions' academic quality assurance processes. Quality assurance scores from a total of 675 faculties were collected as the subject of this study.

This study tested hypotheses using two models. First, the independent variable was organizational learning which consisted of three observed variables: knowledge acquisition and knowledge interpretation, organizational memory, and knowledge distribution. The dependent variable was organizational success. Second, tested here were the effects of organizational learning on three observed variables of organizational success: process effectiveness success, outcome effectiveness success, and innovativeness success.

There were four research questions: (1) does organizational learning affect organizational success?; (2) does organizational learning affect process effectiveness success?; (3) does organizational learning affect outcome effectiveness success?; and (4) does organizational learning affect innovativeness success? The research populations consisted of academic faculties of Thailand's higher education institutions. Universities and institutions were organized into five groups. The Most of these were private universities and institutions, while the smallest group consisted of Rajamagala University of Technology. Most of the universities and institutions were undergraduate study institutions. A summary of the hypotheses explored in this thesis is presented below.

Hypothesis 1: There is a positive effect of organizational learning on organizational success.

Hypothesis 2: There is a positive effect of organizational learning on process effectiveness success.

Hypothesis 3: There is a positive effect of organizational learning on outcome effectiveness success.

Hypothesis 4: There is a positive effect of organizational learning on innovativeness success.

The majority of research subject was the group of private universities and institutions (32.4%), while the smallest group was of Rajamagala University of Technology (8.7%). According to types of university and institutions, most types of the universities and institutions were undergraduate study institutions (64.6%), and the smallest group of type was specific knowledge for graduate study and research institutions (6.7%).

Normally, universities and institutions had positive scores on organizational learning. Data indicated that the mean scores of knowledge acquisition and knowledge interpretation ranged between 3.68 and 6.44, the mean scores of organizational memory ranged between 1.96 and 3.36, the mean scores of knowledge distribution ranged between 3.65 and 4.60.

Universities and institutions had positive scores on organizational success. The mean score of process effectiveness success was 6.95. The mean score of outcome effectiveness success was 8.60. The mean scores of innovativeness success were between 2.30 and 3.32.

5.3 Discussions of Research Findings

5.3.1 Discussion of Research Question 1: Does organizational learning affect organizational success?

To respond to this question, the hypothesis testing was performed for hypothesis 1.

Hypothesis 1 set out to shed light on the effect of organizational learning on organizational success. The research illustrated a positive effect of organizational

learning on organizational success. The result of hypothesis tested is not surprising and is consistent with many previous studies. Ellinger et al., (2003) found the result that organizational learning had significant effects on organizational performance. In addition, the findings for Spanish firms showed that organizational learning contributes positively to business performance (Jiménez-Jiménez and Sanz-Valle, 2011). Also, organizational learning in the manufacturing firms significantly impacted on their performance (Mahmood, 2015). It could therefore be established that organizational learning did wield a positive effect on organizational success according to previous studies and this one as well.

Organizational learning is the result of the organization's members regarding an involvement in sharing experience and knowledge and later transforming to the organizational capability of adapting and responding to changing environment (Aragon et al., 2007; Phang et al., 2008; Saatchi, 2006; Zollo & Winter, 2002). There were some common themes indicated that a changing environment forces learning. New knowledge obtained from learning can be shared among participants who can take advantage of it. Then, organizational learning could help the organization to manage a changing environment and improved its performance.

5.3.2 Discussion of Research Question 2: Does organizational learning affect process effectiveness success?

To respond to this question, the hypothesis testing was performed for hypothesis 2.

Hypothesis 2 attempted to investigate the effects of organization learning on process effectiveness success. The study discovered a positive effect of organizational learning on process effectiveness success. It echoed other research analyses which found a relationship between organizational learning and process effectiveness success. Results of investigating the role of organizational learning and process technology in the implementation of mass customization revealed that team and systems learning orientation can increase process performance (Fang et al., 2016). Besides, Lee and Moreover, Widener (2016) asserted that organizational learning on both exploitation learning and exploration learning did influence internal business process performance. As a result, based on the findings of this study and previous studies, it could be

concluded that organizational learning did positively affect process effectiveness success.

Best practice performance can be conveyed from one to other members upon organizational learning process. Organizational learning is a collective proficiency based on experiential and cognitive procedures, and it includes knowledge acquisition, knowledge sharing, and knowledge utilization within the organization (Aragon, Garcia, & Cordon, 2007; Zollo & Winter, 2002). Process effectiveness success was level of faculty's goal achievement on vital elements roles of Thailand's higher education institutions to convey knowledge to learners (Wang, et al., 2002) and goal achievement. Learning of faculty's members on new knowledge and specialized work techniques from other members' experience helped development of lecturers' skill who are crucial role on conveying knowledge to learners to perform their academic status improvement. Similarly, new knowledge learned from organization explored better approach to complete organization's goal.

5.3.3 Discussion of Research Question 3: Does organizational learning affect outcome effectiveness success?

To respond to this question, the hypothesis testing was performed for hypothesis 3.

Hypothesis 3 attempted to explore effects of organizational success on outcome effectiveness success. Fortunately, here a positive effect was evident for organizational success on outcome effectiveness success. The study on sample firms in Turkey indicated that organizational learning had significant effects on outcome performance (Dulger et al., 2016). Likewise, the study of Frank et al. (2012) suggested that there was a high level of organizational learning results appearing in higher outcome performance levels. Additionally, the results of the study concerning Spanish firms supported the view that organizational learning contributed positively to outcome perspective performance (López et al., 2005). Moreover, previous studies and the present study supported of the conclusion that organizational learning did positively affect outcome effectiveness success.

Learning at the organization level involved both the institutionalization of knowledge for the organization and its alignments with the external environment.

Outcome effectiveness success was measured by level of faculty's goal reaching on quality of graduated students that scored by graduated students' employer. The phenomenon of organization learning is a continuous process of creating and using knowledge from both inside and outside organization (Huber, 1991; Phang, et al, 2008; Slater & Narver, 1995). Process of organizational learning was means to obtain need of organizations in social. These need would be good information to improve academic curriculums. When faculties use the appropriate curriculums, they should have quality graduates that can served graduates' user need.

5.3.4 Discussion of Research Question 4: Does organizational learning affect innovativeness success?

To respond to this question, the hypothesis testing was performed for hypothesis 4.

Hypothesis 4 set out to discover the effects of organizational learning on innovativeness success. The result indicated a positive effect organizational learning on innovativeness success. That similar to many research studies which found organizational learning affected on innovativeness success. Organizational learning had a stronger direct influence on innovation (Aragón et al., 2007). Fang et al. (2011) indicated that organizational learning capability is positively and significantly related to organizational innovation. In addition, an empirical study of technological companies in Taiwan found that organizational learning yields a direct and significant effect on organizational innovation (Ho, 2011). As well, the findings of the study in Turkey indicated a positive relationship between organizational learning and product innovation performance (Uğurlu and Kurt, 2016). Therefore, based on the findings of this study and previous ones, it could be concluded that organizational learning did positively affect innovativeness success.

Learning could also take place when each unit in the organization has various interpretations of information, which could extend the range of that organization's knowledge. When organization's members reached, gathered and interpreted information in various ways of understand, the creative ideas for new products, processes, or invention development was explored. In addition, adapting knowledge

that learned from other's experience brought interesting means to create new organization's innovation.

5.4 Limitations of the Study

Some noteworthy limitations of the study need to be addressed. First of all, the data of this study consisted of secondary data collected from the results of academic quality assurance. Due to this reason, some variables may not all be represented as the proper variables for organizational learning theory. According to the criteria of academic quality assurance's score was changed for the reason of continuous improvement then this study may not be explained for all variables of other research which were studied later when academic quality assurance's score was changed.

5.5 Implications for Practice and Future Research

5.5.1 Theoretical Implications

The findings documented in this study have several implications for researchers who are interested in the topic of organizational learning. This study examined the effects of organizational learning on organizational success in Thailand's higher education context. The present study fills the gap in organizational learning thereby developing three constructs - knowledge acquisition and interpretation, organizational memory, and knowledge distribution on organizational success. These served to measure three outcomes which were process effectiveness success, outcome effectiveness success, and innovativeness success.

This study provided empirical evidence that there were associations between organizational learning, organizational success, process effectiveness success, outcome effectiveness success, and innovativeness success. This study extends the body of knowledge on the effects of organizational learning on each aspect of organizational success. The structural model consisting of research variables was developed to represent the logical relationship that supports the theories cited here.

The study proposed another choice of tool to collect research data when using secondary data. This is a new paradigm for researchers in higher education institutions.

They can use quality assurance information not only in the education management field but also in the organization theory context.

5.5.2 Managerial Implications

The findings have numerous implications for the organizations, especially those working in higher education institutions' administration. First of all, the activities that all faculties have to do for quality assurance criteria was useful not even for quality assurance score but also for organizational learning improvement that would finally effect to organizational success. Furthermore, the resulting model indicated the influence of organizational learning that consisted of knowledge acquisition and interpretation, organizational memory, and knowledge distribution on all three parts of organizational success. The findings assisted decision-making and the policy planning of higher education institutions in order for all faculties to achieve essential success criteria such as lecturers' development, good results of quality assurance, graduates finding jobs, graduate users' satisfaction, establishment of new research and creative enterprises, and academic work quality approved.

Higher education institutions' planners must give precedence to all areas of higher education work, for instance teaching, research, academic services, promotion of Thai arts and culture, organizations' administrative management, and institutions' finance and budgeting if organizational learning constructs are to be delivered successfully. For example, higher education institutions should have well-functioning systems and mechanisms for data gathering, use and know how to translate term of curriculum, required of graduates users, need of social on research and academic services, and need of organizational human resource development. Additionally, faculties must manage human resources information storage especially as a human resource experience based which research indicated that it important for organizational success. Finally, the process of sharing knowledge from different sources of all necessary information to all areas of organization is another key factor for success to be accomplished.

5.5.3 Future Research

Primary data from questionnaires should be used to collect data along with the current method in future research to explain some variables to be represent as the

proper variables for organizational learning theory. The improvement of quality assurance's score; it is likely to be pose a challenge for future research to explore both independent and dependent variables so that the dynamics concepts and applications are better understood. In addition, future research should continue exploring other methods such as in-depth interviews or focus groups to obtain more necessary information on this kind of topic and develop new hypotheses. Finally, it is important to apply questionnaires for collecting primary data regarding quality assurance to consolidate the outcomes of secondary data, and to also compare these two forms of information.



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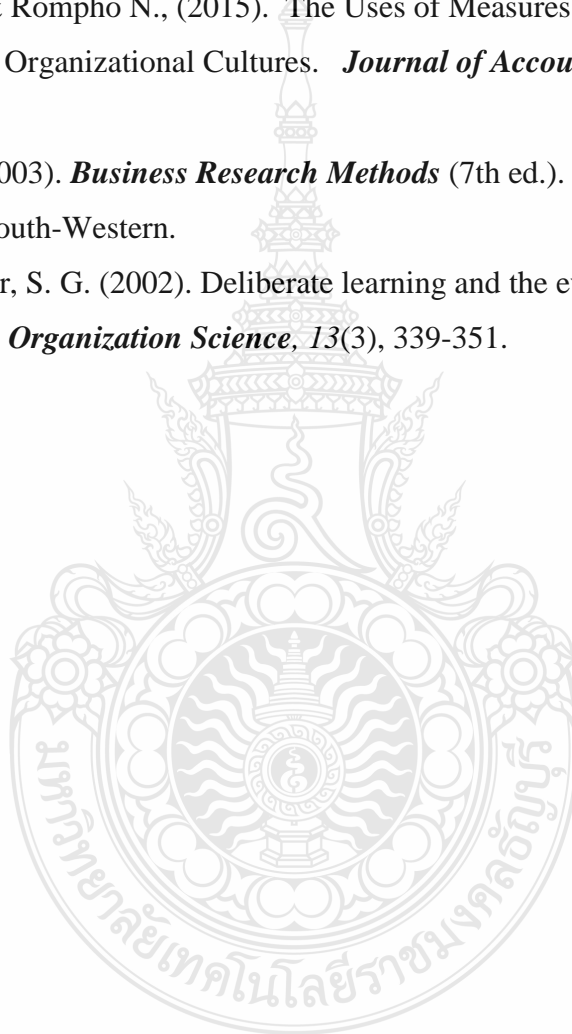
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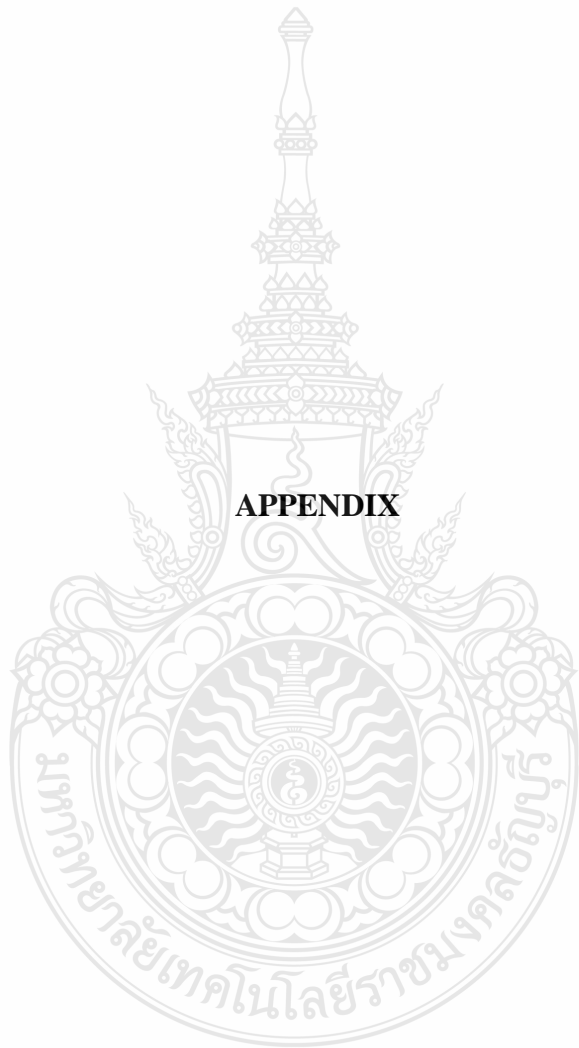
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Research Variables Measurement



Variable	Detail
KA1	<p>The summation of item 1 to 5's scores</p> <ol style="list-style-type: none"> 1. A survey of the characteristics of graduates at the bachelor level as required by graduate users, and are/were conducted regularly for every curriculum according to the learning and teaching plan of the curriculum 2. The adequacy of 'in place' university systems and mechanisms for curricula development and revision. Under the leadership of the Academic Affairs Department, all curricula should be facilitated in terms of curriculum evaluation and modification 3. University systems and mechanisms for opening and closing any curriculum according to the OHEC regulations, and whether there is a plan in place for lecturer management and development in terms of academic content, teaching techniques and methodologies as well as learning assessments 4. University plan for human resource management and development with an empirical data analysis 5. Assessment of the success of the management plans, lecturers and supporting personnel development plans

Variable	Detail
KA2	<p>The summation of items 1 to 7's scores</p> <ol style="list-style-type: none"> 1. The development of research or academic work potential and provision of knowledge on research ethics for full-time lecturers and researchers 2. Implementation of the results evaluation in support of the mission statement on research or creative works of a faculty 3. The surveys of community needs from the public and private sectors or professional organizations to determine the directions and set up plans for academic services in line with the mission statement of a faculty 4. The cooperation between the academic services to aid learning and strengthening of the community, public and private sectors as well as professional organizations 5. The evaluation of the implementation of the integration of academic services and teaching/ learning and research activities 6. The evaluation of success of integration of the promotion of Thai arts and culture in learning and teaching management and students' activities 7. The evaluations of the implementation and the impact of academic services

Variable	Detail
KA3	<p>The summation of items 1 to 4's scores</p> <ol style="list-style-type: none"> 1. Assessment according to the objectives of the student activities development plan 2. Projects or activities which promote the ethics and morals of students, based on indicators and objectives as specified, where the assessed results of the achieved criteria exceeded 90 percent of the indicators 3. Participation in the education quality assurance by all parties concerned, particularly students and graduate users, which included service users according to the mission of the faculty 4. The system to promote creation of a/the quality assurance network for the exchange and transfer of knowledge outside the institution through mutually organized activities
KI1	<p>The summation of items 1 to 6's scores</p> <ol style="list-style-type: none"> 1. The results of the surveys of the characteristics of graduates as used in curriculum improvement, teaching and learning, evaluation of learning, and the learning achievement level, which enhance career skills and quality of the graduates 2. Developments and improvements to/for teaching and learning, teaching strategies, and evaluation of learning of all courses 3.

Variable	Detail
	<p>3. The application of knowledge derived during the current or previous academic year (explicit knowledge), and knowledge derived from skills and experience (tacit knowledge) where this knowledge was utilized to improve actual work</p> <p>4. Lecturer and human resource management and development aligned with the set plans</p> <p>5. The follow-up system of the lecturers and staff to ensure that after the skills are acquired from the development program, they would be employed in the teaching and learning methodologies and in assessing the learners and other related tasks</p> <p>6. The results of the assessment used for improving the lecturers, human resource management and development plans support</p>
KI2	<p>The summation of items 1 to 5's scores</p> <p>1. The management system and the mechanism for research and creative works to achieve the objective of the institution's research plan and its implementation based on the outlined system</p> <p>2. The funding allocation of the institution for creative and research work grants</p> <p>3. The faculty use made of the assessment results from the research supportive systems to support the research and creative works mission</p>

Variable	Detail
	<p>4. The system and mechanism when/for collecting, selecting, analyzing, and synthesizing the knowledge gained from research or creative works to provide the know-how and system for the general public to follow</p> <p>5. The system and mechanism for the utilization and assistance in the protection of research and academic works rights with laid down system</p>
KI3	<p>The summation of items 1 to 6's scores</p> <p>1. The guidelines as prepared for the promotion of student activities aligned with the higher educational level characteristics for graduates according to the standard qualifications</p> <p>2. Written documentation concerning a students' ethical and moral behavior</p> <p>3. Projects or activities which promote and develop the ethical and moral behavior of students, which includes comprehensible indicators and success objective measurements</p> <p>4. Activities provided at the undergraduate and graduate level by the institute for students that promote ethics and morals</p> <p>5. Policies formulated, and the importance attached, to the internal quality assurance by the policy – making body and the top executives of the faculty</p>

Variable	Detail
OM1	<p>6. The result of an internal education quality assurance that should take into consideration working improvements, and thus lead to the development of operational results in line with all the indicators defined under the strategic framework</p> <p>The academic QA score for the full-time lecturers holding doctoral degrees</p>
OM2	<p>The academic QA score for the full-time lecturers holding academic titles</p>
KD1	<p>The summation of items 1 to 4's scores</p> <ol style="list-style-type: none"> 1. The formulation of issues relating to the knowledge and the goals of knowledge management, which are strategically in line with the faculty mission to produce graduates and carry out research 2. Promotion of human resource development aiming to expand both the faculty's and staff knowledge and skill potential to produce quality graduates, demonstrating they had completed research on the issues of knowledge and goals of knowledge management as outlined in the strategy of the faculty mission for producing graduates and doing research

Variable	Detail
KD2	<p>3. Their policy for sharing and exchanging the faculty and staff's knowledge, experience and skills (tacit knowledge) with a view to finding the best practices relating to those issues of knowledge and goals of knowledge management outlined in the faculty strategy for producing graduates and doing research</p>
	<p>4. Curriculum management measured against the standard criteria and framework of the higher education curriculum requirement and key performance indicators to assure the quality of the curriculum and teaching-learning activities</p>
	<p>The summation of items 1 to 4's scores</p>
	<p>1. Knowledge development from academic services, and knowledge transferred to staff, within the institution and to the general public</p> <p>4. The integration of the research or creative work process through learning and teaching management</p> <p>3. Whether the research results or the knowledge management process were used to improve the provision of teaching and learning in curriculum development</p>

Variable	Detail
	<p>4. The system and mechanism supporting the dissemination of research results and creative works from academic conferences and publications in national and international journals and that there was dissemination of research results or creative works at academic conferences in both national and international arenas</p>
KD3	<p>The summation of items 1 to 5's scores</p> <p>1.Information regarding students' ethics and behavior which was aimed to promote moral development as indicated was publicized and passed on to the administration, lecturers, students, and individuals concerned</p> <p>2. Knowledge of ethics was provided and was practiced by the lecturers and human resources staff</p> <p>3. There were efficient education quality assurance practices or research studies which were developed by the institution, the detailed information of which should be publicized and disseminated for the benefits of other work units</p> <p>4. There were activities to provide quality assurance knowledge and skills for students</p> <p>5. Students were encouraged to build quality development networks within the faculty, among faculties, and the university</p>
KD4	<p>The summation of items 1 to 5's scores</p>

Variable	Detail
	<ol style="list-style-type: none"> 1. There was a system and mechanism for academic services and implementation 2. There was an integration of academic services and teaching/learning activities 3. There was an integration of academic services and research activities 4. The evaluation results were used to improve the integration of academic services, teaching/learning and research 5. The evaluation results of academic service were used to develop the system and mechanism or academic service activities
PES	The total of lecturers' development and the result of quality assurance
OES	The sum results of employed bachelor degree graduated and the result of surveys of the graduate qualities from an evaluation by graduate users
IS1	The academic QA score used of research or creative works used
IS2	The academic QA score for the quality approved of academic works

Biography

Name – Surname	Miss Pornprom Prompes
Date of Birth	July 29, 1974
Address	Faculty of Business Administration, Rajamangala University of Technology Thanyaburi, Pathumthani, 12110
Education	M.Sc. Administration Technology, National Institute of Development Administration, Thailand, in 1999
Experience Work	Assistant Professor of Faculty of Management Sciences, Kasetsart University, Sriracha Campus, (2000 – present)
Telephone Number	038-352-830-40 ext.10439
Email Address	pornprom_p@mail.rmutt.ac.th



Declaration

This work contains no material which has been accepted for the award of any other or diploma in any university or other tertiary institution and, to the best of my knowledge and beliefs, contains on material previously published or written by another person, except where due reference has been made in the text.

I give consent to this copy of my thesis, when deposited in the university library, being available for loan and photocopying.

Pornprom Prompes

