

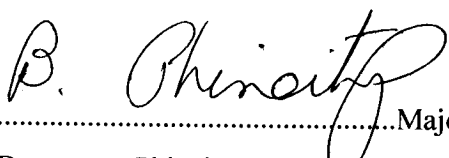
**FACTORS AFFECTING THE CAPACITY AND PERFORMANCE
OF PUBLIC HIGHER EDUCATION INSTITUTIONS
IN THAILAND**

Sommart Maharak


**A Dissertation Submitted in Partial
Fulfillment of the Requirements for the Degree of
Doctor of Public Administration
School of Public Administration
National Institute of Development Administration
2016**

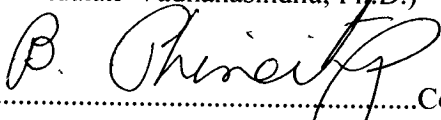
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ABSTRACT

Title of Dissertation	Factors Affecting the Capacity and Performance of Public Higher Education Institutions in Thailand
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The purpose of this study was twofold: 1) to explore the capacity and the performance levels of public higher education institutions in Thailand, and 2) to investigate the determinants of the capacity and performance level. The unit of analysis was public higher education institutions in Thailand which were categorized into 4 types: autonomous universities, public universities, Rajabhat universities, and Rajamangala universities. The sample was selected by multi-stage random sampling from the population of 78 universities. The sample of 63 universities accounted for 95% of the total sample. A 5-point likert-scale questionnaire with the overall reliability of .993 was used to collect the data.

Statistical analysis included descriptive analysis, ANOVA to analyse differences between universities, Correlation and Regression to test the hypotheses. The result showed that the capacity and the performance of public higher education institutions in Thailand were at a high level. There was significant difference in knowledge and learning among university types. Autonomous University and Rajamangala universities have more knowledge and learning than public universities and Rajabhat universities. There was significant difference in financial resource, collaboration and knowledge and learning among university groups. Research/graduate universities have more financial resource and collaboration than liberal arts universities. Research/graduate universities and specialized/comprehensive universities have more knowledge and learning than liberal arts universities. Three factors positively affecting the performance ranked from the highest to the lowest

level were financial resource, collaboration, and knowledge and learning, respectively. The equation that showed the relationship was $y = 0.336x_1 + 0.273x_2 + 0.248x_3$. The findings reflected that financial resource, collaboration, and knowledge and learning were the most important strength of the capacity and the performance of public higher education institutions in Thailand but leadership was a weak point, but positively related to performance and human resources were important weaknesses. In addition, size and leadership were positively related to capacity and performance. Size and leadership were mediators of the financial resource, knowledge and learning, and collaboration. It was recommended that public higher education institutions in Thailand increase their size in line with the direction of national development and become international universities. The leaders needed to possess leadership skills and to be willingly accepted by the university stakerholders. The human resource needed to be treated fairly through a fair process on rules of universities. The financial resource should be able to accommodate financial strategic management. As for knowledge and learning, they should have a clear personnel development plan through the willingly accepted process. With regard to stakeholder commitments, a participatory process in providing services and in operation should be willingly accepted by the stakeholders. For good services and fairness. There should be collaboration in rendering outstanding and reliable services with stakeholders participating in the operation. The performance – output, outcome and efficiency-should be upgraded to the highest level possible. The output quantity should follow the plan. Access to public universities in Thailand should be made easily by information technology. The output should have quality and should respond to the national development and meet the international standard. The work steps should be cut short as much as possible. The personnel should be trained to focus continuously on increase of capacity and reduction of operational costs. The National Development Plan should have a clear direction in terms of people's qualifications and number to serve as the manpower of the country. Public higher education institutions in Thailand should have the direction in knowledge building and in becoming international knowledge.

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CHAPTER 1

INTRODUCTION

1.1 Statement of the Problems

The educational system of Thailand is problems, long ago. Many organizations in Thailand intently resolve it but they can not discover bright way. Many resources were supported for Thai education but Thailand still stand on low rank of international education level. Education is important for Thai people and Thailand, especially, the higher education in Thailand.

Thai higher education faces dynamic changes. All public universities are on the bureaucratic system that management structure is inefficient and the management flexibility of civil service work is limited, so, affects to most public universities. They cannot adapt themselves in time to cope with rapid changes. They are obvious that resources in public universities are no optimum utilization because of uncoordinated operation and duplication of work. These constraints have made public universities unable to attract the best and the brightest lecturers. Thus, it is hard for public universities to achieve academic excellence. Further, they have not yet been an effective mechanism in monitoring and evaluating the performance of public higher education institutions to see their relevance to the country's development policy and plans (Waraiporn Sangnapaboworn, 2003).

Change attacks Thai higher education. All Thai public universities were planed to be autonomous by the year 2002, but even in 2014 only some were now self-governed. Some basises of a quality and an equity have been used in allocating government budget to such institutions. The accountability of autonomous public universities is required, and an external evaluation by the independent organization must be made every five years. Internal evaluation is to be carried out annually by

institutions themselves. The imposition of the evaluation process is hoped to improve the quality of education provided by all higher education institutions (Sukanya Nitungkorn, 2001). The need for on-going professional development seems essential if the goals of the Thai curriculum reforms are to be realized (Dahsah and Coll, 2008). The importance ambition of the higher education reform of Thailand regulates to cut public spending and to stimulate university–industry cooperation as the means to obtain additional university income. In response to changes in university funding, five Thai universities, i.e., Chulalongkorn University (CU), Kasetsart University (KU), King Mongkut's University of Technology Thonburi (KMUTT), Chiang Mai University (CMU), and Khon Kaen University (KKU), have created more university–industry relations. In spite of this, the fiscal profits of universities as well as the technological profits of cooperating companies are very limited (Schiller and Liefner, 2007).

An enlargement of basic education led to demand of enlarged supply of higher education in the future. With the advance in communication technology and increasing longevity, the new generation of students who look for higher education will vary in age, needs, and places of study. These new challenges will meet universities, higher education institutions must be flexible in their management of resources, personnel and curricula (Sukanya Nitungkorn, 2001). Universities across the country can now input only for four hundred twenty thousand students, and most of these institutions are located in Bangkok and urban areas. With lack of public universities in rural areas, Thailand has been faced problems related to expansion of educational opportunity. Educational preparation and curricula modification at higher education level should be diverse and flexible with participation from various segments of the society, so as to meet the needs of community people, to promote their job skills, and to improve their quality of life (Punthumasen and Maki, 2009).

The situation of the universities/institutes has been modified by lots quantity improvement in terms of programs, the number of staff, and the number of input/output students as well as research projects. But the programs still have existed low quality of graduates, problems and constraints in running. The National Economic and Social Development Board (Office of the National Economics and Social Development Board: NESDB, 2004) study the productivity and the capability

of national competitiveness of the labor force situation among middle- and high-level personnel within the tourism industry. This study found that the number of graduates from educational institutions was sufficient to serve the demand of the industry. However, there were problems in terms of quality since graduates' qualifications were not up to the standards required by the employers (Manat Chaisawat, 2006).

There is a tendency to increase the online delivery component to the point where it becomes the sole mode of delivery, which has been scaffolded by the building of virtual university campuses and enabled by e-learning devices. South Korea, Singapore, Malaysia, Thailand, India and China can make rapid progress in e-learning. At the same time, there are also concerns about the quality, relevance, viability and sustainability of these initiatives (Hanewald, 2012).

The government of Thailand requires adapting public agencies on accounting practices in line with the New Public Management (NPM) and public universities demand to do so as well. The most important change concerns the financial accounting system. Computerized accrual accounting practices have been adopted by university operations in the environment of decreased government funding, coupled with university administrations and taking more responsibility for financial management (Upping and Oliver, 2012). The main concerns for academic excellence of public universities are unsustainable without more effective fiscal management and public-private partnership (Kongkiti Phusavat, Suphattra Ketsarapong, Keng-Boon Ooi, and Shyu, 2012).

Globalization changes higher education in the world. Reforms in higher education have been implemented in many Asian countries, particularly East Asia, as globalization began to have an effect on the national policy. Globalization is mostly viewed from the economic perspective, such as international trade and commercialization of education (Bhumiratana and Commings, 2012). A basis for the Thai education reform including higher education was served by the 1999 National Education Act (Krissanapong Kirtikara, 2001). Thai education systems were attempted to reform with a commitment, so the basic education was expanded to 12 years in the year 2002. Enlarge basic education has led needs the extend infrastructure of higher education in the future (Sukanya Nitungkorn, 2001). In 1997, Thai economic crisis, Thailand has reformed overall sectors – including higher education,

public universities were reformed deregulation and the granting of additional autonomy (Gamon Savatsomboon, 2006). Thai government spent about one quarter of its total public expenditure on education in 2009-2011 (20.3%, 22.3%, and 29.5% respectively), or 3.8 percent of GDP in 2006-2012. Thai public expenditure per pupil as a percentage of GDP per capita in 2009-2011 was 21.9, 17.0, and 21.3 (World Statistics Pocketbook, 2014; World Bank, 2014).

Nearby major Asian trading partners, Thai education system is dragging in behind of Singapore, Malaysia, China, Taiwan, South Korea, and Japan. These countries have strongly economic growth and strong competition. Although, abilities of higher education institutions in Thailand can not compete with these countries, Thailand can not go to a leader country. Thai education system is concerned among policy makers because by the end of 2015 Southeast Asia becomes to full integration, known as the Association of Southeast Asia Nations (ASEAN), one of the largest markets in the world. The Commission of Higher Education or CHE under the Ministry of Education in Thailand initiated the reforms of public universities, which have been implemented since 2005, in order to strengthen the country's long-term competition. Education reforms focus on quality assurance, university classification, and promotion of national research universities (Kongkiti et al., 2012).

Universities are increasingly viewed as crucial engines of economic development, but government tax revenues are not keeping pace with rapidly rising costs of this education level. Increasing a number of students presents a major challenge of traditional system which provides passage for highly subsidized education or frees (Altbach, Reisberg and Rumbley, 2009). Thai government is trying to identify the appropriate role of the country and the balance of public and private institutions, all of which have competing priorities for resources within the education sector, between education and other sectors (Bray, 2000). The important priority of public policy is to ensure that higher education institutions contribute to economic growth and social progress as a whole, especially in the context of today's globalized markets and knowledge economy. It is crucial for any nation to have a good education system and strategic planning to improve learning outcomes, access to facilities, and efficient use of resources (Ahmad, Farley and Naidoo, 2013). Dynamic competition in the higher education level at national and global levels makes its necessary to

integrate educational systems at both levels into one (Marginson, 2006). This study, therefore, aims at exploring the current capacity and performance and investigating the determinants of public higher education institutions in Thailand.

1.2 Objectives of the Study

- 1) To explore the capacity and performance of the public higher education institutions in Thailand
- 2) To investigate determinants of capacity and performance of public higher education institutions in Thailand

1.3 Limitations of the Study

The main data for this research project came from top administrators of Thai universities. All top administrators could not be included in the study due to the difficulty to access them. The sample group consisted of only 95 percent of all the top administrators. This study focused only on exploring leadership, resources, capacity, and performance of the public higher education institutions. It indirectly evaluated or assessed the performance outcomes of the organizations under the study.

1.4 Definitions of the Terms

Capacity refers to human resources that concern skills, knowledge, experience and human management; financial resources concern liquidity, reliable, useful financial data and financial management; information technology concerns sustaining update data, reliable, useful data&information and information technology management; knowledge and learning concern learning to change as context, training and education; stakeholder commitments concern achievement of commitment to stakeholder, and collaboration concerns the unity of organization and relationship with outside organizations of public higher education institutions in Thailand.

- 1) Performance refers to quantity and quality of output, outcomes and efficiency of the public universities in Thailand.

2) Public higher education institutions refer to autonomous universities, closed universities and institutions in Thailand.

3) Resources refer to financial and non-financial resources supported by the government of Thailand.

4) Leadership refers to trust/integrity, democratic and participative styles, motivation, communication, decision-making, and wisdom of public universities' leaders of Thailand.

1.5 Benefits of the Study

1) Administrators of public higher educational institutions in Thailand can use the results of the study to improve or upgrade the capacity and performance of their organizations.

2) Policy-makers and administrators of public higher educational institutions in Thailand can use the research results to formulate the policy and to improve or upgrade the capacity and the performance of their organizations.

3) Other public organizations can use the capacity and performance in this research to conduct, research to improve or upgrade their organizations.

4) Public organizations and other organizations can use the capacity and performance model found in this research to improve or upgrade their organizations.

5) Government policy makers can use the capacity and performance finding in this research to define the policy and upgrade higher educational institutions in Thailand.

1.6 Organization of the Study

1) Chapter 1 Introduction (statement of the problems, objective of study, limitations of study, definitions of terms, and benefits of the study)

2) Chapter 2 Literature review and conceptual framework (concepts and theories of organization, organizational performance and organizational capacity, theories of leadership, concepts of resources, type, group, age, size and conceptual framework)

3) Chapter 3 Research methodology (unit of analysis, population and sampling, operational definitions, measurement, data collection, data analysis and hypotheses)

4) Chapter 4 Findings about demographic information and results of hypothesis testing

5) Chapter 5 Conclusions and recommendations (discussion, recommendations or contributions, and future researches)

CHAPTER 2

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

The literature review chapter examines the literature on organizational capacity of public higher educational institutions in Thailand, concepts and theories related to the dependent variables, i.e., organizational theory, organizational performance, organizational capacity, and concepts and theories related to the independent variables, i.e., leadership, resource, type, group, age, and size.

2.1 Concepts and Theories of Organization, Organizational Performance and Organizational Capacity

This part begins by defining organizational theory, organizational performance and organizational capacity. Elements of organizational theory are presented with focus on the relationship between humans and the environment.

2.1.1 Organizational Theory

Organizational theory concerns culture and human emotion, rules, roles, strategies and the historical foundation of an organization. The basic components of an organization are new thinkings, people, transactions, the institutional context, the historical foundation, and processes. Accordingly, organizational theory focuses on human, process, structure, strategy and demography. Fundamental problems confronting general managers are: 1) human problems, 2) process problems in changing new thinkings to good prevalence, 3) structural problems of managing part-whole relationships, 4) strategic problems of organizational leadership, and 5) historical foundation problems (Van De Ven , 1986; Avolio and Gardner, 2005).

Human behaviors or people needs of organizations were referred in organizational theory practices. The importance behaviors and needs of human or people concern culture, emotion and feeling.

2.1.1.1 Humans.

Organizational theory explains human behaviors and human needs by discussing culture, emotion and feeling related to their attitudes, values and beliefs. People's culture, emotions and feelings are important drives for organizational development. Culture is part of the management process which has both direct and indirect impacts on the organization (Rappaport, 1995; Leidner and Kayworth, 2006). Organizational culture accounts for the values that influence the attitude and the behavior of organizational members (Cooper, 2000). Not only does culture contribute to the organization's regulations but it is also the foundation of an organization that focuses on specific developments, such as entrepreneurship, risk management, and ability in self-adjustment (Moynihan and Pandey, 2005). A great organization needs to have the culture of creative discipline (Collins, 2001).

Attitude and culture are not only considered separately but also different methods are used to achieve the same organizational goals (Damanpour, Walker and Avellaneda, 2009; Guldenmund, 2007). Each person's attitude influences the process, the mechanism and the support of organizational management (Stein, 1995).

Personal values also influence organizational values. Some values come from moral development and satisfaction of an individual's need. Other values are common organizational values (Vardi and Wiener, 1996). At the industrial level, differences in the value of choosing types of innovation can increase the profit from the operation (Damanpour et al., 2009).

Feeling of human, bad feelings of the organization's members while that organization is facing a problem will cause fatigue among people in the organization (Zapf, 2002).

The process of organizations relates to rules. Steps of work processes were specified by rules and regulations, they tell number steps of work processes from start to finish. More rules are more steps, more costs and more times.

2.1.1.2 Process

Organizational theory describes the work process related to an organization, especially the rules and regulations. The work process influences an organization. Although the work process may cause a little problem, it affects trust and initiative. Without the work process management, cooperation and creation will be stopped, the product cost will be high, and new ideas will not be understood (Kim and Mauborgne, 1997). The work process influences the reputation and the effectiveness of the organization. It is controlled by organizations that drive the society, public opinions, political parties and elites (Soule and Olzak, 2004). Complicated conditions in the work process can deviate the organization from success (Cheng and Van De Ven, 1996). The important traditional core criteria of being a state are ownership (e.g. legal status, etc), organizational output and bureaucratic work process (Bozeman and Bretschneider, 1994).

Communication in the network, the management of work process is very important for achieving a satisfactory result (Edelenbos and Klijn, 2006).

Process affects the prevalence and effectiveness of organizations (Sauder et al., 2009). Public organizations are complicated and ambiguous. They need cooperation and submission, so there are many complicated rules and regulations; they work more slowly than private organizations (Rainey and Bozeman, 2000; Alford, 2002). The importance of the government's rules and regulations can be clearly seen in developing countries (Zhu, Kraemer, Xu and Dedrick, 2004).

The structure of organizations related to roles and controls that specify on people in organizations. Centralization or decentralization of power in organizations depends on the structure.

2.1.1.3 Structure

Organizational theory explains the organizational structure by describing the role and the control of people in the organization. It explains centralization and decentralization of power. The structure influences an organization. Whether power will be centralized or decentralized depends on the organization's competition (Ingram and Clay, 2000). Structure and governance enable people to know about what, why, and how organization performs (Lynn, Heinrich and Hill, 2000). The customer-company (C-C) structure will be used if the product brand is positively

accepted (Ahearne, Bhattacharya and Gruen, 2005). The organizational structure will be developed to be the most efficient and the most effective so as to react to the needs of the community, individuals and families (Bryson, 1988). Role of public organizations have both opportunities and responsibility to create the environment that makes people feel that the organization will do well to the public. Understanding of people of the organization will assist in building a good relationship between the organization and the public (Kent and Taylor, 2002; Moynihan and Pandey, 2007).

The role and the social network affect the structure, and management of the network not only influences the overall organizational performance but also positively affects the lagged dependent variable. Moreover, it indirectly affects organizational resources and enhances the performance (Barley, 1990; Meier and O'toole, 2001).

The strategy of organizations relate to their knowledge and learning that can modify thinking of people in organizations to adapt for change to survival and growth.

2.1.1.4 Strategies

Organizational theory explains strategies for self-adjustment and change. The concept of the organizational environment concerns the belief that the organizational environment and the strategy affect change. For an organization to survive and grow, it must change to cope with the reality. The strategies influence an organization as it effects change. A strategy consists of structure, elements, objectives and proof of operational efficiency of the organization (Agranoff and McGuire, 1998). A strategy may be transformed from management of control power, the environment, the commitment, and the desire to gain advantage in the competition (Banerjee, 2001). Strategy must be in line with the leader's creation, vision and value so that he can empower the team and individuals and follow up the implementation of the organizational commitments, which will enable the organization to achieve the goal (Kogut and Kulatilaka, 2001; Fry, 2003). Dissimilar organizational environments can influence the implementation of change and lead to different quality-improvement strategies (Grol, Bosch, Hulscher, Eccles and Wensing, 2007). Strategies for high-level performance take times to get an excellent outcome (Rivkin, 2000).

Different strategies relate to organizational goals and objectives. Determination of difference in the structure, arrangement of networks across strategic purposes, and demonstration is identified strategic types of the networks that capacities are required for operating the network in single organizations (Agranoff and McGuire, 1998). Product function, as an agency for assigning resources to manage the change within functional organization, and as an agency for managing uncertainty is viewed as strategies for projects as a temporary organization (Turner and Müller, 2003).

The demography of organizations related to goals and purposes, historical foundations and characters. They identify organizational features that are public organizations, private organizations or nonprofit organizations.

2.1.1.5 Demography

Organizational theory explains the demographic characteristics of an organization by describing the historical foundation of the organization, which indicates the identity of organization. Public, private and non-governmental organizations differ goals and objectives. Original goals and objectives can indicate the identity of demographic characteristics of organization. Demography of organization influences organizational development. Goals and objectives as root of organizations obstruct the change. Each organization has different identities such as education, health, industry, service, etc. Identity of organizations describes type, group, geography, culture and intimacy in the organization and will bring people close to each other and to information, thus giving rise to unity and advantage (Porter, 1998).

The demographic characteristics of an organization are type, gender, size, group and age. They account for what happens at present and are the factors that can lead to change in the future (Lawrence, 1997). Identity of an organization indicates behaviors inside the organization. Example, the types of organizational misbehavior are: Type intends to benefit the self; to benefit the organization; and to inflict damage (Vardi and Wiener, 1996). Similarly, gender and experience, organizational identity can reflect that both genders and experience negative affect to satisfaction of job, job removal, and career salience. Experiences of impolite workplace are also associated with greater psychological distress; however, indices of

the psychological and physical health are relatively unaffected (Cortina, Magley, Williams and Langhout, 2001). Also, age and size of an organization are important; the age of the organization and government allocated budget can tell its organizational status and size.

Priority of goals influences to the identity of organizations. The organizational performance is composed of the effectiveness of management, objectives of customer service, and effectiveness of work quality, directing, evaluation and ambiguity in priorityzing. The goals have a negative impact on the effectiveness of management (Chun and Rainey, 2005).

Table 2.1 Summary of Dimensions of an Organization

Researchers	Organizations and Sample Size	Dimensions of the organization				
		Human	Process	Structure	Strategy	Demography
Van De Ven and Andrew (1986)	Innovations , US	✓	✓	✓	✓	✓
John M. Bryson, (1988)	Public and non-profit organizations, US		✓	✓	✓	✓
Barley, (1990)	Organization's social networks, UK	✓	✓	✓	✓	✓
Bozeman and Bretschneider, (1994)	Public and private organizations, US	✓	✓	✓	✓	✓
Rappaport, (1995)	The community, the organizational, and the cultural, US	✓	✓	✓		✓
Stein. (1995)	Review of concepts and recommendations for management	✓	✓	✓	✓	✓
Cheng and Van De Ven, (1996)	Two biomedical innovations, US		✓			
Vardi and Wiener, (1996)	Organizations, US	✓	✓	✓		✓

Table 2.1 (Continued)

Researchers	Organizations and Sample Size	Dimensions of the organization				
		Human	Process	Structure	Strategy	Demography
Kim, W.C. and Mauborgne, R., (1997)	Employees, teams, joint ventures, supplier partnerships, South Korea	✓	✓	✓	✓	✓
Lawrence, (1997)	Organizational demography, US					✓
Porter, (1998)	Clusters, US	✓	✓	✓	✓	✓
Agranoff and McGuire, (1998)	Economic development in 237 cities, US	✓	✓	✓	✓	✓
Cooper, (2000)	Both a theoretical and practical framework	✓	✓	✓		✓
Rivkin, (2000)	Firms, US	✓	✓	✓	✓	✓
Rainey et al., (2000)	Public and private organizations, US	✓	✓	✓	✓	✓
Lynn Jr. et al., (2000)	Public organizations, US	✓	✓	✓	✓	✓
Ingram and Clay, (2000).	public/private institutions, US	✓	✓	✓	✓	✓
Kogut and Kulatilaka, (2001)	Firms, US		✓	✓	✓	✓
Cortina, et al., (2001).	1,180 public-sector employees, US	✓	✓	✓		✓

Table 2.1 (Continued)

Researchers	Organizations and Sample Size	Dimensions of the organization				
		Human	Process	Structure	Strategy	Demography
Meier and O'Toole Jr., (2001)	Several hundred school districts in Texas, US	✓	✓	✓	✓	✓
Collins, (2001)	Organizations, US	✓	✓	✓	✓	✓
Farrell, (2001)	Nurses, Australia	✓	✓	✓		✓
Banerjee, (2001)	Environmental organizations, Australia	✓	✓	✓	✓	✓
Alford, J. (2002)	Client in the public sector, US	✓	✓	✓	✓	✓
Zapf (2002)	Emotion work (emotional labor), Germany	✓	✓	✓		
Kent and Taylor, (2002)	Organizational and public interests, US	✓	✓	✓	✓	✓
Louis W. Fry (2003)	Across the individual, team, and organizational levels, US	✓	✓	✓	✓	✓
Turner and Müller, (2003)	The project	✓	✓	✓		✓
Soule and Olzak, (2004).	Social movement organizations, US	✓	✓	✓	✓	✓

Table 2.1 (Continued)

Researchers	Organizations and Sample Size	Dimensions of the organization				
		Human	Process	Structure	Strategy	Demography
Zhu, K., Kraemer, K.L., Xu, S., and Dedrick, J. (2004)	612 firms across 10 countries in the	✓	✓	✓		✓
Avolio and Gardner, (2005)	University of Nebraska-Lincoln, US	✓	✓	✓	✓	✓
D'Amour et al., (2005)	Health organizations, Canada	✓	✓	✓	✓	✓
Ahearne et al., (2005)	Customer -company (C-C) relationships, US	✓	✓	✓	✓	✓
Chun and Rainey, (2005)	Government organizations, US	✓	✓	✓		✓
Moynihan Donald P. and Pandey Sanjay K., (2005)	274 state government health and human services officials, US	✓	✓	✓	✓	✓
Leidner and Kayworth, (2006)	Relationship of IT and culture, US	✓	✓			✓
Edelenbos and Klijjn, (2006)	A lot of local governments, Netherland	✓	✓	✓		✓
Grol et al., (2007)	Health care, Netherland	✓	✓	✓	✓	✓
Moynihan and Pandey, (2007)	State government health and human service managers, US	✓	✓	✓	✓	✓

Table 2.1 (Continued)

Researchers	Organizations and Sample Size	Dimensions of the organization				
		Human	Process	Structure	Strategy	Demography
Guldenmund, (2007)	Organizations, Netherland	✓	✓	✓		✓
Damanpour et al., (2009)	428 public service organizations in the UK	✓	✓	✓		✓
Sauder and Espeland, (2009)	School organizations, US	✓	✓	✓		✓

2.1.2 Organizational Performance

Organizational performance concerns goal, objective, culture, emotion and feeling. They are defined as systematic and objective search for analysis of information relevant to identification and solution of any problem. Many factors influence organizational performance. Attitude toward work, satisfaction with work, and resignation are attitude to trust of getting fairness in work and performance (Aryee, Budhwar and Chen, 2002). Measurement of organizational performance depends on the goal and type of organizations: public, private or non-governmental organizations. Most previous research on organizational performance concerned output quantity, output quality, outcome and efficiency (Bryson, 1988). Organizational performance of public organizations is influenced by efficiency, effectiveness, and fairness. Organizational performance depends on personal factors, namely job satisfaction, commitment, motivation, and behavior of people in the organization (Kim, 2005). Organizational performance can be measured by considering income, efficiency, employment, sanitary development, management capability, human resource, internal auditing, labor relations, corporate culture, organizational reputation, and examination of cost development (Carmeli and Tishler, 2004). Organizational performance can be measured both quantitatively and qualitatively. Quantitative organizational performance depends on efficiency and output quantity. Quality organizational performance depends on reliability, quality, innovation and morale of the employees (Verbeeten, 2008). Organizational performance can increase efficiency by building the product and service quality, efficiency and effectiveness (Meier, O'Toole, Boyne and Walker, 2006; Meyers, Verhoest and Beuselink, 2006). Performance can be measured by considering service quality and work efficiency (Letangule and Letting, 2012). Health systems performers will concern income and old people (Blendon, Kim and Benson, 2001).

Usually, quality of performance is measured. The great management emphasizes on unification between measures of resource utilization, quality and competitiveness within the focal organization (Marshall, Shekelle, Leatherman and Brook, 2000; Yousef, 2000; Brignall and Modell, 2000). Public sector performance is related to the following: enhancing the quality of public infrastructure; augmenting administrative performance (by fighting corruption, reducing state bureaucracy),

enlarging the quality of justice and education (Mihaiu, Opreana and Gristescu, 2010). Also, the privatization triggers the firm's management, governance structure, goal, incentive, control, strategy, and organizations (Cuervo and Villalonga, 2000).

Measurement of performance depends on an organization: public, private, non-governmental organization .ect. Various measurements related to the goal of an organization. Measurement of performance is the desire to have a process to implement the fair policy and to reasonably increase the control from the approach to the goal. Differences in disco-management in work will cause difference in operation and performance (Townley, Cooper and Oakes, 2003). Measurement of multi-dimension of performance will be widely useful (Modell, 2001). Measurement of performance measurement in OECD countries consists of 1) development of the measurement systems by comparing it with those in the other countries (for example, citizens license and quality awards), 2) measurement of customer satisfaction (e.g., number of complaints about the products), 3) measurement of work quantity (e.g., the impact of the project on the customers) (Kouzmin, LoEffler, Klages and Korac-Kakabadse, 1999). Measurement of logistic performance, which is considered from financial statistics (e.g. net income, total sale volume,), cost statistics such as transport cost, labor costs), measurement of raw material input and products (e.g. number of delivered products, number of delivery hours), and measurement of quality (e.g. time used in the whole system (Chow, Heaver and Henriksson, 1994).

Measurement of care performance includes patient-centers, proactive, planned and setting of collaborative goal, problem-solving and follow-up support (Glasgow, Wagner, Schaefer, Mahoney, Reid and Greene, 2005). Measurement of performance of public health system consists mutual relation of circumstance, mission, structural capacity, processes, and outcomes (Handler, Issl and Turnock, 2001).

In national benchmarks, care performance is patient satisfaction i.e., pointers of quality in disease prevention and treatment (Perlin, Kolodner and Roswell, 2004). In health research, performance is the quality of health care, retention of a broader perspective on health and its other determinants. Public health care provision is more efficient than private health care provision (Arah, Westert, Hurst and Klazinga, 2006; Hollingsworth, Dawson and Maniadakis, 1999).

Management, implement, specialization and teamwork are performance. Care givers, managers, external policy makers in continuously improve the outcome of intensive care have been to intervened (Shortell et al., 1994).

Performance measurement of the successive strategies aims to prevent negative outcomes, which are tolerated for competing product definitions, banning a monopoly on interpreting production figures, limiting the functions of forums, strategically limiting the products that can be subjected to performance measurement, and using a process perspective of performance in addition to a product perspective (De Bruijn, 2002).

Performance is publicized though the networks will be swift, accurate, and reliable (Syed-Ikhsan and Rowland, 2004). In the network company, most profit in the subsidiaries is well lesson for their production by the merze of organizations (Stuart, Hoang and Hybels, 1999). Networks influence organizational performance. Networks have both independent and dependent impacts on the variable “geography”. Regional characteristics influence the integration of centers to upgrade innovation (Whittington, Owen-Smith and Powell, 2009).

Network management is related to not only the whole organizational performance but also has a positive effect in work variables (Meier and O’Toole., 2001). In the company that moves up to be e-business, the business value will move from spending to the capability dimension of the organization. Financial resource is an important factor for national development, while capability of technology is more important in developing the country. Technology is a strongest factor for business value. Similarly, financial resource, global scope, and controlled environment also contribute to business value. The business size is negatively related to e-business. The structural inertia in the merze of large-scale company will slow down the business. Pressure from competition will drive the company to adaptation, but business value will be increased by resources within the organization, e.g., technological readiness, rather than by pressure from outside the organization (Zhu et al., 2004).

Many organizations claim that indicators of performance are following: finances (shareholder, income, economic value added, etc); output (produced or processed units); impact (achieve to standard, quality, level of service, etc); reaction (judgment by colleagues, internal and external customers and others); time (speed of

response or turn-around, achievements compared with time tables, amount of backlog, time to market, delivery time, etc.) (Esu and Inyang, 2009). Assessment of performance concerns judgments about the service performance of authority and improvement (Andrews Rhys, Boyne and Walker, 2006). Good performance of job depends on service-mindedness and concern for order, quality, and accuracy of effective performance (Vichita Vathanophas and Jintawee Thai-ngam, 2007).

Some organizations claim that organizational performance relates to HR practices and trust (Gould-Williams, 2003). Performance is related to human capital. It is the most dynamic. Process management to develop intellectual capital can enhance the value creation capabilities. Intellectual capital management can provide a number of benefits: times shortening, cost savings, and creation of new values (Edvinsson, 1997). Performance of firms that utilize human resource practices has higher stock prices (Vogus and Welbourne, 2003). Performance-based reward system can positively associate with the high levels of employee knowledge-sharing capabilities (Kim and Lee, 2006).

In private organizations, performance of business people depends on the fact that labor rates are the same as labor costs. People work primarily for money as performance (Pfeffer, 1998). Performance affects strategic change process by budgeting use (Abernethy and Brownell, 1999).

In public organizations, performance of an organization is related to regulations. Regulations of government play a much more important role for organizational development (Zhu et al., 2004). Performance of public organizations requires some reactions from service recipients - such as cooperation and compliance -which are crucial for effective organizational performance (Alford, 2002). Performance of the organizations adopting customer orientation refines understanding the crucial roles of leadership, interfunctional coordination, collection and dissemination of customer-focused data in the transformation process (Kennedy, Goolsley and Arnould, 2003). Performance appears in operation, indicating the need for the combined and integrated effects of the different dimensions (Verhoest, Peters, Bouckaert and Verschuere, 2004).

The performance of organization is mainly composed of output quantity, output quality, outcome and efficiency. (See Table 2.2)

Table 2.2 Summary of Dimensions of Organizational Performance

Researchers	Organizations and Sample Size	Dimensions of Performance			
		Output Quantity	Output Quality	Outcome	Efficiency
John M. Bryson, (1988)	Public and non-profit organizations, US			✓	✓
Shortell S.M. et al., (1994)	17,440 patients across 42 ICUs, US		✓	✓	✓
Chow Garland, Heaver Trevor D. and Henriksson Lennart E., (1994)	Logistics Firms in Saudi Arabian	✓	✓	✓	✓
Edvinsson, (1997)	Skandia Navigator, U.S.	✓	✓	✓	✓
Pfeffer, J., (1998)	Business people, U.S.	✓	✓	✓	✓
Abernethy, M.A. and Brownell, P., (1999)	Chief Executive Officers in 63 public hospitals, U.S.	✓	✓	✓	✓
Hollingsworth, B., Dawson P.J., and Maniadakis, N., (1999)	Hospitals and health care from both the U.S. and EU	✓	✓		✓

Table 2.2 (Continued)

Researchers	Organizations and Sample Size	Dimensions of Performance			
		Output Quantity	Output Quality	Outcome	Efficiency
Stuart, T.E., Hoang, H., and Hybels, R.C., (1999)	Biotechnology firms, US	✓	✓	✓	✓
Marcus, A.A., and Nichols, M.L., (1999)	Two plants, US	✓	✓	✓	✓
Kouzmin Alexander, Loëffler Elke and Klages Helmut, Korac- Kakabadse Nada, (1999)	Public sectors in OECD countries	✓	✓	✓	✓
Marshall Martin N., Shekelle Paul G., Leatherman Sheila, Brook Robert H., (2000)	Hospitals, health professionals, and health care organizations in the US		✓	✓	✓
Stan Brignall and Sven Modell (2000)	Public Sector, UK and Scandinavia	✓	✓	✓	✓

Table 2.2 (Continued)

Researchers	Organizations and Sample Size	Dimensions of Performance			
		Output Quantity	Output Quality	Outcome	Efficiency
Yousef Darwish A., (2000)	430 individuals working in 30 different organizations in the UAE		✓		✓
Vigoda, E., (2000)	303 individuals of public personnel from two local municipalities in the north of Israel	✓	✓	✓	✓
Cuervo, A. and Villalonga, B., (2000)	privatized firms, US	✓	✓	✓	✓
Rivkin, J.W., (2000)	Two aspects of strategic complexity, US	✓	✓	✓	✓
Handler Arden, Issel Michele, and Turnock Bernard, (2001)	Public Health organizations, US	✓	✓	✓	

Table 2.2 (Continued)

Researchers	Organizations and Sample Size	Dimensions of Performance			
		Output Quantity	Output Quality	Outcome	Efficiency
Meier, K.J. and O'Toole, L.J. (2001)	several hundred school districts in Texas	✓	✓	✓	✓
Blendon, R.J., Kim, M., Benson, J.M. (2001)	Seventeen industrialized countries	✓	✓	✓	✓
Modell, S. (2001)	Norwegian health care sector	✓	✓	✓	✓
De Bruijn, H. (2002)	Public, professional organizations , Netherlands	✓	✓	✓	✓
Aryee, S., Budhwar, P.S., and Chen, Z.X., (2002)	Employees of a public sector organization in India	✓	✓	✓	✓
Alford, J. (2002)	Client in the public sector, US	✓	✓	✓	✓

Table 2.2 (Continued)

Researchers	Organizations and Sample Size	Dimensions of Performance			
		Output Quantity	Output Quality	Outcome	Efficiency
Vogus, T.J. and Welbourne, T.M., (2003)	184 initial public offering (IPO) software firms, U.S.	✓	✓	✓	✓
Gould-Williams, J. (2003)	UK local government employees	✓	✓	✓	✓
Townley, B., Cooper, D.J., and Oakes, L. (2003)	Provincial Government of Alberta, Canada	✓	✓	✓	✓
Kennedy, K.N., Goolsby, J.R., Arnould, E.J. (2003)	Public school district, US	✓	✓	✓	✓
Syed-Ikhsan Syed Omar Sharifuddin and Rowland Fytton, (2004)	204 both regional and state grade 1 to grade 6, Malaysia	✓	✓	✓	✓
Carmeli, A. and Tishler, A., (2004)	Local government authorities in Israel	✓	✓	✓	✓

Table 2.2 (Continued)

Researchers	Organizations and Sample Size	Dimensions of Performance			
		Output Quantity	Output Quality	Outcome	Efficiency
Perlin, J.B., Kolodner, R.M., Roswell, R.H. (2004)	the Department of Veterans Affairs (VA), US		✓		
Zhu, K., Kraemer, K.L., Xu, S., and Dedrick, J. (2004)	612 firms across 10 countries of the financial services industry	✓	✓	✓	✓
Verhoest, K. et al., (2004)	Public organisations, US	✓	✓	✓	✓
Glasgow, R.E., et al., (2005)	283 adults chronic illness from a large integrated health care, US		✓		
Kim, (2005)	1,739 public employees in government agencies, Korea	✓	✓	✓	✓

Table 2.2 (Continued)

Researchers	Organizations and Sample Size	Dimensions of Performance			
		Output Quantity	Output Quality	Outcome	Efficiency
Meier Kenneth J., O'Toole Laurence J., Boyne George A., and Walker Richard M. (2006)	1,000+ Texas school district superintendents, US		✓	✓	✓
Meyers Falke, Verhoest Koen and Beuselinck Eva, (2006)	124 Flemish public sector organizations, Belgium		✓	✓	✓
Kim, S., Lee, H. (2006)	five public sector and five private sector organizations' employees in South Korea	✓	✓	✓	✓

Table 2.2 (Continued)

Researchers	Organizations and Sample Size	Dimensions of Performance			
		Output Quantity	Output Quality	Outcome	Efficiency
Arah, O.A., Westert, G.P., Hurst, J., and Klazinga, N.S. (2006)	Organization for Economic Cooperation and Development (OECD), UK		✓		
Vathanophas Vichita and Thai-ngam Jintawee, (2007)	Department of Agriculture, Thailand	✓	✓	✓	✓
Frank, H.M. Verbeeten, (2008)	93 public organizations in the Netherlands	✓	✓		✓
Esu Bassey B. and Inyang Benjamin J., (2009)	Public sector in Nigeria	✓	✓	✓	
Damanpour, F., Walker, R.M., Avellaneda, C.N. (2009)	428 public organizations in the UK	✓	✓	✓	✓

Table 2.2 (Continued)

Researchers	Organizations and Sample Size	Dimensions of Performance			
		Output Quantity	Output Quality	Outcome	Efficiency
Whittington, K.B., Owen-Smith, J., and Powell, W.W. (2009)	Firms in industrial districts and regional clusters across a 12-year period, 1988-1999. U.S.	✓	✓	✓	✓
Mihaiu Diana Marieta, Opreana Alin, and Cristescu Marian Pompiliu (2010)	Public sector in Romania	✓	✓	✓	✓
Letangule Solomon Leiro and Letting Nicholas K. (2012)	Ministry of Education, Kenya		✓		✓

2.1.3 Organizational Capacity

Explaining historical foundation of organizational capacity and defining organizational capacity recognizes different perspectives as: 1) resources, 2) capabilities and 3) outcomes. They identify different types of organizational capacity: a) infrastructure, b) management, c) knowledge and learning, and d) collaboration.

2.1.3.1 Foundation of Capacity

Constructing of the centrepiece of capacity has been reforms since the 1980s. Meanwhile, public organizations are not yet aligned with the complex problems. They are expected to resolve complexity and uncertainty. They require practitioners to work with 1) a broader definition of public results, 2) an expanded view of the role of government and range of the possible relationships between government and citizens, and 3) a more dynamic approach to public administration (Bourgon, 2010).

Capacity of the project to continue delivering its intended benefits over a long period of time is sustainability. Community gains an access to local knowledge, skills and resources that need carry out activities, as well as to respond to and proactively create changes in its environment into the future (Mona, Shediach-Rizkallah and Bone, 1998; Naccarella, Pirkis, Kalm, Marlay, Burgers and Blashki, 2007; Goldberg and Bryant, 2012).

Public organizations assess the 'performance' by evaluating capacity at 'co-ordinate' policies and activities (democratic participation, co-ordination, and political accountability) collaboration and equity (Preskill and Torres 1999; Wollmann, 2004; Kendall, Muenchberger, Sunderland, Harris and Cowan, 2012; Cohen et al., 2013).

The crucial foundations for building capacity are leadership, resourcing and intelligence, partnerships, project management quality, organizational development, workforce development and community development. Examining middle level managers' perceptions of shared leadership helps understand organizational trends and capacity for leadership (Baillie, Bjarnholt, Gruber and Hughes, 2009; Trudy, Diliello and Houghton, 2006; Fredericksen et al., 2000; Gore, 2011).

Stages of capacity of cares are built as startup (assessing center readiness and developing standard operation guides), then training (train staff and others as requested on Good Clinical Practice (GCP), monitoring (creating supports and assuring with quality standards) and management (designing systems to management at once) (Vian et al., 2013).

Capacity is the cultivation of collegial trust (Cosner, 2009). Programs and organizations can be defined as the adequacy of inputs (knowledge, financial resources, trained personnel, well-managed strategic partnerships, etc.) carry out a program or operate an organization to achieve desired outcomes. Capacity, organization and program sustainability are affected factors of upstream, midstream, and downstream (Cassidy, Leviton and Hunter, 2006).

Stronger guidance capacity is made by governance, it contributes to stronger fragmentation but it has ambiguous effects. (Koch, 2008).

Capacity as Resources. Capacity is inputs into an organization's production process, attracting resource approaches to organizations from context (human, financial, technical, knowledge resources) and resource characters as both tangible and intangible

Capacity as Organizational Capability. Capacity is the mechanism of organizations to absorb resources for specific routes that produce an organizational capability, know how of the organization, transforming resources into organizational output and management capacity.

Capacity as Organizational Competency. Capacity is organizational effectiveness, potential effectiveness and positively impact organizational performance.

The main concepts of capacity are three specific dimensions: resources, capabilities and competencies (Bryan, 2011). See table 2.3

Table 2.3 Approaches to Defining Organizational Capacity

Resources	Capabilities	Competencies
- Resources for attracting from the environment (human, financial, technical, knowledge resources)	- The mechanism of organizations to absorb and gather resources to specific ways that produce an organization's production.	- Organizational effectiveness related to resources and capabilities.
- Resources can be characterized as both tangible and intangible	- Basic "know how" of the organization	- Realized effectiveness as well as potential effectiveness
	- For transforming resources to organizational output	- Positively impact organizational performance can be assess
	- Public management as "management capacity"	to output-based of organizational attributes.

Source: Bryan, 2011: 9.

Three broad categories of what constitutes the concept of organizational capacity are

- 1) Resources - inputs into production processes of an organization that results to the basal ability of an organizational work.
- 2) Capabilities – ability to attract and gather resources in specific paths generates an organizational capability.
- 3) Competencies-resources and capabilities are connected to organizational effectiveness.

Furthermore, Bryan (2011) identified four types of capacity are

- 1) Infrastructure—an organization's administrative and operational capacity, including its basic management systems.

2) Management - an organization's management ability to utilize the basic structure of capacity and available organizational resources to achieve organizational goals.

3) Knowledge and Learning – an organizational ability to learn to “do things differently” and to embed new policies and operations in processes of organizations. Adaptive capacity, absorptive capacity, practice theory on learning and theoretical perspectives.

4) Collaboration–skills of organizations to promote effective collaboration, sustain efforts and support enhanced organizational performance.

Capacity development encompasses sub-capacities and hierarchical dimensions. Mission, vision, value, strategy, leadership, management and culture are the main categories of capacity that provides the roles and responsibilities for the group of actors that execute and thereby contribute to the performance. Sub-capacities are capacity of organizations, institutions, human, sciences, techniques and resources (Eisinger 2002; Sobeck and Agius, 2007; Van Loon, Driessen, Kalhoff and Runhaar, 2010).

Table 2.4 Summary of Dimensions of Organizational Capacity

Dimensions	Definitions	Components
Infrastructure	An organization's administrative and operational capacity	<p>Basal administration systems, which include:</p> <p>1) Planning&operation human resource systems include employee recruitment to retirement.</p> <p>2) Planning&operation information management systems include computer, software, data capabilities and usefulness.</p> <p>3) Planning&operation financial management systems include budgeting process and financial accountability</p>

Table 2.4 (Continued)

Dimensions	Definitions	Components
		processes.
		4) Planning&operation property management systems include maintenance of buildings and facilities.
Management	An organization's management ability to utilize the infrastructural capacity and available organizational resources to achieve organizational goals.	1) Concentrated management at a leadership who provides vision and acts as an integrator of management systems 2) Stress strategic actors to managers as identify and implement dynamic skills that result in improved organizational performance.
Knowledge and Learning	Organizational skills to learn to “do things differently” and rooted in new policies and practices within existing organizational processes	1) Adaptable skills: the skill of organizations to learn and react to change of environment as affected by managerial commitment to learn, systematic perspectives, openness to experimentation and extent to which knowledge is absorbed and integrated within the organization 2) Absorptive skills: organizational routines and processes, by which organizations develop, assimilate and apply new knowledge. Main processes include knowledge acquisition, assimilation and codification. 3) Organizational knowing practice: capability is enacted every day through practice. Key variables include daily

Table 2.4 (Continued)

Dimensions	Definitions	Components
		experience and past relationships.
Collaboration	An organizational ability to advance a productive collaboration that sustains efforts and support enhanced organizational performance	1) Access to increased financial resources 2) Access to increased nonfinancial resources 3) Achieving reputation by increasing organizational credibility and legitimacy

Source: Bryan, 2011: 15-17.

Organizational capacity of the scholarly definitions was vague nature. Capacity goes on to be an elusive concept in literature about public higher educational institutions. It lacks of accuracy close to the ideas that have been noted by a number of scholars. As a result of the definitions demonstrate, scholars have roughly/broadly defined organizational capacity. Although the crucial capacity is referred frequently as an important variable in organizational analysis, scholars have defined the idea and its dimensions differently. At this point, there is no consensus in the literature about what constitutes organizational capacity.

To sum up, the important dimensions and types of organizational capacity are infrastructure: ability of human resources, financial resources, and information technology; management: ability of leadership and stakeholder commitments; knowledge and learning: ability to learn to adapt to change; collaboration: ability of sustain efforts and support enhanced organizational performance.

2.1.3.2 The Important Capacity

1) Human Resources

Human resource consists skill, knowledge, experience and human resource management. Although humans cannot be the main asset of the organization when compared to the structural cost, they change most, often. A challenge is the management of human resource development to upgrade the work skills. All organizations state high important of human resource. Human resource enables the company to influence the customers and organizational effectiveness (Mithas, Ramasubbu and Sambamurthy, 2011). A team with a doctoral degree member directly operating the risk fund will be appraised to have a high value (Hsu, 2007). An organization where human resource creates and uses innovation will have a higher share price (Vogus and Welbourne, 2003). The important operational forces of HR are trust and organizational performance (Gould-Williams, 2003). Human resource management can lead to profits, such as a steep learning route, short leading time, cost-saving, and creation of new values (Edvinsson, 1997).

Human resource significantly affects the organizational performance, which is related to behavior of the people in service organizations (Sun, Aryee and Law, 2007). Human resource management affects employee satisfaction, commitment and employee outcome (Takeuchi, Chen and Lepak, 2009).

Human resource management of public organizations differs from private organizations. The performance of public organizations' employees is related to politics in the organization (Viguda, 2000). Private organizations' employers will give reasons for payment as follows: 1) the wage rate is like the labor cost; 2) cutting the labor rate will reduce the labor cost; 3) the wage is the overall cost of the company; 4) keeping the labor cost at a low level enable the company to be able to compete sustainably; 5) an intensive pay for an individual will enable the performance to be improved; 6) people work for money (Pfeffer, 1998).

As the rapid change, there is increase in emotional distress among staffs and employers (Woodward et. al., 1999). Initial investor reaction and long-term survival can be indicated by relationship between human resources and organization-based rewards (Welbourne and Andrews, 1996).

The important questions about relationship between the human resource management and performance, however, cannot be answered yet, although much research has been able to operate the linkages between HRM, performance and management of HR implementation (Guest, 2011).

2) Financial Resources

Financial resource concerns liquidity, reliability, usefully financial resource data and financial management. The company's capability influences financial resource and organizational effectiveness (Mithas, Ramasubbu and Sambamurthy, 2011). Financial measurement influences organizational performance and reduces costs. Inspection of financial measurement and non-financial measurement of performance reveals that financial measurement is positively related to organizational performance (Stermann, Repenning and Kofman, 1997). Financial measurement depends on types of industry (dynamism, munificence and complexity) and capability of IT (Stoel and Muhanna, 2009).

Experience in financial success will increase the likelihood of the risk fund (Hsu, 2007). Using or not using finance can greatly affect the ability in choosing the global production chain structure, such as a desire to find a location and the number of conveniences for production and for employment that serves global demands (Ding, Dong and Kouvelis, 2007).

The ability to control the accounting systems and routine work of the organization can increase the effectiveness and the quality and can reduce the cost in a long run (Stermann, Repenning and Kofman, 1997).

3) Information Technology

Information technology concerns reliable, useful of data and information and information technology management. Information technology capacity influences process and organizational performance. Information technology improves process and organizational operations. The capability of information management shows an important role in developing other capabilities of the company in handling customers. Process and performance are among management variables that senior leaders find necessary for developing the IT foundation and for handling IT management because process and performance play an importance role in building other capabilities to improve the company's performance.

The capability of the company greatly influences its customers, financial resource, human resource, and organizational effectiveness (Mithas, Ramasubbu and Sambamurthy, 2011). The capability of IT or IT resources owned by the company, both inside and outside it, has an effect on the company's resources and competition (Stoel and Muhanna, 2009).

Among the social networks owned by the company, the capability to recruit executives has a positive effect on risk appraisal (Hsu, 2007). Employees in the public sector, social networks, the performance-based award system, and IT are highly positive factors, coupled with the employees' knowledge and ability (Kim and Lee, 2006).

4) Knowledge and Learning

Knowledge and learning concerns learning to change, training, education and knowledge management. Knowledge depends on education and training. Knowledge influences performance, improves human resource and enhances organizational operations. Building knowledge requires change at the foundation of the learning process (Wuchty, Jones and Uzzi, 2007). The building of human resource who combine scientific knowledge and technological knowledge is a way to support the performance. It stimulates the better quality of knowledge and builds a new body of knowledge (Makri, Hitt and Lane, 2010). Knowledge management is a mediator between strategic human resource training and innovative performance. Human resource practice is positively related to management of knowledge; it has positive effects on innovative performance (Chen, and Huang, 2009).

Education and training influence human resource, human capital and performance. Education, ability to access and use information technology for public management, is positively related to the wealth of the city (Caragliu, Del Bo and Nijkamp, 2011). Training is strongly related to organizational outcomes when it is in harmony with the organizational environment and the employee attitude. Human capital is an important mediator that affects the relationship between training and performance (Tharenou, Saks and Moore, 2007).

A crucial relationship issue is intellectual capital. Monitoring renewable resources is need. Once this is realized, new thinking will be possible to role of leadership, the finance, value creation and extraction. Thus, new thinking of

intellectual capital management can provide a number of benefits, such as shortened time and cost savings. New thinking ensures a new focus on core skills based on innovation and a new interpretation (Edvinsson, 1997).

Heavy investment and redistribution in public education, industry-specific and occupation-specific vocational skills characterize human capital formation. Skills can be done by high social insurance and vocational training in firm skills. Human capital development is supported by fewer spending on public education, and by heavy private investment in general skills but modest spending on public education and redistribution (Iversen and Stephens, 2008). Among rapid change of organizational environment, survival of organizations depends on investment of human capital. An increase in emotional distress among staff members and employers, rewards and human resource values can predict reaction and long-term survival (Woodward et. al., 1999; Welbourne and Andrews, 1996). Leaders can utilize some dimension to reflect human capital relevant to their organizations and stakeholders (Lim, Chan and Dallimore, 2010).

5) Stakeholder Commitments

Stakeholder commitments are achievements of commitment to stakeholders. Achievement of commitment influences stakeholders and performance. The company's reliable commitment strongly influences its stakeholders, slowing the replacement and threatening imitation at the same time (Mcevely, Das and McCabe, 2000). Commitment, business competition and performance will always be laid as the foundation of a company. Commitment is an important thing that shows competition and motivates the stakeholders (Erikson, 2002). The commitment of the company with organizational committee, ethical performance, and financial performance will have a higher rank of performance than the company without them (Verschoor, 1998).

Commitment influences finance, customers and organizational performance. Commitment is a criterion of a family business. It has a stronger relationship than financial performance only. It makes the family business reduce its size to be swollen than the company which is not a family business (Stavrou, Kassinis and Filotheou, 2007). Commitment and corporate social responsibility of the company are its marketing which can build its brandname, reputation, and advertising. Commitment implies the financial performance, quality and ethics, it influences the

recognition of the company' fame, customer trust and loyalty to the goods. Consumer trust and loyalty can reduce the risk because the consumers purchase and use the goods (Stanaland, Lwin and Murphy, 2011).

6) Collaboration

Collaboration indicates the relationship of an organization with outside organizations. It is defined as cooperation, partnership, power, dependency, and process. Collaboration influences resources, costs and customers of an organization. The outcome of collaboration is cost effectiveness (D'Amour, Ferrada-Videla, 2005; Stokols, Hall, Taylor and Maser, 2008). Collaboration will upgrade the distribution of innovations (Rosswurm and Larrabee, 1999). Collaboration with other companies and adaptation to innovation is the creative power of the company which is efficient in doing business (Teece, 2007). True collaboration in the supply chain gives rise to advantage and greatly influences the company's performance. Complete advantage of collaboration must go through the mediation between collaboration in the supply chain and the performance of small-sized business enterprises, while partly making contributions to large-sized business enterprises (Cao and Zhang, 2011). The company which has an alliance in a foreign country and can make contributions to the partner country from the beginning can change some of its alliance's debt into lever to get better profits (Lavie and Miller, 2008).

Collaboration influences organizational performance. The success of an organization need collaboration. Social responsibility involves collaboration. Public organizations and private companies should try to pay attention to initiation in competition with social responsibility (Murillo and Lozano, 2006). The company's social capital is an important endowment of organizations (Shane and Stuart, 2002). Professional partnership can minimize costs if the partner is associated with both the private and the public corporations (Greenwood and Empson, 2003). The linkage of alliances and internal capability influences performance. The linkage of supporters has an impact on technical capability and financial resource (G.Lee, K.Lee, and Pennings, 2001). The alliance path shows important role in the success or the failure of the alliance. An important learning process is composed of acceptable and very transparent collaboration, highly acceptable and untransparent competition, acceptable and moderately transparent compromise, unacceptable and very

transparent agreement, and avoidance of unacceptability and untransparency. Relationship between alliances, education, trust and long-term goals is forces in the learning process, as well (Larsson, Bengtsson, Henriksson and Sparks, 1998).

Collaboration influences organizational power. The need for collaboration from government officials, business operators, scientific experts, user groups, interest group, NGOs and representatives of stakeholders stems from technical complexity and social embeddedness (Bouwen and Taillieu, 2004). Collaboration is derived from strong teamwork. The quality of teamwork is strongly related to the strength of personal success of the teamwork members (Hoegl and Gemuenden, 2001). Increase in collaboration will weaken a diversity of demographic characteristics but will strengthen a psychological diversity. The transferred diversity will affect the real diversity, which affects the performance (Harrison, Price, Gavin and Florey, 2002).

Collaboration influences resources of an organization. Both a pathway of the exchange of resources and a signal which conveys social status and recognition are alliances. The organization in large and innovative alliance partners performs better than an organization that lacks partners. Firms with young, small, large and innovative strategic alliance partners benefit more than old and large organizations (Stuart, 2000). A desire to secure resources is the motivation to adopt partnership (Gazley and Brudney, 2007).

2.2 Concepts of Leadership, Resource, Type, Group, Age, and Size

This section begins by defining leadership based on different considerations prevalent in the literature: trust/integrity, democracy and participation, motivation, communication, decision-making and wisdom. The second section concentrates at identifying different types of resources which are found in the literature. Finally, it focuses on demography, i.e., type, group, age, and size.

2.2.1 Leadership

Scholars identify four different types of leadership. They are ethical leader, servant chief, transactional head and transformational leadership. Two leader styles

are democratic style and autocratic style. Ethical leadership involves good behavior, honesty, trust in the leader, interactional fairness, and socialized charisma (Brown, Treviño and Harrison, 2005). Servant leadership involves organizational trust, integrity, modeling, communication, competence and delegation (Joseph and Winston 2005). This type of leadership is only modestly related to motivational consequences (Javidan and Waldman, 2003). Transactional leadership involves rewards, management-by-exception and self-esteem (Podsakoff, MacKenzie and Bommer, 1996; Awamleh, Evans and Mahatee, 2005).

On the other hand, transformational leadership may be autocratic and directive styles or democratic and participative styles. This type of leadership focuses not only the value of the structural capital or the renovation development but also on the requirement of the highlight process of the long sustainability of the organization and to monitor root growth for sustainable cash-flow generation. Transformational leadership behaviors are charisma, inspiration, individualized consideration, intellectual stimulation, and substitute leadership. Each leader behavior has unique effects to follower criterion variables. Public organizational leadership behaves mainly transformations, moderately leveraging transactional relationships with their followers and heavily leveraging the importance of preserving integrity and ethics in the fulfillment of tasks (Orazi, Turrini and Valotti, 2013). Meanwhile, there is trend that women adapt a more democratic or participative style and men adapt a more autocratic or directive style.

Leadership behaviors are measured on the basis of honesty and integrity, motivation, intellectual stimulation, and administration by exception, contingent reward, and individualized consideration (Trottier, Van Wart and Wang, 2008).

A leader is need when the level of performance has not yet reached a point where competition advantage for resources (Deeds, Decarolis and Coombs, 2000). Executives can utilize some measures to human capital, which relate to organizations and stakeholders, especially the investment community (Lim, Chan and Dallimore, 2010).

The leadership process involves motivation, communication, decision-making, ordering and control, strategy, operational improvement and participation (Eagly and Johnson, 1990; Bass, 1997; Edvinsson, 1997; Yousef, 2000; Buck, Rochon, Davidsen

and Mc Curdy, 2004; Oakland and Tanner, 2007; Currie, Humphreys, Ucbasaram and Mcmanus, 2008).

Wisdom is a major resource for management. It relates to leadership and succeed beyond individual organizations and exerts positive effects to wider areas of society (Yang, 2011). Wisdom consists of the three crucial components; cognitive integration, embodiment, and positive effects. Wisdom depends on ethics, judgement, insight, creativity, and other transcendent forms of human intellect (McKenna, Rooney and Boal, 2009).

Wisdom is ethnography of involving a senior executive. Wisdom can characterize contemporary leadership (Case and Gosling, 2007). The five principles of wisdoms are 1) Wisdom is based on reasoning and observation. 2) Wisdom incorporates nonrational and subjective judgment. 3) Wisdom is directed to human and virtuous outcomes. 4) Wisdom must be practical. 5) Wisdom is articulate, aesthetic, and intrinsically rewarding and incorporates emotions (Rooney and McKenna, 2008).

Leadership has the characteristics of an entrepreneur. Like entrepreneur, leadership was decision-making power. Difference in the level of decision-making power can cause difference in performance (Kennedy et al., 2003; Verhoest et al., 2004). 'Stakeholder', 'entrepreneurial' and 'political' are characterized of public entrepreneurship (Eagly and Johnson, 1990; Bass, 1997; Edvinsson, 1997; Yousef, 2000; Buck et al., 2004; Oakland and Tanner, 2007; Currie et al, 2008). An employer gives employees what they want and need and does the right thing is more likely to have success (Karnes, 2009).

Leadership can improve the organizational performance by using a lower amount of resources and is interested in the process of organizational change. Leadership in hospital organizations is recognized in clinical knowledges, performance improvement and cares for more patients with proportionally fewer resources (Perlin et al., 2004). Organizations begin modification in response to external demands after painfully public incidents have happened. Public organizations emphasize hierarchy and powerful headquarters staff. Leaders tend to act as commanders and controllers rather than to act as catalysts and facilitators (Marcus and Nichols, 1999).

Differences in behavior of leadership are caused to differences in culture, while likeness may be because universal intrinsic human desire for morality, autonomy, and achievement (Javidan and Carl, 2004).

Sum up, leadership concerns trust/integrity, democracy and participation, motivation, communication, decision-making and wisdom. The dimensions of leadership are followed in Table 2.5

Table 2.5 Dimension of Leadership

Researchers	Organizations and Sample Size	Dimensions of Leadership					
		Trust/Integrity	Democracy	Motivation	Communication	Decision- making	wisdom
Alice H. Eagly, Blair T. Johnson (1990)	370 Adults or adolescents from the US or Canada		✓	✓	✓	✓	
Philip M. Podsakoff, Scott B. MacKenzie, William H. Bommer (1996)	1539 employees across the wide variety of different industries, organizational settings, and job levels in the U.S. and Canada.	✓	✓	✓	✓	✓	

Table 2.5 (Continued)

Researchers	Organizations and Sample Size	Dimensions of Leadership					
		Trust/Integrity	Democracy	Motivation	Communication	Decision- making	Wisdom
Bernard M. Bass (1997)	Organizations in business, education, the military, the government, and the independent sector in the US		✓		✓		
Edvinsson, L. (1997)	Skandia, the UK		✓		✓		
Darwish A.Yousef (2000)	430 individuals working in different organizations			✓	✓	✓	

Table 2.5 (Continued)

Researchers	Organizations and Sample Size	Dimensions of leadership					
		Trust/Integrity	Democracy	Motivation	Communication	Decision- making	Wisdom
	in the UAE						
Javidan, M., Waldman, D.A. (2003)	51 superiors in the Canadian public sector			✓		✓	
Javidan, M., Carl, D.E. (2004)	Canadian and Iranian executives	✓	✓		✓	✓	
Buck, D.S., Rochon, D., Davidson, H., McCurdy, S. (2004)	Health care organization for the homeless		✓	✓	✓	✓	
Brown, M.E., Treviño, L.K.,	Seven interlocking	✓	✓	✓	✓	✓	✓

Table 2.5 (Continued)

Researchers	Organizations and Sample Size	Dimensions of Leadership					
		Trust/Integrity	Democracy	Motivation	Communication	Decision- making	Wisdom
Harrison, D.A. (2005)	studies, the ethical leadership construct						
Raed Awamleh, John Evans, Ashaf Mahate (2005)	865bank employees in the United Arab Emirates	✓	✓	✓	✓	✓	
Errol E. Joseph, Bruce E. Winston (2005)	69 employed persons of high school in the Republic of Trinidad and Tobago, West Indies	✓					

Table 2.5 (Continued)

Researchers	Organizations and Sample Size	Dimensions of Leadership					
		Trust/Integrity	Democracy	Motivation	Communication	Decision- making	Wisdom
Oakland, J.S., Tanner, S. (2007)	Senior management in 28 organizations from a variety of industries, including the public sector, UK				✓	✓	
Case, P., Gosling, J. (2007)	Managers and leaders of industries, UK	✓					✓
Trottier, T., Van Wart, M., Wang, X. (2008)	100,657 employees of U.S. Office of Personnel	✓	✓	✓	✓	✓	

Table 2.5 (Continued)

Researchers	Organizations and Sample Size	Dimensions of Leadership					
		Trust/Integrity	Democracy	Motivation	Communication	Decision- making	Wisdom
	Management (OPM)						
David Rooney, Bernard McKenna (2008)	Four tenets of wisdom in Hellenic philosophy; Socrates, Plato, Aristotle and The Getting and Keeping of Wisdom	✓	✓	✓	✓	✓	✓
Currie, G., Humphreys, M., Ucbasaran, D.,	Three public sector - the National Health	✓	✓	✓	✓	✓	

Table 2.5 (Continued)

Researchers	Organizations and Sample Size	Dimensions of Leadership					
		Trust/Integrity	Democracy	Motivation	Communication	Decision- making	Wisdom
Mcmanus, S. (2008)	Service, secondary schools, and further education (FE) colleges, UK						
Bernard McKenna, David Rooney, Kimberley B. Boal (2009)	Administrators of public organizations, US	✓	✓	✓	✓	✓	✓
Roger Eugene Karnes (2009)	Employers– employees of businesses, US	✓	✓	✓	✓	✓	✓

Table 2.5 (Continued)

Researchers	Organizations and Sample Size	Dimensions of Leadership					
		Trust/Integrity	Democracy	Motivation	Communication	Decision- making	Wisdom
Shih-ying Yang (2011)	Eighty individuals of Taiwan						✓
Orazi, D.C., Turrini, A., Valotti, G. (2013)	Administrators of public organizations, Australia	✓	✓	✓	✓	✓	✓

2.2.2 Resources

Resources include financial resource (money) and non-financial resource (man and materials). They can be identified as both tangible and intangible (knowledge, technology et al.). Resources concern input (man, money and materials), processes (human resource, financial resource, et al.) and output (performance). Significant resources are involved resource use, processes and evaluate outcome in terms of efficiency and equity criteria (Singh, 1994).

Resources, financial status, training of the personnel, and availability of sophisticated equipment, are related to the quality of performance (Kuhn, Hartz, Gottlieb and Rimm, 1991). Resources contribute to resilience which substitutes redundancy of personnel, equipment and space; pre-existing relationships as communication challenges as the emergency develops; and continuation of the organizational patterns of response integration and the role assignments (Kendra and Wachtendorf, 2003). Availability resources and use can compromise safety. Resource reduction leads the movement toward the safety (Marcus and Nichols, 1999).

Human resources and financial resource management influence resources. Organizations incentivized rethinking of personal skills and working routines as resource adaptation requires little financial investment (Pelling, High, Dearing and Smith, 2008). Cost effective development need to organizational performance (Carmeli and Tishler, 2004). Cutting expensive operations help to reduce the amount needed and lower costs (Kvamme, 2003). The greatest resources need trust in the organization and responsibilities for ensuring the safety (Lang and Hallman, 2005).

Technology influences resource. Worldwide competition achieves to increased productivities that focus and increase direction to the pace of innovation and growth. The variety of products for specific using resources facilitates flexible specialization (Dayasindhu, 2002).

Knowledge and learning influences resources. Intellectual capital management, new thinking of renewable resource will be leadership, finance roles, value creation and extraction. Meanwhile, crucial new thinkings focus on core skills based on innovation and new interpretation of the structure and organizations. Thus, intellectual capital management can provide many benefits, shortened lead times and cost savings (Edvinsson, 1997).

Resources depend on collaboration. Resource is a powerful communication, transaction, and consensus. The growth of resource is fostered by frequent communication and build consensus across the parties involved. Different monetary transaction and referral client entail the different pattern of coordination. Positive outcome of initial resource and communication are consensus among parties (Van de Ven and Walker, 1984).

Social capital forms are directly associated with both positive and negative outcomes (Carpiano, 2007). Residents may acquire resources if the physic, economy, institution, and local sociability and community organization domains are cut across neighbourhood environments (Bernard, Charafeddine, Frohlich, Daniel, Kestens and Potvin, 2007).

Exchange resources and signals that convey social status and recognition are Pathways for alliances. Alliances can support resources together. Partners with organizations perform better than lack partners of firms. Young and small firms with strategic alliance partners benefit more than old and large organizations (Stuart, 2000).

Thus, a desire to secure scarce resources for respective sector: expertise and capacity for government and funding for nonprofit organizations, is driven by partnership (Gazley and Brudney, 2007).

2.2.3 Type

Type is a demographic characteristic of organizations. Type depends on goals and purposes of organizational origin. Goals and purposes are the root of an organization. Organizational settings (public organization, private organization, el at.) and operation of the criterion measure (subordinate perceptions or measures of organizational effectiveness) have different the leader style and effectiveness (Lowe, Kroeck and Sivasubramaniam, 1996).

The organizational type influences organizational communication. Organizations in catastrophic disasters require extensive ability horizontal as well as vertical communication, coordination and decision-making capabilities. The public organizations, non-profit and private organizations involved in high performance in response to catastrophic disasters requires an ability to assess and adapt capacity

rapidly, to restore or enhance disrupted or inadequate communication, to utilize uncharacteristically flexible decision-making, and to expand coordination and trust of emergency response organizations (Naim, 2008).

A type of organizations is related to network technology. Process of organizational type is influenced by network technology. Network technology effects arise because of motivation to share private resources of network partners. Differences of types and ties are optimized advantages within one network (Uzzi, 1999).

Government organizational Types, government require to show selective and strategic role. Government may contact outside organizations to engage ranges of the policy, but need minimum critic inside the government (Duncan, 1999).

Organizational Justice (procedure and informational justice climate and procedure and interpersonal justice climate) are concerned in various work outcomes (Liao and Rupp, 2005).

A type of organizations influences the structure of organizations. Organizations of political coordination use new public management ideas intensively. Structure of these organizations is not only vertical relationship in knowledge and innovation policy but also internal relationship within the superministry. Concentration of forces within one superministry has complicated to coordinate with other knowledge and innovation policy areas organized by other ministries (Koch, 2008).

Social capital types are created when performance is enhanced by the capacity of local governance and make their community a better place to live (Taylor, 2011).

Organizational types adopt and juggle multiple social media accounts, use accounts to communicate more frequently with external publics, and build relationship with the public through the sending of dialogic messages (Nah and Saxton, 2013).

The type of Thai universities depends on goals and purposes of organizations. Types of higher education organizations were designed to reflect strengths and aspirations of higher education institutions. There are four university types in Thailand: 1) research and postgraduate universities, 2) specialized and comprehensive universities (including science and technology), 3) four-year universities & liberal arts

colleges, and 4) community colleges (The Office of the Higher Education Commission, 2014). Types of the public higher education organizations can also be divided into limited admission universities and institutions, open admission universities and autonomous universities (The Office of the Higher Education Commission, 2014).

2.2.4 Group

A group is a demographic characteristic of organizations. A group of organization depends on goals and objectives. Groups in terms of important characteristics and their members are differences. (Hashemi and Hedjazi, 2011). Groups can influence the success of implementation and use of information technology. (Rappaport, 1995; Leidner and Kayworth, 2006).

A group is influenced by organizational process. Goals are at the heart of the transformational process. The efforts are: 1) transform to the center of our consciousness; 2) organize collectively to allied disciplines, organizations, and citizen groups; and 3) do to heart, soul, and humility (Maton, 2000). There are relationships between structure and capacity, management and organization characteristics and the perceived effectiveness.

A group of organizations involves organizational structure. A learning organization is more innovation than an average firm. Characteristics of learning organizations are a positive impact to its dynamic performance. There are obvious lessons to be learned from the successful firms operating in turbulent environments that introduce specific organizational characteristics, such as job rotation, inter-divisional teams, delegation of responsibility, and reducing the number of levels in the organizational hierarchy (Lundvall and Nielsen, 2007).

Organizational structure influences an organizational group. Military officers are in the center of a link of forces coming from work organizations. Their ways are joined contribute to harmful implications to the mental health of professionals, favoring the increase in psychological suffering and thus being able to lead to alcoholism, depression, and even suicide (Da Silva and Vieira, 2008). Bureaucracies construct capacity of the civil sector in educated people about the ecosystem services

and trees as market commodities. They can consolidate through the act of promoting urban forestry (Perkins, 2011).

A group of organizations influences the role of leaders and workers. At all of private sector, autonomy values have positively impact on propensity for allocating any time, while professional values have a negative effect. Professional values, payments and benefit values increase the likelihood of having a dual sector job rather than a full-time private position. The relationship between work values and sector choices regards to associations rather than causality links (Idowu, Louche and Filho, 2010). As well as, nurse and physician staffing and specialization of care units (ICUs) impact patient mortality (Cho, Jeong and Kim, 2008). Personnel and collective health burdens borne by front-line recovery workers, predominant women and people of color in which the social relations of power and control contribute to health and social inequities (Weber and Messias, 2012).

Group of organizations is influenced by organizational rule. Traditions are dangerous to the aspirations of marginalized communities (O'Neil, Reading, and Leader, 1998). Religious communities construct tentative relationships with state development institutions (Hearn, 2004). Participation of public is one appearance of policy development, but it can be problematic and can disempower communities, especially disadvantaged communities (Bishop, Vicary, Browne and Guard, 2009). Practitioners and academic educators have different foci or perspectives that will need to be bridged collaboration (MacPhee, Wejr, Davis, Semeniuk and Scarborough, 2009).

Groups involve collaborational organizations which include the number of network ties, revenue sources, and the number of stakeholder groups who represented on the board (Gazley, Chang and Bingham, 2010). Groups' organizations focus on a social mission who performs best in terms of the quality of jobs and services. Temporary work agencies favor adaptable capacity to desiderate of their clients and cost minimization to the detriment of the quality of jobs (Defourny, Henry, Nassaut and Nyssens, 2010).

2.2.5 Age

Age is a demographic characteristic of organizations. Age of organizations influences the organizational process. Experience of professionals working, disability developing, and physical disability service networks relates the age of clients and nature of service requires and how it is delivered. Overall people need great professional and capacity to support provision of service to aging and disabled population (Putnam, 2011). The Composition of staff (full-time, contract, or temporary), staff turnover, average years of experience, average ages of management and operation of staff can shed some light on investment decisions (Lim, Chan and Dallimore, 2010).

Age of organizations influences organizational role. Age of an organization affects national competitors, as well as community stabilities, the professionalization of the field, and the growth (Graddy and Morgan, 2006). The work ages affect several aspects of work ability. The younger has the higher scores of work ability index than the older, except for mental resources (Monteiro, Alexandre, Ilmarinen and Rodrigues, 2009). Older age associates to reduced work ability. Progressive aging, low level of education and long durational work relates to reduction of work ability, which increases the risk of work disability or early retirement (Monteiro, Ilmarinen and Filho, 2006). Many old persons have problems for adapting to their new life situation and no actual influence over the decisions about their home help (Janlöv, Hallberg and Petersson, 2006). Old-age homes can give rise to debates about appropriate role and quality. Non-familial aged care has been built for the elderly capacity (Liebig, 2003). For health, based exercise of patients over 1 year in water can produce reduction in pain (Cochrane, Davey and Matthes Edwards, 2005).

Age of organizations influences organizational structure. Foundations of community have been established and located for stable community and enhance problem-solving capacity of communities (Graddy and Morgan, 2006).

The World Bank Group report, (2009) reported that universities in Thailand were originated in Bangkok and dispersed to other provincials. Age of universities influences their performance and people's trust and faith. In 1916, Chulalongkorn University, first university of Thailand, was established for departments of medicine, law and political science, engineering, and literature and science. In 1934, two years

after Thailand's transition from an absolute monarchy to a constitutional monarchy, Thammasat University, the second university, was established with the mission to train future professionals and civil servants in social sciences (law, political science and liberal arts). Other universities were founded a few years later. They are Kasetsart University (1943), specialized in agricultural education; Silpakorn University (1943), specialized in fine arts; and Mahidol University (1969), specialized in medicine.

In early period of university development, all higher education institutions were located in Bangkok. By the 1960s, new comprehensive universities were established in several provinces: Chiang Mai University in the North, Khon Kaen University in the Northeast and Prince of Songkla University in the South. The number of institutions grew steadily in the 1960s and 1970s, with new centers of higher learning established: the National Institute for Development and Administration (NIDA), the Asian Institute of Technology (AIT)—specialized in science and engineering programs—and King Mongkut's Institute of Technology. Two open admission universities, Ramkhamhaeng University and Sukhothai Thammathirat Open University, were established to promote greater access for secondary school graduates and already employed.

The enactment of the Higher Education Institution Act of 1981 to replace the former Private College Act of 1971 intensified the development of private institutions in response to high public demand for tertiary education. This has led to rapid growth in the number of both public and private institutions—from 5 in 1967 to 166 in 2008.

2.2.6 Size

Size is a demographic characteristic of organizations. It influences organizational process and structure. It is an important factor in public organizations and others. Numbers and modernization of National Health Service affect on clinical placements' capacity (Hutchings, Williamson and Humphreys, 2005). A large workforce gives a benefit of effective coordination and knowledge sharing and flow (Dalal, Mohapatra and Mitra, 2007).

The size of an organization predict a university's current student engagement, its past experiences with students and its perceptions of student benefits have the greatest impact on its willingness to take on future students (Littlepage, Gazley and

Bennett, 2012). Administrations appraise the degrees of individual municipalities' administrative capacities and establish the population size (Prebilič and Bačlija, 2013).

The numbers of optimal locations for the cyclone shelters identify both of public organizations and private organizations construct cyclone shelters, which can be used properly (Dalal, Mohapatra and Mitra, 2007). Size and supply chain integration gives firms a cost advantage over others and capability in delivering economies of scale and scope (Gurtoo, 2009). Large for retailers has costed increase due to vehicle restrictions. Round-trip lengths are restricted by vehicle capacity (Quak and De Koster, 2009).

Small companies can combine the growth with low cost strategy and environmental protection. Size is likely to be important insofar as it usually correlates with financial resources and the ability to achieve economies of scale (Harris and Khare, 2002).

Size influences organizational process. Simulation Computer and optimizational models can apply to provide decision making supports for determining the size of proposed medical assessment unit and the allocation of available medical beds to minimize hospital bed overflows (Huang, 1998). In food, biotechnology and drugs, the size of the company explain a large share of the food and beverage multinational's (FBM) capabilities (Alfranca, Rama and Von Tunzelmann, 2004).

All population needs a participatory manner of the right kind and quality of services (better tailored to population health needs). One-size-fits-all approach is sufficient (Šogorić, Rukavina, Brborovic, Vlahusic, Zgamec and Oreskovic, 2005).

2.3 Relationship between Leadership, Resource, Type, Group, Age, Size and Capacity

Leadership, resource, type, group, age and size affect organizational capacity (i.e., ability of human resources, financial resources, information technology, knowledge and learning, stakeholder commitments and collaboration).

2.3.1 Relationship between Leadership and Capacity

Leadership relates to ability of human resources, financial resources, information technology, knowledge, stakeholder commitments and collaborative. A leader and the staff play an important role in goods and services organizations. Meanwhile, leader with trust is demanded for effective planning, emergency response, and sustainability (Stoto, 2008). Chief with staff plays important role in services. So, shortage leaders and staff particularly in rural areas is major impact on programs (Bekemeier and Jones, 2010).

Supportive leadership has most contributor to job satisfaction, retention and quality of patient care. A crucial tool to measure supervisors' supportive capacities is primal to evaluate the effectiveness (McGilton, 2010). Trust, preexisting relationship and trust among member of community and academia, research training, extensive time commitment of member to the coalition's work, and rapid development of work group activities are success base on leadership (Johnson et al., 2009). Leadership development and resource allocation are needed in all rural communities (York, Rayens, Zhang, Jones, Casey and Hahn, 2010). 1) committed to community development (CD), rooted to values and beliefs, leadership and shared understanding; 2) supportive structures and systems, such as job design, flexible planning processes, evaluation mechanisms and collaborative processes; 3) allocated resources; and 4) working relationships and processes are the organizational capacity for community development (OC-CD) (Germann and Wilson, 2004). Nurse societies can grow up when nurses share the vision and goals of organizations and work collaboratively in an atmosphere that supports creatives and autonomous practices. They work well together, but need time, flexible funding, and management support to develop relationships with the community and clients, and build teams with other professionals. They can sustain their competencies and confidence in their professional abilities with more access to continue education, policies, evidence and debriefing sessions (Underwood et al., (2009).

Organizational characteristics recognized as support as optimal practice. Flexibility in funding, program design, and job descriptions; clear organizational vision driven by shared values and community needs; coordinated planning across jurisdictions; and strong leadership that openly promote organizations, value their

staff works, and invest in education and training (Underwood et al., 2009). Collegial relationships and team building influenced positive outcomes and benefits.

Organizational benefits include increased participation in research by staff, higher degree students in publication activities, and enhance collegial relationships and opportunities (Jackson, 2009). Elements of an engagement, mutual goal setting, cultural bridging, collaboration, capacity building, leadership, partnership, ownership, and sustainability are themes. Commitment and participation can precede any planning and intervention in order to create sustainable interventions (Leffers and Mitchell, 2011).

Leadership is related to collaboration, stakeholder commitment, financial resource, knowledge, and human resource. The success of participatory planning reflects organizational change that dynamic influences (White, 2001). Advancement of leadership skills and enhancement of the accountability helps in overcoming the challenges of change (Feldman et al., 2006). Organizational change management has become a key competency for managers. Competency management establishes a change-oriented organization with the culture and capacity for change (Thompson, 2010). If educators and social partners collaborate to help develop into leadership of parent, they can form initiatives that meet the interests, values, and capacities (Warren, Hong, Rubin, and Uy, 2009). Women can give birth successfully with their natural capacity and without intervention. This has been applauded by many midwives in terms of maternal empowerment and improved autonomy (Carolan and Hodnett, 2007).

A network organization, the team has learned many lessons, for development (Conner, 2001). Information technology is related to innovation and structure, finance, leadership, and knowledge sharing capacity characteristics (Paré, Jaana and Sicotte, 2010).

WHO is the leader for developing earthly alcohol policy that aims for reducing alcohol-related problems, providing scientific and statistical support, capacity-building, disseminating effective strategies and collaborating with other international organizations (Jernigan, Monteiro, Room and Saxena, 2000).

In society and faith-based organizations, there are social engagement, leadership, intergroup dynamic, communication, and resources. Resources are

underutilized or untapped with respect to public health emergencies and disasters. Public health departments restrict to their engagement with society and faith-based organizations for information dissemination rather than engaging them in other ways or improving their capacity. Beyond reprioritization of staff time, few other resources are required. Relationship quality seem to matter more than discrete resources (Stajura, Glik, Eisenman, Prelip, Martel and Sammartinova, 2012).

2.3.2 Relationship between Resource and Capacity

Resource is involved in human resource, financial resource, knowledge, stakeholder commitment, information technology and collaboration. Resources are inputs, processes and outcomes that concern man, money and materials. For adaptation, a resource not only demands few financial venture but also does call for a rethinking of personal skills and working routines to incentivize organizations (Pelling, High, Dearing and Smith, 2008). Better outcome achievement need to increase investment (i.e. financial resource) and adequated local capacity to use resources effectively. So, capacity building enhances overall performance (Siddiqi, Hamid, Rafique, Chaudhry, Ali, Shahab and Sauerborn, 2002). The contracts for delivering public services promoted the means of harnessing resources of private sector and making publicly funded services more accountable, transparent and efficient (Palmer, 2000).

The success of technology resources of nonprofit firms enhances organizational capacities in long-term IT planning, budgeting, staffing, training, performance measurement, internet and web site capabilities and vision. It supports the involvement of senior management (Agard, 2010). The use efficiency of resources and the better coordination demonstrates the progress in the terms of planning and coordination; regional capacity-building, training and exercises; and development of professional networks. Regionalization has to improve emergency preparedness (Stoto, 2008). The intellectual capital of an operation influences operating capabilities level such as process flexibility and product innovation, which influences the firm's performance (Menor, Kristal and Rosenzweig, 2007).

Organizational context must be expanded beyond the internal capacities to include organizational networks with local actors, institutions, and resources;

organizational knowledge and stability; and organization mission and priorities, all of which shape activities and relationships as well as the utility of available GIS resources (Elwood and Ghose, 2001). Resourcing, relationships of local working and public supports, largely determines the capacity of conservation authorities (CAs) to expand involvement in management. The strength capacity of agencies to participate in management is important challenge in all jurisdictions. Agencies are well placed to reinforce management by identifying local needs and trends, facilitating communication and cooperation, and promoting best management practices (Ivey, De Loë and Kreutzwiser, 2002).

The capacity skills of roads and public transport sectors can effect the structural change of organizations, sharing on planning committees, access to financial resources, accountability frameworks, membership of forums and relationship with other actors (Low and Astle, 2009). Motivation to adopt partnership drives desires to secure the scarcest resources respective sector: expertise and capacity for government and funding for nonprofits. Nonprofit executives generally exhibit the stronger undercurrent of negativity toward intersectoral partnership than public sector (Gazley and Brudney, 2007).

Life quality improvement, resources and environment sustainability modify economic structure, energy policy reform, environment industry development, pollution prevention, ecological conservation, capacity building, international cooperation and public participation, which is the best coordinations of the connection between environment and economy (Zhang and Wen, 2008). The poor social functions to the quality of life and the higher utilization of the health resources in primary care associate sadden symptoms (Loue and Sajatovic, 2008).

2.3.3 Relationship between Type and Capacity

The type of organizations concerns in ability of human resources, financial resources, information technology, stakeholder commitments, knowledge, and collaboration. Organizational reliability seeks out the use skills of impermanent employees, positive employee relations, and stress training to innovate, and creation greater financial performance. Firms that focus on human resource development innovate frequently and more innovations, have high stock prices over time (Vogus

and Welbourne, 2003). Boundaryless and traditional worker types exhibit different work attitudes and behaviors. Traditions are more sensitive to attitudes than boundaryless (Marler, Barringer and Milkovich, 2002).

The type of work and venue that call centers has garnered attention to undertake human resource management. Theoretical lenses are utilized (e.g. labor process theory, high-performance work systems theory, HR perspectives, gender theory, etc.) the different aspects of call-center work (Russell, 2008).

The innovational types (services and processes) in service organizations, the effect of performance depends on the combination of innovation types over time. The divergences norm of industry for adopting innovation types could possibly be beneficial to organizational performance (Damanpour, Walker, and Avellaneda, 2009).

Organizations and projects (e.g. public and private; large and small projects), are different types. It has been found that 1) Earned Value Management (EVM) type gains high acceptance due to favorable views related to diminishing EVM problems and improving utilities; and 2) a broader approach considering four-factor groups (i.e., EVM users, EVM methodology, project environment, and implementation process) together can significantly improve acceptance and performance (Kim, Wells and Duffey, 2003).

Firms of family behave more nonfamily firms and "professionalize." Though, apparent advantages, many family firms fail to do so or do so only partially. The six ideal types of these firms are minimally professional family firms, wealth dispensing and private family firms, entrepreneurially operated family firms, entrepreneurial family business groups, pseudo professional and public family firms, and hybrid professional family firms (Stewart and Hitt, 2012).

Strategic actor's types are prospectors, defenders, analyzers, and reactors. Protector strategy is the most effective for the primary mission of an organization. Prospector and reactor strategies work best in regard to the goals of the more politically powerful elements of an organization's environment. Strategic content is the subset of generally accepted management functions in public organizations. Strategies are separated from the elements of management for the distinguishable

assessment of their impact of organizational performance. (Meier, O'Toole, Boyne and Walker, 2008).

The images of bureaucratic work are procedural bureaucracy, corporate bureaucracy, market bureaucracy, and network bureaucracy. Distinctive images have different from the use of goals, the relationship with clients, an approach to supervision, disciplinary strategies, and the relations with other organizations in environment (Considine and Lewis, 1999).

The type of ties with kinds of knowledge is different strength association. Business relationship strengthens rather than social relationships. Strength has been contributed by the most significantly of the sharing of public and private knowledge. The frequency of business interactions can predict the sharing of public non-codified knowledge, while the closeness of business relationships predicted the sharing of private non-codified knowledge and the sharing of public codified knowledge (Marouf, 2007).

The capacity of an organization depends upon types and stages of innovational adoption (Damanpour, 1996). For example, public health professionals can apply their knowledge to the elementary keys of social marketing and to learn how social marketing can be used to plan public health interventions (Grier and Bryant, 2005). Not only does intrinsic misogyny shackle and impede nurses but it also acts as an insidious gatekeeper to an iniquitous status quo (Farrell, 2001).

2.3.4 Relationship between Group and Capacity

The group of organizations related to ability of human resources, financial resources, information technology, stakeholder commitments, knowledge, and collaboration. The groups of firms, the agencies of government, and environmental interest groups are skeptical about the real impacts of performance (the operations and management processes) (Rondinelli and Vastag, 2000). Users, methodology, project environment, and implementation process can significantly improve the acceptance and the performance of organizations and projects (Kim, Wells and Duffey, 2003). The variety of administration is strongly linked to work group performance and job satisfaction (Pitts, 2009).

Environmental disclosure varies across groups for utilizing monetary and non-monetary components of the non-litigation (Cho and Patten, 2007). Resources are sensible and worthwhile investments. Success attributes and indicators have been developed through diverse stakeholders (Carnes, Schweitzer, Peelle, Wolfe and Munro, 1998).

The operation of public organizations is distinct from others. Their performance-relevant impacts and its managerial networking outward can be an important contributor to the achievement of public objectives (O'Toole, Meier and Nicholson-Crotty, 2005).

User groups for canal irrigation in India illustrates factors, which affect institutional performance. Affecting irrigation institutions can lead to sustainable approaches that are adapted to specific contextual attributes (Meinzen-Dick, 2007).

Corporation, a learning organization, is more innovative than average firm. Its characteristic has a positive impact on a dynamic performance, which is job rotation, inter-divisional teams, the delegation of responsibility and reducing the number of levels in organizational hierarchy. Knowledge management of key elements can enhance the learning capacity of a firm (Lundvall and Nielsen, 2007).

Participation to decision-making enhances through better organizations, improving participation strategies and mechanisms, and integration with the other aspects of decision-making (e.g., problem definition, mission development, identification and the evaluation of decision alternatives, and decision implementation) (Carnes, Schweitzer, Peelle, Wolfe and Munro, 1998).

Public and private sectors are differentiate performance measurement, performance reporting and performance management (Radnor and Barnes, 2007). The companies with resource management competences and knowledges can keep industry partners (Dooley and Kirk, 2007).

2.3.5 Relationship between Age and Capacity

The age of an organization is involved in the ability of human resources, financial resources, information technology, stakeholder commitments, knowledge and collaboration. Organizational age has been found the significant antecedent of job

satisfaction, the differences in worker satisfaction and its determinants, especially job satisfaction and public service motivation (PSM) (Westover and Taylor, 2010).

Age and the language of university instruction, in addition to the origin of funding, do affect researcher productivities. Generally speaking, young researchers, as well as affiliated with large universities, tend to produce more publications (Jacob and Lamari, 2012).

Organizational age as a society has moved from the industrial era to the information age, the role of structure in any organization shifts from efficiency to effectiveness (Ozkan, Cakir and Bilgen, 2008).

Irrigation techniques were perfected in the age of Muslim domination. The values and landscapes that had shaped peri-urban agricultural landscape - highly symbolic yet where tensions ran high had been amply reflected by cultural manifestations through the ages (Asuero, 2013). Public sector or private sector, cultural differences and organizational age has contingent effects on the certain perceptions of organizational politics (POP) relationships (Miller, Rutherford and Kolodinsky, 2008). Age diversity and its interaction with contextual variables produce mixed results, and reflect more complicated relationships (Choi and Rainey, 2010).

The character of knowledge transfer offices (KTOs), positive performance, is total annual expenses, type, age, existence, regulation, the number of specialized full-time staff and the availability of patent stock (Berbegal-Mirabent, Sabaté and Cañabate, 2012).

2.3.6 Relationship between Size and Capacity

Size of an organization involved in ability of human resources, financial resources, information technology, stakeholder commitments and collaboration.

Although, well-structured committees are perceived to strengthen governance. Major barriers to good governance are structural dimension, frequent department, leadership changes, size and the complexity of departments. Aligned with relational dimension, the culture of good working relationships between staff and strong leadership is recognized as criticism for strong governance, while aligned with cognitive dimension, the lack of the shared understanding of risk, a short-term focus, unclear individual roles and organizational goals is seen as barriers to effective

governance (Subramaniam, Stewart, Ng and Shulman, 2013). Firm ownership type and size influence perceived the public pressure for fair labor practices. The small firms form the majority of clothing and footwear sector need to be exposed to pressure (Park-Poaps, 2010). The autonomy of an organization and controlling result affects the degree of internal decentralization, and so does organizational size (Wynen, Verhoest and Rübecksén, 2014).

The effort to reduce costs of hospitals is a decision to close an expensive specialty clinic and an attempt to shrink size by transferring less sick elderly patients to a newly created rehabilitation facility (Saltman, 1985).

Clever hospitals, caring for a large number or a large proportion of children, adopted health IT, which has calibrated for optimal pediatric use (Menachemi, Brooks and Simpson, 2007). The small corporations have own distinctive characteristics, which are profoundly different from large firms. They initiated a gear improving appropriate innovation that need to appreciate differences (Sexton and Barrett, 2003).

The programs of land redistribution seek smallholder land ownership who justified on the basis of sustainability considerations. The adoption of certain soil conservation practices is larger on owned land than on rented land (Jansen, Pender, Damon and Schipper, 2006).

Drying structures come in a variety of shapes and sizes, but most commonly they are long single-storey constructions with high ceilings and perforations that facilitate ventilation and the drying of tobacco leaves. Although there are still examples of brick buildings that are of great patrimonial value (Asuero, 2013).

For capitalizing, government should consider providing basic training to assist prospective migrants, supporting community-based initiatives aimed at investing remittances, productivities and improving financial systems to low size of the transaction costs and risks (Jansen et al., 2006).

Making coalitional organizations of diverse sizes at various stages of development to present unique challenges can overcome with committed leadership, clear governance principles, and appropriate infrastructure. Engagement can accomplish as long as the training of all partners is conducted, trust building is not ignored, and still developing trust, structure, and governance procedures, (Johnson, 2009).

Table 2.6 Summary of the Relationship of Leadership, Resource, Age, Size, Type, Group and Capacity

I.V.	D.V.	Researchers	Relationship Effect
Leadership	Human Resource	Conner, 2001; Germann and Wilson, 2004; Feldman, et al., 2006; Carolan and Hodnett, 2007; Jackson, 2009; Underwood, et al., 2009; Johnson, et al., 2009; Warren, Hong, Rubin, and Uy, 2009; Bekemeier and Jones, 2010; Thompson, 2010; York, et al., 2010; McGilton, 2010; Stajura, et al., 2012.	+
	Financial Resource	Germann and Wilson, 2004; Feldman, et al., 2006; Stoto, 2008; Underwood, et al., 2009; York, et al., 2010; Leffers and Mitchell, 2011; Paré, Jaana, and Sicotte, 2010; Stajura, et al., 2012.	+
	IT	Jernigan, Monteiro, Room, and Saxena, 2000; Conner, 2001; Germann and Wilson, 2004; Stoto, 2008; Johnson, et al., 2009; Paré, Jaana, and Sicotte, 2010; Leffers and Mitchell, 2011; Stajura, et al., 2012.	+
	Knowledge	Jernigan, Monteiro, Room, and Saxena, 2000; Germann and Wilson, 2004; Stoto, 2008; Johnson, et al., 2009; Underwood, et al., 2009; McGilton, 2010; Paré, Jaana, and Sicotte, 2010; York, et al., 2010; Leffers and Mitchell, 2011; Stajura, et al., 2012.	+

Table 2.6 (Continued)

I.V.	D.V.	Researchers	Relationship Effect
	Stakeholder Commitment	Germann and Wilson, 2004; Jackson, 2009; Johnson, et al., 2009; Warren, Hong, Rubin, and Uy, 2009; Underwood, et al., 2009; Paré, Jaana, and Sicotte, 2010; York, et al., 2010; Stajura, et al., 2012.	+
	Collaboration	Jernigan, Monteiro, Room, and Saxena, 2000; Germann and Wilson, 2004; Jackson, 2009; Johnson, et al., 2009; Underwood, et al., 2009; Warren, Hong, Rubin, and Uy, 2009; Bekemeier and Jones, M. 2010; York, et al., 2010; Leffers and Mitchell, 2011	+
	Human Resource	Elwood, and Ghose, 2001; Gazley and Brudney, 2007; Hackler and Saxton, 2007; Pelling, High, Dearing, and Smith, 2008; Warren, Hong, Rubin, and Uy, 2009;	+/-
	Financial Resource	Palmer, 2000; Elwood and Ghose, 2001; Siddiqi, et al., 2002; Hackler and Saxton, 2007; Gazley and Brudney, 2007; Pelling, High, Dearing, and Smith, 2008; Stoto, 2008; Low and Astle, 2009;	+/-

Table 2.6 (Continued)

I.V.	D.V.	Researchers	Relationship Effect
	IT	Elwood and Ghose, 2001; Hackler and Saxton, 2007; Stoto, 2008; Zhang and Wen, 2008	+/-
	Knowledge	Palmer, 2000; Elwood and Ghose, 2001; White, 2001. Siddiqi, et al., 2002; Hackler and Saxton, 2007; Menor, Kristal, and Rosenzweig, 2007; Pelling, High, Dearing, and Smith, 2008; Stoto, 2008;	+/-
	Stakeholder Commitment	Palmer, 2000; Ivey, de Loë, and Kreutzwiser, 2002; Siddiqi, et al., 2002; Gazley and Brudney, 2007; Pelling, High, Dearing, and Smith, 2008; Stoto, 2008; Low and Astle, 2009 Warren, Hong, Rubin, and Uy, 2009	+/-
	Collaboration	Palmer, 2000; Elwood and Ghose, 2001; Ivey, de Loë, and Kreutzwiser, 2002; Siddiqi, et al., 2002; Gazley and Brudney, 2007; Menor, Kristal, and Rosenzweig, 2007; Stoto, 2008; Zhang and Wen, 2008; Low and Astle, 2009; Warren, Hong, Rubin, and Uy, 2009	+/-
Age	Human Resource	Miller, Rutherford, and Kolodinsky, 2008; Ozkan, Cakir, and Bilgen, 2008; Choi and Rainey, 2010; Westover and Taylor, 2010; Jacob and Lamari, 2012	+

Table 2.6 (Continued)

I.V.	D.V.	Researchers	Relationship Effect
	Financial Resource	Ozkan, Cakir, and Bilgen, 2008; Berbegal-Mirabent, Sabaté, and Cañabate, 2012; Jacob and Lamari, 2012; Asuero, 2013	+/-
	IT	Ozkan, Cakir, and Bilgen, 2008	+
	Knowledge	Berbegal-Mirabent, Sabaté, and Cañabate, 2012; Jacob and Lamari, 2012; Asuero, 2013	+
	Stakeholder Commitment	Miller, Rutherford, and Kolodinsky, 2008; Choi and Rainey, 2010; Jacob and Lamari, 2012	+/-
	Collaboration	Ozkan, Cakir, and Bilgen, 2008; Melton, 2014	+/-
Size	Human Resource	Saltman, 1985; Jansen, et. al., 2006; Park-Poaps, 2010; Asuero, 2013; Subramaniam, Stewart, Ng, and Shulman, 2013; Wynen, Verhoest, and Rübecksén, 2014	+
	Financial Resource	Saltman, 1985; Jansen, et. al., 2006; Asuero, 2013; Subramaniam, Stewart, Ng, and Shulman, 2013	+/-
	IT	Sexton and Barrett, 2003; Menachemi, Brooks, and Simpson, 2007;	+
	Knowledge	Jansen, et. al. 2006; Menachemi, Brooks, and Simpson, 2007; Asuero, 2013; Subramaniam, Stewart, Ng, and Shulman, 2013	+

Table 2.6 (Continued)

I.V.	D.V.	Researchers	Relationship effect
	Stakeholder Commitment	Subramaniam, Stewart, Ng, and Shulman, 2013; Wynen, Verhoest, and Rübecksén, 2014	+/-
	Collaboration	Park-Poaps, 2010; Subramaniam, Stewart, Ng, and Shulman, 2013	+
Type	Human Resource	Marler, Barringer, and Milkovich, 2002; Vogus and Welbourne, 2003; ; Marouf, 2007; Meier, O'Toole Jr., Boyne, and Walker, 2008; Russell, 2008	✓
	Financial Resource	Vogus and Welbourne, 2003; Damanpour, Walker, and Avellaneda, 2009; Stewart and Hitt, 2012	✓
	IT	Considine and Lewis, 1999; Sexton and Barrett, 2003; Russell, 2008; Damanpour, Walker, and Avellaneda, 2009;	✓
	Knowledge	Considine and Lewis, 1999; Vogus and Welbourne, 2003; Meier,; Marouf, 2007; O'Toole Jr., Boyne, and Walker, 2008; Damanpour, Walker, and Avellaneda, 2009; Stewart and Hitt, 2012	✓
	Stakeholder Commitment	Considine and Lewis, 1999; Kim, Wells Jr., and Duffey, 2003; Vogus and Welbourne, 2003; Russell, 2008	✓
	Collaboration	Considine and Lewis, 1999; Marouf, 2007	✓

Table 2.6 (Continued)

I.V.	D.V.	Researchers	Relationship effect
Group	Human Resource	Rondinelli and Vastag, 2000; Kim, Wells Jr., and Duffey, 2003; Meinzen-Dick, 2007; Lundvall and Nielsen, 2007; Pitts, 2009	✓
	Financial resource	Carnes, Schweitzer, Peelle, Wolfe, and Munro, 1998; Cho and Patten, 2007; Dooley and Kirk, 2007	✓
	IT	O'Toole Jr., Meier, and Nicholson-Crotty, 2005; Lundvall and Nielsen, 2007; Radnor and Barnes, 2007; Pitts, 2009	✓
	Knowledge	Carnes, Schweitzer, Peelle, Wolfe, and Munro, 1998; O'Toole Jr., Meier, and Nicholson-Crotty, 2005; Dooley and Kirk, 2007; Lundvall and Nielsen, 2007; Radnor and Barnes, 2007	✓
	Stakeholder Commitment	Carnes, Schweitzer, Peelle, Wolfe, and Munro, 1998; Rondinelli and Vastag, 2000; Kim, Wells Jr., and Duffey, 2003; Lundvall and Nielsen, 2007; Pitts, 2009	✓
	Collaboration	Carnes, Schweitzer, Peelle, Wolfe, and Munro, 1998; O'Toole Jr., Meier, and Nicholson-Crotty, 2005; Dooley and Kirk, 2007; Meinzen-Dick, 2007	✓

2.4 Conceptual Framework

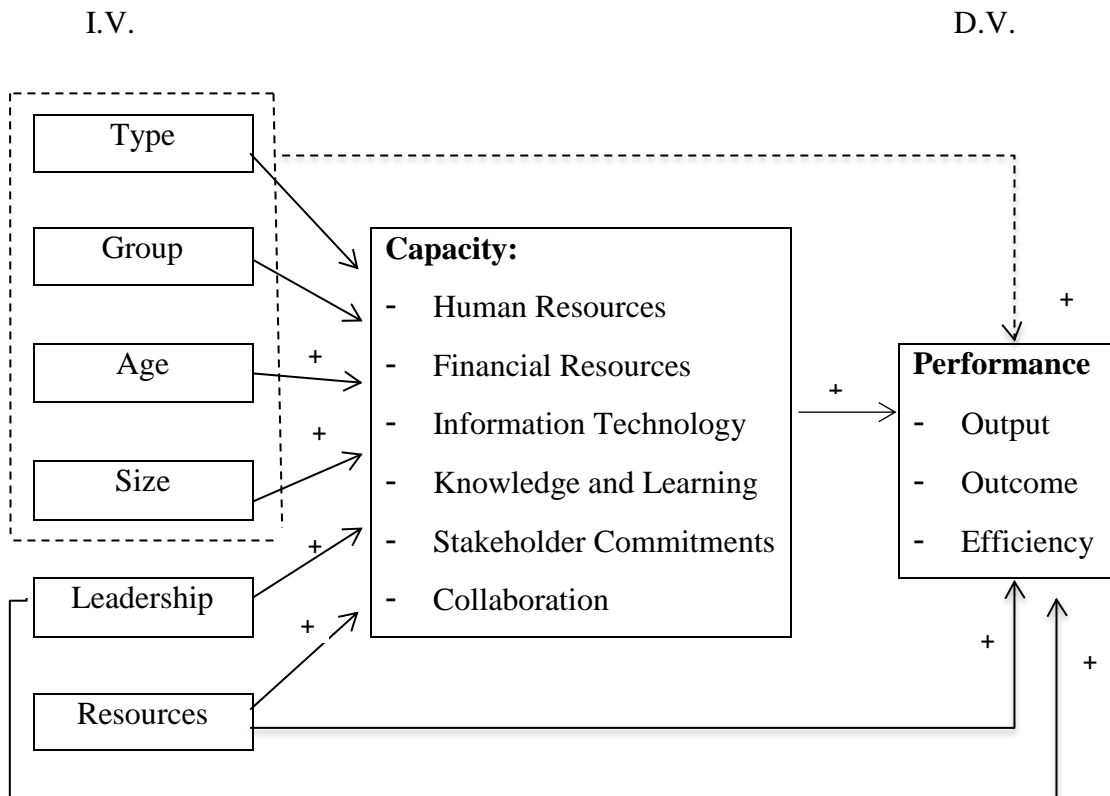


Figure 2.1 Conceptual Framework

Note: ----- Affected each one

_____ Affected all

The conceptual framework shows the relationship between independent variables i.e., type, group, age, size, leadership, and resources, and dependent variables i.e., capacity (an ability of human resources, financial resources, information technology, knowledge, stakeholder commitments and collaboration), and performance (output, outcome, and efficiency). The hypotheses were formulated as follows: 1) Type of the public higher education institutions in Thailand is related to their capacity (an ability of human resources, financial resources, information technology, knowledge, stakeholder commitments and collaboration) and performance, 2) Group of public higher educational institutions in Thailand is related to their capacity (an ability of human resources, financial resources, information

technology, knowledge, stakeholder commitments and collaboration) and performance, 3) Age of public higher education institutions in Thailand is positively related to their capacity (an ability of human resources, financial resources, information technology, knowledge, stakeholder commitments and collaboration), and performance, 4) Size of public higher education institutions in Thailand is positively related to capacity (an ability of human resources, financial resources, information technology, knowledge, stakeholder commitments and collaboration) and performance, 5) Leadership of public higher education institutions in Thailand is positively related to their capacity (an ability of human resources, financial resources, information technology, knowledge, stakeholder commitments and collaboration) and performance, 6) Resources of public higher education institutions in Thailand are positively related to their capacity (an ability of human resources, financial resources, information technology, knowledge, stakeholder commitments and collaboration), and performance, 7) Capacity (an ability of human resources, financial resources, information technology, knowledge, stakeholder commitments and collaboration), is a mediator between age and performance, 8) Capacity (an ability of human resources, financial resources, information technology, knowledge, stakeholder commitments and collaboration), is a mediator between size and performance, 9) Capacity (an ability of human resources, financial resources, information technology, knowledge, stakeholder commitments and collaboration), is a mediator between leadership and performance, and 10) Capacity (an ability of human resources, financial resources, information technology, knowledge, stakeholder commitments and collaboration), is a mediator between resource and performance.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter includes detailed description of the unit of analysis, the quantitative method, operational definitions, data collection process, and data analysis techniques.

3.1 Unit of Analysis

Public higher educational institutions in Thailand were the units of analysis in this research.

3.2 Population and Sampling

Excepting open admission universities, Ramkhamhaeng University (RU) and Sukhothai Thammathirat Open University (STOU), the population in the study were 78 public higher education institutions: 63 closed universities and institutions and 15 autonomous universities (The Office of the Higher Education Commission, 2014). Sixty-six universities were randomly selected: 12 autonomous universities, 12 public universities, 36 Rajabhat universities, and 6 Rajamangla universities. The total sample was 66 top administrators. The number was decided from Krejcie and Morgan's table 1970 (Krejcie and Morgan, 1970 See Table 3.1).

The population of public higher education institutions follow as: fifteen Autonomous universities are Burapha University (BUU), Chiang Mai University (CMU), Chulalongkorn University (CU), King Mongkut's Institute of Technology Ladkrabang (KMITL), King Mongkut's University of Technology North Bangkok (KMUTNB), King Mongkut's University of Technology Thonburi (KMUTT), Mae Fah Luang University (MFU), Mahachulalongkornrajavidyalaya University (MCU), Mahamakut Buddhist University (MBU), Mahidol University (MU), Princess Galyani

Vadhana Institute of Music (PGVIM), University of Phayao (UP), Suranaree University of Technology (SUT), Thaksin University (TSU) and Walailak University (WU).

Fourteen Public universities are Kasetsart University (KU), Khon Kaen University (KKU), Maejo University (MJU), Mahasarakham University (MSU), Nakhon Phanom University (NPU), Naresuan University (NU), National Institute of Development Administration (NIDA), Pathumwan Institute of Technology, Prince of Songkla University (PSU), Princess of Naradhiwas University (PNU), Silpakorn University (SU), Srinakharinwirot University (SWU), Thammasat University (TU), and Ubon Ratchathani University (UBU).

Fourty Rajabhat universities are Bansomdej Chaopraya Rajabhat University (BSRU), Buriram Rajabhat University (BRU), Chaiyaphum Rajabhat University (CPRU), Chandrakasem Rajabhat University (CRU), Chiang Mai Rajabhat University (CMRU), Chiangrai Rajabhat University (CRU), Dhonburi Rajabhat University (DRU), Kalasin Rajabhat University (KSU), Kamphaeng Phet Rajabhat University (KPRU), Kanchanaburi Rajabhat University (KRU), Lampang Rajabhat University (LPRU), Loei Rajabhat University (LRU), Muban Chombueng Rajabhat University (MCRU), Nakhon Pathom Rajabhat University (NPRU), Nakhon Ratchasima Rajabhat University (NRRU), Nakhon Sawan Rajabhat University (NSRU), Nakhon Si Thammarat Rajabhat University (NSTRU), Phetchabun Rajabhat University (PCRU), Phetchaburi Rajabhat University (PBRU), Phranakhon Rajabhat University (PNRU), Phranakhon Si Ayutthaya Rajabhat University (ARU), Phuket Rajabhat University (PKRU), Pibulsongkram Rajabhat University (PSRU), Rajabhat Maha Sarakham University (RMU), Rajabhat Rajanagarindra University (RRU), Rambhai Barni Rajabhat University (RBRU), Roi-et Rajabhat University (RERU), Sakon Nakhon Rajabhat University (SNRU), Sisaket Rajabhat University (SSKRU), Songkhla Rajabhat University (SKRU), Suan Dusit Rajabhat University (SDU), Suan Sunandha Rajabhat University (SSRU), Suratthani Rajabhat University (SRU), Surindra Rajabhat University (SRRU), Thepsatri Rajabhat University (TRU), Ubon Ratchathani Rajabhat University (UBRU), Udon Thani Rajabhat University (UDRU), Uttaradit Rajabhat University (URU), Valaya Alongkorn Rajabhat University (VRU), and Yala Rajabhat University (YRU)

And nine Rajamangala universities are Rajamangala University of Technology Isan (RMUTI) (Kalasin Campus, Khon Kaen Campus, Sakon Nakhon Campus and Surin Campus), Rajamangala University of Technology Krungthep (RMUTK), Rajamangala University of Technology Lanna (RMUTL) (Chiang Rai Campus, Lampang Campus, Nan Campus, Phitsanulok Campus, Tak Campus and Agricultural Cultural Technology Research Institute), Rajamangala University of Technology Phra Nakhon (RMUTP), Rajamangala University of Technology Rattanakosin (RMUTR) (Bophit Phimuk Chakkawat Campus, Poh-Chang Campus and Wang Klai Kangwon Campus), Rajamangala University of Technology Srivijaya (RMUTSV) (Nakhon Si Thammarat Campus and Trang Campus), Rajamangala University of Technology Suvarnabhumi (RMUTSB) (Nonthaburi Campus, Wasukri Campus and Suphan Buri Campus), Rajamangala University of Technology Tawan-Ok (RMUTTO) (Chakrabongse Bhuvanath Campus, Chantaburi Campus and Uthen Thawai Campus), and Rajamangala University of Technology Thanyaburi (RMUTT).

Table 3.1 Population and Sample Groups

Institutions	Population	Sample Groups
1. Autonomous Universities	15	12
2. Public Universities	14	12
3. Rajabhat Universities	40	36
4. Rajamangla Universities	9	6
Total	78	66

The aimed population for the survey was organizational representatives who worked at public higher educational institutions in Bangkok Metropolitan and central, northern, northeastern, eastern and southern regions. In order to obtain the sample of 66, the leader of each public higher educational institution was communicated and asked to identify top administrators of organizations in the universities that provide relevant services of focus. Accordingly, the survey respondents were administrators in different types of public higher educational institutions, which are autonomous

universities, public universities, Rajabhat universities, and Rajamangla universities. The 66 total sample were identified for the survey.

3.3 Operational Definition

Table 3.2 Dimensions of Operational Definition

Variable	Definition	Operationalization
I.V.		
- Type	Type	My organization is ①Autonomous University ②Public University ③Rajabhat University ④Rajamangla University
- Group	Group	My organization's group ①Research/Graduate University ②Specialized/Comprehensive University ③Liberal Arts University
- Age	Age	The age of my organization is (years). ①Less than 30 ②30–40 ③More than 40
- Size	Size	My organization's size (a number of persons) ①Less than 500 ②500–1,000 ③More than 1,000

Table 3.2 (Continued)

Variable	Definition	Operationalization
- Resource	Input into process of an organization's production that results to the basic capability of an organization work	My organization received resources from the government (percentage). ① Less than 65 ② 65-75 ③ More than 75
- Leadership	Integrity, democracy and participation, motivation, communication, decision-making and wisdom	A1. My organization's leader has integrity and sufficient courage to face challenges. A2. My organization's leader can motivate the personnel to overcome hardship in work. A3. My organization's leader supports democracy and participation. A4. My organization's leader can communicate well to increase performance. A5. decisions of my organization's leader is accepted by the personnel. A6. My organization's leader makes decisions with no bias. A7. My organization's leader can integrate positive ideas. A8. My organization's leader has an ability to link positive knowledge.

Table 3.2 (Continued)

Variable	Definition	Operationalization
		A9.My organization's leader has an ability to get positive effects.
		A10.My organization's leader has an ability to lead people.
D.V.		
- Human Resources	Achievement due to recruit and retain qualified and skilled staff, hire new staff, and offer professional development and training opportunities for staff	<p>B1.My organization has appropriate work positions and remuneration for the personnel.</p> <p>B2.My organization has personnel with skills and knowledge.</p> <p>B3.My organizational personnel has skills and knowledge can train others if necessary.</p> <p>B4.My organization has an ability to employ the personnel with reliable knowledge and experience necessary for work.</p> <p>B5.My organization has an ability to timely recruit new employees.</p> <p>B6.An organization provides job orientation for all new employees.</p> <p>B7.An organization has a clear personnel development plan.</p>

Table 3.2 (Continued)

Variable	Definition	Operationalization
- Financial Resources	Achieving stable and diverse funding stream and to obtain adequate funding for client services	B8.My organization continuous by train and develop the personnel.
		B9.My organization has good discipline and reasonable penalties.
		B10.My organization has personnel with competency.
		C1.An easily attracts new funds for new initiatives and projects.
		C2.My organization's fund is adequate for service rendering.
		C3. Success in funding existing programs.
		C4.An organization has clear plans and projects.
		C5.My organization has participatory budget planning.
		C6.My organization has reliable financial reports.
		C7.My organization always conducts cost analysis.
		C8.My organization allow access to its basic financial information.
		C9.My organization has a reliable auditing system.
		C10.My organization has

Table 3.2 (Continued)

Variable	Definition	Operationalization
- Information Technology	An organization can collect data and use a data management system to help construct organizational decision making and access to data from other organizations	<p>financial competency.</p> <p>D1.An organization has an automatic information management system.</p> <p>D2.An organization has a harmony between automatic information management and users.</p> <p>D3. Sharing information with other organizations.</p> <p>D4.An organization has an ability to follow information about resources, output and outcome.</p> <p>D5.My organization provides training on the use of information and the information management system.</p> <p>D6.My organization has established information procedures for projects and services.</p> <p>D7.An organization has an ability to share information and to access necessary information.</p> <p>D8.Data management systems of an organization are effective and useful.</p>

Table 3.2 (Continued)

Variable	Definition	Operationalization
- Knowledge and Learning	The success as seen for training in new practices, communication strategies of management, ability of frontline staff to provide feedback to management, and ability to adopt practices and techniques from other organizations	D9. My organization's data management is correct, reliable and up-to-date information.
		D10. My organization has information competency.
		E1. My organization provides an opportunity for the personnel to be trained within the organization.
		E2. My organization provides an opportunity for the personnel to be trained outside the organization.
		E3. Actively tries to revise programs and services in response to significant trends in the field.
		E4. Provides information on best practice.
		E5. An organization promotes knowledge management among colleagues.
		E6. My organization promotes using knowledge gained from work.
		E7. My organization promotes using skills from work.

Table 3.2 (Continued)

Variable	Definition	Operationalization
- Stakeholder Commitments	Achievement for interaction with stakeholders on a regular basis receives, new initiatives and efforts from political representatives and system partners	E8. My organization promotes using experiences from work.
		E9. My organization promotes using knowledge from outside.
		E10. My organization has knowledge competency.
		F1. Active Board of Directors and/or advisory committee.
		F2. All important stakeholders are represented on the board and committees.
		F3. The Board of Directors and/or advisory committees are responsible for organizational decisions and their impact on the organization.
		F4. At least 75% of the members of the Board of Directors and/or the advisory committee attended each meeting.
		F5. Receives non-financial support from stakeholders for new initiatives.
		F6. My organization rarely has vacancies on its Board of Directors or committees.
		F7. Receive support from political representatives when

Table 3.2 (Continued)

Variable	Definition	Operationalization
		needed.
		F8.My organization support giving services to nearby communities.
		F9.My organization support giving services to the private sector.
		F10.My organization has an ability to fulfil all of its commitments within and outside the organization.
- Collaboration	Effectively engage external constituencies, including outreach to “hard to reach” groups, interact stakeholders on a regular basis, ability to receive supports from political representatives and system partners	<p>G1.My organization support knowledge sharing between its personnel and other organizations.</p> <p>G2.My organization has the policy and work procedures that support working together with other organizations.</p> <p>G3.My organization allots time for the personnel to work in cooperation.</p> <p>G4.My organization trust other organizations when working together for the benefit of the clients.</p> <p>G5.An organization evaluates the potential of other</p>

Table 3.2 (Continued)

Variable	Definition	Operationalization
- Performance	Output quantity, output quality, outcome and efficiency	organizations for good partnership.
		G6.My organization integrates collaboration into the organization's mission.
		G7.My organization sets work procedures that support cooperation.
		G8.My organization receives cooperation from public organizations.
		G9.My organization receives cooperation from private organizations.
		G10.My organization has cooperation competency.
		H1.My organization has a clear student admission plan.
		H2.My organization has been successful in terms of output quantity.
		H3.My organization has quality curriculum and program designing.
		H4.My organization has been successful in terms of output quality.
		H5.My organization has a clear

Table 3.2 (Continued)

Variable	Definition	Operationalization
		plan on the number of graduates.
		H6.My organization has been successful in terms of outcome.
		H7.My organization promotes work speed and low costs.
		H8.My organization has been successful in term of efficiency.
		H9.My organization has a clear strategic operational plan.
		H10.My organization has been successful in output, outcome and efficiency.

Sources: Bryan, 2011.

3.4 Measurement

3.4.1 Scale Construction

The questionnaire contained of the five-point scale items ranging from 1 (strongly disagree) to 5 (strongly agree) for all questions.

3.4.2 Validity

The study was built upon prior and emerging research. In designing the appearance and the content validity for the survey instrument each item in the questionnaire was systematically reviewed by two experts (Prof. Dr. Sombat Thamrongthanyawong and Assc. Prof. Dr. Boonanan Phinaitrup) of Graduate School of Public Administration.

3.4.3 Reliability

The questionnaire had been tried out before being used with the sample groups.

3.5 Data Collection

The data were collected from both primary and secondary sources. The primary data were collected by distributing questionnaires to the administrators of selected organizations in the universities. The questionnaires were administered online and by post. The secondary data were taken from yearly reports of higher educational institutions and other related documents.

The data were collected by electronically using a web-based questionnaire, firstly. The electric survey was used because the electronic survey format was chosen for several reasons. First, this survey takes both less time and less labor intensive than mail and telephone surveys or in-person interviews. Second, research has shown that electronic surveys produce higher a response rate and the higher speed of completion than mail surveys (Griffis, Goldsby and Cooper, 2003). The follow-up included web reminders, then a paper survey, and finally a telephone call. The survey was launched over 4 monthes period from April 1, 2015 to August 17, 2015.

3.6 Data Analysis

The data were analyzed by SPSS for Window and Microsoft Excel programs. The hypotheses were tested by the descriptive statistics, ANOVA, correlation, Pearson's correlation coefficient and regression.

A survey instrument was composed of three parts and one introduction. The responsive scale in this instrument consisted of a five-point Likert scale with 1 = agree least, 2 = fairly agree, 3 = moderate agree, 4 = strongly agree and 5 = agree most.

Pretesting

After preparing a questionnaire, the next step was to pretest the instrument with the small group of individuals who were representatives of population. Twenty individuals, who worked in public higher education organizations at Burapha University of Chonburi province, were asked to complete the questionnaire. The purpose of this study need to enhance the appearance and the content validity of the survey instrument after each questionnaire item had been systematically reviewed by the experts. The pretesting collection took approximately one week and completed in March 2015. Gathering was recorded to ensure that all participant feedbacks were documented. The questionnaire was revised to reflect the feedbacks from the participants. The final instrument included 85 items under thirteen subscales. Reliability Statistics for pretest is Cronbach's Alpha 0.993. (See Appendix C)

Seventy eight questionnaires were sent by mail and online to the sample group who were asked to complete and return them in 4 months. The completed questionnaires were recoded on spreadsheets for analysis.

3.7 Hypotheses

- 1) H1: Age is positively related to capacity and performance.
- 2) H2: Size is positively related to capacity and performance.
- 3) H3: Leadership is positively related to capacity and performance.
- 4) H4: Resources provided by the government are positively related to capacity and performance.
- 5) H5: Human resource is a mediator between age and performance.
- 6) H6: Financial resource is a mediator between age and performance.
- 7) H7: Information technology is a mediator between age and performance.
- 8) H8: Knowledge is a mediator between age and performance.
- 9) H9: Stakeholder commitment is a mediator between age and performance.
- 10) H10: Collaboration is a mediator between age and performance.
- 11) H11: Human resource is a mediator between size and performance.
- 12) H12: Financial resource is a mediator between size and performance.
- 13) H13: Information technology is a mediator between size and performance.

- 14) H14: Knowledge is a mediator between size and performance.
- 15) H15: Stakeholder commitment is a mediator between size and performance.
- 16) H16: Collaboration is a mediator between size and performance.
- 17) H17: Human resource is a mediator between leadership and performance.
- 18) H18: Financial resource is a mediator between leadership and performance.
- 19) H19: Information technology is a mediator between leadership and performance.
- 20) H20: Knowledge is a mediator between leadership and performance.
- 21) H21: Stakeholder commitment is a mediator between leadership and performance.
- 22) H22: Collaboration is a mediator between leadership and performance.
- 23) H23: Human resource is a mediator between resources provided by the government and performance.
- 24) H24: Financial resource is a mediator between resources provided by the government and performance.
- 25) H25: Information technology is a mediator between resources provided by the government and performance.
- 26) H26: Knowledge is a mediator between resources provided by the government and performance.
- 27) H27: Stakeholder commitment is a mediator between resources provided by the government and performance.
- 28) H28: Collaboration is a mediator between resources provided by the government and performance.

CHAPTER 4

RESULTS

In this research on factors related to the capacity and the performances of the public higher education institutions in Thailand, the result of data analysis and an interpretation to answer this research objectives were presentation as follows:

4.1 The Sample Characters

Table 4.1 Frequency and Percentage of the Sample of Public Higher Education Institutions in Thailand

Background Information	Frequency	Percentage
Type		
- Rajabhat Universities	36	57.10
- Autonomous Universities	11	17.50
- Public Universities	9	14.30
- Rajamangala Universities	7	11.10
Total	63	100.00
Group		
- Universities In General	49	77.80
- Research Universities	8	12.70
- Specialized Universities	6	9.50
Total	63	100.00
Age		
- Below 30	20	31.70
- 30-40	5	7.90
- Beyond 40	38	60.30

Table 4.1 (Continued)

Background Information	Frequency	Percentage
Total	63	100.00
Size (number of personnel)		
- Less than 500 people	5	7.90
- 500-1,000 people	29	46.00
- More than 1,000 people	29	46.00
Total	63	100.00
Resource support from the government		
- Less than 65%	19	30.20
- 65-75%	24	38.10
- More than 75%	20	31.70
Total	63	100.00

From Table 4.1, it was found that the majority about 57.1% of public higher education institutions in Thailand (36 universities) were Rajabhat universities. About 77.8% (49 universities) were general universities. About 60.3% (38 universities) were in operation for more than 40 years. The percentage of those with the personnel of 500-1,000 people was the same as those with the personnel of more than 1,000 people (46.0%). About 38.1% (24 universities) obtained 65-75% of their budget and resources from the government, about 31.7% (20 universities) more than 75%, and about 30.2% (19 universities) lower than 65%.

4.2 The Capacity and the Performance Levels

Table 4.2 Capacity and Performance of Public Higher Education Institutions in Thailand

Levels Capacity and Performance	\bar{x}	S.D.	Interpretation
Leadership			
- Integrity and courage to face challenges	4.3810	0.65816	high
- Integration of positive ideas	4.3175	0.71449	high
- Support of democracy and participation	4.3016	0.68709	high
- Ability to link positive knowledge	4.2698	0.62750	high
- Accepted decision-making	4.2222	0.63359	high
- Decision-making with no bias	4.2222	0.72833	high
- Ability to get positive effects	4.1587	0.62750	high
- Ability to motivate the personnel to overcome hardship at work	4.0159	0.70693	high
- Ability to communicate to increase work efficiency	4.0159	0.72938	high
- Ability to lead people	4.1746	0.79392	high
Capacity			
1) Human Resource			
- Providing job orientation for new employees	4.3016	0.71018	high
- Continuous personnel development and training	3.9841	0.68373	high
- Good discipline and reasonable penalties	3.9841	0.68373	high
- Personnel with skills and knowledge	3.9524	0.65816	high

Table 4.2 (Continued)

Levels Capacity and Performance	\bar{x}	S.D.	Interpretation
- Clear personnel development plan	3.9524	0.68223	high
- Personnel with skills and knowledge and ability to train others if necessary	3.8413	0.67696	high
- Appropriate work positions and remuneration for the personnel	3.8095	0.80035	high
- Ability to employ the personnel with reliable knowledge and experience necessary for work	3.7460	0.71771	high
- Ability to timely recruit new employees	3.7302	0.76636	high
- Personnel with performance competency	3.8571	0.59180	high
2) Financial Resource			
- Reliable auditing system	4.2381	0.68895	high
- Reliable financial reports	4.1746	0.68485	high
- Clear plans and projects	4.0952	0.71198	high
- Participatory budget planning	3.8254	0.94254	high
- Cost analysis	3.8095	0.82025	high
- Allowing access to basic financial information	3.7302	0.74501	high
- Secure fund	3.4762	1.04507	moderate
- Adequate fund for service rendering	3.2222	0.97459	moderate
- Ability to easily attract new funds for starting new projects	3.1746	0.87140	moderate
- Financial competency	3.6349	0.90343	high

Table 4.2 (Continued)

Levels Capacity and Performance	\bar{x}	S.D.	Interpretation
3) Information Technology			
- Correct, reliable and up-to-date information	3.8889	0.62504	high
- Effective and useful information management system	3.8254	0.61012	high
- Establishment of information procedures for projects and services	3.7778	0.6076	high
- Ability to share information and to access necessary information	3.7302	0.6275	high
- Ability to follow information about resources, output and outcome	3.7143	0.65816	high
- Training on the use of information and the information management system	3.6667	0.69561	high
- Automatic information management	3.4444	0.81869	moderate
- Ability to share information with other organizations	3.4444	0.79874	moderate
- Harmony between automatic information management and users	3.3492	0.74398	moderate
- Information competency	3.7460	0.73984	high
4) Knowledge and learning			
- Opportunity for the personnel to be trained within the organization	4.2540	0.69487	high
- Opportunity for the personnel to be trained outside the organization	4.1429	0.73741	high

Table 4.2 (Continued)

Levels Capacity and Performance	\bar{x}	S.D.	Interpretation
- Promotion of using knowledge gained from work	4.0635	0.66897	high
- Promotion of using skills for work	4.0476	0.60718	high
- Promotion of using experiences for work	4.0317	0.64678	high
- Support of knowledge management among colleagues	3.9683	0.73984	high
- Revision of curriculums and services in response to the current trend	3.9206	0.76836	high
- Promotion of using knowledge from outside	3.8413	0.67696	high
- Provision of information on best practices	3.7143	0.81178	high
- Knowledge competency	3.8095	0.71521	high
5) Stakeholder Commitment			
- No less than 75% of the members of administrative committees and / or the advisory committee attending each meeting	4.5079	0.59224	high
- No vacancy in the administrative committees or others	4.3492	0.74398	high
- Support of giving services to nearby communities	4.2698	0.80735	high
- Support of administrative committees and / or advisory committees	4.0635	0.73776	high

Table 4.2 (Continued)

Levels Capacity And Performance	\bar{x}	S.D.	Interpretation
- Responsibility of administrative committees and / or advisory committees for impacts of their decision-making	3.9841	0.81304	high
- Support of giving services to the private sector	3.8571	0.80035	high
- All types of stakeholders have representatives in different committees	3.7143	0.65816	high
- Having non-monetary support from stakeholders to start initiative projects	3.6349	0.92111	high
- Receiving support from political representatives when needed	3.1270	0.94172	moderate
- Ability to fulfil all commitments made by its committees and committee members as requested by political representatives, committee members and the private sector	3.7937	0.78614	high
6) Collaboration			
- Having the policy and work procedures that support working together with other organizations	4.1587	0.6527	high
- Receiving cooperation from public organizations	4.1111	0.59868	high
- Setting work procedures that support collaboration	4.0000	0.71842	high

Table 4.2 (Continued)

Levels Capacity And Performance	\bar{x}	S.D.	Interpretation
- Alloting time for the personnel to work in cooperation	3.9841	0.75117	high
- Support of knowledge sharing between its personnel and that other of organizations	3.9683	0.69487	high
- Integration of collaboration into organizational missions	3.9524	0.79166	high
- Receiving cooperation from private organizations	3.9048	0.87463	high
- Trusting other organizations in working together for beneficial outcomes	3.8571	0.69229	high
- Evaluation of the potential of other organizations for good partnership	3.8254	0.75219	high
- Collaboration competency	4.1270	0.65972	high
Performance			
- Clear student admission plan	4.4921	0.64441	high
- Quality curriculum and program designing	4.2698	0.65270	high
- Clear strategic operational plan	4.1905	0.69229	high
- Clear plan on the number of graduates	4.0635	0.64441	high
- Success in output quantity	4.0317	0.78223	high
- Success in output quality	3.9841	0.68373	high
- Success in outcome	3.9365	0.69266	high
- Success in efficiency	3.8095	0.69229	high

Table 4.2 (Continued)

Levels Capacity And Performance	\bar{x}	S.D.	Interpretation
- Promotion of work speed and low cost	3.7937	0.80640	high
- Success in output, outcome and efficiency	3.9206	0.60379	high

Table 4.2 shows that public higher education institutions in Thailand had a high level of leadership at all ($\bar{x}=4.17$). Respectively, they were highly honest and dared to encounter challenges ($\bar{x}=4.38$). They could highly integrate positive ideas ($\bar{x}=4.32$). They highly supported democracy and participation ($\bar{x}=4.30$) and linked positive knowledge ($\bar{x}=4.27$). Their decision-making was highly accepted (4.22) and they highly made decisions without bias ($\bar{x}=4.22$). They could highly produce positive outcome ($\bar{x}=4.16$), highly motivate their personnel to overcome hardship in their work ($\bar{x}=4.02$), and highly communicate well to increase work performance ($\bar{x}=4.02$).

Their human resource was found to be at a high level at all ($\bar{x}=3.86$). Respectively, they had highly job orientation ($\bar{x}=4.30$) and highly continuously trained and developed the personnel ($\bar{x}=3.98$). They had highly discipline and reasonable penalties ($\bar{x}=3.98$). The personnel had high skills and knowledge ($\bar{x}=3.95$). There was a highly clear personnel development plan ($\bar{x}=3.95$), and their personnel could highly train others when necessary ($\bar{x}=3.84$). Their work positions and remuneration were highly appropriate ($\bar{x}=3.81$). They could highly employ the personnel with knowledge, reliability, and experience necessary for work ($\bar{x}=3.75$). Lastly, they could highly recruit new employees at an appropriate time ($\bar{x}=3.73$).

Their financial resource was found to be at a high level at all ($\bar{x}=3.63$). Respectively, the auditing system was highly reliable at a high level ($\bar{x}=4.24$). The financial reports were highly correct and reliable ($\bar{x}=4.17$). They had highly clear plans and projects ($\bar{x}=4.09$). Budget planning was highly carried out through participation of various parties concerned ($\bar{x}=3.82$). They conducted a highly cost

analysis ($\bar{x}=3.81$) and highly allowed others to access their basic financial information ($\bar{x}=3.73$). Their fund was secure at a moderate level ($\bar{x}=3.48$) and was moderately enough for rendering services ($\bar{x}=3.22$). They could moderately attract new investment funds to start new projects easily ($\bar{x}=3.17$).

The information technology was found to be at a high level at all ($\bar{x}=3.75$). Respectively, the information were correct, reliable and up-to-date at a high level ($\bar{x}=3.89$). The information management system was highly effective and fruitful ($\bar{x}=3.82$). Besides, their information procedures were highly set for projects and services ($\bar{x}=3.78$). Such information could be highly shared and could be highly reached by others ($\bar{x}=3.73$). The studied organizations had highly an ability to share information with other organizations ($\bar{x}=3.73$). They could highly follow information on resources, output and outcome ($\bar{x}=3.71$). Training was highly held on the usage of information and the information management system ($\bar{x}=3.67$). Their automatic information management system could respond to its users at a moderate level ($\bar{x}=3.44$), and there was moderately harmony between automatic information management and users ($\bar{x}=3.35$).

Their knowledge and learning was found to be at a high level at all ($\bar{x}=3.81$). Respectively, they highly provided an opportunity for the personnel to be trained both within ($\bar{x}=4.25$) and outside the organizations ($\bar{x}=4.14$). They highly supported the use of knowledge gained from work ($\bar{x}=4.06$) and the use of work skills (4.05) and experiences ($\bar{x}=4.03$). They highly supported knowledge sharing among colleagues ($\bar{x}=3.97$). They highly revised curriculums and services in response to the current trend ($\bar{x}=3.92$). They highly supported the use of knowledge from outside ($\bar{x}=3.84$), and highly provided information about best practices ($\bar{x}=3.71$).

The overall stakeholder commitment was found to be at a high level at all ($\bar{x}=3.79$). Respectively, each meeting was highly attended by at least 75% of the committee members ($\bar{x}=4.51$). There was highly no vacancy in the administrative committees or others ($\bar{x}=4.35$). The organizations highly provided services for nearby communities ($\bar{x}=4.27$). They highly supported administrative committees and / or advisory committees ($\bar{x}=4.06$). The administrative committees and / or advisory committees were highly responsible for impacts of their decision-making ($\bar{x}=3.98$).

The organizations highly supported giving services to the private sector ($\bar{x}=3.86$). All types of stakeholders had highly representatives in different committees ($\bar{x}=3.71$). They highly received non-monetary support from the stakeholders to start initiative projects ($\bar{x}=3.63$). Only supported from political representatives when needed was found to be at a moderate level ($\bar{x}=3.13$).

Their collaboration was found to be at a high level at all ($\bar{x}=4.12$). Respectively, they had a policy and work procedures that highly supported working together with other organizations ($\bar{x}=4.16$). They highly received cooperation from other public organizations ($\bar{x}=4.11$). They set the work system that highly supported collaboration ($\bar{x}=4.00$). The organizations highly supported cooperation in sharing work knowledge with other organizations ($\bar{x}=3.97$). They highly allotted time for the personnel to work in cooperation ($\bar{x}=3.97$). Cooperation was highly integrated collaboration into organizational missions ($\bar{x}=3.95$). They highly received cooperation from private organizations ($\bar{x}=3.90$). They highly trusted other organizations in working together for the benefit of the customers ($\bar{x}=3.86$). They highly evaluated the potential of other organizations for good partnership ($\bar{x}=3.82$).

Their performance was found to be at a high level at all ($\bar{x}=3.92$). Respectively, they had highly clear admission plan ($\bar{x}=4.49$). They had highly quality curriculum and program designing ($\bar{x}=4.27$), highly clear strategic operational plan ($\bar{x}=4.19$) and highly clear plan on the number of graduates ($\bar{x}=4.06$). They were highly successful in the quantity of graduates ($\bar{x}=4.03$), as well as the quality of their graduates ($\bar{x}=3.98$). They were highly successful in outcome ($\bar{x}=3.94$). They highly promoted work speed and low cost ($\bar{x}=3.79$), and were highly successful in the efficiency ($\bar{x}=3.81$).

Table 4.3 Percentage of Capacity and Performance of Public Higher Education Institutions in Thailand Classified by Type

Type/Capacity/Performance	Level of Capacity and Performance (Percentage)				
	Lowest	Low	Moderate	High	Highest
Leadership					
- Autonomous University	-	9.10	9.10	18.20	63.60*
- Public University	-	11.10	22.20	44.40*	22.20
- Rajabhat University	-	0.00	16.70	44.40*	38.90*
- Rajamangla University	-	0.00	0.00	85.70*	14.30
- Total	-	3.20	14.30	44.40*	38.10*
Capacity					
1) Human resource					
- Autonomous University	-	-	27.30	54.50*	18.20
- Public University	-	-	11.10	88.90*	0.00
- Rajabhat University	-	-	27.80	63.90*	8.30
- Rajamangla University	-	-	28.60	42.90*	28.60
- Total	-	-	25.40	63.50*	11.10
2) Financial resource					
- Autonomous University	9.10	9.10	18.20	27.30*	36.40*
- Public University	0.00	11.10	33.30	44.40*	11.10
- Rajabhat University	2.80	2.80	38.90	52.80*	2.80
- Rajamangla University	0.00	0.00	14.30	42.90*	42.90*
- Total	3.20	4.80	31.70*	46.00*	14.30
3) Information technology					
- Autonomous University	9.10	0.00	27.30	45.50*	18.20
- Public University	0.00	0.00	33.30	55.60*	11.10
- Rajabhat University	0.00	2.80	30.60	58.30*	8.30
- Rajamangla University	0.00	0.00	14.30	71.40*	14.30
- Total	1.60	1.60	28.60	57.10*	11.10

Table 4.3 (Continued)

Type/Capacity/Performance	Level of Capacity and Performance (Percentage)				
	Lowest	Low	Moderate	High	Highest
4) Knowledge and learning					
- Autonomous University	-	0.00	27.30	45.50*	27.30
- Public University	-	11.10	11.10	77.80*	0.00
- Rajabhat University	-	2.80	36.10	52.80*	8.30
- Rajamangla University	-	0.00	0.00	57.10*	42.90
- Total	-	3.20	27.00	55.60*	14.30
5) Stakeholder commitment					
- Autonomous University	9.10	9.10	9.10	63.60*	9.10
- Public University	0.00	11.10	33.30*	33.30*	22.20
- Rajabhat University	0.00	0.00	27.80	58.30*	13.90
- Rajamangla University	0.00	0.00	14.30	71.40*	14.30
- Total	1.60	3.20	23.80	57.10*	14.30
6) Collaboration					
- Autonomous University	-	-	27.30	27.30	45.50*
- Public University	-	-	11.10	66.70*	22.20
- Rajabhat University	-	-	13.90	61.10*	25.00
- Rajamangla University	-	-	14.30	57.10*	28.60
- Total	-	-	15.90	55.60*	28.60
Total capacity					
- Autonomous University	-	9.10	27.30	36.40*	27.30
- Public University	-	11.10	11.10	77.80*	0.00
- Rajabhat University	-	0.00	36.10	61.10*	2.80
- Rajamangla University	-	0.00	14.30	57.10*	28.60
- Total	-	3.20	28.60	58.70*	9.50

Table 4.3 (Continued)

Type/Capacity/Performance	Level of Capacity and Performance (Percentage)				
	Lowest	Low	Moderate	High	Highest
Performance					
1) Quantity of output					
- Autonomous University	-	0.00	18.20	27.30	54.50*
- Public University	-	0.00	22.20	55.60*	22.20
- Rajabhat University	-	5.60	19.40	52.80*	22.20
- Rajamangla University	-	0.00	14.30	57.10*	28.60
- Total	-	3.20	19.00	49.20*	28.60
2) Quality of output					
- Autonomous University	-	0.00	9.10	54.50*	36.40
- Public University	-	11.10	0.00	55.60*	33.30
- Rajabhat University	-	0.00	30.60	58.30*	11.10
- Rajamangla University	-	0.00	0.00	71.40*	28.60
- Total	-	1.60	19.00	58.70*	20.60
3) Outcome					
- Autonomous University	-	9.10	18.20	45.50*	27.30
- Public University	-	11.10	22.20	44.40*	22.20
- Rajabhat University	-	0.00	19.40	69.40*	11.10
- Rajamangla University	-	0.00	0.00	71.40*	28.60
- Total	-	3.20	17.50	61.90*	17.50
4) Efficiency					
- Autonomous University	-	9.10	18.20	63.60*	9.10
- Public University	-	11.10	11.10	66.70*	11.10
- Rajabhat University	-	2.80	25.00	63.90*	8.30
- Rajamangla University	-	0.00	14.30	57.10*	28.60
- Total	-	4.80	20.60	63.50*	11.10
Performance					
- Autonomous University	-	0.00	27.30	54.50*	18.20

Table 4.3 (Continued)

Type/Capacity/Performance	Level of Capacity and Performance (Percentage)				
	Lowest	Low	Moderate	High	Highest
- Public University	-	11.10	11.10	66.70*	11.10
- Rajabhat University	-	0.00	19.40	72.20*	8.30
- Rajamangla University	-	0.00	0.00	71.40*	28.60
- Total	-	1.60	17.50	68.30*	12.70

Note: * The Majority

Table 4.3 shows that the leadership of most universities was at a “high” level (44.40%) and at the “highest” level (38.10%) as most of Rajabhat universities. Most autonomous universities were at the “highest” level followed by Rajamangla universities and public universities at a “high” level (63.60%, 85.70% and 44.40%), respectively.

The human resource of most universities was at a “high” level (63.50%). Most Public universities were at a “high” level followed by Rajabhat universities, autonomous universities and Rajamangla universities (88.90%, 63.90%, 54.50%, and 42.90%), respectively.

The financial resource of most universities was at a “high” level (46.00%). Most Rajamangla universities were at the “highest” level and a “high” level (42.90%). Most autonomous universities were at the “highest” level and a “high” level (36.40% and 27.30%). Most Rajabhat universities and public universities were at a “high” level (52.80% and 44.40%), respectively.

Their information technology of most universities was at a “high” level (57.10%). Most Rajamangla universities were at a “high” level followed by Rajabhat universities, public universities and autonomous universities (71.40%, 58.30%, 55.60% and 45.50%), respectively.

The knowledge and learning of most universities was found to be at a “high” level (55.60%). Most public universities were at a “high” level followed by

Rajamangla universities, Rajabhat universities and autonomous universities (77.80%, 57.10%, 52.80% and 45.50%), respectively.

The stakeholder commitment of most universities was at a “high” level (57.10%). Most Rajamangla universities were at a “high” level followed by autonomous universities and Rajabhat universities ((71.40%, 63.60% and 58.30%), respectively. Most public universities were at a “high” level and a “moderate” level (33.30%).

The collaboration of most universities was at a “high” level (55.60%). Most autonomous universities were at the “highest” level (45.50%). Most public universities were at a “high” level followed by Rajabhat universities and Rajamangla universities (66.70%, 61.10% and 57.10%), respectively.

The total capacity of most universities was at a “high” level (58.70%). Most public universities were at a “high” level followed by Rajabhat universities, Rajamangla universities and autonomous universities (77.80%, 61.10%, 57.10% and 36.40%), respectively.

Most universities were successful in output quantity at a “high” level (49.20%). Most autonomous universities were successful in the quantity of output at the “highest” level (54.50%) followed by Rajamangla universities, public universities and Rajabhat universities at a “high” level (57.10%, 55.60% and 52.80%), respectively.

Most universities were successful in the output quality at a “high” level (58.70%). Most Rajamangla universities were successful in output quality at a “high” level followed by Rajabhat universities, public universities and autonomous universities (71.40%, 58.30%, 55.60% and 54.50%), respectively.

Most universities were successful in outcome at a “high” level (61.90%). Most Rajamangla universities were successful in outcome at a “high” level followed by Rajabhat universities, autonomous universities and public universities (71.40%, 69.40%, 45.50% and 44.40%), respectively.

Most universities were successful in efficiency at a “high” level (63.50%). Most public universities were successful in efficiency at a “high” level followed by Rajabhat universities, autonomous universities and Rajamangla universities (66.70%, 63.90%, 63.60% and 57.10%), respectively.

Lastly, their performance was found to be at a “high” level (68.30%). Most Rajabhat universities were successful in performance at a “high” level followed by Rajamangla universities, public universities and autonomous universities (72.20%, 71.40%, 66.70% and 54.50%), respectively.

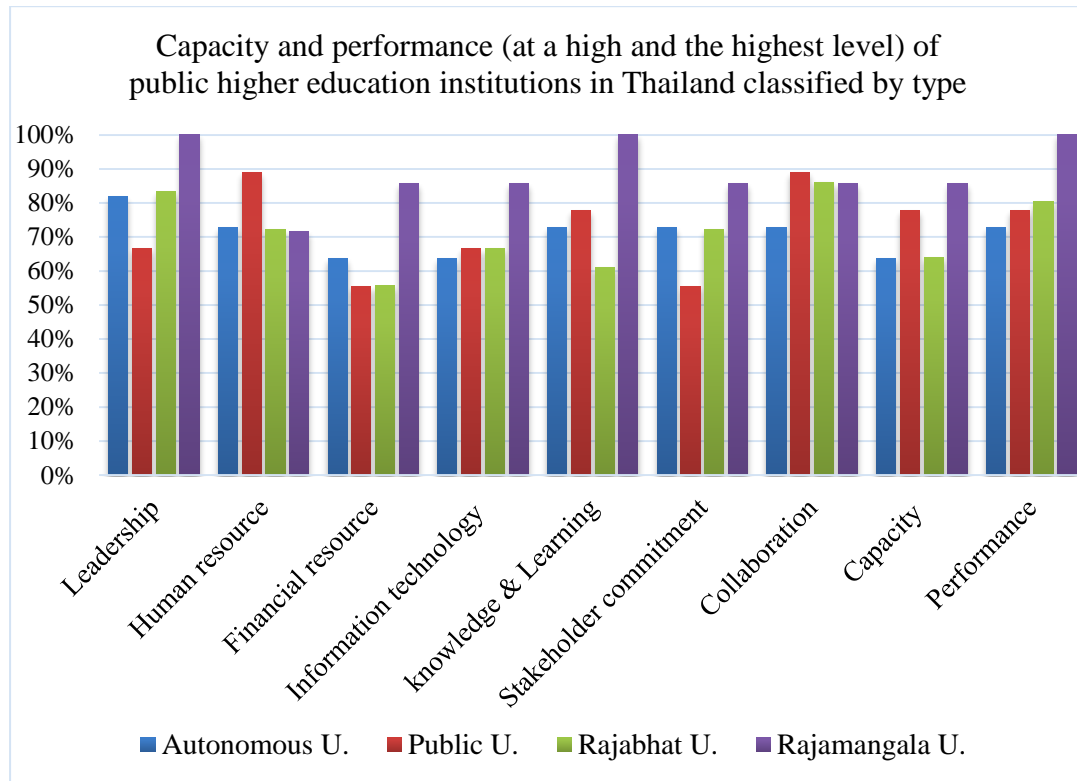


Figure 4.1 Level of Capacity and Performance (at a High Level and the Highest Level) of Public Higher Education Institutions in Thailand Classified by Type

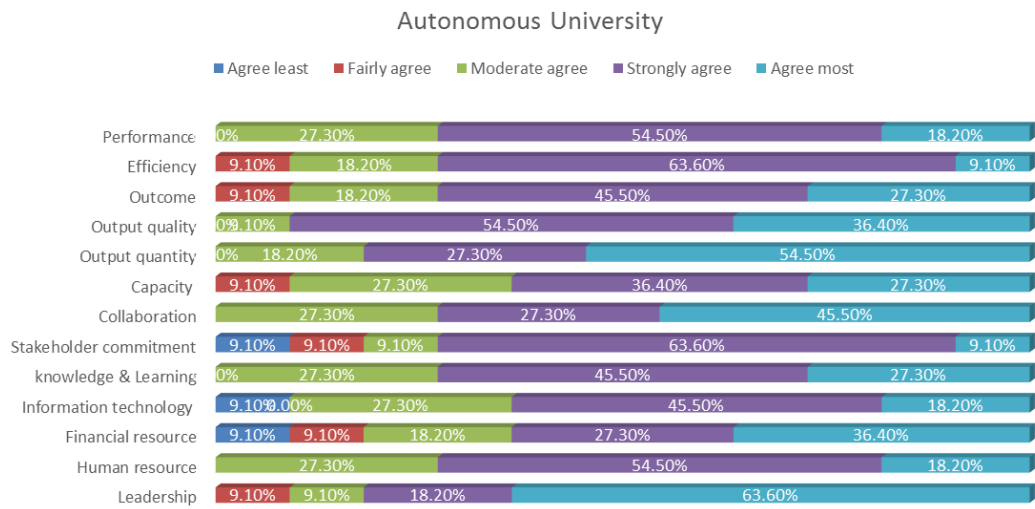


Figure 4.2 Level of Capacity and Performance of Autonomous University in Thailand

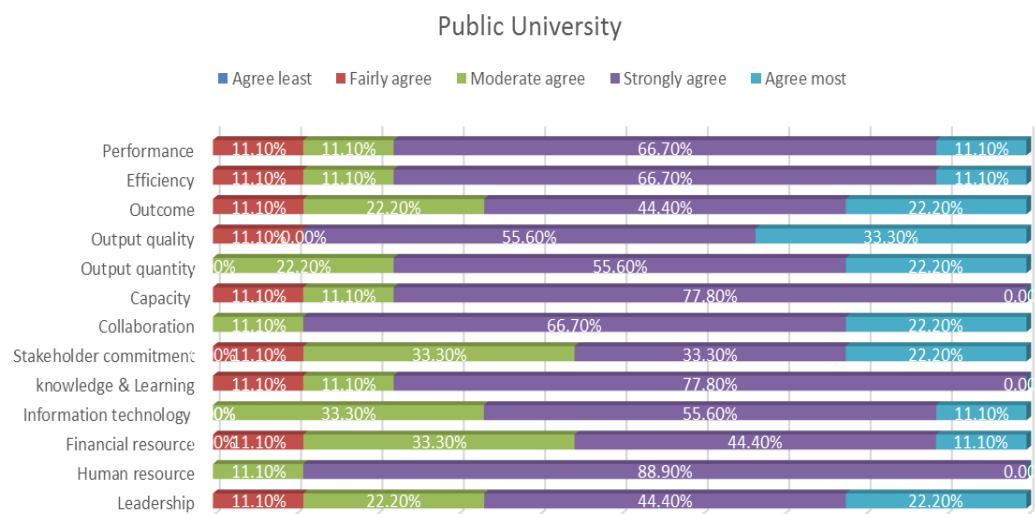


Figure 4.3 Level of Capacity and Performance of Public University in Thailand

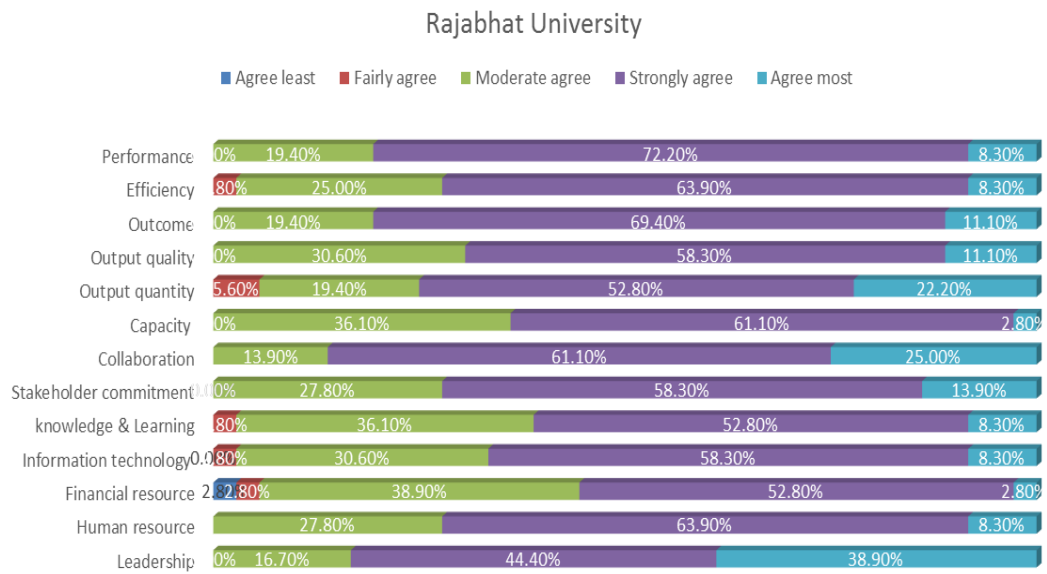


Figure 4.4 Level of Capacity and Performance of Rajabhat University in Thailand

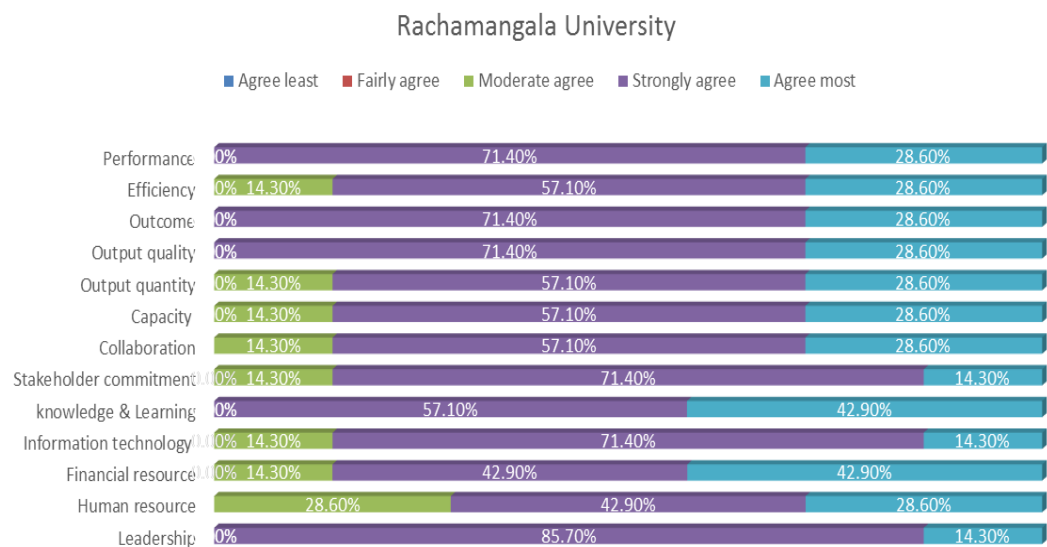


Figure 4.5 Level of Capacity and Performance of Rachamangala University in Thailand

Table 4.4 Percentage of Capacity and Performance of Public Higher Education Institutions in Thailand Classified by Groups

Groups/Capacity/ Performance	Level of Capacity and Performance (Percentage)				
	Lowest	Low	Moderate	High	Highest
Leadership					
- Research/Graduate University	-	0.00	12.50	25.00	62.50*
- Specialized/Comprehensive University	-	0.00	0.00	66.70*	33.30
- Liberal Arts University	-	4.10	16.30	44.90*	34.70
Total	-	3.20	14.30	44.40*	38.10
Capacity					
1) Human resource					
- Research/Graduate University	-	-	0.00	75.00*	25.00
- Specialized/Comprehensive University	-	-	33.30	50.00*	16.70
- Liberal Arts University	-	-	28.60	63.30*	8.20
Total	-	-	25.40	63.50*	11.10
2) Financial resource					
- Research/Graduate University	0.00	0.00	12.50	25.00	62.50*
- Specialized/Comprehensive University	0.00	16.70	16.70	50.00*	16.70
- Liberal Arts University	4.10	4.10	36.70	49.00*	6.10
Total	3.20	4.80	31.70	46.00*	14.30

Table 4.4 (Continued)

Groups/Capacity/ Performance	Level of Capacity and Performance (Percentage)				
	Lowest	Low	Moderate	High	Highest
3) Information technology					
- Research/Graduate University	0.00	0.00	25.00	50.00*	25.00
- Specialized/Comprehensive University	0.00	0.00	16.70	83.30*	0.00
- Liberal Arts University	2.00	2.00	30.60	55.10*	10.20
Total	1.60	1.60	28.60	57.10*	11.10
4) Knowledge and learning					
- Research/Graduate University	-	0.00	12.50	50.00*	37.50
- Specialized/Comprehensive University	-	0.00	0.00	66.70*	33.30
- Liberal Arts University	-	4.10	32.70	55.10*	8.20
Total	-	3.20	27.00	55.60*	14.30
5) Stakeholder commitment					
- Research/Graduate University	0.00	0.00	0.00	75.00*	25.00
- Specialized/Comprehensive University	0.00	0.00	0.00	83.30*	16.70
- Liberal Arts University	2.00	4.10	30.60	51.00*	12.20
Total	1.60	3.20	23.80	57.10*	14.30
6) Collaboration					
- Research/Graduate University	-	-	0.00	37.50	62.50*

Table 4.4 (Continued)

Groups/Capacity/ Performance	Level of Capacity and Performance (Percentage)				
	Lowest	Low	Moderate	High	Highest
- Specialized/Comprehensive University	-	-	0.00	66.70*	33.30
- Liberal Arts University	-	-	20.40	57.10*	22.40
Total Capacity					
- Research/Graduate University	-	0.00	12.50	50.00*	37.50
- Specialized/Comprehensive University	-	0.00	16.70	66.70*	16.70
- Liberal Arts University	-	4.10	32.70	59.20*	4.10
Total	-	3.20	28.60	58.70*	9.50
Performance					
1) Quantity of output					
- Research/Graduate University	-	0.00	12.50	12.50	75.00*
- Specialized/Comprehensive University	-	0.00	16.70	50.00*	33.30
- Liberal Arts University	-	4.10	20.40	55.10*	20.40
Total	-	3.20	19.00	49.20*	28.60
2) Quality of output					
- Research/Graduate University	-	0.00	0.00	37.50	62.50*
- Specialized/Comprehensive University	-	0.00	16.70	50.00*	33.30
- Liberal Arts University	-	2.00	22.40	63.30*	12.20
Total	-	1.60	19.00	58.70*	20.60
3) Outcome					
- Research/Graduate	-	0.00	12.50	37.50	50.00*

Table 4.4 (Continued)

Groups/Capacity/ Performance	Level of Capacity and Performance (Percentage)				
	Lowest	Low	Moderate	High	Highest
University					
- Specialized/Comprehen sive University	-	0.00	16.70	66.70*	16.70
- Liberal Arts University	-	4.10	18.40	65.30*	12.20
Total	-	3.20	17.50	61.90*	17.50
4) Efficiency					
- Research/Graduate University	-	0.00	12.50	75.00*	12.50
- Specialized/Comprehen sive University	-	0.00	16.70	66.70*	16.70
- Liberal Arts University	-	6.10	22.40	61.20*	10.20
Total	-	4.80	20.60	63.50*	11.10
Total Performance					
- Research/Graduate University	-	0.00	12.50	62.50*	25.00
- Specialized/Comprehen sive University	-	0.00	16.70	66.70*	16.70
- Liberal Arts University	-	2.00	18.40	69.40*	10.20
Total	-	1.60	17.50	68.30*	12.70

Note: * The Majority

Table 4.4 shows that leadership of most universities was at a “high” level (44.40%). Most research/graduate universities were at the “highest” level (62.50%) followed by specialized/ comprehensive universities and liberal arts universities at a “high” level (66.70% and 44.90%), respectively.

The human resource of most universities was at a “high” level (63.50%). Most research/graduate universities were at a “high” level (75.00%) followed by liberal arts

universities and specialized/ comprehensive universities (63.30% and 50.00%), respectively.

The financial resource of most universities was at a “high” level (46.00%). Most research/graduate universities were at the “highest” level (62.50%) followed by specialized/ comprehensive universities and liberal arts universities at a “high” level (50.00% and 49.00%), respectively.

The information technology of most universities was at a “high” level (57.10%). Most specialized/ comprehensive universities were at a “high” level followed by liberal arts universities and research/graduate universities (83.30%, 55.10% and 50.00%), respectively.

The knowledge and learning of most universities were at a “high” level (55.60%). Most specialized/ comprehensive universities were at a “high” level followed by liberal arts universities and research/graduate universities (66.70%, 55.10% and 50.00%), respectively.

The stakeholder commitment of most universities was at a “high” level (57.10%). Most specialized/ comprehensive universities were at a “high” level followed by research/graduate universities and liberal arts universities (83.30%, 75.00% and 51.00%), respectively.

The collaboration of most universities was at a “high” level (55.60%). Most research/graduate universities were at the “highest” level (62.50%) followed by specialized/ comprehensive universities and liberal arts universities at a “high” level (66.70% and 57.10%), respectively.

Total capacity of most universities was at a high level (58.70%). Most specialized/ comprehensive universities were at a “high” level followed by liberal arts universities and research/graduate universities (66.70%, 59.20% and 50.00%), respectively.

Most universities were successful in output quantity at a “high” level (49.20%). Most research/graduate universities were successful in output quantity at the “highest” level (75.00%) followed by liberal arts universities and specialized/ comprehensive universities at a “high” level (55.10% and 50.00%), respectively.

Most universities were successful in output quality at a “high” level (58.70%). Most research/graduate universities were successful in output quality at the “highest”

level (62.50%) followed by liberal arts universities and specialized/ comprehensive universities at a “high” level (63.30% and 50.00%), respectively.

Most universities were successful in outcome at a “high” level (61.90%). Most research/graduate universities were successful in outcome at the “highest” level (50.00%) followed by specialized/ comprehensive universities and liberal arts universities at a “high” level (66.70% and 65.30%), respectively.

Most universities were successful in their efficiency at a “high” level (63.50%). Most research/graduate universities were successful in efficiency at a “high” level followed by specialized/comprehensive universities and liberal arts universities (75.00%, 66.70% and 61.20%), respectively.

Lastly, most universities were successful in their performance at a high level (68.30%). Most liberal arts universities were successful in performance at a “high” level followed by specialized/ comprehensive universities and research/graduate universities (69.40%, 66.70% and 62.50%), respectively.

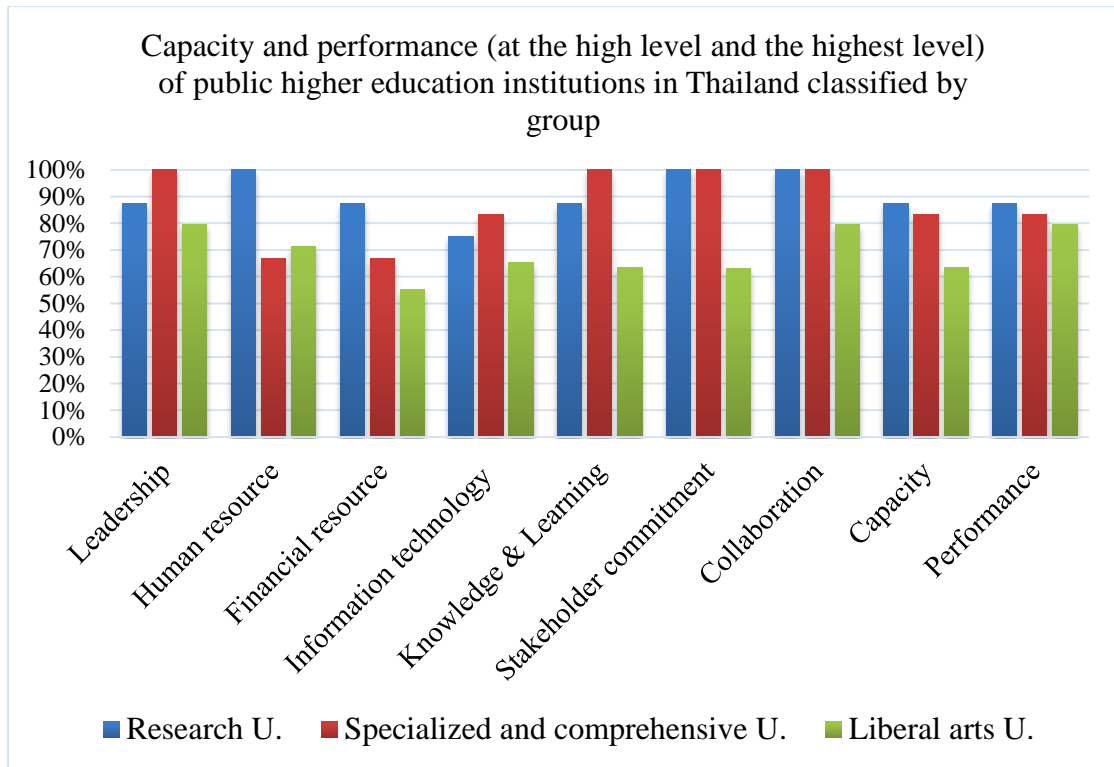


Figure 4.6 Level of Capacity and Performance (at a High Level and the Highest Level) of Public Higher Education Institutions in Thailand Classified by Group

4.3 Comparison of the Capacity and the Performance

Table 4.5 Comparison of the Capacity and the Performance of Public Higher Education Institutions in Thailand Classified by Type

Types/Capacity/Performance	N	\bar{x}	S.D.	F
Leadership				
- Autonomous University	11	4.3636	1.02691	1.004
- Public University	9	3.7778	0.97183	
- Rajabhat University	36	4.2222	0.72155	
- Rajamangla University	7	4.1429	0.37796	
Total	63	4.1746	0.79392	
Capacity				
1) Human resource				
- Autonomous University	11	3.9091	0.70065	0.255
- Public University	9	3.8889	0.33333	
- Rajabhat University	36	3.8056	0.57666	
- Rajamangla University	7	4.0000	0.8165	
Total	63	3.8571	0.5918	
2) Financial resource				
- Autonomous University	11	3.7273	1.3484	1.583
- Public University	9	3.5556	0.88192	
- Rajabhat University	36	3.5000	0.73679	
- Rajamangla University	7	4.2857	0.75593	
Total	63	3.6349	0.90343	
3) Information technology				
- Autonomous University	11	3.6364	1.12006	0.362
- Public University	9	3.7778	0.66667	
- Rajabhat University	36	3.7222	0.65949	
- Rajamangla University	7	4.0000	0.57735	
Total	63	3.746	0.73984	

Table 4.5 (Continued)

Types/Capacity/Performance	N	\bar{x}	S.D.	F
4) Knowledge and learning				
- Autonomous University	11	4.0000	0.7746	2.838*
- Public University	9	3.6667	0.70711	
- Rajabhat University	36	3.6667	0.67612	
- Rajamangla University	7	4.4286	0.53452	
Total	63	3.8095	0.71521	
5) Stakeholder commitment				
- Autonomous University	11	3.5455	1.12815	0.682
- Public University	9	3.6667	1.00000	
- Rajabhat University	36	3.8611	0.63932	
- Rajamangla University	7	4.0000	0.57735	
Total	63	3.7937	0.78614	
6) Collaboration				
- Autonomous University	11	4.1818	0.87386	0.034
- Public University	9	4.1111	0.60093	
- Rajabhat University	36	4.1111	0.62234	
- Rajamangla University	7	4.1429	0.69007	
Total	63	4.1270	0.65972	
Performance				
- Autonomous University	11	3.9091	0.70065	1.058
- Public University	9	3.7778	0.83333	
- Rajabhat University	36	3.8889	0.52251	
- Rajamangla University	7	4.2857	0.48795	
Total	63	3.9206	0.60379	

Note: * Significant at the 0.05 level

Tables 4.5 shows that there was significant difference in capacity (knowledge and learning) between public universities, Rajabhat universities and Rajamangla universities. Autonomous universities and Rajamangla universities have more knowledge and learning than public universities, Rajabhat universities, while there was no significant difference in capacity (an ability of human resources, financial resources, information technology, stakeholder commitment and collaboration). And there was no significant difference in leadership and performance.

Table 4.6 Comparison of the Difference in the Capacity and the Performance of Public Higher Education Institutions in Thailand Classified by Group

Group/Capacity/Performance	N	\bar{x}	S.D.	F
Leadership				
- Research/Graduate University	8	4.5000	0.75593	0.996
- Specialized/Comprehensive University	6	4.3333	0.51640	
- Liberal Arts University	49	4.1020	0.82272	
Total	63	4.1746	0.79392	
Capacity				
1) Human resource				
- Research/Graduate University	8	4.2500	0.46291	2.102
- Specialized/Comprehensive University	6	3.8333	0.75277	
- Liberal Arts University	49	3.7959	0.57661	
Total	63	3.8571	0.59180	
2) Financial resource				
- Research/Graduate University	8	4.5000	0.75593	4.836*
- Specialized/Comprehensive University	6	3.6667	1.03280	
- Liberal Arts University	49	3.4898	0.84465	
Total	63	3.6349	0.90343	

Table 4.6 (Continued)

Group/Capacity/Performance	N	\bar{x}	S.D.	F
3) Information technology				
- Research/Graduate University	8	4.0000	0.75593	0.627
- Specialized/Comprehensive University	6	3.8333	0.40825	
- Liberal Arts University	49	3.6939	0.76931	
Total	63	3.7460	0.73984	
4) Knowledge and learning				
- Research/Graduate University	8	4.2500	0.70711	4.461*
- Specialized/Comprehensive University	6	4.3333	0.51640	
- Liberal Arts University	49	3.6735	0.68883	
Total	63	3.8095	0.71521	
5) Stakeholder commitment				
- Research/Graduate University	8	4.2500	0.46291	2.742
- Specialized/Comprehensive University	6	4.1667	0.40825	
- Liberal Arts University	49	3.6735	0.82633	
Total	63	3.7937	0.78614	
6) Collaboration				
- Research/Graduate University	8	4.6250	0.51755	3.468*
- Specialized/Comprehensive University	6	4.3333	0.51640	
- Liberal Arts University	49	4.0204	0.66112	
Total	63	4.1270	0.65972	
Performance				
- Research/Graduate University	8	4.1250	0.64087	0.627
- Specialized/Comprehensive University	6	4.0000	0.63246	

Table 4.6 (Continued)

Group/Capacity/Performance	N	\bar{x}	S.D.	F
- Liberal Arts University	49	3.8776	0.59974	
Total	63	3.9206	0.60379	

Note: * Significant at the 0.05 level

Table 4.6 shows that there was significant difference in capacity (financial resource and collaboration) between research/graduate universities and liberal arts universities. Research/graduate universities have more financial resource and collaboration than liberal arts universities. There was significant difference in capacity (knowledge and learning) between research/graduate universities, specialized/comprehensive universities and liberal arts universities. Research/graduate universities and specialized/comprehensive universities have more knowledge and learning than liberal arts universities.

4.4 Correlations of All Variables of the Capacity and the Performance

Table 4.7 Means, Standard Deviations and Correlations of All Variables of Public Higher Education Institutions in Thailand

Correlations	\bar{X}	S.D.	1	2	3	4	5	6	7	8	9	10	11
1. Age	2.29	0.92											
2. Size	2.38	0.63	.280*										
3. Resource	2.02	0.79	-0.094	-0.141									
4. Leadership	4.17	0.79	0.239	0.122	-0.004								
5. Human resource	3.85	0.59	0.164	.363**	-0.098	.432**							
6. Financial resource	3.63	0.90	0.127	.360**	-0.014	.608**	.595**						
7. Information technology	3.74	0.73	0.155	.313*	-0.048	.406**	.432**	.607**					
8. Knowledge and learning	3.80	0.71	0.181	.448**	-0.051	.429**	.468**	.515**	.547**				
9. Stakeholder commitment	3.79	0.78	.305*	0.16	0.186	.601**	.386**	.483**	.463**	.503**			
10. Collaboration	4.12	0.65	.310*	.423**	-0.096	.480**	.626**	.485**	.464**	.531**	.549**		
11. Performance	3.92	0.60	0.186	.333**	-0.031	.601**	.464**	.656**	.496**	.599**	.509**	.593**	

Note: * Significant at the 0.05 level (2-tailed).

** Significant at the 0.01 level (2-tailed).

Table 4.7 shows that age was related to size, stakeholder commitment and collaboration, while size was related to information technology. On the other hand, there was no relationship among resources supplied by the government, leadership, human resource, financial resource, knowledge and learning, and performance.

4.5 Regression of the Capacity and the Performance

Table 4.8 Coefficients of the Capacity and the Performance of Public Higher Education Institutions in Thailand

Variables	B	Std. Error	Beta	Sig.
Age	-0.012	0.064	-0.018	0.852
Size	0.008	0.105	0.009	0.936
Resources	0.003	0.071	0.004	0.963
Leadership	0.167	0.097	0.220	0.09
Human resources	-0.112	0.128	-0.110	0.384
Financial resources	0.225	0.095	0.336	0.021*
Information technology	-0.006	0.098	-0.007	0.954
Knowledge and learning	0.209	0.103	0.248	0.049*
Stakeholder commitments	-0.009	0.102	-0.011	0.932
Collaboration	0.250	0.122	0.273	0.047*

Note:* Significant at the 0.05 level

Dependent Variable: Performance

Table 4.8 shows that financial resource, knowledge and learning, and collaboration all affected performance.

The factor that positively affected output, outcome, and efficiency most was financial resource (Beta=0.336), followed by collaboration (Beta=0.273), and knowledge and learning (Beta=0.248).

The equation of the relationship between financial resource, collaboration, knowledge and learning, leadership, and human resource and performance was as follows:

$$Y = (0.336)X_1 + (0.273)X_2 + (0.248)X_3$$

Y = performance, X_1 = financial resource, X_2 = collaboration, X_3 = knowledge and learning

4.6 Hypotheses Test

Table 4.9 Coefficients of Age, Size, Resource, Leadership, and Capacity of Public Higher Education Institutions in Thailand

Variables	B	Std. Error	Beta	Sig.
Age	-0.003	0.076	-0.004	0.969
Size	0.430	0.109	0.405	0.000*
Resource	0.031	0.084	0.036	0.715
Leadership	0.414	0.085	0.49	0.000*

Note: * Significant at the 0.05 level

Dependent Variable: Capacity

Table 4.10 Coefficients of Age, Size, Resource, Leadership and Performance of Public Higher Education Institutions in Thailand

Variables	B	Std. Error	Beta	Sig.
Age	-0.017	0.069	-0.027	0.802
Size	0.259	0.099	0.272	0.012*
Resource	0.006	0.076	0.007	0.942
Leadership	0.437	0.078	0.575	0.000*

Note: * Significant at the 0.05 level

Dependent Variable: Performance

Table 4.9 - 4.10 shows that age and resource was not positively related with capacity and performance. On the other hand it shows that size and leadership had a positive relationship with capacity and performance. Hypotheses 1 and 4 that age is positively related to capacity and performance and that resources are positively related to capacity and performance were rejected. Hypotheses 2 and 3 that size is positively related to capacity and performance and that leadership is positively related to capacity and performance were accepted.

Table 4.11 Mediators and Moderators of the Capacity and the Performance of Public Higher Education Institutions in Thailand

Variables	B	Std. Error	Beta	Sig.
Age	-0.017	0.069	-0.027	0.802
Size	0.259	0.099	0.272	0.012*
Resource	0.006	0.076	0.007	0.942
Leadership	0.437	0.078	0.575	0.000*
Age	-0.012	0.064	-0.018	0.852
Size	0.008	0.105	0.009	0.936
Resource	0.003	0.071	0.004	0.963
Leadership	0.167	0.097	0.220	0.091
Human resources	-0.112	0.128	-0.110	0.384
Financial resources	0.225	0.095	0.336	0.021*
Information technology	-0.006	0.098	-0.007	0.954
Knowledge and learning	0.209	0.103	0.248	0.049*
Stakeholder commitment	-0.009	0.102	-0.011	0.932
Collaboration	0.250	0.122	0.273	0.047*

Note: * Significant at the 0.05 level

Dependent Variable: Performance

Table 4.11 shows that size and leadership affected performance when age, size, resources and leadership were considered. However, when these variables were considered together with human resources, financial resources, information technology, knowledge and learning, stakeholder commitment, and collaboration, size and leadership were found to have no effect on performance. Therefore, size and leadership were mediators. Providing not support for Hypotheses 5-28 that human resource is a mediator between age and performance. Financial resource is a mediator between age and performance. Information technology is a mediator between age and performance. Knowledge and learning is a mediator between age and performance. Stakeholder commitment is a mediator between age and performance. Collaboration is a mediator between age and performance. Human resource is a mediator between size and performance. Financial resource is a mediator between size and performance. Information technology is a mediator between size and performance. Knowledge and learning is a mediator between size and performance. Stakeholder commitment is a mediator between size and performance. Collaboration is a mediator between size and performance. Human resource is a mediator between leadership and performance. Financial resource is a mediator between leadership and performance. Information technology is a mediator between leadership and performance. Knowledge and learning is a mediator between leadership and performance. Stakeholder commitment is a mediator between leadership and performance. Collaboration is a mediator between leadership and performance. Human resource is a mediator between resource and performance. Financial resource is a mediator between resource and performance. Information technology is a mediator between resource and performance. Knowledge and learning is a mediator between resource and performance. Stakeholder commitment is a mediator between resource and performance. And collaboration is a mediator between resource and performance.

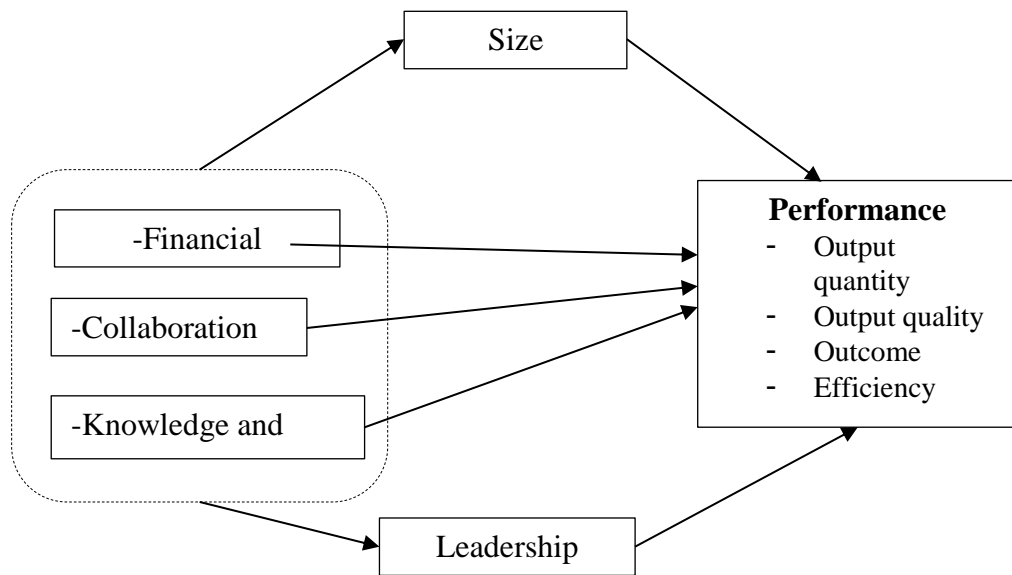


Figure 4.7 Factors Related to the Capacity and the Performance of Public Higher Education Institutions in Thailand

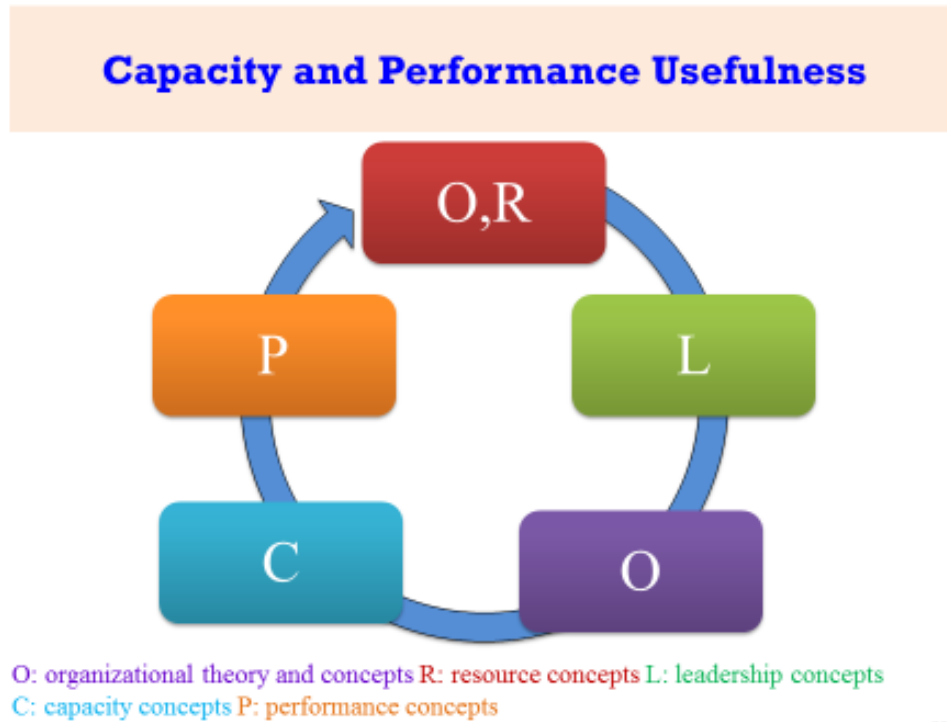
Figure 4.7 shows that capacity (financial resource, collaboration and knowledge and learning) affected performance (output quantity, output quality, outcome and efficiency). It was a moderator (directly affected). Size and leadership were mediators (indirectly affected) between capacity and performance.

Table 4.12 Opinions and Suggestions of the Respondents

Opinion and Suggestions	Respondents	
	Frequency	Percent
- Cooperation of the stakeholders inside and outside the organization must increase.	6	42.86
- Leaders still lack leadership.	2	14.29
- Specialized universities are needed.	2	14.29
- The national educational policy must be supported.	1	7.14
- The educational quality must reach the international standard.	1	7.14
- The universities in provinces have high costs because of the low grades (GPA) of newly admitted students.	1	7.14
- Knowledge and ability of the personnel must increase.	1	7.14
Total	14	100.00

Table 4.12 shows that most respondents 42.89 % thought that cooperation of the stakeholders inside and outside the organization needed to be increased. About 14.29 percent thought that the university leaders still lacked leadership that specialized universities were needed. About 7.14 percent stated that the universities needed support the national educational policy. That the educational quality had to reach the international standard. That the costs of operating universities were high because of admission of students with a low GPA. And that the knowledge and ability of the university personnel needed to be upgraded.

4.7 Usefulness



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Figure 4.8 Capacity and Performance Usefulness

Figure 4.8 shows the benefits of this study that moving public higher education institutions in Thailand with capacity and performance can create clear goals and purposes, leaders have leadership, therefore, their organizations will be redesigned for agility, enabling capacity mechanism, enhancing performance, and cycling sustainable growth organizations, finally.

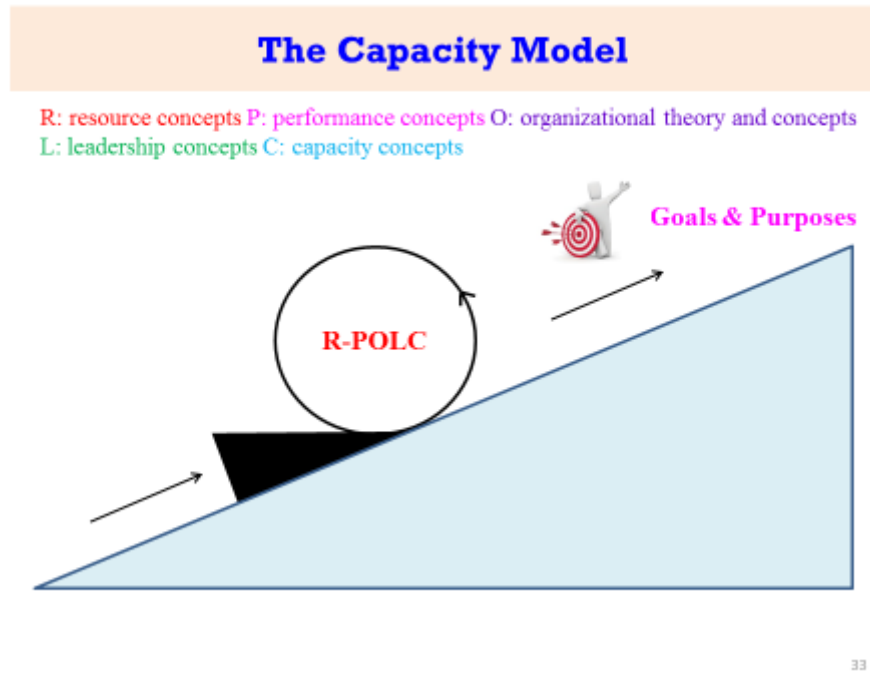


Figure 4.9 The Capacity Model

Figure 4.9 shows that the capacity model is compound of R: resource concepts, P: performance concepts, O: organizational theory and concepts, L: leadership concept, and C: capacity concepts. As activating university organizations or other organizations with this model, they will go to sustainable growths.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The results of the analysis of the factors affecting the capacity and the performance of public higher education institutions in Thailand could be summed up as follows:

5.1.1 The capacity and performance of public higher education institutions in Thailand were found to be at a high level. When the individual variables were considered, leadership, human resources, financial resources, information technology, knowledge and learning, stakeholder commitments, collaboration, and performance were found to be at a high level.

When all the variables were considered individually, the following were found:

5.1.1.1 Leadership, it was found that leadership of leaders of university was at a high level. They received trust. They had integrity. They supported democracy and participation. They can communicate to increase work efficiency. They made decisions on right and no bias. They can integrate ideas, link knowledge and bring positive effects. In addition, they had an ability to motivate people to overcome hardship at work.

5.1.1.2 Human resource, it was found that the human resource of universities was at a high level. They had suitable work positions and remuneration. Their personnel had skills and knowledge and work experience and could train others. They could recruit new employees timely and arranged work orientation for new employees. They had a clear personnel development plan, and continuous by developed or train their personnel. They established discipline and reasonable penalties.

5.1.1.3 Financial resource, it was found that all the aspects of the financial resource were at a high level. They were clear plans and projects, participatory setting of budgets, reliable financial reports, cost analysis, permission to access basic financial information, and reliable auditing. On the other hand, their ability to attract new investment funds to start new projects easily, adequacy of the organizational fund for giving services, and security of the funds were found to be at a moderate level.

5.1.1.4 Information technology, it was found that following information on resources, output, and outcome, training the personnel to use information and the information management system, setting procedures to handle information for projects and services, sharing information and accessing needed information, the effective and useful information system, and correct, reliable and up-to-date information were all found to be at a high level. On the other hand, the automatic information management system, the harmony of automatic information management of the organization and the users, and the ability to share information with other organizations were all found to be at a high level.

5.1.1.5 Knowledge and learning, it was found that providing the personnel with an opportunity to be trained inside the organization, providing the personnel with an opportunity to be trained outside the organization, revision of the curriculums and services in response to the trend, giving information about best practices, support of knowledge sharing among colleagues, promotion of using knowledge gained from work, promotion of using skills and experiences in work, and promotion of using knowledge from other organizations were all found to be at a high level.

5.1.1.6 Stakeholder commitment, the aspects found to be at a high level were supporting the administrative committees and / or the advisory committees, all types of the stakeholders having representatives in the committees or becoming committee members, the administrative committees and / or the advisory committees responsible for the impact of their decision-making, no less than 75% of the members attending the administrative committees and / or the advisory committees, having non-monetary support from the stakeholders for new initiative projects, no vacancy in the committees, support of giving services to nearby communities, and support of

giving services to the private sector. On the other hand, support from political representatives when needed was found to be at a moderate level.

5.1.1.7 Collaboration, It was found that all the aspects were at a high level. They were support of knowledge sharing with other organizations, policy and procedures that supported working together with other organizations, allotting time for the personnel to work in cooperation, trusting other organizations in working together to bring benefits to the customers, evaluation of the potential of other organizations for good partnership, integration of collaboration into organizational missions, setting of work procedures that supported collaboration, getting cooperation from public organizations and from private organizations.

5.1.1.8 Performance, it was found that individual universities had a clear student admission plan. The universities were successful in output quantity. They had a process for designing quality curriculums and projects. They were successful in output quality. They set a clear graduate plan. They were successful in outcome. They promoted work speed and low cost. They were successful in efficiency. They had a clear strategic operational plan. All these aspects were found to be at a high level.

5.1.2 The analysis of the capacity and performance of public higher education institutions in Thailand showed that the capacity of most autonomous universities were at a high level. Financial resources and collaboration were found to be at a high to the highest level, while leadership, human resources, information technology, knowledge and learning, stakeholder commitments were at a high level. Most autonomous universities were successful in output quantity. Their performance was at a high level.

The capacity of most public universities, Rajabhat universities and Rajamangala universities was at a high level. Public universities, leadership, human resources, financial resources, information technology, knowledge and learning and collaboration were found to be at a high level, whereas their stakeholder commitments were at a moderate to high level. The performance of most public universities was at a high level. Rajabhat universities' leadership was at a high to the highest level, while their human resources, financial resources, information technology, knowledge and learning, stakeholder commitments and collaboration were found to be at a high level.

Also, the performance of most Rajabhat universities was at a high level. And Rajamangala universities, financial resources were found to be at a high to the highest level.

5.1.3 When the difference in capacity and performance of the studied universities were considered, no significant difference was found among autonomous universities, public universities, Rajabhat universities, and Rajamangala universities. Also, no significance was found among research universities, specialized universities and liberal arts universities.

5.1.4 When the relationship between capacity and performance was studied, it was found that age was significantly related to size, stakeholder commitment and collaboration, while size was significantly related to information technology. In contrast, resources supplied by the government, leadership, human resources, financial resources, information technology, knowledge and learning, stakeholder commitments, and collaboration had no relationship with performance.

5.1.5 With regard to the capacity and performance of public higher education institutions in Thailand, it was found that financial resource(X_1), collaboration(X_2), and knowledge and learning(X_3) had an effect on performance (Y). The factor positively related to performance most was financial resource (0.336), followed by collaboration (0.273), and knowledge and learning (0.248), whereas leadership, human resource, information technology and stakeholder commitment had not effect on performance.

Below was the equation of the relationship:

$$Y = 0.336X_1 + 0.273X_2 + 0.248X_3$$

5.1.6 When the hypotheses were tested, it was found that size and leadership were positively related to capacity and performance. Size and leadership were mediators of financial resource, knowledge and learning and collaboration.

5.2 Discussion

Based on the results of the analysis of the capacity and the performance of public higher education institutions in Thailand, the points to be discussed to answer the objectives and to prove the hypotheses were as follows:

5.2.1 Capacity and Performance of Public Higher Education Institutions in Thailand

1) The capacity and the performance was found to be at a high level. All the dimensions which were found to be at a high level were leadership, human resources, financial resources, information technology, knowledge and learning, stakeholder commitments, collaboration and performance. Besides, no significant difference in capacity and performance was found when autonomous universities, public universities, Rajabhat universities, and Rajamangala universities, were compared. This was also the case when research universities, specialized universities, and liberal arts universities were compared. The findings supported the university ranking results, which revealed that Thailand was behind Singapore, Malaysia, China, Taiwan, South Korea, and Japan (Phusavat et al., 2012). The findings showed that all types and groups of universities in Thailand needed improvement. All needed to develop their capacity and performance to achieve a higher level in order to compete with higher education institutions in developed countries like Japan, South Korea, Singapore, the USA, European countries.

2) When the relationship between the capacity and the performance of public higher education institutions in Thailand was considered, it was found that age was significantly related to size, stakeholder commitment and collaboration. The findings supported the statement by Asuero (2013) that time would reflect cultural outstanding. The findings also supported Ozkan, Cakir and Bigen (2008), who found that time played an important role in changing an organization. The findings supported Miller, Rutherford and Kolodinsky (2008), who found that age affected the organization's relationship with political organizations. In addition, the findings agreed with Choi and Rainey (2010) that age reflected the relationship, although was difficult to understand. The findings supported Westover and Taylor (2010) who found that age significantly affected job satisfaction and motivation for public service. Moreover, the findings supported Berbegal-Mirabent, Sabate, and Canabate (2012), who stated that the age of officials who interpreted knowledge had a positive effect on the performance of research organizations. The findings also supported Melton (2014), who found that students' performance was related to the administrative age, while size was related to information technology. The findings

supported Wynen, Verhoest and Rubecksen (2014), who stated that an organization's autonomy and control affected the level of decentralization within the organization as well as the organization's size. The findings supported Park-Poaps (2010), who found that the size of the organization influenced the awareness of the public. The findings also supported Saltman (1985), who said that one way to reduce costs was reducing the size. The findings supported Menachemi, Brooks and Simpson (2007), who stated that selection of IT was necessary for overseeing a number of people. Subramaniam, Stewart, Ng and Shulman (2013) said that the size of an organization could hinder good governance. Their findings supported Jansen et al. (2006), who said that increase of land ownership of small landholders could show sustainability. The findings also supported Asuero (2013), who stated that even size and simple forms of brick could be a valuable heritage. Therefore, it could be said that age and size of public higher education institutions in Thailand were crucial factors that led to their improvement and development of capacity and performance. Because of this, the existing public universities in Thailand should not be dissolved. Old-age and small-sized universities should be made larger by having them from groups in line with the national development policy in order to increase their capacity and performance.

5.2.2 Predictors of the Capacity and the Performance of Public Higher Education Institutions in Thailand

It was found that leadership was a mediator that indirectly affected performance. The finding not supported Baillie et al. (2009), Trudy et al. (2006), Fredericksen and London (2000), and Gore (2011). They found that leadership was a foundation for building capacity. There were four factors that had a positive effect on performance. These factors were financial resource, collaboration, knowledge and learning and leadership. The factor that had the most positive effect was financial resource, followed by collaboration, knowledge and learning and leadership, respectively. The finding that financial resource affected performance was similar to the finding by Mithas, Ramasubbu and Sambamurthy (2011) that financial resource influenced performance and similar to the finding by Hsu (2007) that finance was importance as a risk fund and risk evaluation. Ding, Dong and Kouvelis (2007) also stated that financial strategy affected strategic operation of business. Stoel and

Muhanna (2009) said that finance had an impact on characteristics of a business. In addition, Sterman, Repenning and Kofman (1997) found that financial capability could be used to improve TQM of the business.

The finding that collaboration had an effect on performance agreed with the finding by Harrison, Price, Gavin and Florey (2002) that a stronger team with a variety of skills affected the organization's performance. Hoegl and Gemuenden (2001) said that the team quality reflected good teamwork. The finding also supported C. Lee, K. Lee and Pennings (2001) who pointed out that partner had important influence over performance. Larsson, Bengtsson, Henriksson and Sparks (1998) found that partners significantly contributed to the success or the failure of the organization. Lavie and Miller (2008) stated that partners strengthened the organization. Cao and Zhang (2011) also said that collaboration brought about mutual reinforcement. Teece (2007) said that collaboration led to strong power. Preskill and Torres (1999), Wollmann, (2004), Kendall et al. (2012), and Cohen et al. (2013) found that collaboration had a positive effect on performance. Cosner (2009) stated that collaboration led to development. Vian, Koseler, Feeley and Beard (2013) stated that training had a positive effect on performance. Mona et al. (1998), Naccarella et al. (2007), Goldberg and Bryant (2012) found that knowledge and learning had a positive effect on change. This finding was the same as that of Cassidy, Leviton and Hunter (2006), who found that knowledge and learning, finance, training and collaboration were necessary for successful performance.

In this study, however, the factor that had not effect on performance was human resource. The finding was opposite to that of Cassidy, Leviton and Hunter (2006) who found that the personnel were necessary to achieve outcome. The finding of this study differed from that of Mithas, Ramasubbu and Sambamurthy (2011) and Sun, Aryee, and Law (2007) who found that human resource positively influenced performance. Guest (2011) found that human resource management was related to performance. Likewise, Takeuchi, Chen, and Lepak (2009) found that high-performance related from human resource management. Hsu (2007) said that a team whose members held a doctoral degree was an additional valuable capital. Tharenou, Saks and Moore (2007) found that strategic human resource management brought about better outcome than did the attitude. The finding of this research was also

opposite to that of Chen and Huang (2009) who found that strategic human resource practice was positively related to management capability, and that knowledge and learning had an impact on performance. It could be said that although leadership was the most important for building capacity and performance of public higher education institutions in Thailand, it had the least positive effect on performance. In other words, leadership was a mediator that caused a positive effect performance of public higher education institutions in Thailand. Therefore, leadership and human resource were important weaknesses of their capacity and performance.

5.2.3 Testing of Hypotheses Related To Capacity and Performance of Public Higher Education Institutions in Thailand

It was found that size and leadership were positively related to capacity and performance. Size and leadership were mediators of financial resource, knowledge and learning, collaboration, and performance. It could be said that size, leadership, financial resource, knowledge and learning and collaboration were influential to the capacity and the performance of public higher education institutions in Thailand. That is, size and leadership as mediators, along with financial resource, knowledge and learning and collaboration, indirectly affected their performance. The finding supported Saltman (1985) who found that reduction of the hospital's costs would shrink the hospital's size. Subramaniam, Stewart, Ng and Shulman (2013) found that leadership and size were major barriers to good governance. A culture of staff and leadership were recognized as critical for strong governance. For capacity and performance to increase, public higher education institutions needed to increase their size, leadership, human resource, financial resource, knowledge and learning, and collaboration.

5.3 Recommendations

Based on the results of the study, the researcher made the following recommendations:

5.3.1 Recommendations for Public Higher Education Institutions in Thailand

Overall, the capacity and the performance of public higher education institutions in Thailand were at a high level. No significant difference total capacity and performance among autonomous universities, public universities, Rajamangala universities and Rajabhat universities while, significant difference was found only knowledge and learning that autonomous universities and Rajamangala universities were higher than public universities and Rajabhat universities. Rajabhat universities maybe bias weighted point scale. The questionnaire scale maybe identified less point scale items ranging. Therefore, expanding scale items ranging from 1 (strongly disagree) to 5 (strongly agree) for all questions through the ten-point scale items ranging from 1 (strongly disagree) to 10 (strongly agree) can be more accurately weighted point scale. When the individual dimensions were considered, it was found that leadership, an ability of human resources, financial resources, information technology, knowledge and learning, stakeholder commitments, and collaboration and performance were at a high level. It was recommended that all these dimensions should be made better and better.

1) Leadership, the leadership of the leader of an individual university is very important for developing its capacity and performance. The attributes that the leader should possess are integrity, intellectual ability to motivate the personnel to overcome hardship, support of participation, ability to communicate to upgrade the performance, being recognized by the personnel and other organizations, and fairness. These attributes are required to increase the capacity and the performance from the high level to the highest level. Especially, liberal arts universities and universities that offered 4-year Bachelor's degree programs were found to have leaders with a lower degree of leadership than leaders of other types or groups of universities, although the capacity was not significantly different. Leaders of public universities in Thailand

need to be heartily accepted by the stakeholders. So, the leadership of leaders of universities can redesign for agile organizations, enhancing capacity and performance. Finally, universities can move to sustainable growth organizations.

2) Human resource, it was found that the work positions and remuneration were appropriate. The personnel had skills and knowledge and could train others as necessary. The personnel with knowledge, reliability and experiences necessary for work could be employed in due time. There was work-orientation for new employees. There was also a clear personnel development plan. The personnel were continuously trained and developed. The discipline and penalties were reasonable. All these aspects should be upgraded from a high level to the highest level, especially in the autonomous universities, Rajabhat universities, and Rajamangala universities that are lower in the afore-mentioned aspects, and in specialized universities and universities offering 4-year undergraduate programs, which are lower in these aspects than research universities, although their capacity is not significantly different. Human resource management of public higher education institutions should also have a fair process.

3) Financial resource, it was found that the universities could easily attract new investment funds for starting new projects. The funds were adequate for rendering services and were secure. The universities had clear plans and projects. They set budgets by using a participatory method. The financial report was correct and reliable. Cost analysis was made. They permitted access to basic financial information. They had a reliable financial auditing at a high to the highest level. These aspects were found in all types and groups of universities, especially autonomous universities, public universities and Rajabhat universities (which were lower in these aspects than Rajamangala universities); specialized universities and universities that offered 4-year undergraduate programs (which were lower in these aspects than research universities), although the overall capacity were not significantly different. Last but not least, the financial resource of public higher education institutions should be able to accommodate financial strategic management.

4) Knowledge and learning, the personnel had an opportunity to be trained inside and outside the organization. There was revision of curriculums and services in response to change. The knowledge of best practices was given to the

personnel. Knowledge sharing among colleagues was encouraged. The use of knowledge skills and experiences from work, was promoted as well as the use of knowledge from outside the organization. It was recommended that these aspects should be upgraded from a high level to the highest level, especially in autonomous universities, public universities, Rajabhat universities (that were lower in these aspects than Rajamangala); research universities and universities offering 4-year undergraduate programs (which were lower in this aspects than specialized universities), although the overall capacity was not significantly different. Public higher education institutions should have a clear personnel development plan set with the full acceptance of the personnel.

5) Stakeholder commitment, it was found that public higher education institutions in Thailand supported the administrative committees and / or the advisory committees. All stakeholders had representatives as members of these committees. Both types of committees were responsible for the impact from their decision-making. At least 75% of the members attended each committee meeting. The universities received non-monetary support from their stakeholders for their initiative projects. There was no vacancy in the administrative committees and / or the advisory committees. The universities received support from political representatives when needed. They provided services to nearby communities and support private services. These aspects should be upgraded from a high level to the highest level, especially research universities, public universities, Rajabhat universities (that were lower in these aspects than Rajamangala universities) and universities that offered 4-year undergraduate programs which were lower in these aspects than research universities and specialized universities, although the capacity was not significantly different. In dealing with stakeholders' commitment, therefore, the universities should use a participatory process so that the services and operations should be willingly accepted by the stakeholders.

6) Collaboration, it was found that public higher education institutions in Thailand supported knowledge sharing with other organizations. They had a policy and work procedures that supported collaboration with other organizations. They allotted time for the personnel to work in collaboration. They trusted other organizations in working together to bring the benefit to customers. They evaluated

the potential of other organizations for good partnership. The collaboration was integrated into their missions. They set procedures that supported cooperation. They received collaboration from public organizations and from private organizations. All these aspects should be raised from a high level to the highest level, especially autonomous universities and universities offering 4-year undergraduate programs, which were lower in these aspects than other types of universities. All universities should provide outstanding reliable services and operate with the collaboration from their stakeholders so as to have good services and fairness.

With regard to the predictors of capacity and performance of public higher education institutions in Thailand, it was found that leadership was the most important factor in building capacity and performance but it had not directly positive effect on them. Leadership and size were mediators of financial resource, knowledge and learning and collaboration, while human resource had not effect to them, causing leadership and human resource to be important weaknesses of capacity and performance. Therefore, public higher education institutions in Thailand should improve and develop leadership of universities leaders to reach the highest level. They should increase their size to be in line with the direction of the national development in order to be internationally recognized. They should have a strategic plan to develop their administrators to the possess leadership. There should be a selection process to get their rectors, which had to be accepted by the personnel and the university council. The personnel should be made to accept their decision-making process and the results. Human resource should be upgraded to the highest level. The universities should have a strategic plan for developing their human resource that was in line with the national economic and social development plan and the higher education development plan. The human resource development plan should be set with the acceptance of the personnel for its fairness in order to bring about a positive effect on their performance. They should develop their personnel by providing training and education to cope with the changing world. The public higher education institutions should have a process to deal with financial resource and provide correct, useful and up-to-date information. They should have enough cash for service-rendering.

The public higher education institutions should give importance to collaboration by focusing on participation of the personnel in achieving the goals and on cooperation with other universities, public and private organizations inside and outside the country. They should mutually support in terms of resources to gain common benefits, cost reduction, and good service. They should make themselves outstanding and be recognized by service users and the society in general.

The performance -- output, outcome and efficiency - should be raised to the highest level. The output quantity should reach the target in the national higher education plan by enabling people to enter public higher education institutions easily. The quality of output should be increased by designing curriculums that are in harmony with the national development plan. The curriculums should be internationally oriented and be developed continuously without frequent change of direction. The work procedures of public higher education institutions can be made efficient by reducing work steps to the fewest possible. The personnel should work by continuously focusing on cost reduction.

Thailand should have a clear strategic national development plan, which determines the qualifications of its people. It should have manpower planning and determine in advance the number of people in each field necessary to develop the country. This will enable public higher education institutions to have a clear direction to design curriculums to develop qualified people without too frequent change in the operational process. They should have a direction in developing themselves to an international level.

5.3.2 Future Research

One limitation of this study was to contact high-level administrators of public higher educational institutions. Only 95% of the sample universities returned the questionnaires. Future research should try to have 100% of the total sample and collect the data from other stakeholders, such as the personnel in different work lines of the universities, and students. Each university can bias weighed point scale, so expanding scale items ranging from 1 (strongly disagree) to 5 (strongly agree) for all questions through the ten-point scale items ranging from 1 (strongly disagree) to 10 (strongly agree) can be more accurately weighted point scale. This study focused

mainly on quantitative research, so future research should focus on qualitative data to make the picture more complete.

It was found that leadership and human resource was an important weakness of the capacity and the performance of public higher education institutions. Therefore, factors related to leadership, human resource and performance should be studied to find out the causes of the not direct effect relationship between the three factors.

Factors related to capacity and performance of all levels of educational institutions in the Thai educational system should be studied in order to use the results as a guideline to continuously enhance the capacity and the performance of all educational institutions in Thailand.

Lastly, further research should focus on the capacity and the performance of other types of organizations so that the results of this study could be more fruitful.

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APPENDICES

APPENDIX A
TENTATIVE WORK SCHEDULE

TENTATIVE WORK SCHEDULE

Operation Plan	Apr-15	May-15	Jun-15	Jul-16	Aug-16	Sep-16	Oct-16
After proposal was passed							
1.Solve proposal							
2. Try out							
3.Send questionnaires to sample groups							
4.Collect data							
5.Analyze data							
6.Conclud and writing dissertation							
7.Commitees read dissertation							
8.Defence dissertation							
9.Improve dissertation							
10.Send dissertation							

APPENDIX B
THAI PUBLIC HIGHER EDUCATION INSTITUTIONS

THAI PUBLIC HIGHER EDUCATION INSTITUTIONS

The Public Higher Educational Institutions in Thailand

The number of higher education institutions in Thailand has increased to a great extent. Currently, almost 40 percent of people age 18 – 22 attended universities. The phenomenon has put the Thai higher education at a crossroad of quantitative and qualitative dilemmas. To tackle these dilemmas, the office of the Higher Education Commission (OHEC) has tried to reposition the Thai higher education system in response to the emerging needs of the society and the economy. The categorization of Thai higher education systems into four types had been designed to reflect strengths and aspirations of higher education institution. These four types are 1) research and postgraduate universities, 2) specialized and comprehensive universities (including science and technology), 3) four-year universities and liberal arts colleges, and 4) community colleges.

Each type would serve national priorities and strategies as well as address global, national, regional and local demands with the goals to enhance the country competitiveness and to serve as prime-movers for the development of workforces in manufacturing and service sectors. The long-term goals of the national plan are decentralization of governance, continuing and lifelong education, social and economic productivity improvement, and right down to equipping migrant workers with requisite skills and knowledge.

1) Research and postgraduate universities

Research and postgraduate universities focus on providing postgraduate degree programs, especially, doctorate, and producing researches and post-doctoral researches. Graduates from these universities will be important brainpowers that lead national development. Research and postgraduate universities play important roles in

developing Thai higher education's academic excellence by generating a new body of knowledge and technologies appropriate to Thailand's needs.

In October 2009, the office of education by OHEC selected 9 flagship public universities to upgrade them as national research universities, namely: 1) Chulalongkorn University, 2) Thammasat University, 3) Mahidol University, 4) Kasetsart University, 5) King Mongkut's University of Technology Thonburi, 6) Chiang Mai University, 7) Khon Kaen University, 8) Suranaree University of Technology, and 9) Prince of Songkla University.

2) Specialized (including science and technology) and comprehensive universities

Specialized (including science and technology) and comprehensive universities provide comprehensive study programs in their respective fields of study, such as physical sciences, biological sciences, social sciences, humanities, and technologies. These universities focus on producing researchers and skilled workforces in specialized fields. They also have crucial roles to develop manufacturing and service sectors. Specialized and comprehensive universities can also be divided into 2 sub-categories those that offer postgraduate programs and those that offer undergraduate degree programs.

3) Four-year universities and liberal arts colleges

The main role of four-year universities and liberal arts colleges is to provide high quality Bachelor's degree programs, producing well-educated workforces equipped with advanced knowledge and skills for large-scale business enterprises, which are the most important driving force for national economic development. These institutions of higher learning may also deliver postgraduate degree programs.

4) Community colleges

Community Colleges are institutions focusing on offering degrees lower than Bachelor's degree, equipping and retraining employed workforces with requisite skills and knowledge to add value to manufacturing and service sectors. They also play a crucial role in improving their respective communities in terms of life-long learning and local social and economic development.

Furthermore, in order to promote universities' capability to produce more research studies crucial to the development of Thai higher education's academic excellence, and manufacturing and service sectors, OHEC has initiated the National Research University Initiative. OHEC had selected nine public universities that meet criteria to upgrade as establishing national research universities, for which an additional budget will be allocated. These research universities focus on conducting research projects that genuinely benefit the country's economic and social development in order to help improve Thai people's quality of life. The research projects conducted by the national research universities will focus on areas that can truly benefit the country's development, and areas related to development of the industrial sector, the agricultural sector or others as approved by the Cabinet.

To sum up, higher educational institutions have been categorized into 4 groups namely research/graduate University, specialized/comprehensive university, four-year universities and Liberal Arts University, and community college. The 4 groups of higher education institutions have different missions and goals (<http://inter.mua.go.th>, 2014).

Brief History of Higher Education in Thailand

Thailand has a long history of higher education development. During the reign of Rama IV (1851-1868) it became clear that public education was inadequate to prepare high caliber government officials to serve the country. With this need in mind, the King laid the foundations for establishing an official education system which persists to today. Education reform continued under King Rama V, with the creation of the first formal school. In 1887, the Department of Education was established to oversee schooling and religious affairs. The Department then had under its jurisdiction 34 schools in the metropolitan and provincial areas, 4 advanced/specialized schools, 81 teachers and 1,994 students.

Higher education was viewed as an avenue to modernize and professionalize the civil service. Thailand's first university, Chulalongkorn University, was established in 1916, with four departments: medicine, law and political science, engineering, and literature and science. In 1934, two years after Thailand's transition from an absolute monarchy to a constitutional monarchy, the second university,

Thammasat University, was established with the mission to train future professionals and civil servants in the social sciences (law, political science and liberal arts). Three other universities were founded a few years later: Kasetsart University (1943), specializing in agricultural education; Silpakorn University (1943), specializing in fine arts; and Mahidol University (1969), specializing in medicine.

In this early period of university development, all higher education institutions were located in Bangkok. By the 1960s, new comprehensive universities were established in several provinces: Chiang Mai University in the North, Khon Kaen University in the Northeast and Prince of Songkla University in the South. The number of institutions grew steadily in the 1960s and 1970s, with new centers of higher learning established: the National Institute for Development and Administration (NIDA), the Asian Institute of Technology (AIT)—specialized in science and engineering programs—and King Mongkut's Institute of Technology. Two open admission universities, Ramkhamhaeng University and Sukhothai Thammathirat Open University, were established to promote greater access for secondary school graduates and those already employed.

The enactment of the Higher Education Institution Act of 1981, to replace the former Private College Act of 1971, intensified the development of private institutions in response to high public demand for tertiary education, gaining tertiary qualifications; improving standards of education and more education programmes. This led to rapid growth in the number of both public and private institutions—from 5 in 1967 to 166 in 2008 (The World Bank Group, report, 2009).

In 2011, opening new universities should not be on but on improving the teaching and learning quality and efficiency of existing ones. Merging higher education institutions had been proposed. Anticipating a drop in the number of students studying at universities in future, the Cabinet had approved in principle the Education Ministry's proposal to merge state-run institutions into one university per province. The establishment of University will be created by the merger of University Campus with Institute of Technology Campus or else (Samatcha H. and Wannapa K., 2011).

Autonomous University

The uniqueness of university in Thailand is that the establishment of each individual university needs to be made by means of promulgating its own law. Being administered under the Thai bureaucratic system prevented public universities from enjoying autonomy and flexibility in their management as enjoyed by universities in developed countries. Control under bureaucracy was difficult for Thai universities to strive for better knowledge, academic excellence and freedom, and to provide education in response to the need of national social and economic development. As a result, there have been attempts among faculty members and university administrators to develop an exclusive university administration system that does not fall under the conventional bureaucratic system. Thai public universities administered under this new administrative system are called “autonomous universities”. At present, the government has promulgated 13 Acts to safeguard the operation of autonomous universities. Consequently, autonomous universities are empowered to govern their overall administration, including personnel, financing, academic, and other university management system under the delegated authority of the university council. Autonomous universities also receive regular budget allocation from the government, and autonomous university employees are entitled to similar privileges as other government officers.

So, it can be concluded that personnel, financing, academic, and other university management system are likely to have direct as well as mediating effects on performance (<http://inter.mua.go.th>, 2014).

Public University

Besides the public university governing Act, the government had passed additional legislative acts on personnel management and internal administration in order to empower public universities to manage its internal affairs independently and efficiently. These Acts are:

The University Personnel Act of 2004 and Its Second Revision of 2008 had been promulgated with the view to motivate university personnel with knowledge and capability required by higher education. The Act also provided provision for

university to develop its administrators, faculty staff and personnel to enhance their morale and ethical values and professional ethics further. The goal of the laws is to enable university personnel to carry out their duties and responsibilities with quality and to retain them in the institutions, as well as to encourage them to adapt themselves to changes. The University Personnel Act of 2004 and its Second Revision of 2008 had been in force with an aim to decentralize authority to universities under the jurisdiction of OHEC and to allow universities to formulate their own rules and procedures. The delegated authorities included personnel management, appointment of academic tenure and recruit personnel on the merit and equity principle, in conformity with the university's mission and philosophy, academic freedom and excellence. According to the Act, the University Personnel Committee will be set up to lay down policies, standards, principles and criteria to be applied to that higher education institution.

The reason for promulgating the Second Revision of the University Personnel Act of 2008 was simply because the first version had been in force for a long time, resulting in inconsistent with changes in the current situation. The second revision of the Act allowed universities to extend the retired age of lecturers/academics with the tenure of Associate Professor and Professor from 60 to 65 years old so as to benefit university teaching, learning and research. However, this procedure has to be implemented in line with criteria and conditions set up by the University Personnel Committee. In addition, the Act also allows the provision of statute to raise the salary of the University President, including the statute for better remuneration of the university personnel.

The Administration of Higher Education Institution Internal Affairs Act of 2007, gives authority to public universities to establish their own internal agencies with support from their own generating budget. The internal administrative affairs and management system has been enhanced so as to allow Thai public higher education institutions to acquire better flexibility and good governance. The law focuses on transparency, fairness and accountability of the university. The Act also provides power to the university to handle its internal affairs, such as, the entitlement of the head of the university unit with rights and privileges equivalent to that of other heads of government organizations.

So, it can be concluded that flexibility, transparency, fairness and accountability, and empower are likely to have direct as well as mediating effects on performance (<http://inter.mua.go.th>, 2014).

Public Higher Education Institutions (80)

Limited Admission Universities and Institutions (63)

Bansomdej Chaopraya Rajabhat University (BSRU)

1061 Isaraparp Road, Hiranruji
Thon Buri, Bangkok 10600 THAILAND
Tel: (66 2) 473 7000
Fax: (66 2) 466 6539
Website: www.bsru.ac.th

Chaiyaphum Rajabhat University (CPRU)

167 Chaiyaphum-Tadton Road, Nafai,
Mueang, Chaiyaphum 36000
THAILAND
Tel: (66 44) 815 111
Fax: (66 44) 815 116
Website: www.cpru.ac.th

Chiang Mai Rajabhat University (CMRU)

202 Changpuek Road, Mueang,
Chiang Mai 50300 THAILAND
Tel: (66 53) 885 555
Fax: (66 53) 885 556
Website: www.cmru.ac.th

Buriram Rajabhat University (BRU)

Jira Road, Mueang,
Buriram 31000 THAILAND
Tel: (66 44) 611 221, 617 588
Fax: (66 44) 612 858
Website: www.bru.ac.th

Chandrakasem Rajabhat University (CRU)

39/1 Rachadapisek Road, Chatuchak,
Bangkok 10900 THAILAND
Tel: (66 2) 942 6900-99, 541 6060
Fax: (66 2) 541 7113
Website: www.chandra.ac.th

Chiangrai Rajabhat University (CRU)

80 Moo 9 Pahonyothin Road, Mueang,
Chiang Rai 57100 THAILAND
Tel: (66 53) 776 000, 776 007
Fax: (66 53) 776 001
Website: www.cru.in.th

Dhonburi Rajabhat University (DRU)

172 Isaraparp Road, Thonburi,

Bangkok 10600 THAILAND

Tel: (66 2) 890 1801-8

Fax: (66 2) 466 6776

Website: www.dru.ac.th**Kamphaeng Phet Rajabhat University (KPRU)**

Nakhonchoom-Wangyang Road,

Mueang,

Kamphaeng Phet 62000 THAILAND

Tel: (66 55) 706 555, 722 500

Fax: (66 55) 706 518

Website: www.kpru.ac.th**Kasetsart University (KU)**

50 Phaholyothin Road

Chatuchak, Bangkok 10900 THAILAND

Tel: (66 2) 942 8200-45

Fax: (66 2) 942 8151-3

Website: www.ku.ac.th**Lampang Rajabhat University (LPRU)**

119 Moo 9 Lampang-Maeta Road,

Mueang, Lampang 52100 THAILAND

Tel: (66 54) 241 020, 237 399

Fax: (66 54) 237 388

Website: www.lpru.ac.th**Kalasin Rajabhat University (KSU)**

13 Moo 14, Songplei, Namon,

Kalasin 46230 THAILAND

Tel: (66 43) 602 033-43 Fax: (66 43) 602

044

Website: www.ksu.ac.th**Kanchanaburi Rajabhat University (KRU)**

Kanchanaburi-Shaiyoke Road, Mueang,

Kanchanaburi 71000 THAILAND

Tel: (66 34) 633 227-30

Fax: (66 34) 633 224

Website: www.kru.ac.th**Khon Kaen University (KKU)**

123 Friendship Road, Mueang,

Khon Kaen 40002 THAILAND

Tel: (66 43) 202 222-49, 203 333-51

Fax: (66 43) 202 216

Website: www.kku.ac.th**Loei Rajabhat University (LRU)**

234 Loei-Chiangkhan Road,

Mueang, Loei 42000 THAILAND

Tel: (66 42) 835 224-8

Fax: (66 42) 811 143

Website: www.lru.ac.th

Maejo University (MJU)

63 Moo 4, Chiang Mai-Phrao Road,
 Sansai, Chiang Mai 50290 THAILAND
 Tel: (66 53) 498 130 Fax: (66 53) 498
 861

Website: www.mju.ac.th

**Muban Chombueng Rajabhat
 University (MCRU)**

46 Moo 3 Chombung Road, Chombung,
 Ratchaburi 70150 THAILAND
 Tel: (66 32) 261 790-7
 Fax: (66 32) 261 078

Website: www.mcru.ac.th

Nakhon Phanom University (NPU)

103 Moo 3 Chayangkul Road, Mueang,
 Nakhon Phanom 48000
 Tel: (66 42) 532 477-8
 Fax: (66 42) 532 479
 Website: www.npu.ac.th

**Nakhon Sawan Rajabhat University
 (NSRU)**

398 Moo 9 Sawanwithi Road, Mueang,
 Nakhon Sawan 60000 THAILAND
 Tel: (66 56) 219 100-29
 Fax: (66 56) 221 554
 Website: [www.nsrุ.ac.th](http://www.nsrु.ac.th)

Maharakham University (MSU)

41/20 Tambon Kamriang, Kantarawichai,
 Maha Sarakham 44150 THAILAND
 Tel: (66 43) 754 321-40, 754 333
 Fax: (66 43) 754 315

Website: www.msu.ac.th

**Nakhon Pathom Rajabhat University
 (NPRU)**

85 Malaiman Road, Mueang,
 Nakhon Pathom 73000 THAILAND
 Tel: (66 34) 261 021-36
 Fax: (66 34) 261 048

Website: www.npru.ac.th

**Nakhon Ratchasima Rajabhat
 University (NRRU)**

340 Suranarai Road, Mueang,
 Nakhon Ratchasima 30000 THAILAND
 Tel: (66 44) 254 000, 355 321-2
 Fax: (66 44) 244 739
 Website: www.nrru.ac.th

**Nakhon Si Thammarat Rajabhat
 University (NSTRU)**

1 Moo 4, Tambon Tha-ngew, Mueang,
 Nakhon Si Thammarat 80280
 THAILAND
 Tel: (66 75) 392 087
 Fax: (66 75) 377 440
 Website: www.nstru.ac.th

Naresuan University (NU)

99 Phitsanulok-Nakhon Sawan Road,
Mueang,
Phitsanulok 65000 THAILAND
Tel: (66 55) 261 000-4
Fax: (66 55) 261 014
Website: www.nu.ac.th

Pathumwan Institute of Technology

833 Rama 1 Road, Pathumwan
Bangkok 10330 THAILAND
Tel: (66 2) 219 3833-38
Fax: (66 2) 219 3872
Website: www.ptwit.ac.th

Phetchaburi Rajabhat University (PBRU)

38 Moo 8 Hardchaosamran, Mueang,
Phetchaburi 76000 THAILAND
Tel: (66 32) 493 300-7
Fax: (66 32) 493 308
Website: www.pbru.ac.th

Phranakhon Si Ayutthaya Rajabhat University (ARU)

96 Rojana Road, T.Pratuchai
Phra Nakhon Si Ayutthaya 13000
THAILAND
Tel: (66 35) 322 076-9
Fax: (66 35) 242 708
Website: www.aru.ac.th

National Institute of Development**Administration (NIDA)**

118 Moo 3 Seri Thai Road, Klong Chan,
Bangkapi, Bangkok 10240 THAILAND
Tel: (66 2) 727 3000
Fax: (66 2) 375 8798
Website: www.nida.ac.th

Phetchabun Rajabhat University (PCRU)

83 Moo 11 Saraburi-Lomsak Road,
Mueang, Phetchabun 67000 THAILAND
Tel: (66 56) 717 100 Fax: (66 56) 717
110
Website: www.pcru.ac.th

Phranakhon Rajabhat University (PNRU)

3 Moo 6 Changwattana Road,
Bang Khen, Bangkok 10220 THAILAND
Tel: (66 2) 544 8000
Fax: (66 2) 521 7909
Website: www.pnru.ac.th

Phuket Rajabhat University (PKRU)

21 Moo 6 Thepkasatri Road, Mueang,
Phuket 83000 THAILAND
Tel: (66 76) 240 474-7, 211 959
Fax: (66 76) 211 778
Website: www.pkru.ac.th

**Pibulsongkram Rajabhat University
(PSRU)**

66 Wangchan Road, Mueang,
Phitsanulok 65000 THAILAND

Tel: (66 55) 267 000-2

Fax: (66 55) 267 090

Website: [www.psrุ.ac.th](http://www.psrु.ac.th)

**Princess of Naradhiwas University
(PNU)**

49 Ra-ngae Mankha Road,
Mueang, Naradhiwas 96000

Tel: (66 73) 511 174, 511 192

Fax: (66 73) 511 905

Website: www.pnu.ac.th

**Rajabhat Rajanagarindra University
(RRU)**

422 Maruphong Road, Mueang,
Chachoengsao 24000 THAILAND

Tel: (66 38) 511 010, 535 426-8

Fax: (66 38) 810 337

Website: www.rru.ac.th

Kalasin Campus

62/1 Kasetomboon Road, Mueang,
Kalasin 46000 THAILAND

Tel: (66 43) 811 128

Fax: (66 43) 813 070

Website: www.ksc.rmuti.ac.th

Prince of Songkla University (PSU)

15 Kanchanavanich Road, Hat Yai,
Songkhla 90110 THAILAND

Tel: (66 74) 282 000

Fax: (66 74) 212 828

Website: www.psu.ac.th

**Rajabhat Maha Sarakham University
(RMU)**

80 Nakhonsawan Road, Mueang,
Maha Sarakham 44000 THAILAND

Tel: (66 43) 713 080-9, 722 118-9

Fax: (66 43) 722 117

Website: www.rmu.ac.th

**Rajamangala University of Technology
Isan (RMUTI)**

744 Moo 6, Suranarai Road, Mueang,
Nakhon Ratchasima 30000 THAILAND

Tel: (66 44) 233 000

Fax: (66 44) 233 052

Website: www.rmuti.ac.th

Khon Kaen Campus

150 Srichan Road, Mueang,
Khon Kaen 40000 THAILAND

Tel: (66 43) 336 371

Fax: (66 43) 237 149

Website: www.kkc.rmuti.ac.th

Sakon Nakhon Campus

199 Moo 3, Phang Khon,
Sakon Nakhon 47160 THAILAND
Tel: (66 42) 734 724-5
Fax: (66 42) 734 723
Website: www.skc.rmuti.ac.th

Surin Campus

145 Surin-Prasat Road, Nokmueang,
Mueang,
Surin 32000 THAILAND
Tel: (66 44) 153 090
Fax: (66 44) 153 064
Website: www.surin.rmuti.ac.th

Rajamangala University of Technology**Krungthep (RMUTK)**

2 Nanglinji Road, Thung Maha Mek,
Sathon, Bangkok 10120 THAILAND
Tel: (66 2) 287 9600, 286 3991-5
Fax: (66 2) 286 3596
Website: www.rmutk.ac.th

Rajamangala University of Technology**Lanna (RMUTL)**

128 Huaykaew Road, Mueang,
Chiang Mai 50300 THAILAND
Tel: (66 53) 921 444
Fax: (66 53) 213 183
Website: www.rmutl.ac.th

Chiang Rai Campus

99 Moo 10, Phan,
Chiang Rai 57120 THAILAND
Tel: (66 54) 729 600-5
Fax: (66 54) 729 606-7
Website: www.chiangrai.rmutl.ac.th

Lampang Campus

200 Moo 17, Pichai Road, Mueang,
Lampang 52000 THAILAND
Tel: (66 54) 342 547-8
Fax: (66 54) 342 549
Website: www.lpc.rmutl.ac.th

Nan Campus

59 Moo 13, Faikaew, Phuphieng,
Nan 55000 THAILAND
Tel: (66 54) 710 259
Fax: (66 54) 771 398
Website: www.nan.rmutl.ac.th

Phitsanulok Campus

52 Moo 7, Bankrang, Mueang,
Phitsanulok 65000 THAILAND

Tel: (66 55) 298 438

Fax: (66 55) 298 440

Website: www.plc.rmutil.ac.th

**Agricultural Cultural Technology
Research Institute**

202 Moo 17, Pichai, Muang,
Lampang 52000 THAILAND

Tel: (66 54) 342 553

Fax: (66 54) 342 551

Website: www.lartc.rmutil.ac.th

**Rajamangala University of Technology
Rattanakosin (RMUTR)**

96 Moo 3, Salaya, Phuttamonthon,
Nakhon Pathom 73170 THAILAND

Tel: (66 2) 889 4585-7

Fax: (66 2) 441 1012

Website: www.rmutr.ac.th

Poh-Chang Campus

86 Triphet Road, Pranakhon,
Bangkok 10200 THAILAND

Tel: (66 2) 623 8790-5

Fax: (66 2) 225 7631

www.pch.pohchang.rmutr.ac.th

Tak Campus

41 Moo 7, Mai-Ngam, Mueang,
Tak 63000 THAILAND

Tel: (66 55) 515 904-5

Fax: (66 55) 511 833

Website: www.tak.rmutil.ac.th

**Rajamangala University of Technology
Phra Nakhon (RMUTP)**

399 Samsen Road, Dusit,
Bangkok 10300 THAILAND

Tel: (66 2) 282 9009-15

Fax: (66 2) 281 0073

Website: www.rmutp.ac.th

Bophit Phimuk Chakkawat Campus

264 Chakkrawat Road, Sampanthawong,
Bangkok 10100 THAILAND

Tel: (66 2) 226 5925-6

Fax: (66 2) 226 4879

Website: www.bpc.rmutr.ac.th

Wang Klai Kangwon Campus

Petchakasem 242 Road, Nongkae,
Hua Hin, Prachuap Khirikhan 77110
THAILAND

Tel: (66 32) 572 284-6, 532 552-3

Fax: (66 32) 536 299, 532 511

Website: www.kkw.rmutr.ac.th

Rajamangala University of Technology Nakhon Si Thammarat Campus
Srivijaya (RMUTSV)

1 Ratchadamneon Nok Road, Bhoyang,
Mueang, Songkhla 90000 THAILAND

Tel: (66 74) 317 100

Fax: (66 74) 317 123

Website: www.rmutsv.ac.th

133 Moo 5 Thung Yai,

Nakhon Si Thammarat 80240

THAILAND

Tel: (66 75) 479 496-7

Fax: (66 75) 350 028

Website: www.fan.rmutsv.ac.th

Trang Campus

179 Moo 3, Maifad, Sikao,

Trang 92150 THAILAND

Tel: (66 75) 274 151-6

Fax: (66 75) 274 159

Website: www.svj.rmutsv.ac.th

Rajamangala University of Technology Nonthaburi Campus
Suvarnabhumi (RMUTSB)

60 Moo 3, Asia Road, Huntra,
Phra Nakhon Si Ayutthaya 13000

THAILAND

Tel: (66 35) 242 554, 709 123

Fax: (66 35) 242 654

Website: www.rmutsb.ac.th

7/1 Nonthaburi Road, Suanyai, Mueang,
Nonthaburi 11000 THAILAND

Tel: (66 2) 969 1364-74

Fax: (66 2) 525 2682

Wasukri Campus

19 U-Thong Road, Tha Wasuki,
Phra Nakhon Si Ayutthaya 13000

THAILAND

Tel: (66 35) 324 179-80

Fax: (66 35) 252 393

Suphan Buri Campus

450 Moo 6, Subhanburi-Chainat Road,
Yanyao, Samchuk, Subhan Buri 72130

THAILAND

Tel: (66 35) 544 301-3

Fax: (66 35) 544 299-300

Rajamangala University of Technology**Tawan-Ok (RMUTTO)**

43 Moo 6, Bangphra, Sriracha,
Chonburi 20110 THAILAND

Tel: (66 38) 358 137

Fax: (66 38) 341 808-9

Website: www.rmutto.ac.th

Chantaburi Campus

131 Moo 5, Pluang, Kaokitchagoot,
Chantaburi 22210 THAILAND

Tel: (66 39) 307 261-4

Fax: (66 39) 307 268

Website: www.chan.rmutto.ac.th

Rajamangala University of Technology**Thanyaburi (RMUTT)**

39 Moo 1 Rangsit-Nakhonnayok Road,
Klong 6, Thanyaburi,

Pathum Thani 12110 THAILAND

Tel: (66 2) 549 3333, 549 3013

Fax: (66 2) 577 2357

Website: www.rmutt.ac.th

Roi-et Rajabhat University (RERU)

113 Moo 12 Roi-et-Ponthong Road,
Selaphoom,

Roi-et 45120 THAILAND

Tel: (66 43) 518 231, 544 739

Fax: (66 43) 556 009, 544 744

Website: www.reru.ac.th

Chakrabongse Bhuvanath Campus

122/41 Vipavadeerangsit Road,
Dindaeng, Bangkok 10400 THAILAND

Tel: (66 2) 692 2360-4

Fax: (66 2) 277 3693

Website: www.cpc.rmutto.ac.th

Uthen Thawai Campus

225 Payathai Road, Pathumwan,
Bangkok 10330 THAILAND

Tel: (66 2) 252 7029, 252 2736

Fax: (66 2) 252 7580

Website: www.uthen.rmutto.ac.th

Rambhai Barni Rajabhat University**(RBRU)**

41 Moo 5 Racksukchamoon Road,
Mueang, Chanthaburi 22000

THAILAND

Tel: (66 39) 471 053-57

Fax: (66 39) 471 063, 471 067

Website: www.rbru.ac.th

Sakon Nakhon Rajabhat University**(SNRU)**

680 Moo 11 Nittayo Road, Mueang,
Sakon Nakhon 47000 THAILAND

Tel: (66 42) 970 021

Fax: (66 42) 713 063

Website: www.snru.ac.th

Silpakorn University (SU)

31 Na Phra Lan Road, Bangkok 10200
THAILAND

Tel: (66 2) 623 6115-22

Fax: (66 2) 225 7258

Website: www.su.ac.th

Songkhla Rajabhat University (SKRU)

160 Moo 4 Karnjanawanitch Road,
Mueang,

Songkhla 90000 THAILAND

Tel: (66 74) 314 993

Fax: (66 74) 311 210

Website: www.skru.ac.th

Suan Dusit Rajabhat University (SDU)

295 Rachasima Road, Dusit,
Bangkok 10300 THAILAND

Tel: (66 2) 244 5000

Fax: (66 2) 243 0457

Website: www.dusit.ac.th

Suratthani Rajabhat University (SRU)

272 Ban Don Nasarn Road, Mueang,
Surat Thani 84100 THAILAND

Tel: (66 77) 355 466-7, 355 469

Fax: (66 77) 355 468

Website: www.sru.ac.th

Sisaket Rajabhat University (SSKRU)

319 Thaipantha Road, Poh, Mueang,
Sisaket 33000 THAILAND

Tel: (66 45) 633 440, 643 600-7

Fax: (66 45) 643 607

Website: www.sskru.ac.th

Srinakharinwirot University (SWU)

114 Sukhumvit 23, Wattana
Bangkok 10110 THAILAND

Tel: (66 2) 258 3996

Fax: (66 2) 258 0311

Website: www.swu.ac.th

Suan Sunandha Rajabhat University (SSRU)

1 Uthong Nok Street, Dusit,
Bangkok 10300 THAILAND

Tel: (66 2) 160 1111

Fax: (66 2) 160 1010

Website: www.ssrui.ac.th

Surindra Rajabhat University (SRRU)

186 Surin-Prasart Road, Mueang,
Surin 32000 THAILAND

Tel: (66 44) 511 604, 521 389

Fax: (66 44) 511 631

Website: www.srru.ac.th

Thammasat University (TU)

2 Prachan Road, Phra Nakhon,
Bangkok 10200 THAILAND

Tel: (66 2) 613 3333, 224 8105

Fax: (66 2) 224 8105

Website: www.tu.ac.th

Ubon Ratchathani University (UBU)

85 Sathollmark Road, Warinchamrap,
Ubon Ratchathani 34190 THAILAND

Tel: (66 45) 288 400-3, 288 391

Fax: (66 45) 288 391

Website: www.ubu.ac.th

Udon Thani Rajabhat University (UDRU)

64 Tahan Road, Mueang,
Udon Thani 41000 THAILAND

Tel: (66 42) 211 040-59

Fax: (66 42) 241 418

Website: www.udru.ac.th

Valaya Alongkorn Rajabhat University (VRU)

1 Moo 20 Phaholyothin Road,
Klongluang, Pathum Thani 13180
THAILAND

Tel: (66 2) 529 0674-7

Fax: (66 2) 529 2580, 909 1761

Website: www.vru.ac.th

Thepsatri Rajabhat University (TRU)

24 Naraimaharat Road, Mueang,
Lob Buri 15000 THAILAND

Tel: (66 36) 427 485-93

Fax: (66 36) 422 610

Website: www.tru.ac.th

Ubon Ratchathani Rajabhat University (UBRU)

2 Ratchathani Road, Mueang,
Ubon Ratchathani 34000 THAILAND

Tel: (66 45) 352 000-29, 262 423-32

Fax: (66 45) 311 472, 311 465

Website: www.ubru.ac.th

Uttaradit Rajabhat University (URU)

27 Injaimee Road, Mueang,
Uttaradit 53000 THAILAND

Tel: (66 55) 411 096, 416 601-31

Fax: (66 55) 411 296

Website: www.uru.ac.th

Yala Rajabhat University (YRU)

133 Tesaban 3 Road, Mueang
Yala 95000 THAILAND

Tel: (66 73) 227 151

Fax: (66 73) 227 125

Website: www.yru.ac.th

Open Admission Universities (2)

Ramkhamhaeng University (RU)

Ramkhamhaeng Road, Huamark,
Bangkapi, Bangkok 10240 THAILAND
Tel: (66 2) 310 8000
Fax: (66 2) 310 8022
Website: www.ru.ac.th

Sukhothai Thammathirat Open University (STOU)

9/9 Moo 9 Chaengwattana Road,
Bangpood, Pakkred,
Nonthaburi 11120 THAILAND
Tel: (66 2) 503 3550
Fax: (66 2) 503 3554, 503 3556
Website: www.stou.ac.th

Autonomous Universities (15)

Burapha University (BUU)

169 Tambon Saensook, Mueang,
Chonburi 20131 THAILAND
Tel: (66 38) 102 222
Fax: (66 38) 390 353
Website: www.buu.ac.th

Chulalongkorn University (CU)

254 Phayathai Road, Patumwan,
Bangkok 10330 THAILAND
Tel: (66 2) 215 0871-3
Fax: (66 2) 215 4804
Website: www.chula.ac.th

Chiang Mai University (CMU)

239 Huay Kaew Road, Mueang,
Chiang Mai 50200 THAILAND
Tel: (66 53) 941 000
Fax: (66 53) 217 143, 221 932
Website: www.cmu.ac.th

King Mongkut's Institute of Technology Ladkrabang (KMITL)

3 Moo 2 Chalongkrung Road,
Ladkrabang, Bangkok 10520
THAILAND
Tel: (66 2) 329 8000-99
Fax: (66 2) 329 8106
Website: www.kmitl.ac.th

**King Mongkut's University of
Technology North Bangkok
(KMUTNB)**

1518 Pibulsongkram Road, Bangsue,
Bangkok 10800 THAILAND

Tel: (66 2) 913 2500-24

Fax: (66 2) 587 4350

Website: www.kmutnb.ac.th

Mae Fah Luang University (MFU)

333 Moo 1 Tambon Tasood, Mueang,
Chiang Rai 57100 THAILAND

Tel: (66 53) 916 000, 916 026

Fax: (66 53) 916 023, 916 034

Website: www.mfu.ac.th

**Mahamakut Buddhist University
(MBU)**

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APPENDIX C
RELIABILITY PRETEST

RELIABILITY PRETEST

ITEM	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
A1.trust/integrity	0.819	0.976
A2.motivate	0.907	0.973
A3.democracy	0.813	0.976
A4.communicate	0.933	0.972
A5.legitimate	0.933	0.972
A6.fair	0.897	0.974
A7.integration	0.907	0.973
A8.embodiment	0.86	0.975
A9.positive effect	0.951	0.971
A10.leadership	0.889	0.974
Cronbach's Alpha 0.976		
B1.Position & pay	0.651	0.923
B2.skill	0.78	0.921
B3.skill trainer	0.783	0.916
B4.experience person	0.689	0.921
B5.new person in time	0.728	0.92
B6.orientation	0.57	0.93
B7.person plan	0.841	0.913
B8.cont.person plan	0.849	0.914
B9.discipline	0.9	0.91
B10.person capacity	0.601	0.927
Cronbach's Alpha 0.927		

ITEM	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
C1.new fund	0.391	0.966
C2.sufficient fund	0.863	0.952
C3.stability fund	0.804	0.954
C4.program&plan	0.778	0.955
C5.paticipate budget	0.847	0.953
C6.finance report	0.916	0.949
C7.cost	0.821	0.953
C8.finance core	0.851	0.952
C9.finance access	0.909	0.95
C10.finance capacity	0.94	0.948
		Cronbach's Alpha 0.958
D1.auto data	0.863	0.961
D2.data&users	0.746	0.964
D3.data divide among org.	0.814	0.962
D4.data follow	0.831	0.962
D5.data train	0.9	0.959
D6.data step	0.911	0.959
D7.data coordination	0.876	0.96
D8.data useful	0.876	0.96
D9.data trust & update	0.848	0.961
D10.data capacity	0.788	0.963
		Cronbach's Alpha 0.965
E1.train opportunity in org.	0.775	0.959
E2.train opportunity out org.	0.849	0.955
E3.program development	0.892	0.953
E4.best work method	0.906	0.953
E5.knowledge divide	0.882	0.953
E6.use-knowledge support	0.774	0.958

ITEM	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
E7.use-skill support	0.857	0.955
E8.experience support	0.878	0.954
E9.knowledge out org.	0.751	0.959
E10.knowledge capacity	0.69	0.961
		Cronbach's Alpha 0.96
F1.admin.&adviser support	0.876	0.95
F2.committees and agency	0.776	0.954
F3.admin.&adviser responsibility	0.888	0.949
F4.more than 75% committees in conference	0.931	0.947
F5.non finance from stakeholders	0.803	0.953
F6.un-miss adminis.&committees	0.795	0.954
F7.politicians support	0.798	0.954
F8.community support	0.755	0.955
F9.firms support	0.699	0.957
F10.stakeholders commitment	0.871	0.951
		Cronbach's Alpha 0.957
G1.knowledge collaboration others org.	0.778	0.962
G2.policy&process support collaboration others	0.832	0.96
G3.support time to person collaboration	0.891	0.957
G4.trust other org. to collaborate	0.885	0.958
G5.evaluate others org. to collaborate	0.752	0.963
G6.igntrigate collaboration on mission	0.918	0.956

ITEM	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
G7.work processing on collaboration	0.7	0.965
G8.government support	0.886	0.958
G9.private support	0.926	0.956
G10.collaboration capacity	0.8	0.961
		Cronbach's Alpha 0.964
H1.clearly a number of student	0.881	0.969
H2.success on output	0.833	0.97
H3.clearly work processing quality on program	0.939	0.966
H4.success on quality	0.898	0.968
H5.clearly a number of bachelors	0.927	0.967
H6.success on outcome	0.914	0.967
H7.fast&low cost	0.707	0.975
H8.success on efficiency	0.865	0.969
H9.clearly on strategy plan	0.837	0.97
H10.success on output, outcome and efficiency	0.9	0.968
		Cronbach's Alpha 0.972
		Cronbach's Alpha 0.993

APPENDIX D
QUESTIONNAIRE (ENGLISH VERSION)

QUESTIONNAIRE

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Factors Affecting the Capacity and Performance of Public Higher Education Institutions in Thailand

This Questionnaire is Part of the Research Conducted to Fulfill the Doctoral Degree Program of the School of Public Administration, National Institute of Development Administration (NIDA)

- Instructions
1. Please answer the questions by putting a tick (✓) in the circle.
 2. The questionnaire is 9 page long and is divided into 3 parts.

Objectives of the research questions

Part 1: Each question requires only one answer.

Part 2: Each question requires only one answer about your opinion.

- ☐ 1 mean “agree least”
- ☐ 2 mean “fairly agree”
- ☐ 3 mean “moderate agree”
- ☐ 4 mean “strongly agree”
- ☐ 5 mean “agree most”

Part 3: This part seeks your opinions and suggestions.

Research objectives

1. To survey the capacity and the performance of public higher education institutions in Thailand ;
2. To find out the relationship between the capacity and the performance of public higher education institutions in Thailand.

Usefulness of the study

The research results can be used to improve and develop the capacity and the performance of public higher education institutions in Thailand.

Part 1 (General information and resources)

1. My organization is
 - ①Autonomous University ②Public University ③Rajabhat University
 - ④Rajamangla University
2. My organization's group
 - ①Research/Graduate University ②Specialized/Comprehensive University|
 - ③Liberal Arts University
3. The age of my organization is (years)
 - ①Less than 30 ②30–40 ③More than 40
4. My organization's size (a number of persons)
 - ① Less than 500 ② 500–1,000 ③More than 1,000
5. My organization received resources from the government (percentage).
 - ① Lower than 65 ② 65-75 ③ More than 75

Part 2 Capacity and Performance

Items	Opinion				
	1 Agree least	2 Fairly agree	3 Moderate agree	4 Strongly agree	5 Agree most
A1.My organization's leader has integrity and sufficient courage to face challenges.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A2.My organization's leader can motivate the personnel to overcome hardship in work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A3.My organization's leader supports democracy and participation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Items	Opinion				
	1 Agree least	2 Fairly agree	3 Moderate agree	4 Strongly agree	5 Agree most
A4.My organization's leader can communicate well to increase performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A5.decisions of my organization's leader is accepted by the personnel.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A6.My organization's leader makes decisions with no bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A7.My organization's leader can integrate positive ideas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A8.My organization's leader has an ability to link positive knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A9.My organization's leader has an ability to get positive effects.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A10.My organization's leader has an ability to lead people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B1.My organization has appropriate work positions and remuneration for the personnel.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B2.My organization has personnel with skills and knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B3.My organizational personnel has skills and knowledge can train others if necessary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B4.My organization has an ability to employ the personnel with reliable knowledge and experience necessary for work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Items	Opinion				
	1 Agree least	2 Fairly agree	3 Moderate agree	4 Strongly agree	5 Agree most
B5.My organization has an ability to timely recruit new employees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B6.My organization provides job orientation for all new employees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B7.My organization has a clear personnel development plan.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B8.My organization continuous by train and develop the personnel.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B9.My organization has good discipline and reasonable penalties.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B10.My organization has personnel with competency.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C1.My organization easily attracts new funds for new initiatives and projects.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C2.My organization's fund is adequate for service rendering.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C3.My organization has been successful in funding existing programs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C4.My organization has clear plans and projects.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C5.My organization has participatory budget planning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C6.My organization has reliable financial reports.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Items	Opinion				
	1 Agree least	2 Fairly agree	3 Moderate agree	4 Strongly agree	5 Agree most
C7.My organization always conducts cost analysis.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C8.My organization allow access to its basic financial information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C9.My organization has a reliable auditing system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C10.My organization has financial competency.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D1.My organization has an automatic information management system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D2.My organization has a harmony between automatic information management and users.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D3.My organization has an ability to share information with other organizations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D4.My organization has an ability to follow information about resources, output and outcome.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D5.My organization provides training on the use of information and the information management system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D6.My organization has established information procedures for projects and services.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Items	Opinion				
	1 Agree least	2 Fairly agree	3 Moderate agree	4 Strongly agree	5 Agree most
D7.My organization has an ability to share information and to access necessary information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D8.My organization's data management systems are effective and useful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D9.My organization's data management is correct, reliable and up-to-date information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D10.My organization has information competency.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E1.My organization provides an opportunity for the personnel to be trained within the organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E2.My organization provides an opportunity for the personnel to be trained outside the organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E3.My organization actively tries to revise programs and services in response to significant trends in the field.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E4.My organization provides information on best practice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E5.My organization promotes knowledge management among colleagues.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Items	Opinion				
	1 Agree least	2 Fairly agree	3 Moderate agree	4 Strongly agree	5 Agree most
E6.My organization promotes using knowledge gained from work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E7.My organization promotes using skills from work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E8.My organization promotes using experiences from work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E9.My organization promotes using knowledge from outside.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E10.My organization has knowledge competency.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F1.My organization has an active Board of Directors and/or advisory committee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F2.All important stakeholders are represented on the board and committees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F3.The Board of Directors and/or advisory committees are responsible for organizational decisions and their impact on the organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F4.At least 75% of the members of the Board of Directors and/or the advisory committee attended each meeting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Items	Opinion				
	1 Agree least	2 Fairly agree	3 Moderate agree	4 Strongly agree	5 Agree most
F5.My organization receives non-financial support from stakeholders for new initiatives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F6.My organization rarely has vacancies on its Board of Directors or committees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F7.My organization is able to receive support from political representatives when needed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F8.My organization support giving services to nearby communities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F9.My organization support giving services to the private sector.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F10.My organization has an ability to fulfil all of its commitments within and outside the organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G1.My organization support knowledge sharing between its personnel and other organizations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G2.My organization has the policy and work procedures that support working together with other organizations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G3.My organization allots time for the personnel to work in cooperation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Items	Opinion				
	1 Agree least	2 Fairly agree	3 Moderate agree	4 Strongly agree	5 Agree most
G4.My organization trust other organizations when working together for the benefit of the clients.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G5.My organization evaluates the potential of other organizations for good partnership.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G6.My organization integrates collaboration into the organization's mission.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G7.My organization sets work procedures that support cooperation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G8.My organization receives cooperation from public organizations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G9.My organization receives cooperation from private organizations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G10.My organization has cooperation competency.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H1.My organization has a clear student admission plan.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H2.My organization has been successful in terms of output quantity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Items	Opinion				
	1 Agree least	2 Fairly agree	3 Moderate agree	4 Strongly agree	5 Agree most
H3.My organization has quality curriculum and program designing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H4.My organization has been successful in terms of output quality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H5.My organization has a clear plan on the number of graduates.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H6.My organization has been successful in terms of outcome.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H7.My organization promotes work speed and low costs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H8.My organization has been successful in term of efficiency.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H9.My organization has a clear strategic operational plan.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H10.My organization has been successful in output, outcome and efficiency.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Part 3 Opinions / Suggestions

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APPENDIX E
QUESTIONNAIRE (THAI VERSION)

แบบสอบถามเพื่อการวิจัย

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ปัจจัยที่มีผลต่อขีดความสามารถและผลการดำเนินการของสถาบันการศึกษาอุดมศึกษาของรัฐใน
ประเทศไทย

แบบสอบถามนี้เป็นส่วนหนึ่งของการศึกษาในระดับปริญญาเอกคณะรัฐประศาสนศาสตร์ของ
สถาบันบัณฑิตพัฒนบริหารศาสตร์(นิด้า)

- คำชี้แจง 1. โปรดตอบคำถามและทำเครื่องหมาย ✓ ใน ☐
2. คำถามมี 9 หน้า 3 ส่วน

วัตถุประสงค์ของคำถามการวิจัย

ส่วนที่ 1 คำถามการวิจัยแต่ละข้อต้องการหนึ่งคำตอบ

ส่วนที่ 2 คำถามการวิจัยแต่ละข้อต้องการหนึ่งคำตอบที่เป็นความคิดเห็น ดังนี้

- ☐ ช่องหมายเลข 1 หมายถึง เห็นด้วยน้อยที่สุด
- ☐ ช่องหมายเลข 2 หมายถึง เห็นด้วยน้อย
- ☐ ช่องหมายเลข 3 หมายถึง เห็นด้วยปานกลาง
- ☐ ช่องหมายเลข 4 หมายถึง เห็นด้วยมาก
- ☐ ช่องหมายเลข 5 หมายถึง เห็นด้วยมากที่สุด

ส่วนที่ 3 เป็นส่วนที่ใช้บันทึกความคิดเห็นหรือข้อเสนอแนะ

วัตถุประสงค์การวิจัย

1. เพื่อสำรวจขีดความสามารถและผลการดำเนินการของสถาบันการศึกษาอุดมศึกษา
ภาครัฐในประเทศไทย
2. เพื่อศึกษาความสัมพันธ์ระหว่างขีดความสามารถและผลการดำเนินการของ
สถาบันการศึกษาอุดมศึกษาภาครัฐในประเทศไทย

ประโยชน์จากการวิจัย

○ เพื่อนำผลการวิจัยไปปรับปรุงและพัฒนาขีดความสามารถและผลการดำเนินการของสถาบันการศึกษาอุดมศึกษาภาครัฐในประเทศไทย

ส่วนที่ 1 (ข้อมูลทั่วไปและทรัพยากร)

1. ประเภทมหาวิทยาลัย

①มหาวิทยาลัยในกำกับของรัฐ ②มหาวิทยาลัยรัฐ ③มหาวิทยาลัยราชภัฏ ④มหาวิทยาลัยราชภัฏ

2. กลุ่มมหาวิทยาลัย

①มหาวิทยาลัยวิจัย ②มหาวิทยาลัยเฉพาะทาง ③มหาวิทยาลัยทั่วไป

3. อายุมหาวิทยาลัย

①น้อยกว่า 30 ปี ②30-40 ปี ③มากกว่า 40 ปี

4. ขนาดมหาวิทยาลัย (จำนวนบุคลากร)

①น้อยกว่า 500 คน ② 500-1,000 คน ③มากกว่า 1,000 คน

5. การได้รับการสนับสนุนงบประมาณและทรัพยากรอื่นจากรัฐ

①ต่ำกว่าร้อยละ 65 ② ร้อยละ 65-75 ③ สูงกว่าร้อยละ 75

ส่วนที่ 2 ขีดความสามารถและผลการดำเนินการ

รายการ	ความคิดเห็น				
	1 น้อย ที่สุด	2 น้อย	3 ปาน กลาง	4 มาก	5 มาก ที่สุด
A1. ผู้นำองค์กรไว้วางใจได้ซื้อสัตย์กล้าเผชิญความท้าทาย	○	○	○	○	○
A2. ผู้นำองค์กรสามารถจูงใจบุคลากรให้เอาชนะความยากลำบากในการทำงาน	○	○	○	○	○
A3. ผู้นำองค์กรสนับสนุนความเป็นประชาธิปไตยและการมีส่วนร่วม	○	○	○	○	○

รายการ	ความคิดเห็น				
	1 น้อย ที่สุด	2 น้อย	3 ปาน กลาง	4 มาก	5 มาก ที่สุด
A4.ผู้นำองค์การสามารถสื่อสารเพื่อเพิ่มระดับ ผลการทำงาน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A5.ผู้นำองค์การได้รับการยอมรับในการ ตัดสินใจ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A6.ผู้นำองค์การตัดสินใจโดยไม่เลือกปฏิบัติ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A7.ผู้นำองค์การสามารถบูรณาการความคิด ทางบวก	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A8.ผู้นำองค์การสามารถเชื่อมโยงความรู้ ทางบวก	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A9.ผู้นำองค์การสามารถทำให้เกิดผลใน ทางบวก	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A10.ผู้นำองค์การมีความสามารถในการนำ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B1.องค์การมีตำแหน่งงานและค่าตอบแทนที่ เหมาะสม	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B2.องค์การมีบุคลากรที่มีทักษะความชำนาญ และมีความรู้	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B3.องค์การมีบุคลากรที่มีทักษะความชำนาญ และมีความรู้ที่สามารถให้การฝึกอบรมที่จำเป็น	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B4.องค์การสามารถจ้างบุคลากรที่มีความรู้ ความน่าเชื่อถือและประสบการณ์ที่จำเป็นใน การทำงาน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B5.องค์การสามารถรับบุคลากรใหม่ในเวลา ที่เหมาะสม	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B6.องค์การมีการปฐมนิเทศบุคลากรใหม่	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B7.องค์การมีแผนพัฒนาบุคลากรชัดเจน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B8.องค์การพัฒนาและฝึกอบรมคนอย่าง ต่อเนื่อง	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

รายการ	ความคิดเห็น				
	1 น้อย ที่สุด	2 น้อย	3 ปาน กลาง	4 มาก	5 มาก ที่สุด
B9.องค์การมีวินัยและการลงโทษที่ สมเหตุสมผล	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B10.องค์การมีบุคลากรที่มีขีดความสามารถใน การดำเนินการ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C1.องค์การดึงดูดเงินทุนใหม่ๆสำหรับการเริ่มต้น โครงการใหม่ได้ง่าย	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C2.กองทุนขององค์การมีเพียงพอสำหรับการ ให้บริการ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C3.องค์การมีกองทุนที่มั่นคง	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C4.องค์การมีแผนงานโครงการชัดเจน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C5.องค์การทำงานประมาณแบบมีส่วนร่วม	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C6.องค์การมีรายงานทางการเงินที่ถูกต้อง น่าเชื่อถือ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C7.องค์การมีการวิเคราะห์ต้นทุนการใช้จ่าย	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C8.องค์การให้เข้าถึงข้อมูลพื้นฐานทางการเงิน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C9.องค์การมีระบบตรวจสอบทางการเงินที่ น่าเชื่อถือ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C10.องค์การมีขีดความสามารถทางการเงิน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D1.องค์การมีระบบการจัดการข้อมูลอัตโนมัติ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D2.การจัดการข้อมูลอัตโนมัติขององค์การและ ผู้ใช้ข้อมูลมีความสอดคล้องกัน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D3.องค์การมีความสามารถในการร่วมแบ่งปัน ข้อมูลกับองค์การอื่น	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D4.องค์การสามารถติดตามข้อมูลทรัพยากร ผลิตผลและผลลัพธ์ได้	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D5.องค์การมีการฝึกอบรมการใช้ข้อมูลและ ระบบการจัดการข้อมูล	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

รายการ	ความคิดเห็น				
	1 น้อย ที่สุด	2 น้อย	3 ปาน กลาง	4 มาก	5 มาก ที่สุด
D6.องค์กรมีการจัดวางขั้นตอนกระบวนการข้อมูลสำหรับโครงการและการบริการ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D7.องค์กรสามารถให้ร่วมแบ่งปันข้อมูลและเข้าถึงข้อมูลที่ต้องการ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D8.ระบบการจัดการข้อมูลเกิดผลและมีประโยชน์	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D9.ข้อมูลข่าวสารถูกต้องน่าเชื่อถือและทันสมัย	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D10.องค์กรมีขีดความสามารถของข้อมูลข่าวสาร	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E1.องค์กรให้โอกาสบุคลากรได้รับการฝึกอบรมภายในองค์กร	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E2.องค์กรให้โอกาสบุคลากรได้รับการฝึกอบรมภายนอกองค์กร	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E3.องค์กรมีการปรับหลักสูตรและการบริการที่ตอบสนองแนวโน้มที่เป็นไป	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E4.องค์กรให้ข้อมูลเกี่ยวกับวิธีการทำงานที่ดีที่สุด	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E5.องค์กรสนับสนุนการร่วมกันแบ่งปันความรู้ระหว่างผู้ร่วมงาน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E6.องค์กรส่งเสริมการใช้ความรู้จากการทำงาน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E7.องค์กรส่งเสริมการใช้ทักษะในการทำงาน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E8.องค์กรส่งเสริมการใช้ประสบการณ์ในการทำงาน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E9.องค์กรส่งเสริมการใช้ความรู้จากภายนอกองค์กร	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E10.องค์กรมีขีดความสามารถของความรู้	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

รายการ	ความคิดเห็น				
	1 น้อย ที่สุด	2 น้อย	3 ปาน กลาง	4 มาก	5 มาก ที่สุด
F1.องค์การสนับสนุนคณะกรรมการบริหารและหรือกรรมการที่ปรึกษา	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F2.ผู้มีส่วนได้เสียทั้งหมดเป็นตัวแทนคณะกรรมการและกรรมการ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F3.คณะกรรมการบริหารและหรือคณะกรรมการที่ปรึกษามีความรับผิดชอบต่อผลกระทบจากการตัดสินใจ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F4.การประชุมของคณะกรรมการบริหารหรือคณะกรรมการที่ปรึกษามีสมาชิกเข้าร่วมไม่น้อยกว่าร้อยละ 75	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F5.องค์การได้รับการสนับสนุนที่ไม่ใช่ตัวเงินจากผู้มีส่วนได้เสียสำหรับการริเริ่มสร้างสรรค์ใหม่	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F6.องค์การไม่ว่างเว้นคณะกรรมการบริหารหรือกรรมการ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F7.องค์การได้รับการสนับสนุนจากตัวแทนทางการเมืองเมื่อต้องการ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F8.องค์การสนับสนุนการให้บริการชุมชนใกล้เคียงที่ตั้ง	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F9.องค์การสนับสนุนการให้บริการภาคเอกชน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
F10.องค์การมีขีดความสามารถของคณะกรรมการ กรรมการ ตัวแทนทางการเมือง ชุมชน และภาคเอกชน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G1.องค์การสนับสนุนการร่วมกันแบ่งปันความรู้ของคนทำงานกับองค์กรอื่น	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G2.องค์การมีนโยบายและกระบวนการทำงานที่สนับสนุนการทำงานร่วมกับองค์กรอื่น	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

รายการ	ความคิดเห็น				
	1 น้อย ที่สุด	2 น้อย	3 ปาน กลาง	4 มาก	5 มาก ที่สุด
G3.องค์การจัดสรรให้บุคลากรได้มีเวลาร่วมมือ กัน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G4.องค์การวางใจองค์การอื่นในการร่วมทำงาน ให้เกิดผลดีต่อลูกค้า	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G5.องค์การประเมินศักยภาพองค์การอื่นเพื่อ เป็นหุ้นส่วนที่ดี	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G6.ความร่วมมืออุทกบริหารการเป็นภารกิจของ องค์การ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G7.องค์การวางกระบวนการทำงานที่สนับสนุน การร่วมมือกัน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G8.องค์การได้รับความร่วมมือจากองค์การ ภาครัฐ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G9.องค์การได้รับความร่วมมือจากองค์การ เอกชน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
G10.องค์การมีขีดความสามารถในความร่วมมือ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H1.องค์การมีแผนการรับจำนวนนิสิตชัดเจน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H2.องค์การประสบความสำเร็จในปริมาณ ผลผลิต	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H3.องค์การมีกระบวนการจัดทำหลักสูตรและ โครงการที่มีคุณภาพ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H4.องค์การประสบความสำเร็จในคุณภาพ ผลผลิต	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H5.องค์การมีแผนงานโครงการผู้สำเร็จ การศึกษชัดเจน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H6.องค์การประสบความสำเร็จในผลลัพธ์	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H7.องค์การส่งเสริมการทำงานที่รวดเร็วทัน ต่ำ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

รายการ	ความคิดเห็น				
	1 น้อย ที่สุด	2 น้อย	3 ปาน กลาง	4 มาก	5 มาก ที่สุด
H8.องค์การประสบความสำเร็จในประสิทธิภาพ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H9.องค์การมีแผนกลยุทธ์การดำเนินการชัดเจน	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
H10.องค์การประสบความสำเร็จในผลผลิต ผลลัพธ์และประสิทธิภาพ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

ส่วนที่ 3 ข้อคิดเห็น/ข้อเสนอแนะ

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BIOGRAPHY

NAME

Sommart Maharak

ACADEMIC BACKGROUND

Bachelor' Degree with a major in
Economics from Ramkhamhaeng
University, Bangkok, Thailand in 1984 and a
Master's Degree in Public Administration at
Burapha University, Chonburee, Thailand in
2002

PRESENT POSITION

Senior Professional Level Plan and
Policy Analyst
Burapha University, Thailand