

**THE CAUSAL RELATIONSHIP OF ORGANIZATIONAL  
EFFECTIVENESS OF LOGISTICS SERVICE  
PROVIDERS IN THAILAND**



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**A Dissertation Submitted in Partial  
Fulfillment of the Requirements for the Degree of  
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## ABSTRACT

<b>Title of Dissertation</b>	THE CAUSAL RELATIONSHIP OF ORGANIZATIONAL EFFECTIVENESS OF LOGISTICS SERVICE PROVIDERS IN THAILAND
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This research is a study of the causal relationships of organizational effectiveness of logistics service providers in Thailand. The purpose of the study was 1) to study the causal relationships of transformational leadership, organizational culture, innovation climate and organizational effectiveness of logistics service providers in Thailand, and 2) to analyze and check the consistency of the causal relationships of transformational leadership, organizational culture, innovation climate and organizational effectiveness of logistics service providers in Thailand with empirical data.

The samples were logistics service providers in both public and private organizations who have a staff of more than 9,000. There were three organizations representing the samples, providing 644 informants in total, who were from the management and staff of these three organizations. The variables used in this research were four latent variables: organizational effectiveness, transformational leadership, organizational culture and innovation climate. The data was collected by using questionnaires. Statistics which were used for analyzing the data included percentage, mean, standard deviation, path analysis and a check of consistency of the model of causal relationships of organizational effectiveness of logistics service providers using empirical data.

The results from analyzing the data found that the model of causal relationships of organizational effectiveness of logistics service providers was consistent with the empirical data. Chi-square was 142.453, degree of freedom was 71, GFI was 0.970 and RMSEA was 0.044. Organizational effectiveness had the most direct effect from organizational culture, followed by transformational leadership and innovation climate. The effect size was 0.59, 0.48 and 0.19, respectively, with a significance level of 0.05. The variables in the model were able to explain the variance of organizational

effectiveness of logistics service providers by 89.30 percent.



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# CHAPTER 1

## INTRODUCTION

This research is a study of the causal relationships of organizational effectiveness among logistics service providers in Thailand. In this chapter, the researcher provides a statement on the significance of the study, the purpose of the study, research questions, the scope and methods of study, expected benefits of the study and the structure of the dissertation, with the following details:

### 1.1 Statement on the Significance of the Study

Strategy two in the 20-year National Strategy (2018-2037) is aimed at building a competitive advantage, focusing on industrial issues and logistics services in order to become a production base in the region for export to the world market, and developing human resources to have the skills and expertise needed to match the needs of those logistics services ( National Strategy Committee, 2017) . The 12<sup>th</sup> National Economic and Social Development Plan (2017-2021), which is linked to the 20-year National Strategy, is aimed at developing an infrastructure and logistics system, as well as expanding competencies and developing logistics entrepreneurs to have the potential to expand their businesses in other countries. In addition, the third Thailand Logistics Development Plan ( 2017-2022) is aimed at promoting and developing the potential of Logistics Service Providers (LSPs) to be able to compete, upgrade these logistics service providers to be able to receive international organizations for standardization, and promote them into full potential logistics service providers which are consistent with the needs of the business sector (Office of the National Economic and Social Development Board, 2017)

Development of the infrastructure for logistics systems in Thailand has experienced problems concerning continuity in operations, quantitative and qualitative problems, and issues as to whether the service management is consistent

with international standards. These problems have caused limitations in developing their competitiveness. In data from the International Logistics Performance Index (LPI) of the World Bank in 2016, Thailand was ranked 45<sup>th</sup> out of 160 countries in the world, and the rank had decreased from 35<sup>th</sup> in 2014. If considering the components of all six criteria, which include customs clearance, fundamental transport infrastructure and information technology, international shipping preparation, competency of logistics service providers in both government and business sectors, product tracking and inspection systems and punctuality of service, it was found that the ranks have decreased in most areas, especially the ranking for punctuality of services, which decreased from 29<sup>th</sup> in 2014 to 52<sup>th</sup> in 2017. The rank for product tracking and inspection systems has decreased from 33<sup>th</sup> in 2014 to 50<sup>th</sup> in 2017, only the rank of international shipping preparation has increased slightly.

Logistics service providers are continuously linked with the growth of Electronic Commerce (E-Commerce) in Thailand. The market value of the business has increased from 2.2 trillion baht in 2015 to 3.05 trillion baht in 2018. This comes from Business-to-Business ( B2B) , totaling 1.8 trillion baht, and Business-to-Consumer ( B2C) ( retail consumers or general consumers) , at 9.4 billion baht. Therefore, it has caused a large number of carriers to operate in Thailand in order to satisfy the needs of an increasing number of consumers. If considering the trend of electronic commerce business, it is found that this business is growing rapidly along with logistics business, because the geographic location of Thailand is at the center of the ASEAN region. This has caused the need of logistics service providers to operate in Thailand. In addition, data from the (Center for Economic and Business Forecasting, 2019) which presented the top ten rising star businesses or outstanding businesses in 2020, found that electronic commerce business is ranked number two and logistics business is ranked number four. This points out that both of these businesses are clearly important.

As the competition among logistics service providers has intensified, so also is the number of entrepreneurs increasing. In the past, Thailand Post Company Limited was the leading logistics service provider in Thailand, but now there are both private businesses within the country and multinational companies who are participating in

providing service. Each of these companies has the same operational goal - organizational effectiveness or achieving their organizational goals.

Researchers in management science are interested in organizational effectiveness and consider it as a main concept which has been studied extensively (Goodman & Pennings, 1977). As (Heffron, 1989) stated, “... Organizational effectiveness has been the main topic of the study of organizational theory and organizational behavior from the period of Max Weber until now.” The concept of organizational effectiveness is important because the main goal of research on management in the organization is improvement and development of organizational effectiveness. Therefore, organizational effectiveness has a broad definition, including the measurement of organizational performance. Organizational effectiveness means achieving both short and long-term organizational goals in terms of both result and process (Robbins, 1990) which affects organizational survival. In 1977, Campbell (1977) wrote a chapter entitled “On the Nature of Organizational Effectiveness”, which was an attempt to review the concept of organizational effectiveness. Campbell compiled 30 indicators or criteria for evaluating organizational effectiveness from literature reviews (J. P. Campbell, 1977). Later, Cameron and Whetten (1981) noted that there was a lack of clarity in organizational effectiveness because of confusion over specific meanings (Cameron & Whetten, 1981). McCann (2004) reviewed a study of the concept of organizational effectiveness over the previous fifty years, and concluded that organizational effectiveness should be considered for achieving goals and specific changes. McCann (2004) has supported the idea that an effective organization must have clear goals, and can be both adjustable and adaptable when responding to an organizational life cycle that is constantly changing (McCann, 2004). It's the same in this research, the researcher attempts to determine, in the current situation with constantly and rapidly changing economic, political, sociocultural and technological conditions, what factors are essential for promoting and achieving organizational effectiveness.

Leadership is one of the most important managerial roles. Stogdill (1950) said that leadership is a process in which individuals try to influence the behavior of followers or subordinates for goal achievement (Buchanan & Huczynski, 2017). Transformational leadership is one of the patterns which have interested and been

studied by scholars from past to present. (Bass & Avolio, 1994) clearly explained the meaning of transformational leadership as a process in which leaders change their followers' efforts, to become higher than they expected, resulting in exceeded expectations. Leaders can play various roles, which makes followers show trust, satisfaction, loyalty and respect. Leaders also enhance the feelings and conscious of their followers, giving importance to the value of desired results and how to achieve them. Leaders also make followers strive to become a potential person who develops and thinks in terms of subordination of their individual interests, thus lending more importance to the organization's general interests. This is consistent with (Dubrin, 1998) , who defined the meaning of transformational leadership as a focus on changing the whole organization to become better, raising motivation and morality until members fully want to adjust themselves, and elevating the needs of individuals as well as creating better values . It can be said that transformational leadership is the leader's attempt to raise awareness among followers and change followers' efforts to be higher than expected. These qualifications and behaviors will make organizations change for the better, become strengthened and enable themselves to achieve both efficiency and effectiveness.

In addition to the organization having leaders to drive its operations, every organization also has an organizational culture that controls its members' ideas and actions. According to ( Denison, 1990) , organizational culture means the values, beliefs, and fundamental principles that function as a foundation of the organizational management system, consisting of a group of practices and management behaviors which expands and reinforces those fundamental principles. These principles and practices are meaningful to the members and existence of the organization, because it is an image of its representative strategy for organizational survival which has performed well in the past, and so members of the organization believe that it will perform well in the future, as well. Therefore, organizational culture is like the spirit of the organization, which leads it in various operations ( Tippawan Lorsuwanarat, 2004) . Some research indicates that organizational culture leads to organizational effectiveness in finance, such as in sales growth or greater return on investment (Gregory, Harris, & Armenakis, 2009; Koufteros, Nahm, Cheng, & Lai, 2007), or via organizational effectiveness in increasing productivity or quality of products (Sarros,

Cooper, & Santora, 2008) etc. (Scholz, 1987) concluded that organizational culture has one important characteristic that can affect organizational effectiveness because organizational culture is what creates competitive advantage. Effectiveness is the performance of certain values that influence effectiveness. Values and beliefs create cooperation. Values and practices are strongly bonded, and are the way to improve performance and cause effectiveness to become better. Values that are held strongly and extensively in the organization will help management to predict the behavior of its members, including the control of unwanted results. Therefore, organizational effectiveness often varies with shared values that the members of the organization adhere to, which is organizational culture (Parin Bunchaluay, 2013).

Besides having transformational leadership and organizational culture as a guideline for the work and life of members within the organization, management in the organization must also promote a creative environment. This helps employees have freedom of thought, supports self-confidence to take risks in presenting new ways of working, and creates innovation in the working process or new products. (Ekvall, 1996) gave the definition of innovation climate as a climate that creates creativity and innovation. Members in the organization should have challenging concepts when working in order to achieve goals, have freedom in their thinking, be supported when presenting new ideas, have trust and power in their work, accept taking risks, and give importance to taking the time to push those ideas towards success. Ekvall also said that organizational climate affects the productivity and total quality of the organization, including job satisfaction, well-being of employees and profits. Therefore, it can be said that the innovation climate variable is the most important variable for a successful organization in this fast-changing world era.

Because these three factors - transformational leadership, organizational culture and innovation climate, are the most important factors for organizational management, this research therefore aims to study the causal relationships of these three factors with the belief that transformational leadership, which aims to create change throughout the organization, will affect the organizational culture, which comprises the values, beliefs and practices of the members in the organization. An organization promotes an innovation climate by allowing members in the organization to have freedom of thought and be self-confident enough to present innovation. These

three factors will help employees do their duty for the best, and also increase their effectiveness in working at various duties. In the end, they will increase their overall organizational effectiveness. This research therefore focuses on studying the causal relationships of organizational effectiveness by working with the management and staff of logistics service providers, both in the public and private sectors, which are rapidly growing at the present time. The results of this research will be useful for creating relationship models for related organizations to use for developing and improving their organizational effectiveness, creating competitive advantage, and developing the overall economic health of Thailand.

## **1.2 Purpose of the Study**

The purpose of the study is:

- 1) To study the causal relationships between transformational leadership, organizational culture, innovation climate, and organizational effectiveness among logistics service providers in Thailand.
- 2) To analyze and check the consistency of causal relationships between transformational leadership, organizational culture, innovation climate and organizational effectiveness among logistics service providers in Thailand with the empirical data.

Specific Areas of Focus

In this study, the researcher will study a government logistics service provider, Thailand Post Company Limited, and two private organizations who are leading multinational logistics service providers. The population used in the study is the management and staff who work in the organization located in Bangkok.

## **1.3 Research Questions**

According to the purpose of the research, the researcher has defined the research questions as follows:

1) What are the characteristics of causal relationships between organizational effectiveness, transformational leadership, organizational culture, and innovation climate among logistics service providers in Thailand?

2) Does transformational leadership, organizational culture, and innovation climate have an effect on organizational effectiveness or not, and by how much?

3) What is the level of perception among the management and staff in logistics service providers concerning organizational effectiveness, transformational leadership, organizational culture, and innovation climate in their organization?

4) Are the causal relationships between transformational leadership, organizational culture, innovation climate, and organizational effectiveness among logistics service providers in Thailand consistent with the empirical data?

## **1.4 Scope and Methods of the Study**

### **1.4.1 Specific Contents**

**Organizational effectiveness:** The researcher will use the concept called the Competing Values Approach by Quinn and Rohrbaugh (1983), which is used to evaluate organizational effectiveness in four areas: rational goals, internal process, open system and human relations. The reason why the researcher has chosen this concept of Quinn and Rohrbaugh is because it is consistent with the condition of logistics service providers, which is constantly changing. The organization must give importance to the setting of plans and goals, control and stability, flexibility in operations, quality, and the morals and ethics of its personnel.

**Transformational leadership:** The researcher will use the concept of (Bass & Avolio, 1994), who studied transformational leadership by evaluating it in four elements: idealized influence, inspiration motivation, intellectual stimulation, and individualized consideration, thus choosing to use the concept of transformational leadership because it is a leadership style that is appropriate for a competitive and adaptable business environment. Therefore, the organization must have leaders who have vision and are continuously ready to create change in the organization.

**Organizational culture:** The researcher will use the concept of (Sashkin & Rosenbach, 2013), who studied and evaluated organizational culture in five elements:

managing change, achieving goals, coordinated teamwork, customer orientation and cultural strength. This concept of Sashkin and Rosenbach is useful for analyzing the behavior of people in the organization who are ready to deal with changes that occur, able to work for achieving goals, have cooperation, give importance for customers and create a strong organizational culture.

**Innovation climate:** The researcher will use the concept of (De Drue & West, 2001; De Jong, 2007; Roderic, 2007), who evaluated four elements of innovation climate: freedom, participative safety, striving for excellence and support for innovation. This concept is appropriate for any organization that strives to become an innovative organization. It also creates a working climate that is suitable for creating innovation, and develops the organization to help it gain a competitive advantage.

#### **1.4.2 Specific Areas of Focus**

In this study, the researcher will study a government logistics service provider, Thailand Post Company Limited, and two private organizations who are leading multinational logistics service providers. The population used in the study is the management and staff who work in the organization located in Bangkok.

#### **1.4.3 Specific Time**

In studying the causal relationships of organizational effectiveness among logistics service providers in Thailand, the duration of study was from January 2019 to May 2020.

### **1.5 Expected Benefits of the Study**

1) **Management benefits:** It is useful for senior management of the public and private sectors when deciding on the setting of policies, strategies, plans, and projects in preparation for the organization and related agencies. It affects the development of logistics service providers in Thailand.

2) **Service benefits:** It is useful for entrepreneurs in the public and private sectors. It can be applicable for increasing the effectiveness of logistics service providers in Thailand and for the stability of their service.

3) Academic benefits: It is useful for those who are interested in the logistics of the transportation industry and organizational management, because researchers have compiled concepts and theories, including research related to the organizational effectiveness of logistics service provider in Thailand, which is very important for entrepreneurs.

## **1.6 Structure of the Dissertation**

This study is organized into five chapters. Chapter one describes a statement on the significance of the study, the purpose of the study, the research questions, the scope and methods of study, the expected benefits of the study, and the structure of the dissertation. Chapter two reviews the relevant research on concepts, theories of organizational effectiveness, transformational leadership, organizational culture, and innovation climate. Related research, the importance of logistics service providers, the research conceptual framework and research assumptions are also included. Chapter three presents the research methodology, consisting of populations and samples, operational definitions, research instruments, data collection and analysis data. Chapter four reports the data analysis and findings. Finally, chapter five presents the conclusion, discussion and implications. Recommendations for future research are also presented.

## CHAPTER 2

### CONCEPTS, THEORIES AND RELATED RESEARCH

In this research on the causal relationships of organizational effectiveness among logistics service providers in Thailand, the researcher has reviewed concepts, theories and related research papers, which are presented in the following order:

- 2.1 Concepts and Research on Organizational Effectiveness
- 2.2 Concepts and Research on Transformational Leadership
- 2.3 Concepts and Research on Organizational Culture
- 2.4 Concepts and Research on Innovation Climate
- 2.5 Related Research
- 2.6 Importance of Logistics Service Providers
- 2.7 Research Conceptual Framework
- 2.8 Research Hypotheses

#### **2.1 Concepts and Research on Organizational Effectiveness**

When managers use the following four types of organizational resources; human, money, tools and machines, and information (called “Inputs”), they transform them into final products, or Outputs. By using these resources to achieve organizational goals it means the organization has managerial effectiveness. It is generally accepted that organizational effectiveness is a tool for making final decisions relating to the success of organizational management (Piphatphen, 2014). Therefore, organizational effectiveness is important for the operation of all types of organizations.

##### **2.1.1 Background and Importance of Organizational Effectiveness**

The concept of organizational effectiveness has been extensively studied since the beginning of the study of organizational theory. It is a concept that is deeply rooted in organizational studies and is a valuable and very important variable in

management science. It is also the ultimate goal of management in every organization (Quinn & Rohrbaugh, 1981).

When the industrial revolution started, humans began to use machines instead of manual work. They undertook mass-production, giving importance to the division of labor. This was the beginning of the concept of machine organization. Machine organization has three concepts, which are: scientific management, administrative theory and bureaucracy. All three concepts give importance to efficiency, which is an internal evaluation of the amount of resources used in the production process by measuring the ratio between output and input. However, we still did not recognize the importance of effectiveness. When the concept of organic organization arose, we started to give importance to effectiveness by focusing on outcome or results by holding it up to the objective. Effectiveness, therefore, puts emphasis on achieving the objective (Etzioni, 1964; Georgopoulos & Tannenbaum, 1957)

Between the 1950s and the early 1960s, the study of organizational effectiveness received very little attention because it lacked accepted theoretical opinions, but it was given attention again in the late 1960s–1970s. Scholars have since attempted to study the concept of organizational effectiveness in terms of both the process leading up to organizational effectiveness and the results of that organizational effectiveness (Cameron & Whetten, 1981; Hannan & Freeman, 1977; W. R. Scott, 1977). However, defining organizational effectiveness is still difficult because it requires evaluation criteria that can be used by all organizations. Scholars in various fields have different views on organizational effectiveness, so they cannot conclude what organizational effectiveness actually means.

J. P. Campbell (1977) studied the concept of organizational effectiveness and said that organizational effectiveness is important for driving an organization in various aspects, such as organizational structure, organizational culture, leadership and the strategic planning of the organization to achieve its organizational goals. He concluded that it is the ultimate goal of management to achieve organizational survival. He also collected and classified up to 30 criteria for univariate effectiveness measures. (Cameron, 1981; Thibodeaux & Favilla, 1996) proposed models of organizational effectiveness based on univariate effectiveness measures (Cameron, 1981; Thibodeaux & Favilla, 1996). However, univariate effectiveness measures

cannot measure organizational effectiveness in a comprehensive way. Scholars have studied multivariate effectiveness measures, and many management scholars, such as (Hoy & Miskel, 1991; Mott, 1972; Quinn & Rohrbaugh, 1983), studied models of organizational effectiveness based on multivariate effectiveness measures that could measure the effectiveness comprehensively (Hoy & Miskel, 1991; Mott, 1972; Quinn & Rohrbaugh, 1983).

The concept of organizational effectiveness has been studied continuously, but it still adheres to the concept of the process and result of organizational effectiveness, such as in the research of (McCann, 2004; Zairi & Jarrar, 2001). Zairi and Jarrar (2001) said that, for organizational effectiveness, we should consider the results of the management process and personnel in the organization. The criteria for evaluating this is management style, organizational structure, subsystems within the organization, organizational strategy and organizational share values, including personnel and their skills. (McCann, 2004) concluded that organizational effectiveness focuses on change. An organization that is capable of changing and adapting to respond to the organizational life cycle will achieve effectiveness (McCann, 2004; Zairi & Jarrar, 2001).

Scholars have lately shown more interest in the study and research of concepts of organizational effectiveness. Most of them have, for the main purpose of their study, shown how organizational effectiveness helps to achieve work accomplishment and the purpose of the organization.

### **2.1.2 Definition of Organizational Effectiveness**

Although organizational effectiveness is a topic that researchers are very interested to study, the definition of organizational effectiveness is still unclear because the concept of organizational effectiveness is ambiguous, which makes it difficult to give a clear meaning or definition (Cameron, 1986). Cameron (1981) explained that problems in defining the meaning of organizational effectiveness have three main reasons. First, the concept of organizations are conceptualized from a variety of concepts; therefore, they cause a lack of standards for defining the organization, which can result in the failure to define the criteria or standard indicators of organizational effectiveness. Secondly, in past research studies of

organizational effectiveness, researchers used organizational effectiveness indicators that are non-overlapping. This means the researchers used indicators out of convenience or bias, instead of creating systematic indicators. Third, an organization can have complexity in various qualifications, such as purposes and goals which are diverse and often conflicting with each other. Although some organizations pursuing the goal of seeking profit can determine their effectiveness by considering economic issues, other types of organizations have difficulty determining which indicators are able to measure the goals and purposes as a whole. It could be said that the definition and measurement of organizational effectiveness in the past was not appropriate for measuring effectiveness in the modern era, which is much more complicated (Cameron, 1981).

However, the definition of organizational effectiveness held by most scholars is related to the use of resources to achieve goals or purpose, but they have some different details and conflicts among themselves, as in the following:

Georgopoulos and Tannenbaum (1957) gave their definition of organizational effectiveness as being an organization with a social system that can more or less achieve its goals by using resources and means without damaging them, including not creating inappropriate tension for its members.

Seashore and Yuchtman (1967) described organizational effectiveness as an organization's ability to use resources both from inside and outside the organization in order to be effective.

Gross (1972) defined organizational effectiveness as creating the best balance between adaptation and maintenance activities. The activities that determine whether an organization's operations are effective or not consist of seven activities: resource acquisition, efficient use of input compared to output, production in the form of products and services, rational technical and administrative operations, investment in the organization, compliance with behavioral principles and responding to different interests of individuals and groups.

Mott (1972) described his definition of organizational effectiveness as the organization's ability to drive all its power toward creating production and adjustment. An effective organization is an organization that, when faced with a changeable

environment and internal problems, tends to produce while also being flexible and easier to adjust, more so than other organizations.

Pfeffer and Salanick (1978) commented that organizational effectiveness means the standard set by the organization in how well the organization performs in accordance with that standard, which meets the needs of various groups within the organization. This is consistent with (Fiedler, 1967) who defined group effectiveness as being a group that can do the assigned work to achieve a purpose.

Steers (1977) said that organizational effectiveness means leaders who use their ability to differentiate, manage and use resources to achieve their purposes. There are five indicators of organizational effectiveness: productivity, morale, following the pattern, adaptation and organizational solidarity.

Hoy and Miskel (1991) concluded that organizational effectiveness is the achievement of organizational goals, both in terms of quality and quantity.

Robbins and Coulter (2016) defined organizational effectiveness as doing the right things or doing various activities to achieve organizational goals. This is consistent with Thongchai Santiwong (1992) and Warat Pruksakulanan (2007) (Piphatphen, 2014) who defined organizational effectiveness as working to achieve objectives or goals, or the ability to achieve goals or objectives that have been set.

From studying the meanings and definitions of organizational effectiveness from scholars, from past to present, the researcher has concluded that the definition of organizational effectiveness is the ability of an organization to use organizational resources worthily, for work accomplishment, and to achieve specific organizational objectives or goals.

### **2.1.3 Evaluation of Organizational Effectiveness**

Effectiveness is an important concept of management. Management is about coordinating and supervising the work of others to ensure that such work will achieve both efficiency and effectiveness. (Robbins & Coulter, 2016) described the difference between efficiency and effectiveness with this summarization: while efficiency is about the means to use limited resources such as humans, money, tools or machines to maximize benefit or output, or "doing things right", organizational effectiveness is about giving importance to achieving the goals or ends of the organization, or "doing

the right things". Achieving only organizational efficiency is not enough. Successful organizations must achieve both maximum efficiency and effectiveness at the same time.

We can apply these principles to evaluate organizational effectiveness by considering the operations of an organization in various aspects, such as specified performance compared with implemented performance. A specified amount or quantity of resources compared with the actual amount or quantity of resources and objectives of the plan compares the relationship between accomplishment from the implementation of the plan and the expected accomplishment, thus putting the status from evaluation of performance minus the current situation.

Katz and Kahn (1966) said that there are many criteria for evaluating organizational effectiveness, such as efficiency, productivity, absence rate, resignation rate and profit. However, the meanings of these criteria were written by each author based on their discretion and are not in agreement. Therefore, these variables should be combined to be able to evaluate organizational effectiveness appropriately. We can divide them into two types, a single criterion that measures effectiveness, and multiple criteria that measure effectiveness. Some examples of single criterion measurements of effectiveness are productivity, net profit, mission accomplishment, organizational growth and stability. The idea of multiple criteria measurements of effectiveness is based on the fact that, generally, an organization has many objectives. Using a single criterion to measure effectiveness does not reflect the various factors that influence organizational effectiveness. Therefore, an evaluation of organizational effectiveness should use multiple criteria.

Many scholars have examined the evaluation of organizational effectiveness in two patterns, based on a concept of (Katz & Kahn, 1966): Univariate Effectiveness Measures and Multivariate Effectiveness Measures, with the following details:

#### 2.1.3.1 Univariate Effectiveness Measures

This concept is based on the assumption that we must have an ultimate criterion for measuring organizational effectiveness to form Univariate Effectiveness Measures. There are three types of univariate effectiveness measures: evaluation of organizational effectiveness according to Campbell's concept (1973) J. P. Campbell (1977) evaluation of organizational effectiveness according to Cameron's (1981)

concept (Cameron, 1981), and evaluation of organizational effectiveness according to (Thibodeaux & Favilla, 1996).

K. K. Campbell (1973) examined the criteria for measuring organizational effectiveness at that time and found up to nineteen criteria. Each criterion aimed at evaluating organizational effectiveness and was used as a dependent variable to study the relationship with specified independent variables. Later, in 1977 he identified 30 additional criteria to measure organizational effectiveness (J. P. Campbell, 1977) and found that there were different measurement levels in the criteria for measuring organizational effectiveness. The measurement levels ranged from high abstract levels such as quality and morale, to relatively specific measurement levels such as accidental rate and absenteeism (Robbins, 1990) . The criteria for measuring organizational effectiveness according to Campbell's concept (1977) are shown in Table 2.1.

Table 2.1 Single Criterion Measures of Effectiveness

<b>Criteria for measuring organizational effectiveness concepts</b>		
1. Planning and goal setting	11. Utilization of the environment	21. Accident
2. Productivity	12. Growth	22. Motivation
3. Efficiency	13. Morale	23. Job satisfaction
4. Profits	14. Conflict-Unity	24. Understanding of the organizational goals
5. Information and communication management	15. Quality	25. Consent of goals
6. Stability	16. Emphasis on development and training	26. Consistency in norms and roles
7. Control	17. Value of human resources	27. Interpersonal management skills

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**Criteria for measuring organizational effectiveness concepts**

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8. Readiness	18. Overall effectiveness	28. Job Management skills
9. Flexibility-Adaptability	19. Storage or rotation	29. Participation and joint influence
10. Assessment from outside the organization	20. Absenteeism	30. Focus on achieving goals

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Source: Robbins (1990, p. 50)

Cameron (1981) proposed four approaches based on single criteria: The Goal Attainment Approach, The System Resource Approach, Internal Process Approach and Strategic Constituencies Approach, with the following details:

1) The Goal Attainment Approach

This is the most popular approach. The concept is that the organization should focus on achieving specified goals or ends, rather than the means, and focus on the output of the organization. The assumption of this approach is that the organization has freedom. People have reasons and focus on operations to meet their goals. The goals of the organization are clear, few and manageable, and measurable. There is good communication among the people in the organization to insure they understand and agree with these goals. The more the organization's output is close to the specified target, the more effectiveness the organization has.

2) The System Resource Approach

Seashore and Yuchtman (1967) were proponents of this type of study by trying to avoid the weaknesses and errors of evaluating organizational effectiveness by the goal attainment approach. In this approach they do not focus on achieving goals to have organizational effectiveness, but rather consider in terms of acquiring sufficient resources for the existence of the system. The concept is, the organization should consider its ability of obtain inputs, and the transactional process constitutes the outputs. The effectiveness of this approach focuses on the long-term survival of the organization, such as its ability to acquire resources, treat itself as a

social being, and have a good relationship with the external environment. The more the internal systems of the organizations are able to obtain an appropriate amount of essential resources from the external environment, the more effectiveness the organization has.

### 3) Internal Process Approach

This approach focuses on internal processes and operations of the organization. The concept is that an effective organization is an organization that has an appropriate level of working processes and does not have too many processes. This is because members in the organization must have unity with the internal processes so the operation can run smoothly. The more the organization can keep the internal processes running smoothly, the more effectiveness the organization has.

### 4) Strategic Constituencies Approach

This approach considers that whether an organization is effective or not depends on its ability to respond to needs and its ability to create satisfaction for important stakeholders within the organization, or key strategic participants. Deciding who is a key strategic participant is difficult because only some of these people are important to the organization and control the resources needed for organizational survival. In addition, a constantly changing environment makes decisions difficult because of changing people and needs.

Thibodeaux and Favilla (1996) proposed five models based on single criteria:

#### 1) Goal Model

This model focuses on achieving organizational goals, and also focuses on the goal more than the means. Management sets various goals and prioritizes each goal. Then an effectiveness evaluation evaluates the goals in action, rather than the goals in abstract, which are difficult to measure.

#### 2) Legitimacy Model

This model focuses on measuring work components and environmental management for the operation of the organization.

#### 3) Process Model

This model focuses on the operational processes of the organization. It consists of a 'specify' phase, a 'finding the need to assess' phase, a 'survey goal' phase, a 'develop

criteria for evaluation' phase, a design evaluation' phase, and the use of evaluating tools and data analysis.

#### 4) Constituency Model

This model focuses on utilization by evaluating various elements, which are related to the evaluation of the organization. It is classified as strategic, and uses a group of people pattern.

#### 5) System Resource Model

This model focuses on resource systems based on the concept of open theory, which states that organizations must have processes to change resources in order to achieve productivity and maintain the balance and stability of the organization. It gives importance to the resources and ability of the organization to acquire essential resources, including the means that enables the organization to achieve its goals and have continuous long-term operations.

However, scholars have found that univariate effectiveness measures are inappropriate for evaluating organizational effectiveness for many reasons. (Cameron, 1981) considered how organizations operate on multiple projects in which their operations may overlap and have conflicts, because the goals of each project are defined from a broad array of constituencies, so they are different. For example, measuring organizational effectiveness with profitability criteria may only measure the accomplishment of one project, but cannot measure organizational effectiveness of other projects within the organization because other projects may have goals other than profits, such as reducing production costs. In addition, it is difficult to accept these single criteria as being comprehensive enough and sufficient for measuring organizational effectiveness. Many variables, such as satisfaction, are characterized by value judgements, which makes the variable biased, including combining these single variables together, which makes it difficult to understand organizational effectiveness (Steers, 1977).

Therefore, Steers (1975) and Cameron (1981) agreed that when evaluating organizational effectiveness, one should use multivariate effectiveness measures, because it can evaluate more comprehensively by analyzing organizational effectiveness by creating a model and doing hypothesis testing to find the relationship

between the main variables, which may affect the accomplishments of the organization.

#### 2.1.3.2 Multivariate Effectiveness Measures

The basic concept of multivariate effectiveness measures is that organizational effectiveness is created according to values (Quinn & Rohrbaugh, 1983), which vary according to individual values. The evaluation of organizational effectiveness depends on the evaluator and the weighting of the evaluated matter. There is no best approach, because the concept of organizational effectiveness is subjective, and this makes it difficult for everyone to agree. Steers (1975), J. P. Campbell (1977), W. R. Scott (1977), and Seashore (1979) were all trying to integrate the concept of organizational effectiveness in order to find ways to create elements of effectiveness by specifying variables, which were expected to be effective measures. They also studied how these variables have the same relationships.

Many research studies have tried to use multivariate effectiveness measures, such as by (Hoy & Miskel, 1991; Mott, 1972; Quinn & Rohrbaugh, 1983), which had different approaches to evaluation.

Mott (1972) studied and developed an index of organizational effectiveness in order to measure an organization's work mechanisms by measuring the subjective attitude of the members in the organization. This measure was done under the concept of organizational effectiveness being the ability of an organization to drive energy for productivity and adaptation. An organization that can produce high quality products or services, is well adapted to its internal and external environment, and is flexible, will be an effective organization. It is measured by three indicators, which are: productivity, adaptation and flexibility, with the following details:

- 1) Productivity means the organization is able to produce products and services in large quantities, with high quality, while using resources wisely.

- 2) Adaptation means the organization is able to adapt or adjust its work in accordance with changes in the external environment or adapt to respond to problems that occur within the organization. The adaptation or adjustment must be characterized as both symbolic, which means it must plan for adaptation or adjustment, and behavioral, which means adaptation or adjustment by itself.

3) Flexibility means the organization can respond to unpredictable changes, such as when faced with emergencies or crises by improving the routine work processes of the organization to respond more appropriately.

Hoy and Miskel (1991) used Parson's (1960) concept (Parsons, 1960), which suggests that the organization is a social system, so it is necessary to adapt for survival, and integrated it with Campbell's (1977) concept (J. P. Campbell, 1977), which finally ended with proposed indicators for measuring four key functions: Adaptation, Goal Achievement, Integration, and Latency, with the following details:

1) Adaptation means the organization must adapt to the external environment by adjusting its internal operations to respond to changes in the environment that affect the organization.

2) Goal Achievement means the organization must manage the use of various resources within the organization in order to achieve its specified objectives.

3) Integration means members in the organization must coordinate their relationships in order to create unity in the workplace.

4) Latency means the organization must maintain latency and motivation in the organization.

For the evaluation of organizational effectiveness using an integrated model, three characteristics must be combined, consisting of 1) a time dimension, which is divided into three phases: short-term, intermediate and long-term. The criteria for evaluating organizational effectiveness will change according to the organization's life cycle. 2) Multiple constituencies, the criteria for evaluating organizational effectiveness must be consistent with satisfaction throughout multiple constituencies, and 3) multiple criteria, the evaluation of organizational effectiveness must consider all aspects of the organization.

Quinn and Rohrbaugh (1983) commented that the effort to integrate the concept of effectiveness is fuzzy, because concepts that are integrated are divergent and cannot be linked as to how each idea is linked together and how to group them appropriately with no overlap. The reason it's fuzzy may be due to a lack of appropriate tools or multivariate methods at that time. Therefore, (Quinn &

Rohrbaugh, 1983) studied effectiveness of the organization by organizing criteria to evaluate organizational effectiveness in concrete. They thus proposed “The Competing Values Approach” or “Competing-values Framework”, or CVF, which is a concept for evaluating organizational effectiveness based on multivariate effectiveness measures. They divided the basic values of competition within the organization into three groups: Structure, Focus, and Means and Ends, with the following details:

#### 1) Structure

Considering organizational structure, there are two dimensions going in opposite directions: flexibility and control. Flexibility gives value to innovation, adaptability, and change. Control gives value to stability, order and the ability to predict something happening within the organization.

#### 2) Focus

Considering management within the organization, this, too, has two dimensions going in opposite directions: focusing on well-being and people’s development within the organization by focusing on internal integration and the development of the organization, or focusing on external factors and differentiation. Internal and integration will focus on the feelings and needs of the people within the organization, while external and differentiation will focus on productivity and task accomplishment.

#### 3) Means and Ends

Considering the relationship between organizational means and organizational ends, focusing on organizational means is focusing on internal processes and long-term continuity. Focusing on organizational ends means focusing on final and short-term results.

Three basic values groups were created for four approaches, which are related. (Quinn & Rohrbaugh, 1983) concluded on criteria or variables used to evaluate organizational effectiveness in the competing values approach, which consists of four sub-models, as follows:

1) Rational Goal Model consists of four variables used to evaluate organizational effectiveness: planning and goal setting, productivity, efficiency, and profit.

2) Internal Process Model consists of three variables used to evaluate organizational effectiveness: information and communication system management, stability, and control.

3) Open System Model consists of five variables used to evaluate organizational effectiveness: preparedness, flexibility-adaptation, evaluation from external, environmental exploitation, and growth.

4) Human Relations Model consists of five variables used to evaluate organizational effectiveness: morale, conflict-unity, quality, focus on training and development, and value of human resources.

From the literature review on evaluating organizational effectiveness, the researcher has found that the evaluation of organizational effectiveness by (Quinn & Rohrbaugh, 1983) can well apply to the evaluation of organizational effectiveness of logistics service providers in Thailand. It is very useful for achieving rational goals, has good internal processes, works under an open system and works through human relations in order to work. Therefore, the researcher has used the organizational effectiveness assessment of (Quinn & Rohrbaugh, 1983) to improve the sub-indicators to be appropriate and consistent with the research framework in order to evaluate the organizational effectiveness of logistics service providers in Thailand.

Details of the indicators and sub-indicators are as follows:

1) Rational Goals

This is an evaluation of work in the organization which focuses on the quality of work for the best results, working to achieve goals and focus on work to the fullest potential.

2) Internal Processes

This is an evaluation of clear work processes which are able to predict results, the work processes run continuously, working processes rely on and trust in each other and do not often change.

3) Open System

This is an evaluation of organizational effectiveness that considers the creative work approach, improving and presenting new working methods and decentralized work for decision making.

#### 4) Human Relations

This is an evaluation of behavior that is open for personnel to participate in and express opinions, where they can be discussed and debated. Management and practitioners are important for organizational accomplishment, including having good relationships with each other, focusing on teamwork, having unity and taking into account morals and ethics in the work.

## 2.2 Concepts and Research on Transformational Leadership

### 2.2.1 Background and Definition of Transformational Leadership

Leadership is one of the most important managerial roles. Leadership is leading other people to act according to their needs, and is a process that motivates people to achieve organizational goals (Hassan, 2019). In 1950, Stogdill looked at leadership as a process in which an individual tries to influence followers' or subordinates' behavior to reach goal achievement (Buchanan & Huczynski, 2017). Transformational leadership is one of the patterns of leadership that scholars from past to present have been studying.

#### 2.2.1.1 Background of Transformational Leadership

Transformational Leadership study has a long background. Scholars have been interested in studying leadership since the mid-1980s, as they search for the elements or factors that make leaders work with efficiency and effectiveness. Transformational leadership is one of the most accepted and mentioned concepts, and is supported by researchers from around the world. Uaariesuksakul and Chantuk confirm that this concept can be applied to develop leadership very well in any organization or country (Arunrung Auareesuksakun & Thirawat Chuntuk, 2016).

In 1973, Downton was the first one to introduce the transformational leadership concept from his article, "Rebel leadership: Commitment and Charisma in the Revolutionary Process (Bass & Avolio, 1994). This concept was studied by Burns in 1978, who studied political leaders and published a book entitled "Leadership", which summarized the concept that leadership is a process in which leaders influence their followers, and followers also have influence to improve leadership behavior, as well. Later, (Bass, 1985) further developed the concept of transformational leadership

of Burns (1978) to be clearer and have more detail, because Burns' idea still had limitations when explaining transformational leadership. (Bass, 1985) concluded that transformational leadership tries to empower and enhance the ability of followers by using both incentives and assigning valuable and meaningful work to create internal motivation among followers (Bass, 1990). The concept of (Bass, 1985; 1990) was consistent with the concept of (Kouzes & Posner, 1987), who believed that leadership is a process that can be taught. Leaders are confident in their objectives and are ready to act by influencing others.

The transformational leadership concept has been updated to be more complete and comprehensive, according to the study and presentation of Bass and Avolio (1990, 1994), which used an analysis of elements of leadership. According to the transformational leadership model presented in 1985, transformational leadership was presented and summarized as follows: it is the process in which leaders influence colleagues and followers by trying to develop the ability of colleagues and followers to have more potential.

#### 2.2.1.2 Definition of Transformational Leadership

Transformational leadership is important to the success of an organization because transformational leadership can make change happen in the organization. It makes the organization change for the better, as well as strengthens the organization and enables it to achieve both efficiency and effectiveness.

Arunrung Auareesuksakun and Thirawat Chuntuk (2016) clearly differentiate between the leader and leadership. The leader means a person who was appointed, accepted and trusted by members of the group to have power over others in leading, directing, assigning, motivating and helping members of the group to work for achieving objectives that have been set. Leadership means the behaviors and processes in which leaders use their influence and power to stimulate, motivate, drive, guide, and lead other people to be willing to work and have enthusiasm in their work to achieve the objectives of the group or organization. In short, leadership is a character, behavior, ability or process that is an interaction or way of life of a person who can influence an individual or group of people, inspire and create desire resulting in faith, acceptance, dedicated effort to use their best ability, and increase the power of others for achieving a goal (Rattikorn Chongwisarn, 2011).

Scholars have given various definitions of transformational leadership and they can be divided into two large groups, as follows:

1) Definition of transformational leadership that emphasizes the process of creating change.

Muchinsky (1997) defined transformational leadership as a process that influences changing attitudes and assumptions among members in the organization, and creates commitment to change among the objectives and strategies of the organization. This concept is consistent with his concept that transformational leadership is a process that influences changing attitudes and behaviors of members in the organization, creating a commitment to important goals and strategies within the organization. It is also related to the influence of leaders on followers. Transformational leadership is a holistic process and involves the implementation of leaders in sub-units of the organization.

Bass (1999) said that transformational leadership is a process in which leaders influence their followers by changing the efforts of followers to be higher than expected, developing the abilities of followers to a higher level and greater potential. It causes an awareness of the missions of groups and organizations, including motivating followers to look beyond their interests, to the interests of the organization and society.

Pongsak Thongpanchang and Torn Suntharayuth (2010) explained that transformational leadership means characteristics of leadership related to the ability to motivate followers, to create confidence, faith, trust, gladness, honor, and payment of respect and loyalty to the leader. It is a process to transform the efforts of followers to be higher than normal. As a result, followers are dedicated to their work and use their full potential developing internal motivation, have good self-control, and are able to work successfully with regard to the organization's ultimate goals rather than personal goals or interests.

We can conclude that the definition of transformational leadership emphasizes the process of creating change. Transformational leadership is an important process that is holistic, influences followers to change their behavior and perceptions in various fields, and is related with the operations of leaders at various levels in the organization.

2) Definition of transformational leadership that emphasizes motivating followers

The definition of transformational leadership emphasizes that leaders motivate their followers to have more ability to work, and have a positive influence on their followers. Wanchai Thongchai (2004) gave a definition of transformational leadership that points out that good leaders stimulate interest among colleagues and followers. Followers will be aware of the mission and vision of the team, and leaders will improve the maturity and ideology of their colleagues, followers and organizations, as well as develop the ability of said colleagues and followers to a higher level of ability and potential.

Khwanchai Chakreng (2008) gave the definition of transformational leadership as being on a level of management's behavior that shows management's process of change and stimulates the efforts of colleagues to be higher than expected. As a result, operations exceed expectations and develop the ability of colleagues to a higher level with more potential. Followers become aware of the mission, vision and need for loyalty. Management plays a role in making colleagues feel trust, by motivating them to look beyond their own interests, which then leads to achieving organizational effectiveness.

Bass and Avolio (1994) clearly explained transformational leadership as a process in which leaders change the efforts of their followers to be higher than expected. As a result, operations exceed expectations. Leaders play various roles that give followers a feeling of trust, satisfaction, loyalty and respect, enhancing the feelings and conscience of their followers. Leaders focus on the value of desired results and how to achieve those desired results, thereby making the follower a potential developer. Followers, thus, do not think about personal interests, but think about the public interest. Leaders also stimulate the level of needs of their followers, to become higher, according to Maslow. This concept is consistent with (Dubrin, 1998), who defined transformational leadership as being focused more on organizational change, raising the level of motivation and morality until members want to fully change themselves. The leaders will help elevate the needs of individuals, create better values and develop higher morals.

We can conclude with a definition of transformational leadership that emphasizes motivating followers. It is the leader's attempt to raise awareness among followers, showing the need to change the efforts of followers to be higher than expected. It causes followers to have various qualifications showing what's needed to get the work done in the organization and achieve both efficiency and effectiveness.

From the literature review of the two groups of definitions of transformational leadership, the researcher has concluded that transformational leadership means processes in which leaders influence colleagues and followers by having idealized influence, which is focused on sacrifice of self-interest for public-interest; it includes inspirational motivation, which is encouraging followers to find ways to work successfully; also, intellectual stimulation, which is helping followers to analyze problems and find solutions by using reason and evidence; and finally, individualized consideration, which is treating followers with respect by taking into account the differences between people and recognizing the importance of being a human resource.

### **2.2.2 Concepts of Transformational Leadership**

It is well known that organizational change must begin with leaders. Leaders may learn from the success or failure of other organizations. In addition, leaders must know how to drive the organization towards change without sticking only to the successes of the past. Leaders must put themselves in the role of a “Change Agent” for the followers in the organization (Chaiyaset Phromsri, 2018).

Transformational leadership is the paradigm shift to visionary leadership and empowerment, having moral agents, and encouraging followers to show leadership. Transformational leadership is important for management and organizational operations, because it affects the efficiency and performance of colleagues. As the research of (Arunrung Auareesuksakun & Thirawat Chuntuk, 2016; Mohsen & Mohammad, 2011) pointed out, if an organization does not have any transformational leadership, various changes in the organization will be difficult to happen. For this reason, organizations need to have transformational leaders in order to improve and change their work processes to get the results that will achieve goals. An organization

with high leadership is 78 per cent more likely to show better results than its competitors. In other words, leadership skills affect the organization's performance. Transformational leadership leads to organizational accomplishments, and organizations with quality leaders generally have 13 times more competitive advantage in financial performance, quality of goods and services, commitment, and customer satisfaction.

Transformational leadership is the study of leadership in a new paradigm by studying two important issues: characteristics of transformational leaders, and styles of transformational leadership (Luft, 2012).

#### 2.2.2.1 Characteristics of Transformational Leaders

Many scholars have studied and presented the characteristics of transformational leaders as follows:

Bass (1985) outlined the concept that transformational leaders will have four important characteristics, as follows: 1) Transformational leaders are charismatic and can create vision and a sense of mission, causing followers to be proud and show respect and trust in the leaders. 2) Transformational leaders can inspire subordinates to act, are able to communicate their vision with clarity and confidence, and create right understanding among followers. 3) Transformational leaders support intellectual stimulation by encouraging followers to use their intelligence, be rational, use creativity and carefully solve problems. 4) Transformational leaders show individualized consideration by studying the needs of individuals to use as a guideline to develop the ability of followers, communicate face-to-face with members of the group and listen attentively, while coaching and discussing career goals and individual development opportunities.

Tichy and Devanna (1986) summarized the results of their research, stating that transformational leaders have the following three important characteristics to be able to lead an organization: 1) Recognizing the need for revitalization; leaders recognize the need for rapid organizational change in a changing environment in order to gain competitive advantage. 2) Creating a new vision; leaders create an image of transformation to encourage people in the organization to make those images become reality. 3) Institutionalizing Change; leaders give advice to followers to make their vision come true.

Sergiovanni (2007) created the concept that transformational leaders exhibit a style of leader that responds to organizational needs. The main characteristics are to inspire and empower members of the organization to be committed to their work in order to achieve the objectives of the organization, adhere to shared values and change oneself according to the change process through teamwork. Transformational leaders will focus on the process to get results. Members of the organization will be given an opportunity to decide on the best options to achieve their goals, and which options must be consistent with the beliefs and aims of the organization. Commitment and adherence to shared values includes working as a team, which will strengthen a strong organizational culture within the organization.

Fullan (2001) presented how having new ideas, creating new knowledge and sharing are the most important characteristics of transformational leaders, and the ones that must be constantly instilled in followers so that they can solve problems as they occur and remain consistent with changes in today's society. (Lezotte & Mckee, 2006) proposed that transformational leaders must carry out the process of participation among members in the organization, and encourage followers to participate in work based on each member's knowledge and expertise in order to create effective change in the organization (Luft, 2012).

Leithwood, Louis, Anderson, Michlin, and Mascall (2010) found that successful transformational leaders must have three important characteristics, as follows: 1) helping followers to define and understand organizational goals, which are the basic shared values of the organization; 2) strengthening the ability of followers and allowing them to use their strengths to make decisions; and 3) changing organizational characteristics to strengthen the organizational culture and process of working together (Luft, 2012).

In conclusion, transformational leaders will focus on their followers to work according to the mission of the organization, create work challenges and awareness of actions, as well as enhance followers' potential to achieve success.

#### 2.2.2.2 Styles of Transformational Leadership

The styles of transformational leadership that scholars and researchers have studied to find solutions through transformational leadership are listed in four styles as follows: 1) Style of transformational leadership based on the concept of

Burns (1978) 2) Style of transformational leadership based on the concept of Bass (1985) 3) Style of transformational leadership based on the concept of Kouzes and Posner (1987) 4) Style of transformational leadership based on the concept of Bass and Avolio (1994) with the following details:

1) Style of Transformational Leadership Based on the Concept of Burns (1978)

Burns (1978) started his study on transformational leadership by developing a concept of transformational leadership theory from a descriptive research on political leaders, which at that time was entitled “ Transforming Leadership”. It was an explanation of leadership in a process whereby the leaders influence the followers, and the followers also influence the behavior of the leaders. Leaders and followers alike help each other to create a level of the highest morale and motivation. Therefore, transformational leadership can be viewed on both a narrow and a wide level. The narrow level is the process that influences the individual, and the wide level is the process of using power to reform society and the institution.

Burns’(1978) concept stated that leaders support and encourage followers to raise the level of their morals, motivation, beliefs, perceptions, and association with the goals of the business ( Hassan, 2019) . Everyone in the organization can show transformational leadership, and the leaders will lead followers to step up from "Everyday Selves" to "Better Selves". Leadership is the interaction of people with differences in power, levels of motivation and skills to achieve common goals ( Bass & Avolio, 1994) . It occurs with three characteristics: transactional leadership, transformational leadership and moral leadership, elaborated on with the following details:

(1) Transactional Leadership

Transactional leadership is the relationship that leaders have with their followers in a pattern of exchanging mutual benefits. Leaders set the objectives and use rewards or punishment with their followers for two purposes, they either respond to the needs of the followers, and/ or exchange for their accomplishment of work. We can consider the needs of leaders and followers according to the first level of Maslow's need hierarchy theory ( Bass, 1990) . The

fundamental concept of transactional leadership is, “I will give you this, if you do that” (Mullin & Christy, 2016).

### (2) Transformational Leadership

Transformational leadership is the relationship that leaders have with followers in the pattern of enhancing mutual needs. Leaders are made aware of the needs and motivations of their followers, and this causes a change for both the leaders and the followers. Transformational leaders will change into moral leaders, and followers will change into transformational leaders. When transformational leaders are aware of the needs of the followers, they will stimulate followers' conscious and raise the needs of the followers to be higher, thus making followers have an ideology that is conscious and adheres to ethical values such as freedom, justice, equality, peace and human rights. Transformational leaders do not focus on "Give and Take" relationships like transactional leaders, but focus on characteristics, personality, and the ability of leaders to create change in various ways for their followers. Transformational leaders will be role models for the people who work for the benefit of the team, the organization and the public. Another important characteristic of a transformational leader is they try to change the organizational culture.

### (3) Moral Leadership

Transformational leaders truly change into moral leaders when they elevate the behavior and ethical desires of both leaders and followers, resulting in changes in both the leaders and followers. Leaders make followers dissatisfied with the status quo. This makes followers have conflicts between values and practices, and can create the awareness among followers that the goals need to be at a higher level than before. Therefore, leaders and followers are transformed into reaching for higher goals.

However, transformational leadership based on the concept of Burns (1978) still has a narrow perspective and cannot explain the behavior of transformational leadership deeply. Later, Bass (1985) used transformational leadership based on the concept of Burns (1978) to develop a more complete concept.

## 2) Style of Transformational Leadership Based on the Concept of Bass (1985)

Bass (1985) built on the concept of transformational leadership by Burns (1978) to make it clearer and have more detail, by adding concepts for measuring the transformational leader and his/ her impact on motivation and followers' performance. We can measure transformational leadership by measuring the influence of leaders on followers based on the concept that leaders change their followers by making them more aware of the importance and value of their outcomes, and by raising the needs of followers or by persuading followers to think about the organization's interest more than their self-interests. This means working for the benefit of the organization as a whole, not working for personal gain (Jones & George, 2014). As a result, followers have admiration, confidence, trust, loyalty, acceptance, and respect for the leaders who are willing to work beyond expectations. The followers are therefore motivated to do various things more than initially expected, sometimes called "Performance Beyond Expectations". Leaders will embrace change and motivate followers through inspiring and realistic vision and missions. Leaders will stimulate and inspire followers to create new ways of working that are unique and challenging to the old process of working to achieve organizational objectives (Bass, 1990; Yukl, 1989).

The distinct difference between the concepts of transformational leadership presented by Burns (1978) and Bass (1985) is, Burns gives importance to the moral values of leadership and emphasizes the effectiveness of leadership. Bass emphasizes influencing followers. Followers believe and trust in the leaders because the leaders have charisma. Bass' concept that charisma, which means the process by which leaders influence followers by arousing strong emotions and the uniqueness of the leader, is necessary but not enough to have transformational leadership (Bass, 1990). Having idealized influence or charisma is an analysis that is too narrow, he proposed two additional elements, intellectual stimulation and individualized consideration, to make changes for followers. Therefore, a transformational leader, according to the concept of Bass, is different from a charismatic leader, and this is more appropriate. Transformational leaders try to empower and enhance the ability of followers, while charismatic leaders try to make

followers weak, so that they must rely on the leaders. They focus on building loyalty rather than commitment, which does not make any change to the group or organization (Bass, 1990). Bass was interested in finding the mechanisms to create change for the followers; therefore, he tried to define his concept of leadership in broader terms than Burns. The concept of using only incentives to make them have more effort is not enough, but must include valuable and meaningful work to create internal motivation for the followers.

Although the concept of transformational leadership by Bass (1985) has become more interesting and complete, it still lacks views related to the relationship between leaders and followers, which are important for sparking new ideas and abilities among followers. Later on, Bass and Avolio (1990) improved on the old concept of transformation leadership of Bass (1985), to be more complete and cover the behavior of leaders by adding another component of transformational leaders, namely “Inspirational Motivation”, giving the concept of transformational leadership broader scope, covering important practices and becoming more appropriate (Bass & Avolio, 1995).

### 3) Style of Transformational Leadership Based on Kouzes and Posner (1987)

Kouzes and Posner (1987) proposed a concept of transformational leadership which is consistent with the concept of transformational leadership by (Bass, 1985; 1990; Bass & Avolio, 1995). It is based on the belief that leadership is a process that can be taught. Leaders are influenced by others and colleagues. Leadership comes from a firm belief in objectives and a willingness to express themselves. Transformational leaders, based on the concept of Kouzes and Posner, must have five components, as follows:

#### (1) Challenging the Process

Leaders encourage colleagues to seek new ideas and methods of working or improving on various processes used in the organization, including solving problems that occur. Leaders will encourage followers, enhancing followers to experience and create innovations and be ready to make wise decisions.

## (2) Inspiring a Shared Vision

Leaders create dreams or future vision, wishing to change from the original, trying to inspire inspiration for colleagues, creating hope and a strong desire to reach that vision, and making others see the need for everyone to act under shared objectives.

## (3) Enabling others to act

Leaders are aware that by working alone they cannot achieve their vision; therefore, they try to find others to support and participate in the work. Leaders will encourage cooperation, building a team to work by delegating authority and responsibility, including decision making, to colleagues.

## (4) Modeling the way

Leaders stimulate management processes to encourage planning, checking progress and taking action to correct any defects that happen. Leaders must position themselves appropriately, gaining respect and trust from others. Leaders will earn their grace because of honesty, transparency, truthfulness and consistent actions.

## (5) Encouraging the heart

Leaders realize that working to achieve vision must overcome many obstacles. Both leaders and followers can become tired. The important thing that leaders have to remember is to try and uphold the morale of the workers, such as accepting and appreciating when a part of the work has progressed or is accomplished. Leaders must show their feelings by giving signals to everyone that they believe and value every worker. They show optimistic expectations for work with sincere compliments.

The concept of transformational leadership of ( Kouzes & Posner, 1987) has clear details and is consistent with the concepts of many management scholars. Later, Bass and Avolio (1994) developed a transformational leadership concept which proposed models for the full range of leadership, with complete details clearly covering various elements (Bass & Avolio, 1995).

#### 4) Style of Transformational Leadership Based on Bass and Avolio (1990; 1994)

Bass and Avolio (1990; 1994) improved on the concept of transformational leadership that (Bass, 1985) had proposed, and it became perfected by adding another element of transformational leadership, namely “ Inspirational Motivation”, which is the behavior that leaders show making followers aware of the value, meaning and importance of the work they do. This causes followers to have inner motivation, it stimulates team spirit and focuses on communication by using symbols to achieve higher effort from the followers. It means leaders expect their followers to put more effort into their work by encouraging them to work for their future goals and believe in their ability. Leaders also show examples of this behavior to their followers.

Later, Bass and Avolio (1994); Bass and Avolio (1995) and Bass (1999) used analysis of the elements of leadership, according to their transformational leadership style proposed in 1985, to improve on the style of transformational leadership to make it reach the highest level of perfection. The basic concept is that transformational leadership is a process in which leaders influence their colleagues and followers by changing their efforts to higher levels than expected, and develop the ability of those colleagues and followers to higher levels and with greater potential. This causes awareness of the mission and vision of the team and organization, motivates colleagues and followers to look beyond their interests to the benefit of the group or organization, and makes followers aware of self-actualization, which leads to better work for others, the organization and society (Bass, 1995; 1999; Bass & Riggio, 2006).

Bass and Avolio (1994) proposed their model of the full range of leadership, consisting of three major leadership styles: Transformational Leadership, Transactional Leadership and Laissez-Faire Leadership (LF) or Non-leadership Behavior, which is transformational leadership that leads to greater organizational success than transactional leadership. Transformational leaders have better relationships with their supervisors and make more of a contribution to the organization than transactional leaders (Bass & Avolio, 1995) . There is research clearly showing that organizations have higher productivity, lower turnover rates of

staff and higher job satisfaction and personal motivation when leaders use transformational leadership more than transactional leadership and laissez-faire leadership (Hassan, 2019) . In this research, the researcher will present only transformational leadership, highlighting the following details:

Transformational leadership is a process in which leaders influence colleagues or followers through four specific behavioral elements, called the "4I's" (Four I's) (Bass & Avolio, 1995) as follows:

(1) Idealized Influence or Charisma Leadership (II or CL)

This means leaders behave as examples of followers or ideal leaders. They have outstanding ability, high standards and impeccable values in their work. Leaders will demonstrate intelligence, competency, determination, self-confidence, and focus on ideology (Thawil Srichaingam, 2013). The leaders must have a clear vision and mission, with shared values that can be conveyed to followers. They have determination, consistency, are able to control their emotions in a crisis situation, exhibit high morals and ethics, can be trusted to do the right thing, and they avoid using power for self-interest but behave for other people's interest. They also use vision and a shared purpose to strengthen the loyalty and confidence of followers, making followers have the same feelings as the leaders. The leader holds high standards and values and is a respected and trusted role model that followers can identify with (Mass, 2014). These leaders are praised, admired, respected, trusted, accepted and make followers proud when they are working together, resulting in the followers trying to behave like the leaders and emulate them. In addition, the leaders are responsible for any false performance, adhering to trust and respect by developing or improving relationships with followers, to give followers confidence in their leaders and strictly acting according to the leaders' advice (Ghasabeh & Provitera, 2017).

(2) Inspirational Motivation (IM)

In IM leaders work at motivating and inspiring followers, creating internal motivation, defining challenging work for the followers (Bass & Riggio, 2006), by challenging them with high work standards, and communicating with them to let them know the ultimate goal and meaning of their assignments. The leaders also use symbols and images to encourage followers to devote their energy to

achieving their goals ( Kreckiet Tokitpaiboon, 2015) . The leaders stimulate team spirit by being cheerful, expressive with enthusiasm, creating positive attitudes and thinking positively. The leaders make followers touch beautiful images in the future, creating and communicating hope, showing dedication or commitment to the goals and vision together, while demonstrating confidence and unwavering determination to achieve the goals and objectives. The leaders help followers to develop their commitment for long-term goals, overlook self-interest in order to realize the vision and mission of the organization, including providing the resources needed for implementation by each potential follower (Bass & Avolio, 1995).

### (3) Intellectual Stimulation (IS)

IS means that leaders encourage followers to be aware of various problems that may occur in the department. It makes followers want to find new ways to solve problems in the department by creating new things. The leaders stimulate employees to come up with innovative problem solving ideas (Mass, 2014), set questions challenging old beliefs and values, think and solve problems systematically, show creativity and create hypotheses by reframing or using methods and perspectives or new ideas to see the same problems and motivate and support new initiatives when considering problems and finding solutions (Bass, 1990; Yukl, 1999). The leaders cultivate ideas and build confidence among their followers to see that problems are actually challenges, part of the work, and good opportunities to solve problems together (Hassan, 2019). There is to be no public criticism of an individual member' mistakes. Followers are encouraged to try new approaches, and their ideas are not criticized because they are so different from the leaders' ideas. The leader builds confidence, showing followers that every problem has a solution, even though some problems may have difficult obstacles. Intellectual stimulation is an important part of the development of ability in followers in order for them to realize, understand and solve problems carefully by themselves, resulting in the sharing of knowledge within the organization and supporting the creation of innovative ideas and new ways to solve problems (Bass & Avolio, 1995; Canty, 2005; Bass & Riggio, 2006) .

### (4) Individualized Consideration (IC)

IC means leaders who take care of followers individually and make followers feel valuable and important. The leaders will be coaches or

mentors and advisors of each follower (Maas, 2014, p. 8), paying special attention to an individual's needs (Bruce J. Avolio, Waldman, & Yammarino, 1991; Canty, 2005; Ghasabeh & Provitera, 2017) for the development and growth of each follower. The leaders will develop the potential of followers and colleagues, to give the opportunity to followers to learn new things, consider the differences between people in terms of strengths and weaknesses, likes and dislikes (Kirkbride, 2006), and look at individuals as a whole person rather than an employee or just input. The leaders believe and trust in the work that's assigned to their followers and observe the progression of work continuously in a way in which the followers do not feel that they're being investigated or watched all the time. The leaders also give opportunities to the followers, to help them fully utilize their special talents and learn new things in an atmosphere that encourages creativity and learning (Bass & Avolio, 1995; Bass & Riggio, 2006).

Although the transformational leadership concept of Bass and Avolio (1994) is more complete, it's still being criticized on four issues, as follows:

(1) Bass (1999) had the idea that transformational leadership has high ethical values, but in practice if transformational leaders have low ethical values, their transformational leadership will fail and cause the opposite effect (Bass, 1999).

(2) Four specific behavioral elements of transformational leadership overlap with each other in terms of meaning and principles, making it difficult to explain clearly (Northouse, 2013; Richards & Clark, 2006; Yukl, 1999).

(3) Bryman (1992) noted that this concept can be adapted and useful only for leaders with specific characteristics.

(4) B. J. Avolio and Howell (1992) criticized the idea of ethical or quality transformational leaders because transformational leaders can lead followers in the wrong direction and undertake unethical behaviors, those leaders may convince followers who believe in their leaders to commit unethical behavior as well.

However, the concept of transformational leadership of Bass and Avolio (1994) has five advantages, as follows: B. J. Avolio and Howell (1992) and Nemanich and Keller (2007).

(1) Focus on innovation and creativity in the organization, which is necessary for change in the organization to lead to success.

(2) Focus on vision with clear explanations, make whatever changes are needed in the organization to be successful.

(3) Focus on stimulating leaders to have supporting roles for their followers to achieve their vision by acting like role models. Leaders should inspire and motivate team members to work toward achieving goals.

(4) Stimulate self-motivation and self-realization, which helps team members become transformational leaders with potential. Then the organization will have transformational leaders with quality, for work in the future.

(5) Believe in a shared vision and work atmosphere that supports each other in order to achieve goals faster and get better results.

Although the concept of transformational leadership of Bass and Avolio (1994) has some limitations, it also has advantages and is appropriate for today's competitive business environment. An organization needs transformational leaders who have clear vision, commitment, innovation and creativity to convey to their followers. Transformational leaders can create excellent performance and have efficiency in operations, and make huge impacts and various changes in the organization, including human changes, which represents the most important resource of the organization (Mass, 2014).

In conclusion, the transformational leadership concept of Bass and Avolio (1994), which emphasizes idealized influence, inspirational motivation, intellectual stimulation and individualized consideration, is appropriate to use as a basic concept for determining this research's conceptual framework.

### **2.2.3 Evaluation of Transformational Leadership**

Bass and Avolio (1994) used the Multifactor Leadership Style (MLQ-5x) to evaluate transformational leadership. The researcher has improved on this model to evaluate the perception of transformational leadership by evaluating it using four indicator variables and 21 sub-indicators, as follows (Bass & Avolio, 1995):

### 1) Idealized Influence or Charisma Leadership (II or CL)

This means that management behaves with examples for the benefit of employees in the workplace. Management specifies the importance of having clear work goals. Management sacrifices self-interest for public-interest. Management is intelligent and able to work, and emphasizes the importance of devoting itself to joint missions.

### 2) Inspirational Motivation (IM)

IM means that management is looking beyond, to new possibilities, and expresses confidence that the operation will achieve its goals. Management encourages employees to focus on finding ways to get the work done. Management motivates employees to recognize important issues that should be considered, and show their unwavering determination to complete the work on schedule.

### 3) Intellectual Stimulation (IS)

IS means that management focuses on giving employees the opportunity to share opinions, and aims for employees being able to analyze the cause of problems in work by using reliable data and evidence. Management focuses on improving work methods, encourages employees to express their opinions at work, and helps them identify problems using reasoning and evidence, rather than thinking that they are the problem.

### 4) Individualized Consideration (IC)

IC means that management at each level in the organization gives time to recommend operations to each employee individually, gives suggestions that are beneficial to the advancement of each individual, and focuses on the employees' interest in developing their own strengths. Management treats employees with regard to differences between people and treats employees as human resources that are more important than just employees.

The four indicators and 21 sub-indicators of Bass and Avolio (1994) concept can be applied to evaluate the transformational leadership of logistic service providers quite well, is consistent with a dynamic environment and rapid change, and applicable to organizations that need transformational leaders to create new things for the organization. MLQX of Bass and Avolio (1994) is appropriate and consistent with the conceptual framework of this research. Therefore, the researcher has chosen MLQX

for evaluating the transformational leadership of logistics service providers in Thailand.

## **2.3 Concepts and Research on Organizational Culture**

### **2.3.1 Background and Definition of Organizational Culture**

#### **2.3.1.1 Background of Organizational Culture**

The concept of organizational culture is influenced by sociology and anthropology. Anthropology is a pioneer of cultural studies which focuses on the culture of communities and society. Organizational culture began to appear in the academic world with the work of Pettigrew (Parin Bunchaluy, 2013; Pettigrew, 1979). In the 1980s there were more studies on organizational culture, but still no conclusion on the definition of organizational culture (Smircich, 1983). The definitions of organizational culture vary across 164 definitions (Kroeber & Kluckhohn, 1952), covering knowledge, values, preferences, customs, traditions, behavior and physical objects.

Organizational culture is important to the success of an organization for four reasons, indicating that the success of an organization depends on its organizational culture (Jesada Noknoi, 2017) they are: 1) giving the identity of the organization to its employees. This means the organization sets the vision of what the employees want to express, 2) being an important source of security and continuity for an organization that gives security to the members of the organization, 3) allowing new employees to interpret what is happening in the organization by providing important context for confusing events, and 4) stimulating enthusiasm in employees' work, attracting attention, and allowing a person to become a hero. However, organizational culture is like a double-edged sword. Culture makes the difference between organizations, creating identity for the members of the organization, making the operations of the organization achieve goals easily, enhancing stability within the society's systems, reducing ambiguity, and being an important mechanism for controlling and leading the behavior and attitude of employees. However, an organizational culture which is too strong might be an obstacle to change and diversity that can occur in the organization. Therefore, management needs to adjust

the organizational culture to be consistent with a dynamic environment in this globalized world (Yiing, 2008).

The study of organizational culture by management scholars began to develop to models in the 1990s by Denison (1990), who had studied its concepts and theories in order to hypothesize on the characteristics of organizational culture. Denison's cultural model (1990) had four dimensions: involvement culture, consistency culture, adaptation culture and mission culture (Denison, 1990). This model was expanded on by Denison and Neale (1996) and Denison, Cho, and Young (2000), who developed it to have more details by adding three sub-dimensions to each dimension, so the total is 12 dimensions, making this model more complete (Phuket, 2009)

Daft (1999) was interested in studying the relationship between organizational culture and organizational effectiveness. He studied organizational structure and found that the fit between environment, strategy, and value is related to four types of organizational culture: Clan Culture, Bureaucratic Culture, Adaptability Culture and Achievement Culture. This is called the Organizational Culture Model of Daft, which is similar to the studies of (Cameron & Quinn, 1999; 2006) Yu and Wu (2009) about the competing values model. They have claimed that this model is superior to other organizational culture models and can be classified into four types: The Hierarchy Culture, The Market Culture, The Clan Culture, and The Adhocracy Culture.

It can be seen that scholars are increasingly interested in studying models of organizational culture. However, most of them have the main objectives of determining how organizational culture helps to develop an organization or helps the organization to achieve its objectives.

Scholars and experts have provided different meanings of organizational culture. They have divided the definitions into two perspectives, with the following details:

### 1) The Definition of Organizational Culture in Terms of Ideas, Beliefs and Attitudes

Siethl and Martin (1984) defined organizational culture as an organization having the same ways and focusing on values, beliefs and expectations that the members have together.

Sathe (1985) stated that organizational culture is a pattern of beliefs, values and ideas of employees that exist together in the organization. The pattern is raised by learning from colleagues what is right or wrong and what should be done or should not be done.

Cameron and Ettington (1988) defined organizational culture as a set of values, beliefs and assumptions that represents the characteristics of the organization and its members within the organization, which are resistant to change.

Denison (1990) emphasized that organizational culture means the values, beliefs, and basic principles that function as the foundation of the organizational management system and the groups of practices and management behaviors that expand and reinforce those basic principles. These principles and practices are meaningful to members of an organization and exist because they are represented by the organizational survival strategy that performed well in the past, so the members of the organization believe that it will perform well in the future.

Newstrom and Davis (2002) concluded that organizational culture is the hypotheses, beliefs, values, and norms which the members of the organization hold together.

Ogbonna and Harris (2014) explained that organizational culture is a set of values, beliefs, norms and hypotheses that are shared together within a group and used as a method to interpret and respond to the environment.

Buchanan and Huczynski (2017) defined organizational culture as shared values, beliefs and norms that influence the concepts, feelings and practices of employees toward others, both inside and outside the organization.

Tippawan Lorsuwanarat (2004) gave a definition of organizational culture consistent with Siehl and Martin (1984), that the ideas or beliefs of members in an organization act like a social glue that links various groups in the organization together. It is like a rule that has not been written down, but has a

great influence on the behavior of members of the organization, or like the spirit of the organization which leads the organization in its operations.

Phensri Misomnai (2014) said that organizational culture means the beliefs, values, and practices that an organization has established. Members in the organization are aware of, understand and hold them together as common practice. Therefore, organizational culture influences the ideas and behaviors of humans in the organization, which makes the operation of that organization different from others.

It can be concluded that the definition of organizational culture in terms of ideas, beliefs, and attitudes, is that it is a set of ideas, beliefs, values, attitudes and norms which are passed on to members in the organization, and members use that as common practice for achieving organizational objectives.

2) The definition of organizational culture in terms of systems and patterns

Pettigrew (1979) defined organizational culture as a system of guidelines that is accepted by the public or a group of people at a certain time. This system is a combination of patterns, classifications and images which are conducive to various interpretations in different situations.

Cooke and Lafferty (1989) concluded that organizational culture is a pattern of behavior that individuals in the organization hold as practices based on beliefs and values, which are expected by practitioners in the organization.

Hofstede (1997) described organizational culture as a pattern of ideas, beliefs, and thoughts of the members in an organization that are jointly defined. These are things that make the members of each organization different.

Shermerhorn, Hunt, and Osborn (2003) have commented that organizational culture is a system of joint operations, shared values and beliefs, which have developed within the organization and are used to lead the behavior of members within the organization.

Robbins and Judge (2017) said that organizational culture is a system of shared meanings which are defined by members in the organization and are used to distinguish the difference between one organization and another.

Bidhya Bowornwathana (2004) defined organizational culture as shared meaning between members of the organization on how to behave and what characteristics their organization has. These understandings have evolved over a long period and appear in a pattern of beliefs, symbols, rituals, myths, storytelling and practices.

Rattikorn Chongwisarn (2011) defined organizational culture as a system of participation resulting from the actions, values and beliefs of members of the organization, including the behavior of those that are regularly practiced. It is defined as the group norm for support and it's expected that the members will follow them to distinguish the organization from others.

It can be concluded that the definition of organizational culture in terms of systems and patterns is a system of shared understanding among the members in the organization, and a pattern of working behavior which can be transferred to new members. They are expected to perform together, distinguish the organization from one other, and help the organization achieve its objectives.

From this study of the meanings and definitions of organizational culture, by scholars from the past to the present, the researcher has concluded the definition of organizational culture to be about the values, beliefs and basic principles which make up the foundation of the organizational management system.

### **2.3.2 Concepts of Organizational Culture**

Organizational culture originated from the values, management, vision and personality of the founder or a group of founders. These things have a great influence on organizational culture, including social norms, beliefs, and social values (Rattikorn Chongwisarn, 2011).

There are numerous studies about organizational culture which show that organizational culture influences or affects organizational effectiveness. For example, Deal and Peterson (1990) found that organizational culture influences the organizational effectiveness of output, and has reason to believe that organizational culture makes the organization successful. (Kotter & Heskett, 1992) found that organizational culture is an important factor that can affect the long-term operations

of the organization. It is used to predict organizational operations, whether achieved or not. While (Shermerhorn, Hunt, & Osborn, 2005) have proposed what most educators and executives believe, that organizational culture has a very important impact on organizational performance and affects the quality of work of the members in the organization.

#### 2.3.2.1 Characteristics of Organizational Culture

Jesada Noknoi (2017) has compared organizational culture to a fingerprint which is unique and not like any other. Each organization has a history, communication style, systems and work processes, a mission and vision, including stories and legends. It brings a distinctive culture. A stable organizational culture often changes slowly, except when there is a crisis in the organization or a merger, when it needs to be careful of blending two cultures, to avoid an organizational clash.

Organizational culture can be seen in four characteristics (Jesada Noknoi, 2017) with the following details:

##### 1) Organization Culture is Complex

Organizational culture consists of many complex dimensions. Rituals, customs, values, belief systems, legends, and communication rules are examples of things that reflect organizational culture. These cultural phenomena are deeply related to each other. Organizational culture will be communicated through members of the organization.

##### 2) Organization Culture can be Created

Organizational culture can be created through interactions between members of the organization through various communication channels and processes, this makes employees create meaning from what they have seen and thus makes the culture form.

##### 3) Organizational Culture is not the One

Organizational culture consists of many subcultures that may coexist peacefully, conflict or ignore each other. Subcultures reflect the differences in power and interests of employees in the organization. It reflects the structural power and different interests of sub-groups in the organization. Combining groups allows members of the groups to create shared opinions on various things, thus, this is the forming of a subculture.

#### 4) Organizational Culture is often Ambiguous

Organizational culture can be unclear and subculture diverse. Sometimes, some cultures are difficult to interpret, and sometimes organizational culture is in a state of change continuously.

Organizational culture has another important characteristic, which is, it can affect organizational effectiveness because organizational culture is a cause for competitive advantage (Scholz, 1987). Effectiveness is performance and the result of some values having a strong influence on organizational effectiveness and beliefs. Awareness of the mission or adherence to beliefs and values creates synergy when working together. When policies and practices are consistent with beliefs and values, it can lead to strong cultural practices. Values and practices are closely tied to each other, and are often claimed as ways to improve performance and effectiveness to the better. Those values that are held strongly and extensively within the organization will help management to predict the behavior of members in the organization, including the ability to control unwanted results. Therefore, organizational effectiveness tends to vary by the shared values held by members of the organization, which is their organizational culture (Parin Bunchaluy, 2013).

##### 2.3.2.2 Types of Organizational Culture

Organizational culture can be divided into two categories by using three criteria for consideration, which are: consensus or agreement, cohesiveness and commitment, which is divided into strong culture and weak culture (Tippawan Lorsuwanarat, 2008) with the following details:

##### 1) Strong Culture

This means the organizational culture that members of an organization hold together, agree on, and are some of the things that hold members of the organization together. A strong culture will make members have commitment and loyalty and are difficult to change, including high formality. A strong culture has four important elements:

##### (1) Values

Values will reflect in the eyes of third parties by looking at the vision of the organization, and trust among its people toward the organization.

## (2) Heroes

We have stories about organizational leaders who create a strong organizational culture.

## (3) Has specific rituals and ceremonies

The identity of the organization to emphasize the values of the organization.

## (4) Has a cultural network

The organization tries to communicate its organizational culture to the people in the organization in order to acknowledge and emphasize the importance of organizational culture to the members of the organization.

## 2) Weak Culture

This is an organizational culture where only some members of the organization accept and hold the guidelines for practice, while other members do not accept and act on them. A weak culture is easy to change, as it does not have much influence on the members of the organization, and are often found in organizations that have just been established and are new.

## 2.3.2.3 Organizational Culture Approach

Management scholars have presented many approaches of organizational culture, from the past to the present. There are many approaches of organizational culture, but there are four widely used approaches, which include the organizational culture approach of (Denison, 1990) , the organizational culture approach of (Daft, 1999), the organizational culture approach of (Cameron & Quinn, 1999; 2006) , and the organizational culture approach of (Sashkin & Rosenbach, 2013) . All four approaches affect organizational effectiveness, with the following details:

## 1) Organizational Culture Approach of Denison (1990)

Denison (1990) studied the relationship between organizational culture and organizational effectiveness. He tried to answer two questions, 1) How has organizational culture impacted the relationship with performance and organizational effectiveness? and, 2) what is the history and background of an organization that provides the foundation of the current organizational culture and

guidelines for management and organizational effectiveness? He concluded with four types of organizational culture, which are:

(1) Involvement Culture

This culture focuses on participation of the members in the organization, empowering them for the people and teamwork and for developing human resource competency at all levels.

(2) Consistency Culture

This culture focuses on clear and consistent values used as a guideline to achieve mutual agreement, with cooperation and integration, including being easy to coordinate between various departments and well linked to goals.

(3) Adaptability Culture

This culture focuses on creating change, on service recipients, and on organizational learning.

(4) Mission Culture

This culture focuses on strategic direction and commitment, in which all personnel understand the meanings of clearly set goals and objectives, and also have a shared vision.

2) Organizational Culture Approach of Daft (1999)

Daft (1999) studied the relationship between organizational culture and organizational effectiveness, like (Denison, 1990) and divided organizational culture into four categories, which are:

(1) Clan Culture

This culture focuses on employee participation to meet expectations of change from the external environment. Employees feel like members of a family and care for each other under a friendly work atmosphere.

(2) Bureaucratic Culture

This culture focuses on maintaining the original conditions for an unchanged environment, adherence to formalization, rules, regulations, patterns and working procedures.

### (3) Adaptability Culture

This culture focuses on values for responding to customers and freedom. Leaders create change using stimulation and reward for creative ideas, new experiments and risk tolerance.

### (4) Achievement Culture

This culture focuses on outcomes, values competition, personal initiative and working hard to achieve a goal.

## 3) Organizational Culture Approach of Cameron and Quinn (1999; 2006)

Cameron and Quinn (1999; 2006) studied the competing values model, and have classified organizational culture into four categories, which are:

### (1) The Hierarchy Culture

It has a multi-level structure, a division of work, follows specific rules, has high formalization, is controlled by a chain of command and is difficult to adapt to change.

### (2) The Market Culture

This culture is managed by adhering to goals or objectives, focuses on outcome and determination in working to achieve goals, values competitive advantage, productivity and market retention. The organization is highly flexible and adaptable to change.

### (3) The Clan Culture

This culture gives importance to employees more than work, and focuses on flexibility more than stability and control. Employees in the organization are highly intimate, participate in work, work as a team and have morale and unity.

### (4) The Adhocracy Culture

This culture focuses on innovation or creativity. Transformational leaders encourage employees to experiment with new things, exhibit high flexibility and work as a team, employees can make decisions independently and adapt to the external environment quickly.

#### 4) Organizational Culture Approach of Sashkin and Rosenbach (2013)

Sashkin and Rosenbach (2013) presented their “Organizational Culture Assessment Questionnaire (OCAQ)”, which referred to Talcott Parsons, a sociologist at Harvard Parsons University. He observed that organizations that want to survive must have four key mechanisms in their operations - managing change, achieving goals, coordinating teamwork and building a strong culture. Sashkin and Rosenbach separated out another operational mechanism, customer orientation, because the roles of customers and partners are more important. Therefore, an organization must focus on this specific issue. These five mechanisms are important for achieving organizational goals; however, it is often ignored by management for implementation. Each mechanism will operate under the values and beliefs of the members in the organization, which both have great influence on the success or failure of the organization.

### **2.3.3 Evaluation of Organizational Culture**

There are five favorite approaches to evaluating organizational culture: the evaluation of organizational culture by Wallach (1983), the evaluation of organizational culture by Hofstede (1984; 2001), the evaluation of organizational culture by O’Reilly, Chatman, and Caldwell (1991), the evaluation of organizational culture by Cooke and Lafferty (1994), and the evaluation of organizational culture by Sashkin and Rosenbach (2013), with following details:

#### **2.3.3.1 Evaluation of Organizational Culture by Wallach (1983)**

Wallach (1983) and Yiing (2008) studied and developed his evaluation of organizational culture by using the “Organizational Culture Index” (OCI), which describes organizational culture in three dimensions, 1) the dimension of bureaucracy organizational culture: Organizational culture based on power and control. An organization with the dimension of a bureaucracy organizational culture will have stable characteristics, operate carefully, always use power, be strong, adhere to orders, rules and regulations, and includes clear structure and procedures. 2) The dimension of organizational culture that focuses on innovation: This dimension focuses on results and challenges, it’s entrepreneurial, ambitious, motivated and ready to take

risks, including working in a creative work environment. 3) The dimension of organizational culture that focuses on supporting: This culture gives importance to people, working as a team and working in a trusting work environment. The working atmosphere is warm, people are friendly and fair and help each other with unity and harmony.

#### 2.3.3.2 Evaluation of organizational culture by Hofstede (1984, 2001)

Hofstede (1984) and Hofstede (2001) described organizational culture in two dimensions: 1) with a focus on individualism: Its values focus on an individual's achievement, seeks personal benefits and works to achieve the individual's goals without relying on others. It also tends to control members by using internal pressure, which makes problem-makers feel guilty. 2) A focus on the group affiliate: People give importance to relationships within the group, take care of the group by holding on to honesty and loyalty, and strive for group goals rather than personal goals. It also tends to control members by using external factors from outside, in the society, to humiliate problem-makers.

#### 2.3.3.3 Evaluation of Organizational Culture by O'Reilly, Chatman and Caldwell (1991)

O'Reilly et al. (1991) developed a tool for evaluating the consistency of individuals and the organization called the "Organizational Culture Profile" (OCP). It concludes with seven organizational factors, 1) Innovation: This factor focuses on adapting to various situations very well and creating new ideas from past experience. 2) Stability: This factor focuses on working as a routine, having few changes and being predictable. 3) Outcome Orientation: This factor focuses on accomplishments of work and measuring performance from output. 4) Attention to Detail: This factor focuses on the importance of detail, planning, checking information and other various details. 5) Respect for People: This factor focuses on helping, caring for and considering the employees, including respect for each other's rights, and realizing and respecting with each other with respect and dignity. 6) Team Orientation: This factor focuses on cooperation and assistance between employees. The members have good interaction with each other. 7) Aggressiveness: This factor focuses on competition and often has highly effective competitors, but often lacks public responsibility.

#### 2.3.3.4 Evaluation of organizational culture by Cooke and Lafferty (1994)

Cooke and Lafferty (1994) developed a tool for evaluating organizational culture called “Organizational Culture Inventory” (OCI), which divides organizational culture into three dimensions, 1) Constructive Culture: This culture gives importance to people and working appropriately, working enthusiastically to achieve personal goals, develop ourselves, promote creativity in the organization, participation in work and members in the organization have good relationships. 2) Passive-Defensive Culture: This culture gives too much importance to people, thus lacks attention to the job. Members lack stability; therefore, they aim to find security for themselves. Members accept or agree on the work, avoid conflict, but adhere to too many rules and regulations and thus lack innovation and adaptability. They follow the command of superiors and give responsibility to others to avoid penalties. 3) Aggressive Defensive Culture: This culture gives importance on work more than people. Members focus too much on their own needs, so they do not think about other members. They are rejecting and disputing toward the opinions of others and cause unnecessary conflicts, including focusing on achieving ultimate power, competing with others and working hard to achieve goals.

#### 2.3.3.5 Evaluation of Organizational Culture by Sashkin and Rosenbach (2013)

Sashkin and Rosenbach (2013) used an organizational culture assessment form named the “Organizational Culture Assessment Questionnaire” to evaluate the perception of organizational culture by using five indicators-managing change, achieving goals, coordinated Teamwork, customer orientation and cultural strength. There are 30 sub-indicators with the following evaluation details:

##### 1) Managing Change

This considers how well the organization can adapt and respond to changes in the environment. The environment has an influence on an organization’s operations. Six indicators are used to evaluate it, 1) People are flexible and adaptable when changes are necessary. 2) The feeling that most changes are not resulting from pressure from higher level superiors. 3) Having clear ideas in the implementation of the change processes. 4) Believing that changes are not happening

quickly enough and are causing disruption in the organization. 5) Having an influence or effect on the organization through ideas and involvement. 6) Believing that their concerns and anxiety, which occur during changes, will be taken into considerations.

### 2) Achieving Goals

Every organization must achieve its operational goals for customers and partners. Six indicators are used to evaluate this. 1) Individuals and teams have clearly defined goals related to the organizational goals or mission. 2) Expectations to achieve goals. 3) Individuals and teams are measured and rewarded according to how well goals are achieved. 4) Individuals and teams participate in defining specific goals. 5) Stretching goals out for the improvement of operations continuously. 6) The goals of individuals, the team and every unit in the organization are compatible.

### 3) Coordinated Teamwork

Whether or not the organization survives in the long term depends on the effort of individuals and groups to effectively connect, coordinate, and work together without the idea of tending to their own issues. Six indicators are used to evaluate this. 1) Authority of the team makes the work achievable effectively. 2) Belief in teamwork. 3) Has interpersonal and technical skills, which are necessary to work as a team effectively. 4) Know our expectations and understand the impact on other individuals, other teams or other units in the organization. 5) Belief in working together collaboratively. 6) Managers at all levels of the organization work together as a team to achieve results for the organization.

### 4) Customer Orientation

Although an organization has a strong organizational culture and can operate well, customers may not want the organization's products and services; as a result, they cannot achieve their financial goals. This organization must specify the needs and goals of customers and partners, including a focus on working to achieve those needs and goals. Six indicators are used to evaluate it. 1) Give the highest priority and support to meeting the needs of clients and customers, and help them solve their problems. 2) Define policies and procedures to respond to the needs of customers and clients. 3) See customers' and clients' problems as the responsibility of the organization. 4) Look for new approaches to better serve customers and clients.

5) Give value to the employees who serve customers well. 6) Focus on solving problems for customers to satisfy them.

#### 5) Cultural Strength

This is about a culture that is based on values that supports managing change, achieving goals, coordinating teamwork and customer orientation, which will result in a strong culture that makes organizational operations stable and able to survive. Six indicators are used to evaluate this. 1) Having values to use the various strengths and abilities of others. 2) Everyone knows and understands the objectives and priorities. 3) An implementation of policies and work procedures to achieve operational goals without compromising. 4) Using facts for making business decisions and not using perceptions or assumptions. 5) Everyone has access to timely and accurate information enough to know what is happening in the organization and why it occurs? 6) Everyone strongly believes in shared values about working together to solve problems and achieve common objectives.

From the literature review on the evaluation of organizational culture, the researcher found that the evaluation of organizational culture by ( Sashkin & Rosenbach, 2013) can best be applied to an evaluation of organizational culture of logistics service providers. It is useful for analyzing the behavior of people in the organization, to make sure they're ready to handle the changes that will occur, is able to work well to achieve goals and coordinate, and focuses on customers to create a strong organizational culture. Therefore, the researcher uses an “ Organizational Culture Assessment Questionnaire” to improve sub-indicators, to be appropriate and consistent with the research framework, and evaluate the organizational culture of logistics service providers in Thailand with the following details of indicators and sub-indicators:

##### 1) Managing Change

Employees in the organization are flexible and adaptable when it is necessary for change. They have clear ideas of how to work by changing the process, believe that their ideas will have an impact on the organization, but consider that anxiety may occur during the period of change.

## 2) Achieving Goals

Employees and staff in the organization have clear goals that are consistent with organizational goals. They have been evaluated and considered for their merits by considering their achievement of work goals. Employees participate in setting specific goals, and the organization expands working goals to achieve continuous improvement.

## 3) Coordinated Teamwork

Employees in the organization believe in teamwork and give importance to team benefits rather than personal benefits. They are aware of expectations and the potential impact on others, believe in coordinating the work and finding satisfaction together. In addition, management at all levels in the organization work together as a team to achieve organizational achievements.

## 4) Customer Orientation

The organization gives the ultimate to customers' needs, by supporting a search for customers' needs and helping them solve problems. Policy and the work of the organization is conducive for providing services to respond to the needs of the customers. Employees in the organization often seek new ways to better serve customers, so these employees are more likely to be remembered and rewarded than other employees. Employees in the organization aim to solve problems that occur with products and services to build satisfaction for their customers.

## 5) Cultural Strength

Employees in the organization place value in using their strengths and various capabilities. People understand the objectives and priorities of work. They work by adhering to policies and procedures to achieve organizational goals. Business decisions are made by using facts, not by using perceptions or speculation, and employees in the organization have accurate and timely information to know what is happening in the organization.

## **2.4 Concepts and Research on Innovation Climate**

Nowadays, organizations need valuable human resources who are full of ideas for innovation. This qualification has arisen from expertise of human resources, skills

in creative thinking and motivation for work, combined together to create innovation in products, working processes and the organization. An organizational climate that accepts innovative ideas and encourages human resources to create innovation at all times is called “Innovation Climate” (Thiruvankadam & Kumar, 2018). Macey and Schneider (2008) said that high states of employee engagement in innovation lead to discretionary effort by the employees, which, in turn, leads to better organizational performance. Innovation climate therefore is important for operations in all types of organizations (Shanker, Bhanugopan, Van der Heijden, & Farrell, 2017).

## **2.4.1 Background and Definition of Innovation Climate**

### **2.4.1.1 Background of Innovation Climate**

The study of innovation climate has been interesting to organizational psychologists for many decades. Beginning with the study of organizational climate they have agreed that organizational climate is important for employee satisfaction, and organizational change and development, including determining good attitudes for employees in the organization (Brown & Moberg, 1980; Cherrington, 1995; Sivanun Sivapitak, 2011).

Later, many scholars began to be interested in innovation. The study of innovation in earlier eras was unclear. It is believed that in 1934 Joseph Schumpeter was the first scholar to classify innovation into five major categories, which are product innovation, process innovation, market innovation, source of supply innovation and industrial organizational management innovation. In the 1950s, Drucker (1954) was the first person to study about creating innovation and giving importance to innovation, including commenting that researchers should not ignore research and find answers about innovation on the organizational level (Drucker, 1985).

Many scholars have consistently viewed that innovation is an important element for building profitability and leading to organizational competitive advantage. An organization that wants to be successful must have one important element, which is creating the organization's ability to create innovation. Therefore, it can be said that innovation capability is the most important factor and has influence over the organization's performance (Phayat Wutrong, 2014).

Interest among scholars in studying innovation along with related topics has increased more and more. There are a lot of researchers who have studied creativity, innovation, organizational culture and organizational climate. Henry (2002) said that innovative organizations or organizations which are full of creativity have unique characteristics related to an innovation climate, such as an open working atmosphere, employees have freedom when working and enhanced participation among employees (Phayat Wutrong, 2014). Harter, Schmidt and Keyes (2002) did research by gathering data on innovation climate from business units, compiling more than 7,000 units in 36 organizations, to do a meta-analysis before concluding that creating an organizational climate that is conducive to enhancing and supporting the innovation of employees will increase the possibility of success in that business significantly (Shanker et al., 2017). Thiruvankadam and Kumar (2018) commented that Innovation Management is the creation of a good working climate where employees are able to express their opinions and work freely.

Scholars nowadays agree that the study of “Organizational Climate for Innovation” (OCI) aims to create competitive advantage and increase organizational performance. Organizations need to encourage creativity and change, including creating an appropriate organizational climate for employees to create innovation through the ideas and suggestions of colleagues (Isaksen & Ekvall, 2010).

It can be seen that innovation climate is a subject that many scholars are interested in doing research on. Most of this research has the objectives of innovation climate taking part in creating organizational change in order to be prepared for influences from the environment, developing the quality of people within the organization, helping the organization achieve its objectives and leading the organization to operate more effectively.

#### 2.4.1.2 Definition of Innovation Climate

When defining the definition of innovation climate, we need to study and integrate three important issues, which are: organizational climate, innovation and creating innovation in order to be able to explain the definition of innovation climate clearly. Therefore, the researcher has separated the definition into three small issues before concluding on a definition of innovation climate as follows:

### 1) Definition of Organizational Climate

Cherrington (1995) gave a definition of organizational climate as the characteristics or connection that separates one organization from another. The personality of an organization is a fixed characteristic of the organization which influences behavior. Employees are more satisfied in an organizational climate and perform better than in other organizations.

Snow (2002) commented that organizational climate means the perception of a person's feelings towards their work environment, complexity of norms, values, expectations, policies and procedures that influence the behavior of employees or groups.

Lussier (2005) said that organizational climate is the quality of the internal environment that members of the organization perceive, or the perception of employees to the environmental climate in the organization.

Roderic (2007) explained the definition of organizational climate as the view of employees on how the organization will treat or manage employees and the environment, which in this way is mostly under the influences of management. Whether employees have the behavior of creating innovation more or less depends on the climate that facilitates creating innovation based on the environment.

Sivanun Sivapitak (2011) summarized the definition of organizational climate as the constant characteristics, which include all the characteristics of the organization, that have influence on the behavior of the employees. It is the internal environment of the organization, which employees can recognize both directly and indirectly, that affects the operational behavior and efficiency of operations of the employees.

### 2) Definition of Innovation

Hughes (1973) and Phayat Wutrong (2014) defined innovation as using new methods to practice after experimenting, or developing step by step with three steps: invention, development and implementation, which are different from previous practice .

Drucker (1985) explained his definition of innovation as being an important tool for entrepreneurs to seek benefits and opportunities from various

changes, for creating businesses and services that are different from competitors. It is an ability that is expressed in the form of practice, potential in learning, and authentic implementation.

Damanpour, Walker, and Avellaneda (2009) defined innovation as changing structures, processes, management systems, knowledge for management and managerial skills in the organization to enable the organization to operate smoothly and achieve success by using resources efficiently.

Phayat Wutrong (2014) defined innovation as new things that have never been seen before in the units, organizations or countries of the world, and must be used for creating benefits in economic, social, or psychological dimensions.

### 3) Definition of Creating Innovation

Zaltman, Duncan, and Holbeck (1973), Damanpour (1991) and Hurley and Hult (1998) have all defined creating innovation as summarized by the concept in the overall organization on innovation, the ability to recommend products, processes, or new ideas of employees in the organization, including choosing ideas or behaviors about tools, systems, processes, policies, programs, products or services that are new to the organization.

C. L. Wang and Ahmed (2004) explained their definition of creating innovation as the overall ability of an organization to create new products for industry, or opening new markets.

### 4) Definition of Innovation Climate

From the study of definitions of organizational climate, innovation and creating innovation, scholars and researchers who are interested in this subject have been trying to analyze, synthesize and give definitions, such as in the following:

Amabile and Grysiewicz (1989) studied innovation climate and have concluded that innovation climate, which must occur inside the organization, must consist of independence, challenges, be supported by management and colleagues, show acceptance when they propose new ideas, and have a climate that facilitates coordination and unity in work, including the receiving of support when creation occurs in the organization.

Ekvall (1996) explained his definition of innovation climate as a climate that creates creativity and innovation, in which members in the organization must have challenging ideas in their work to achieve goals, have freedom of thought, be supported when they propose new ideas, receive trust and power in work, accept taking risks, and give importance to spending time to force new ideas in order to be successful.

Roderic (2007) studied and defined innovation climate as the climate at all levels of management that accepts the proposal of new ideas by members in the organization. Members in the organization should have the freedom to express their opinions and set goals in work, including the freedom to create innovation.

Aarons and Sommerfeld (2012) defined innovation climate as a type of strategic organizational climate, one which plays an important part in supporting the operation of the organization to be successful and achieving its organizational goals. Innovation climate is related to organizational results when proposing new ideas that are practical, which contribute to the innovation of the organization, create benefit for the organization, and create satisfaction for the employees and customers of the organization.

Sivanun Sivapitak (2011) has definition of innovation climate, according to the concept of (Roderic, 2007), highlights the view of employees on how the organization treats or manages employees and various environments, as most practices and methods are under the influence of management. Sivapitak's innovation climate has four elements: 1) Freedom, 2) Participative safety, 3) Striving for excellence, and 4) Support for innovation.

From the study of meanings and definitions of the main elements of innovation climate, it is concluded that most of them mention freedom in proposing ideas, freedom in work, getting support from management, support when proposing or doing a challenge, including giving importance to the forcing of new ideas for the benefit of the organization. Therefore, the researcher has concluded that the definition of innovation climate is when: employees in the organization have freedom in their work and freedom to propose ideas, have safety from operations, and have participation in proposing new ideas. Employees can strive for excellence in their

work, and management or the organization takes part in supporting the employees to have creativity and operate those tasks that are beneficial towards organizational change.

#### **2.4.2 Concepts of Innovation Climate**

The study and research of organizational climate have interested scholars and researchers in the organizational field for a long time. In the case of innovation, scholars focus on studying the role, duty and results of innovation that appear in the organization, because researchers know that the role of innovation has an effect on efficiency and effectiveness, and contributes a lot toward positive outcomes for the organization.

However, research studies on the results of innovation climate are few because most of them are separate studies between organizational climate and creating innovation, or on innovation. This research therefore tries to fill this gap by studying how innovation climate effects organizational effectiveness. Therefore, using innovation climate, both must be present in organizational climate and innovation together.

The concepts on innovation climate presented in this research provide a presentation on the issues concerning the behaviors and attitudes related to innovation. Innovation climate means the organizational climate in an organization that enhances the members of the organization to be creative in both behavior, performance, or working ideas to cause the organization to operate towards achieving its goals most effectively. This concept is consistent with the research of (Ekvall, 1983; 1996), who provided the following concept on innovation climate: “Climate is the part of the organization that consists of feeling, attitude and behavior that are reflected in the lives of members in the organization” (Ekvall, 1996). Organizational climate has an effect on the productivity and quality of the organization, including an effect on the job satisfaction and well-being of employees, as well as profits. It could be said that the innovation climate variable is the most important variable for making an organization successful in this changing era nowadays.

### 2.4.3 Evaluation of Innovation Climate

Research studies which are related to innovation climate have just gained interest in the last 20 years. Therefore, there are not many evaluation types. The researcher will, therefore, present four types of innovation climate evaluation, as follows: the evaluation of innovation climate of (Ekvall, 1996), the evaluation of innovation climate of (Amabile & Grysiewicz, 1989), the evaluation of innovation climate of (Roderic, 2007), and evaluation of innovation climate of (De Drue & West, 2001) and (De Jong, 2007), with the following details:

#### 2.4.3.1 Evaluation of Innovation Climate of (Ekvall, 1996)

Ekvall (1996) developed an evaluation form of organizational structure and innovation climate. The name of this evaluation form is “Creative Climate Questionnaire’ (CCQ), which was developed from research conducted in Sweden in 1980. This research is related to searches for various conditions of the organization on what climate enhances behavior, or attitude in creativity, or innovation. The evaluation form of innovation climate by Ekvall consists of ten dimensions as follows:

- 1) Challenge: The emotions of members within the organization to perform work and achieve goals.
- 2) Freedom: The freedom behavior of members within the organization.
- 3) Idea Support: The acceptance and support for new ideas.
- 4) Trust/ Openness: Members in the organization have the intention to communicate or share their ideas openly and honestly.
- 5) Dynamism/ Liveliness: Ekvall explained that this means living meaningfully in the organization.
- 6) Playfulness/Humor: When the organization has a high level of playfulness climate, and a low level of stressfulness climate.
- 7) Debates: Debates and discussions about concepts, opinions, attitudes and knowledge happen regularly.
- 8) Conflict: Leading to stressfulness among members in the organization.

9) Risk Taking: The acceptance of uncertainty and the outcomes that occur. There must be experimentation, exploration and serious analysis first.

10) Idea Time: The organization gives importance to giving time for members to propose or create new ideas.

#### 2.4.3.2 Evaluation of Innovation Climate by (Amabile & Gyskiewicz, 1989)

Amabile and Gyskiewicz (1989) developed an evaluation form called “Creative Environment Scales: Work Environment Inventory” (WEI). On the part of environmental stimulants to creativity, it consists of:

1) Freedom: Freedom in working or freedom in doing one’s own method of work, including freedom to control one’s own work.

2) Challenge: The challenges of hard work or challenges when doing important projects in the organization.

3) Resources: The ability to access or utilize resources fully, whether human resources, tools, or information resources.

4) Supervisors: Supervisors must set goals for employees/subordinates clearly and appropriately. They support subordinates, and consider the importance of each subordinate, including consulting them about work.

5) Coworkers: This means having coworkers who have good work skills, communicate with each other effectively, are open to new ideas from each other, do challenging work together, trust and help each other, and everybody is bound to their work to achieve success.

6) Recognition: Getting fair and straight feedback, which leads to accepted work and being praised for one’s efforts toward work. There is acceptance of skills and interest in members in the organization who contribute to a climate that is conducive to work.

7) Unity and Cooperation: Having a collaborative climate and good coordination resulting in shared ideas from various perspectives.

8) Creativity Supports: An organizational climate which enhances self-expression and the development of creative concepts.

Amabile and Gyskiewicz (1989) evaluated organizational environment as one that encourages creativity. They proposed an evaluation of organizational environment that raises barriers to creativity, consisting of:

- 1) Time Pressure: Working a lot in limited time.
- 2) Evaluation: A serious and strict performance evaluation climate. Criticizing work in negative ways will not create an innovation climate.
- 3) Status Quo: The organization tries to maintain the status quo and does not want to take risks or do new and different things.
- 4) Political Problems: Problems of division among members, seeking for one's own benefits instead of the group will destroy innovation climate.
- 5) Creativity: The organization expects this department to produce creative or innovative output when the department has confirmed that it can create innovation, but in reality it cannot do it.
- 6) Productivity: The department is expected to create productivity for the organization.

#### 2.4.3.3 Evaluation of Innovation Climate of Roderic (2007)

Roderic (2007) had the view that whether employees have more or less innovative behavior depends on a climate that is conducive to innovation. Management plays an important role in defining innovation climate, as seen in eight dimensions:

- 1) Free Expression of Ideas: Management must create an honorable working climate for employees, trust and accept each other's opinions, and always listen to employees' opinions, even though some opinions are not excellent.
- 2) Free Expression of Concerns: Employees should have freedom to express their opinions without necessarily always having to be new opinions, and have the freedom to criticize unusual events or practices, which could lead to earlier solutions.
- 3) Freedom to Question: Employees should be supported and have the freedom to ask questions of management when they have doubts about work or unusual events that occur.
- 4) Participation in Defining Goals: Employees should participate in defining goals together. It is an honor and a recognition for employees

which makes them feel like the owners of their work and not just a performer or receiver of the command.

5) **Intrinsic Satisfaction from the Work Itself:** Employees have the chance to do satisfying work. Management must delegate the right man to the right job appropriately; therefore, employees will work happily and management will not have to be too strict with them.

6) **Innovation - Freedom to try new concepts and approaches:** Employees should have freedom to create jobs in new ways, and have the opportunity to try using new conceptual frameworks or methods. Management should not force employees to work too much, and should let them have the opportunity to try to work with new methods, which might be better than the old ones.

7) **Environmental Threat:** These are events that management cannot control, such as natural disasters, political chaos and economic crises, but there are methods to keep the spirits up for employees.

8) **Purposive Threats:** Threats that have objectives aimed at specific groups or individuals only, such as setting rules to reward employees who work to achieve their target or punish employees who cannot work to achieve the target.

Regarding dimensions of the evaluation of innovation climate by Roderic (2007), we can conclude by saying that organizations should give freedom in thinking, asking, expressing opinions, and creating innovation, including encouraging employees to participate in setting work goals.

#### 2.4.3.4 Evaluation of Innovation Climate of (De Drue & West, 2001; De Jong, 2007)

De Drue and West (2001) and De Jong (2007) evaluated innovation climate with three indicators: participative safety, striving for excellence and support for innovation, with the following details:

1) **Participative Safety:** Employees feel psychologically safe and recognize a climate which is not a threat to operations. Employees should not be blamed or punished for having new ideas or doing things that are different from traditional practices.

2) Striving for Excellence: The efforts of employees which are related to excellence in operations, are continuously evaluated, improved and criticized positively in an innovative climate, have a control system for evaluation, improve and develop performance, provide analysis for evaluating quality of performance, give advice between teams, provide feedback and evaluate ideas and performance. It is an awareness of the increasing quality of performance ( West & Farr, 1990).

3) Support for innovation: The approval and support of efforts to advise on new ideas and various methods that have been developed and implement at work. (West & Farr, 1990) commented that support for innovation, and support for officially announcing it, are both important for advice innovation. Support for innovation has many forms, such as verbal support inside and outside the group, group meetings, group collaboration and interpersonal collaboration, as well as new ideas and the allocation of time and resources of group members to create and use ideas.

From the literature review of evaluation of innovation climate, the researcher has found that the evaluation innovation climate of Roderic (2007); De Drue and West (2001) and De Jong (2007) can be applied to the evaluation of innovation climate of logistics service providers in Thailand quite well. It is useful for analyzing the behavior of people in the organization in order to have freedom, participate safely, strive for excellence, and support innovation. The researcher, therefore, has applied the innovation climate evaluation form of Roderic (2007); De Drue and West (2001) and De Jong (2007), and improved on the sub-indicators in order to be more appropriate and consistent with the conceptual framework of this research to evaluate innovation climate among logistics service providers in Thailand. Details of the indicators and sub-indicators are as follows:

#### 1) Freedom

Employees in the organization are able to propose concepts for job development freely. Management gives the opportunity for employees to fully utilize their own operational capabilities. Employees participate in decision making within the organization. Management gives the opportunity for employees to work independently and have freedom to express their opinions on all matters.

## 2) Participative Safety

Employees are not scolded when they propose new ideas, even if those ideas are not successful. Employees are punished reasonably, though, when there are some mistakes in their work.

## 3) Striving for Excellence

Employees in the organization try to perform to the best of their abilities. Employees apply the advice which they received when working as a team. The operations in the organization are controlled and examined by each other, and employees in the organization are recognized when there is increasing quality in their performance.

## 4) Support for Innovation

The organization encourages employees to practice skills for continuously enhancing their expertise, support operations that are beneficial to organizational change, support operations by following rules and regulations to facilitate operations, and support a budget that appropriately implements projects. Management should support employees who show creativity in their work and set them as good role models for other employees; as well, management should give advice to employees regularly.

In conclusion, for the literature review related to the variables the researcher will study, the researcher has presented concepts and research studies on organizational effectiveness, transformational leadership, organizational culture and innovation climate for a foundation towards a conceptual framework.

## **2.5 Related Research**

This section will discuss research related to variables the researcher wants to study, namely - transformational leadership, organizational culture, innovation climate and organizational effectiveness, by considering the relationship or effect that each variable has on the others. Then a research conceptual framework will be developed for answering the purpose of the research, in order to find the causal relationship of each variable that effects organizational effectiveness.

### **2.5.1 Transformational Leadership and Organizational Effectiveness**

Pratt and Eitzen (1989) conducted research on “Contrasting Leadership Styles and Organization Effectiveness: The Case of Athletic Teams”, which came to the conclusion that organizational effectiveness depends on transformational leadership and followership or virtue of followers, including the development of members in the organization and management system. The greatest factor affecting organizational effectiveness is transformational leadership, as well as the research of (Rieley, 1993), who confirmed the research result that organizational effectiveness will occur when there is an environment that contributes success through leadership that has the power to encourage change in a better way. Rieley proposed his research, named “The Circular Organization: How Leadership can Optimize Organizational Effectiveness”, and concluded that a leader must have specific qualifications which help the organization to be successful, and one of these special characteristics of transformational leadership that affects organizational effectiveness is the ability of leaders to encourage communication in work goals clearly, which is a power of the leader to help the organization have direction for steadily moving forward.

As for the research of Branch (1990), he found that transformational leadership, which has a style like a trademark, will make the leader have influence over work and managing the organization to achieve success.

Z. M. Wang and Satow (1994) found that the ability to manage work is the main factor that makes an organization successful. When management or the leaders have sympathy for their subordinates, the leaders who try to treat their subordinates by considering individual differences and trying to develop the potential of their subordinates will make the organization achieve organizational effectiveness. All of those characteristics that have been mentioned are the characteristics of a transformational leader. Therefore, it can be concluded that transformational leadership has an effect on organizational effectiveness.

Banerji and Krishnan (2000) released a research study entitled “Ethical Preferences of Transformational Leaders: An Empirical Investigation”. The results of their research indicate that transformational leaders try to link the goals of leaders and followers together by trying to change the values, attitudes and motivations of followers that are at a low level, to become higher by encouraging and stimulating

followers to have self-confidence. Therefore, it can be concluded that transformational leadership focuses on drive, and cultivates and develops followers by helping them create success in the organization's goals. Therefore, the relationship between transformational leadership and followers affects organizational effectiveness.

Mary (2005) did research on transformational leadership in the organization that provides a human resources service, and found four elements of transformational leadership: idealized influence, inspirational motivation, intellectual stimulation and individualized consideration, all of which have a positive relationship with regard to the working results of employees in the organization overall. On the other hand, transactional leadership and laissez-fair contribute negative working results. In terms of change to the organization to operate effectively, (Rafferty & Griffin, 2006) studied the impact of change in employees who experience a frequency of changes, participates in change planning, and impacts overall change. Rafferty and Griffin found that transformational leadership is found in leaders that have inspirational motivation and encourage employees to improve and change to a new working style. When the organization has great influence on the changes mentioned above, the overall outcome of those changes is the organization operating toward its intended success.

Pongsak Thongpanchang (2009) has done research on the pattern of causal relationships between transformational leadership and the president who affects the organizational effectiveness of Rajabhat University. The study was conducted from 460 samples of personnel in Rajabhat Universities all over the country. The results of the study indicate that the element of transformational leadership in idealized influence has a direct positive effect on the effectiveness of Rajabhat University. The element of transformational leadership in inspirational motivation has a direct negative effect on the effectiveness of Rajabhat University, and the element of transformational leadership in intellectual stimulation has a direct positive effect on the effectiveness of Rajabhat University. The last element is individualized consideration, which has a direct positive effect on effectiveness at Rajabhat University.

In the following year, research by Chanchai Tosanguan (2010) studied transformational leadership and effectiveness in work at Toyota Motor Thailand Co., Ltd. by collecting data from 177 operational employees. The results of the research found that the perception of transformational leadership has a positive relationship with the effectiveness of employees, and also, that the element of transformational leadership in supervisors exhibits an idealized influence and has the highest mean, followed by intellectual stimulation, inspirational motivation and individualized consideration. In the same year, (Rui, Emerson, & Luis, 2010) studied transformational leadership and TQM Implementation, and found that basic principles of total quality management, such as customer focus, participation of employees in the organization, communication within the organization, continuous development and decision making based on facts, have a positive relationship with transformational leadership and ultimately leads to organizational effectiveness.

Varist Thongjurai (2014) studied the influence of transformational leadership, strategic flexibility, the potential of knowledge management processes and the ability to manage change in organizational effectiveness. The data was collected from top management consisting of 200 irrigation directors. The results found that transformational leadership has a positive effect on strategic flexibility, and the ability to manage a change in leaders has a positive effect on organizational effectiveness. Varangkna Kanchanapatee (2013) conducted research on leadership and the followership that influences organizational effectiveness. The data was collected from 239 personnel at the Export-Import Bank of Thailand. The results found that transformational leadership has a significant effect on organizational effectiveness. The element of transformational leadership in idealized influence had the most effect on organizational effectiveness, followed by the element of transformational leadership in inspirational motivation and intellectual stimulation, respectively.

Tashsildari, Hashim, and Wan (2014) conducted research on the influence of transformational leadership on organizational effectiveness through employees' innovation behavior. The results conclude that transformational leadership has a relationship with organizational effectiveness. An organization must carry out efforts to create or recruit leaders who will make the organization successful. Transformational leaders have tremendous influence in motivating subordinates to

work hard for achieving mutual organizational goals. (Kuhnert & Lewis, 1987) said that transformational leaders are not leaders who work to exchange benefits with subordinates, but subordinates or colleagues must have trust and faith in the leaders. It means leaders must set good examples for colleagues and sacrifice personal benefit for mutual benefit. The characteristic that is one of the most important elements of transformational leadership is idealized influence.

In conclusion, from the study of research related to transformational leadership and organizational effectiveness, the researcher therefore can hypothesize that transformational leadership has a direct effect on organizational effectiveness.

### **2.5.2 Organizational Culture and Organizational Effectiveness**

Research related to the study of relationships between organizational culture and organizational effectiveness have interested scholars and researchers around the world. Starting 45 years ago, Steers (1975) released a research article named “Problems in the Measurement of Organizational Effectiveness” where he mentioned the importance of measuring organizational effectiveness in organizational culture theory. Likewise, Zammuto (1982) mentioned the relationship of organizational culture and organizational effectiveness in his book named “Assessing Organizational Effectiveness”, and in 1980, (Ouchi, 1980) explained the characteristics of organizational culture that contribute to organizational effectiveness.

Quinn and Rohrbaugh (1983) studied the relationship between organizational culture and organizational effectiveness using a “Competing Values Framework”. Later, in 1995, Denison and others proposed that organizational culture in different styles will affect organizations in different ways. They presented it in their research paper named “Toward a Theory of Organizational Culture and Effectiveness”. Then, Denison, Haaland, and Goelzer (2004) tried to find out whether organizational culture and organizational effectiveness, in the context of Asian people or Asian countries, is different from other countries around the world or not.

In research entitled “Assessing Organizational Culture and Investigating its Link to Organizational Effectiveness”, (Puppatz, 2017) proposed that the link between organizational culture and organizational effectiveness is an issue that researchers have been interested in for a long time. Since at least the 1980s, study of the

relationship between the two variables centered on two important issues. The first issue is that, during this period, there were many multinational companies because it was the beginning of globalization; therefore, this caused multinational companies with their own cultures to operate in countries with different cultures, norms and attitudes all around the world. The second issue is that, during that time, many big Japanese companies were highly successful and important competitors of American companies. Therefore, American researchers were interested in studying how to do business in a Japanese style and how they became so successful so quickly. They tried using Japanese practices in their companies, such as using concepts of total quality management in the company, but most of them were unsuccessful because their nature of work was incompatible with Japanese organizational culture (Flamholtz & Randle, 2011; Haskett, 2011).

In this era, the bestsellers in business administration presented the stories of success highlighting Japanese management, which had a very different organizational culture. Examples of famous business administration books at that time were “Theory Z: How American Business can Meet the Japanese Challenge” (Ouchi, 1981), “Corporate Cultures: The Rites and Rituals of Corporate Life” (Deal & Kennedy, 1982), and “In Search of Excellence” (Peters & Waterman, 1982). From these examples it can be proven with supported concepts how organizational culture and organizational effectiveness is created. However, at that time there were no studies or empirical data to support the theory that organizational culture contributes to organizational effectiveness (Ostroff, Kinicki, & Tamkins, 2003).

However, in the 1990s-2000s, research started showing the relationship and influence of organizational culture on organizational effectiveness greatly increasing (Sackman, 2011). Analysis of organizational culture affecting organizational effectiveness in various aspects found that organizational culture affects organizational effectiveness financially, such as in sales growth and increased return on investment (Gregory et al., 2009). Organizational effectiveness showed increases of productivity and quality of products (Sarros et al., 2008), as well as organizational effectiveness in job satisfaction and job commitment (Berson, Oreg, & Dvir, 2007; Frey & Denison, 2003).

In the research paper, “Organizational Culture and Organizational Effectiveness: A Meta - analytic Investigation of the Competing Values Framework's Theoretical Suppositions” by Chad A. Hartrell, Amy Yim Ou and Angelo Kinicki of Arizona State University, the research team uses the “Competing Values Framework” by Quinn and Rohrbaugh (1981) to do a meta-analytic comparison and report data from various research papers aimed at analyzing common factors and other interesting relationships, and tests those relationships between three types of organizational culture with three key indicators of organizational effectiveness - employee attitude, operational performance and financial performance. The results of their research, with 84 meta-analyses and 94 different sample groups, found that organizational culture in clan cultures, adhocracies and market cultures have relationships that affect organizational effectiveness.

From the research entitled “A Study of the Relationship Between Organizational Culture and Organizational Effectiveness of the Electronic Industries in Taiwan”, (Lee & Tseng, 2005), studied 344 samples in the electronics industry in Taiwan. The results found that organizational culture has eight elements: focus on employees, focus on work accomplishment, focus on innovation, focus on analytical work, focus on social relationships, rewarding employees, stable working environment and implementation for responding to employees. The research found that these eight elements of organizational culture have a positive effect on organizational effectiveness.

Parin Bunchaluay (2013) released a research study named “ Organizational Culture, Learning Organization and Organizational Effectiveness of Justice Court: Structural Equation Model” by analyzing the data from all 217 courts around the country, totaling 845 samples. The study found that the level of organizational effectiveness and the level of organizational culture factors in a justice court are at a high level. The study also found that the organizational culture factor effects organizational effectiveness significantly.

Yanisa Boonchit, Chayapim Usaho, Natnipa Cooperat, and Siripaarn Suwanamonkha (2018) conducted a research study on the factors affecting organizational effectiveness in office of educational service areas by using the key conceptual framework of Steers, Hodge and Anthony, Bartol et al, Hoy and Miskel,

and Owens, for determining the groups of factors affecting organizational effectiveness. Their research shows that organizational culture affects organizational effectiveness, which is consistent with the findings of (Kotter & Heskett, 1992), who performed research on over 200 organizations and found that organizational culture is the most important factor affecting the long-term operation of an organization. It is used to make predictions for the operations of an organization on whether it will achieve success in the next ten years or not, and helps to support the performance of the organization and make it better. It depends on organizational design and organizational culture, which is consistent with the concepts of (Shermerhorn et al., 2005), who said that most educators and management believe that organizational culture has a very important effect on organizational performance, and affects the quality of working life for members in the organization. Likewise, (Deal & Peterson, 1990) said that organizational culture has an influence on the effectiveness of products, and reasonably believes that organizational culture makes the organization successful.

Usanee Mongkolpitaksuk (2018) conducted research on the organizational culture and organizational effectiveness of local government organizations to study the relationship between organizational culture and organizational effectiveness by using 120 samples from 60 municipalities and 60 sub-district administrative organizations. The research found that organizational culture has a high correlation with organizational effectiveness, and the approach to organizational culture can cause the effectiveness of each local government organization to be different. Mission culture is the most outstanding culture that affects organizational effectiveness. Testing the relationship between organizational culture and organizational effectiveness at very high levels can confirm past research results - that organizational culture is the key factor of organizational effectiveness, consistent with the research of (Yilmaz & Ergun, 2008), who studied and wrote “Organizational Culture and Firm Effectiveness: An Examination of Relative Effects of Culture Traits and The Balanced Culture Hypothesis in an Emerging Economy”, which confirms that organizational culture influences organizational effectiveness.

In conclusion, from the study of researches related to organizational culture and organizational effectiveness, it can be hypothesized that organizational culture has a direct effect on organizational effectiveness.

### **2.5.3 Transformational Leadership and Organizational Culture**

For related research on transformational leadership and organizational culture, research conducted from 2015 onwards includes the research of ( Szczepańska-Woszczyna, 2015) , “ Leadership and Organizational Culture as the Normative Influence of Top Management on Employees’ Behavior in the Innovative Process” , which studied how leadership and organizational culture influence behavior in the cultural building process. They conducted their research on a private company in Poland and found that transformational leadership can help to change the style of work to create organizational innovation, including helping to create and manage organizational culture, leading to an innovative organization.

In the same year, ( Jati, Hassan, Harman, S. , & Majid, 2015) conducted research on “ Transformational Leadership and Organizational Culture: A Case of MAHB” , by studying transformational leadership and organizational culture in an accounting firm in Malaysia. They found that transformational leadership has a significant relationship with organizational culture, and transformational leadership can contribute to change within an organization and lead to organizational success and organizational effectiveness.

The research of ( Boyce, Nieminen, Gillespie, Ryan, & Denison, 2015) , “Which Comes First, Organizational Culture or Performance? A Longitudinal Study of Causal Priority with Automobile Dealerships” , after collecting data continuously, they came to the conclusion that organizational culture contributes to organizational effectiveness.

In conclusion, these three research papers conducted in 2015 came to the conclusion that transformational leadership has a relationship or influence on organizational culture. Therefore, it might be hypothesized that transformational leadership has a direct effect on organizational culture.

#### **2.5.4 Transformational Leadership, Organizational Culture, Innovation Climate and Organizational Effectiveness**

From the related research mentioned above, the study of the relationship of the two variables show that these variables need to be studied in this research, including transformational leadership influencing organizational effectiveness, or transformational leadership influencing organizational culture, or organizational culture influencing organizational effectiveness. In the following section, the researcher will present research which studies the influence of many variables that influence each other in order to summarize the research hypothesis, which will be proven from empirical data.

Ostroff and Schmitt (1993) conducted research on “Configurations of Organizational Effectiveness and Efficiency” by studying the relationship between various characteristics of organizations, including organizational context, rules and regulations, organizational goals, organizational climate with effectiveness and efficiency of the organization. Data were collected from 172 secondary schools in the United States. The sample totaled 14,227 teachers and 24,874 students. The results of various characteristics from organizations that influence organizational effectiveness found that one of the main characteristics of the organization that affects organizational effectiveness is organizational climate. Therefore, it can be concluded that organizational climate has an influence on organizational effectiveness.

Research by scholars interested in studying innovation climate or organizational innovation resulting from leaders or organizational culture have been published since 1999. Research by (B. J. Avolio, Bass, & Jung, 1999), entitled “Re-examining the Components of Transformational and Transactional Leadership Using the Multifactor Leadership Questionnaire”, found that transformational leadership, which consists of inspirational motivation, individualized consideration, intellectual stimulation, and employee engagement, has an influence and enhances innovation climate and change in the organization, while transactional leadership does not cause innovative results. In addition, transformational leadership is important for working results in an organization during a time of change, and can predict work performance at a higher level (Groves, 2006; Hinkin & Tracey, 1999).

Besides transformational leadership influencing innovation climate, organizational culture also has an influence on innovation climate. Research by (Ahmed, 1998) in “Culture and Climate for Innovation”, found that organizational culture has many characteristics that contribute, or are likely to contribute, to innovation in the organization, which is consistent with research by (Johannessen, Olsan, & Olaisen, 1999) who studied the “Aspect of Innovation Theory Based on Knowledge-management” and found that organizational culture will contribute to an innovative organization when the innovative climate is proactive, it takes risks, contributes to engagement and initiates change. Organizational culture can be either a stimulus for innovation climate or a deterrent from creating an innovation climate in the organization.

In 2004 (Jaskyte, 2004) studied “Transformational Leadership, Organizational Culture and Innovativeness in Non-profit Organizations” and found that three variables - transformational leadership, organizational values and organizational culture, have a positive relationship toward each other, and also found that transformational leadership contributes to a strong culture and leads to organizational values, which leads to innovation.

Sarros et al. (2008) conducted research on “Building a Climate for Innovation through Transformational Leadership and Organizational Culture”, with the concept that leadership and organizational culture are linked in a transformational process that contributes to organizational success. Therefore, they intended to study the relationship of transformational leadership, organizational culture and organizational innovation by studying 1,158 samples of management in a private organization in Australia. The results found that transformational leadership has an influence on organizational culture. The element of transformational leadership that has the most influence on organizational culture is articulating vision, followed by the element of high-performance expectations and supporting individual subordinates. Moreover, the results of the research found that organizational culture has an influence on innovation climate that promotes innovation.

In the same year, research by (Zohar & Tenne-Gazit, 2008) studied “Transformational Leadership and Group Interaction as Climate Antecedents: A Social Network Analysis”. This research presented a model that determines

transformational leadership and social interaction as variables that affect organizational climate. The results of the research found that transformational leadership has a relationship and affects organizational climate.

Menges, Walter, Vogel, and Bruch (2011) studied transformational leadership climate, which has few research studies in this group. The concept is - many leaders in organizations are behaving like transformational leaders, therefore, they contribute to an innovation climate. They conducted their study with 158 organizations and collecting data from 18,094 employees. The research found that a transformational leadership climate has an effect on employees' productivity. Therefore, it can be concluded that organizations that have transformational leaders in many departments will have a direct effect on the productivity of the employees, and when employees work with productivity, the affect overall is organizational effectiveness.

Sivanun Sivapitak (2011) conducted research on innovation management in business affecting employee innovation behavior. The data was collected from 116 top management officials and 890 practitioners from a large industrial organization. In Sivanan 's research he defined two organizational variables: transformational leadership and innovation climate. He had expected to prove that transformational leadership might have a positive effect on innovation climate. The results found that transformational leadership does have an effect on the innovation behavior of employees by influencing them through the innovation climate variable. Measurement of the innovation climate variable used the concept of ( Roderic, 2007) , which measures four aspects of innovation: freedom, participative safety, striving for excellence and support for innovation.

In the research of ( Aarons & Sommerfeld, 2012), "Leadership, Innovation Climate and Attitudes toward Evidence-based Practice during a Statewide Implementation", the objective was to study different roles between transformational leadership and transactional leadership on innovation climate, by studying 140 samples of management. The research found that transformational leadership has a very high effect on creating innovation during work.

Research of ( Lin, 2014) entitled " An Exploration on the Relationship of Transformational Leadership, Innovation Atmosphere and E-commerce Organization Innovation", studied the relationship and built a model between the transformational

leadership variable and innovation climate, which affects innovation organizations in electronic commerce in Taiwan. The study was conducted from 34 innovation organizations in electronic commerce in Zhe Jiang district. Data were collected from 350 samples of management and staff. The research found that four elements of transformational leadership: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, have positive relationships with innovative organizations in electronic commerce. The researcher concludes that transformational leaders should use their power wisely and use inspirational motivation to build employees' willingness to contribute to change or create innovation for developing themselves in order to have the knowledge and skills to work to achieve organizational goals.

In the research of (Iljins, Skvarciany, & Gaile-Sarkane, 2015), the objective was to study the impact of organizational culture on organizational climate in Latvia's medium-sized companies, by studying the comparison between local companies in the country and multinational companies who are doing business in the country. The results found that organizational culture has an effect and impacts organizational climate.

The research of (Szczepańska-Woszczyzna, 2015), which was conducted in 2015, had the objective of studying the relationship between organizational culture, leadership and innovation. The research found that good leaders take part in encouraging or contributing to innovation among employees and take part in tracking the innovation creation process, including implementation of innovation. The conclusion stated that leadership takes part in creating or contributing to an innovation climate. Leadership is the factor that has the greatest effect on behavior for creating innovation in employees, the results are consistent with the research of (Schein, 1985; S. G. Scott & A., 1994; Trice & Beyer, 1993).

From research studies related to transformational leadership, organizational culture, innovation climate and organizational effectiveness, as mentioned above, the researcher can conclude with hypotheses according to the conceptual framework of causal relationships concerning the organizational effectiveness of logistics service providers in Thailand, as follows:

1) Transformational leadership has a direct effect on organizational effectiveness, has an indirect effect through organizational culture, and has an indirect effect through innovation climate.

2) Organizational culture has a direct effect on organizational effectiveness, and has an indirect effect through innovation climate.

3) Innovation climate has a direct effect on organizational effectiveness.

## **2.6 Importance of Logistics Service Providers**

Logistics service providers are extremely important to the economic system of the country because it is their business that supports the operation of trade and service businesses in both the industrial and agricultural sectors, in every process from production until those goods and services arrive to consumers. Good logistics management will be able to upgrade the production process and distribution of goods and services to maximize benefits in time, cost and quality by achieving both efficiency and effectiveness. The biggest logistics service provider in Thailand is “Thailand Post Company Limited”.

### **2.6.1 Thailand Post Company Limited**

Thailand Post Company Limited is a state enterprise under the Ministry of Digital Economy and Society. It was established on August 14, 2003, by transforming from the postal service division of the Communications Authority of Thailand (CAT).

The Thai postal service was originally established in 1883 during the reign of King Rama V. It was started as a government agency under the department of Post. Later, it was changed to the Telegraph department, until 1977 when it was changed into a state enterprise called the “Communications Authority of Thailand” in order to be flexible in its operations. Later, in 2003, when globalization had more effect, it was transformed again into the pattern of a limited company in order to increase its business operation potential and competitiveness and be able to support itself while still carrying out social services for the benefit of the people and country.

After transforming into a limited company, Thailand Post changed its management and operations to be more business oriented by classifying its services into four groups: a postal service group, transport and logistics group, international service group and retail and financial business group. Thailand Post Company Limited states its mission of the organization as follows:

- 1) Providing convenient products and news in delivery all across the country, which people can access easily.
- 2) Developing Thailand to become the center of post and logistics in ASEAN.
- 3) Using resources efficiently, having sustainable profits and supporting the development of customer service (Thailand Post Company, 2018).

Thailand Post Company Limited is a large organization. It was established under civil and commercial law with the ministry of finance as a shareholder. It has 28,993 employees around the country ( in December 2018) . It has a head office, metropolitan post offices, and post offices in districts 1-10 covering all of the country.

From the operation of four groups at Thailand Post, the transport and logistics group as a whole is likely to increase 16 percent, which is consistent with trends in the same direction in other postal services around the world. The volume of document delivery services is likely to decrease about 0.7 percent, while items delivery services is likely to increase. This is the impact from technological changes that make delivery information through the postal service less necessary, but substituted with the need to use delivery services from e-Commerce, which are very popular nowadays.

From a survey of the value of electronic commerce in Thailand in 2016 by the Electronic Transactions Development Agency (Public Organization) it was predicted that the value of e-Commerce transactions in Thailand in 2018 would be about 3.15 trillion baht, increasing from 2017 by about 14 percent, which is considered the highest value in ASEAN and is likely to increase continuously, especially with online shopping, which is growing by using shopping videos, social media and Big Data to do promotions.

For the condition and trends of the Thai postal business, it can be concluded that there have been clear changes according to global postal trends. E-commerce has grown considerably and is highly competitive. New entrepreneurs want to make their

differences in business by responding to the needs of more specific customers, by relying on data analytics and e-Commerce logistics from upstream to downstream, which is an important factor in upgrading services to make a distinct difference in consumers' views. Therefore, the postal business must adapt with business changes and handle competition from new entrepreneurs in the product delivery businesses that are entering the market. From the growth of e-Commerce businesses, adjusting to work processes to increase efficiency, maintaining cost management capabilities, creating information to apply to the development of products and services for presenting to customers in e-Commerce business, including diversifying business risks in order to reduce dependence on its core businesses, all are likely to decrease in the future (Thailand Post Company, 2018).

The rapid growth of e-Commerce mentioned above is an opportunity for logistics services and competition for competitive advantage to grow rapidly and be more intense. According to the analysis of Kasikorn Bank in "e-Commerce Grow and Push Logistics to Increase", the logistics business that expanded well in 2018 was the land transportation delivery business, which expanded 5.3-7.0 percent, warehouse businesses expanded 5.3-7.0 percent, freight forwarders expanded 0.5-2.1 percent, and postal and shipping expanded 9.6-11.3 percent. In 2018 it was worth 30.8–31.3 billion baht (Kasikorn Bank, 2018).

By expanding e-Commerce, entrepreneurs both domestically and internationally, are now competing with Thailand Post Company Limited, which has been with Thai society for over 100 years. These competitors are both large and small, Thai owned companies and big international companies, such as SCG Express, Nim Express, DHL Express, Kerry Express etc.

The fact that Thailand Post Company Limited is able to stand and be the Number One logistics services provider shows its need to adapt and know its competitors very well.

### **2.6.2 Private Companies Providing Logistics Services**

The Thai private companies providing logistics services which are outstanding right now are two companies: SCG Express (subsidiary of Siam Cement Group) and Nim See Seng Company. SCG logistics services provides two types of transportation

services - SCG Logistics and SCG Express. SCG Logistics provides B2B (Business to Business) services and has been in service for a long time. SCG Express, which provides B2B and C2C (Customer to Customer) in collaboration with Yamato Asia, provides express delivery services under the name of SCG Express. It started providing service in 2017.

Nim See Seng is a large shipping and distribution provider in the northern region, it has also adapted to enter as an e-Commerce competitor, by adding Nim See Seng Express to provide express transportation and distribution services around the country.

International private logistics service providers that are likely to be direct competitors to Thailand Post Company Limited include DHL Express Company Limited and Kerry Express Company Limited.

DHL company, or Dalsey Hill Blom & Lin, is a German company that provides transportation and logistics. DHL Express Company Limited was established in 1971. It is the world's leading transport company with more than 380,000 employees in 220 countries around the world. Its business is valued at more than 60 billion US \$ (approximately 2 trillion baht). DHL Express is a Door-to-Door international delivery service, looking after, controlling and managing parcels from their destination. It is a comprehensive logistics service. DHL Express (Thailand) Company Limited opened its head office and has provided logistics services in Thailand since 2010, with four types of services:

- 1) International export-express services
- 2) Import services - express import freight
- 3) Domestic delivery service
- 4) Customs services and assistance

As for product management in response to e-commerce businesses, DHL Express e-Commerce is a logistics specialist that connects sellers and online shoppers around the world and across the country. It provides product pick up services at the place, delivery and return of parcels, both domestically and internationally. It can be said that DHL Express is a large company that gives a lot of importance to its personnel. DHL has been certified by the Top Employers Institute, which is an organization that certifies employment companies with the best conditions of

employment for its employees around the world. In addition, DHL has a clear corporate culture that says, “DHL and our employees are ready on every route to deliver the best service that you can expect”.

Kerry Express (Thailand) Company Limited, on behalf of Kerry Express, is a subsidiary of Kerry Logistics, which is registered in Hong Kong. It has been doing business in Thailand for almost 40 years. Kerry Express was founded in 2006, providing logistics services for retail and large businesses, from the storage of goods, freight product tracking and receiving payment at the destination, covering the needs of all customer groups. Since 2006, Kerry Express has grown tremendously, with the goal of allowing Thai consumers to access Kerry Express services anywhere in Thailand. In 2008 Kerry Express doubled its parcel shop from 1,000 points to 2,500 points and has expanded to cover almost all areas in the country over the next three years. The company also set a goal to expand its service points to 5,000 by 2020. In addition, Kerry Express is preparing to increase the number of small distribution centers to 500 branches, and increase hubs for sorting products from 12 branches to 109 branches by the year 2020.

It can be seen that the country’s largest logistics service provider, Thailand Post Company Limited, which is a government organization, is fighting with competitors that are world-class private companies. In all organizations, whether public or private, they have important elements to drive the organization to succeed, such as leaders and leadership. What are the characteristics of leader these organizations should have in order to lead them to survive and grow in a situation where everything in the world may be disrupted in a matter of months or a few years?

All these organizations have an organizational culture which is the foundation for instilling its work behavior, attitude and values in the organization. Will these organizational cultures help the organization be effective, or not? If the current organizational culture negatively affects performance, how will these organizations resolve the situation?

In addition, the changing trends of using technology and innovation are very important to the organization. How is the innovation climate within the organization helping it to achieve its objectives, and what kind of innovation climate should it have or should be promoted?

Therefore, this research is aimed at studying and proving that three factors or important elements of an organization, which are: transformational leadership, organizational culture, and innovation climate, might have relationships both directly and indirectly, and affect the effectiveness of the organization, which includes all types of organizations one expects and wishes for.

## **2.7 Research Conceptual Framework**

From the literature review of concepts, theories and related research studies mentioned above, the researcher can synthesize a conceptual framework of causal relationships regarding the organizational effectiveness of logistics service providers by specifying organizational effectiveness as a latent variable measured by four indicators, according to the competing values approach of (Quinn & Rohrbaugh, 1983) , which are organizational effectiveness in 1. Rational Goals, 2. Internal Processes, 3. Open Systems, and 4. Human Relations.

The variables that affect organizational effectiveness are: 1) The Transformational Leadership variable, measured from four indicators according to the concept of ( Bass & Avolio, 1994; 1995) , which include Idealized Influence, Inspirational Motivation, Intellectual Stimulation and Individualized Consideration 2) The Organizational Culture variable, measured from five indicators, according to the concept of evaluation of organizational culture of ( Sashkin & Rosenbach, 2013) , which includes Managing Change, Achieving Goals, Coordinated Teamwork, Customer Orientation and Cultural Strength. 3) The Innovation Climate variable, using the concept of ( De Drue & West, 2001; De Jong, 2007; Roderic, 2007) , by evaluating with four indicators: Freedom, Participative Safety, Striving for Excellence and Support for Innovation.

Therefore, the causal relationships of organizational effectiveness of logistics service providers is shown as a conceptual framework in Figure 2.1

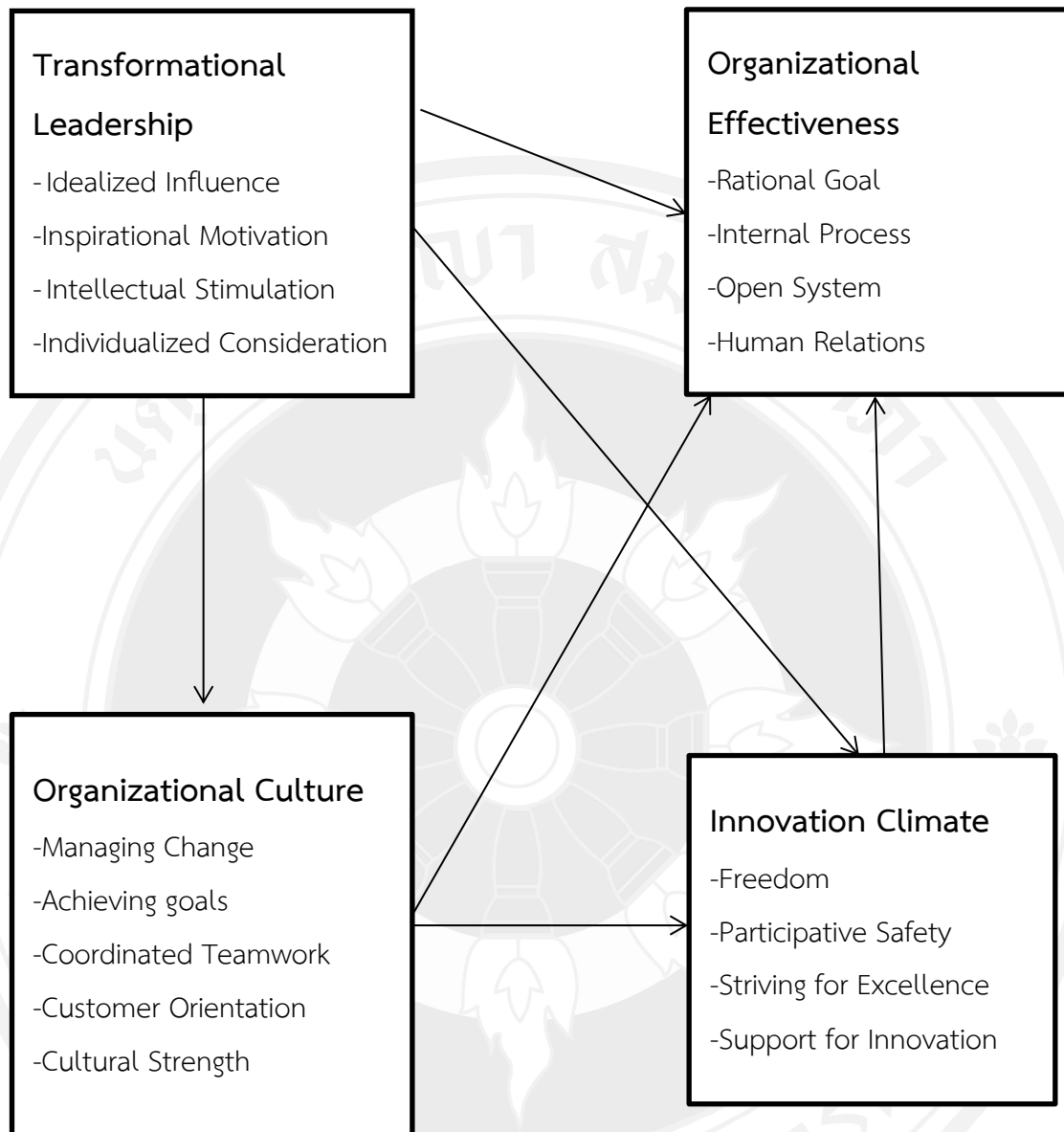


Figure 2.1 Causal Relationships of Organizational Effectiveness of Logistics Service Providers in Thailand

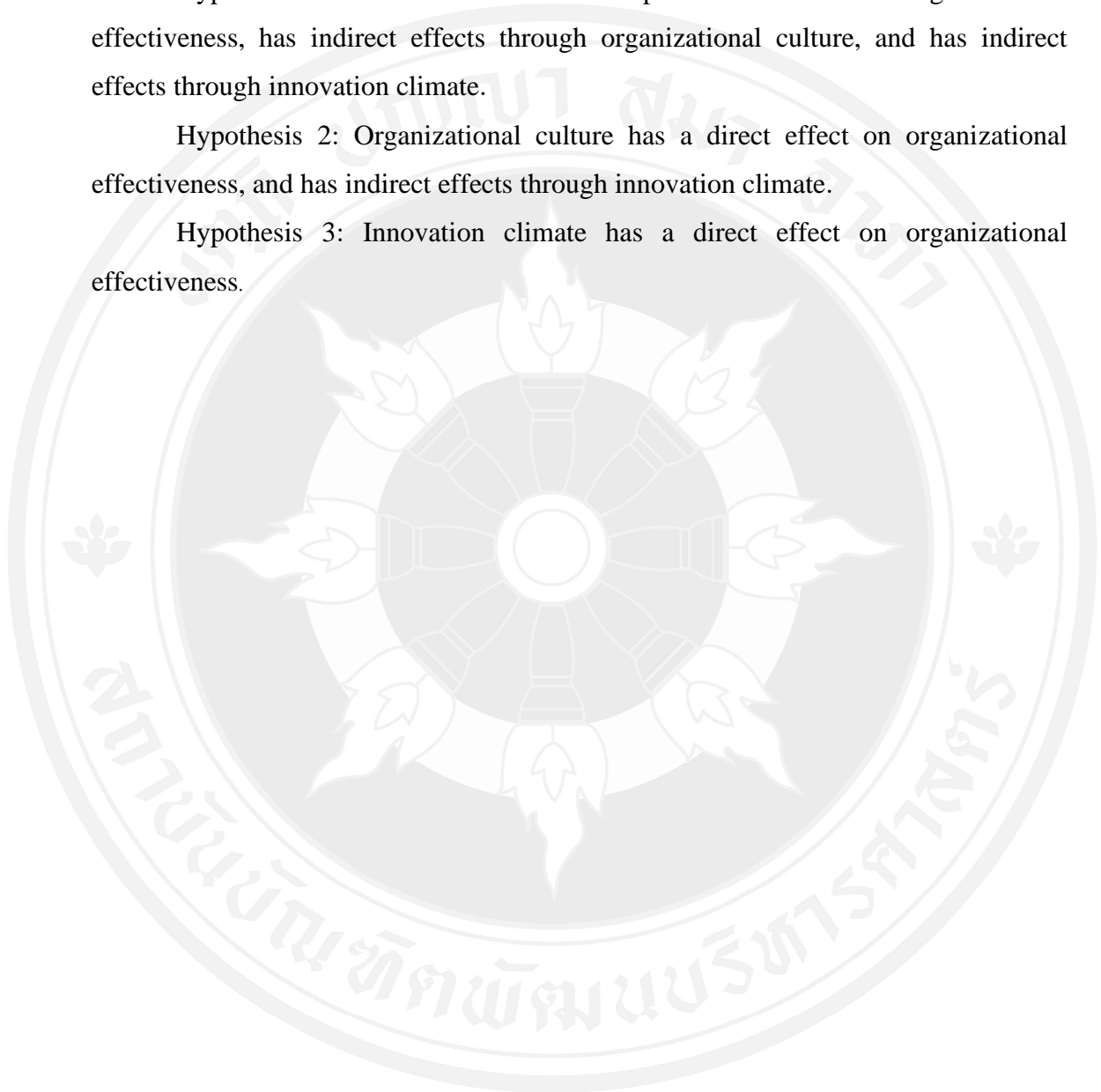
## 2.8 Research Hypotheses

From the research conceptual framework, the researcher can specify hypotheses as follows:

Hypothesis 1: Transformational leadership has a direct effect on organizational effectiveness, has indirect effects through organizational culture, and has indirect effects through innovation climate.

Hypothesis 2: Organizational culture has a direct effect on organizational effectiveness, and has indirect effects through innovation climate.

Hypothesis 3: Innovation climate has a direct effect on organizational effectiveness.



## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

The purpose of this study is to investigate the causal relationships of transformational leadership, organizational culture, innovation climate and organizational effectiveness of logistics service providers in Thailand. This chapter discusses the research methodologies that were used to analyze three factors that affect organizational effectiveness.

The research design and sample frames will be described, along with the instrumentation used to measure and analyze the data. The data collection procedures will be presented, followed by data analysis. This was a quantitative study using a survey as the method of data collection. Thus, this chapter also describes the reliability and validity associated with the pretest instruments.

#### **3.1 Population and Samples**

The Unit of Analysis of this research was logistics service providers in both public and private organizations who have a total staff of more than 9,000.

##### **3.1.1 Population**

The target population of this study included management and staff from logistic service providers in both public and private organizations. The public organization was Thailand Post Company Limited, and the two private organizations were international logistics companies. The target population for this survey was comprised of 32,951 employees. The first group represented Thailand Post Company Limited, comprised of 17,167 employees. The second group was company A: 9,336 employees, and company B: 6,448 employees. So the total sample for the private organizations was 15,784 employees.

### 3.1.2 Samples

The samples were drawn from the population of management and staff in logistics service providers in both public and private organizations. The public organization was Thailand Post Company Limited, and the two private organizations were international logistics companies.

A multi-stage random sampling methodology was implemented in this study in order to obtain good representation and respond to research purposes by performing the following processes:

- 1) In order to achieve adequate statistical purposes for the study, Krejcie and Morgan's (1970) table for determining sample size was used. According to the table, a total population of 32,951 should have a sample size of 379. In order to increase to a higher degree of representation and be consistent with Multivariate Analysis, which should have a large group of samples (Nonglak Wiratchai, 1999), the researcher assigned 70 percent for the sample, therefore the sample increased from 379 to 644.

- 2) The 644 samples were drawn from around the country, then the researcher divided the samples into two groups. The first group was working in Bangkok, and the second group was working regionally. Using a random number, the first group who was received was the one working in Bangkok.

- 3) In order to obtain more samples from public organizations, the researchers set the quota of samples of logistics service providers from public organization at 60 percent and private organization at 40 percent of the total, comprised of Company A and Company B.

- 4) The first 60 percent of samples was comprised of managers and staff in Thailand Post Company Limited, which totaled 386 samples. The second 40 percent of samples included managers and staff in an international logistics company, which was comprised of 258 samples.

- 5) The sample from Thailand Post Company used a simple random sampling method from a post office in Bangkok, which consisted of Metropolitan Post Office 1-2 Metropolitan Post Office 3-4 and Metropolitan Center Post Office. The samples were obtained from Metropolitan Post Office 1-2, consisting of four post offices: Chaeng Watthana Head Office - 60 samples, Bangna Post Office - 91

samples, Phra Khanong Post Office - 115 samples and Udom Suk Post Office - 120 samples. The total was 386 samples.

6) Random sampling was applied to select the samples from two offices at the international logistics companies' Headquarters, for Company A in Bang Rak -130 samples, and from the head office of Company B in Sathorn - 128 samples. Therefore, the total samples constituting private companies totaled 258.

Table 3.1 Total Amount of Respondents

<b>The Organizations</b>	<b>The Amount of Management and Staff</b>	<b>Total Amount of Respondents (Management and Staff)</b>
<b>Public Organization</b>	17,167	386
<b>Thailand Post Company</b>		
<b>Private Organization</b>	15,784	258
<b>Company A and Company B</b>		
<b>Total</b>	<b>32,951</b>	<b>644</b>

### 3.2 Operational Definitions

1) Logistics Service Provider refers to a system which deliver goods, information and other resources, from origin to consumption point, according to customer requirements.

2) Organizational effectiveness refers to the ability of the organization to use organizational resources effectively in order to obtain rational goals, using internal processes, open systems and human relations.

3) Organizational effectiveness in rational goals refers to a focus on successful work, obtaining goals, doing the best job possible, focusing on the best output as well as the quality of work.

4) Organizational effectiveness in the internal process refers to clear work procedures that anticipate the desired output, where the work process is continuous and does not change, and work procedures depend on the other work.

5) Organizational effectiveness in an open system refers to creative work, new approaches to work and continuous improvements in work, creative problem solving, decentralization in the decision making process and new ideas in the workplace.

6) Organizational effectiveness in human relations refers to unity in the workplace, participation in commentary and discussions, with a focus on morality, ethics and good relationships.

7) Transformational leadership refers to a process in which a leader works with co-workers and followers to identify needed change. The four elements of transformational leadership are idealized influence, inspirational motivation, individualized consideration and intellectual stimulation.

8) Idealized influence refers to leaders acting with integrity, focusing on desirable goals, going beyond their own individual interests for their followers, processing intellectual stimuli and the ability and focus on important missions.

9) Inspirational motivation refers to leaders articulating a vision that is appealing and inspiring to followers. They challenge followers with high standards to accomplish goals, communicate optimism about future goals, and provide meaning for the tasks at hand.

10) Intellectual stimulation refers to leaders who focus on and give opportunity to followers to express their opinions, they emphasize analyzing problems using reliable data and evidence, stimulate and encourage followers to improve their work and problem-solving methods, encourage followers to express their opinions and identify problems using reason and evidence.

11) Individualized consideration refers to leaders who always give advice to each individual progression, encourage followers to improve their outstanding features, individually give advice on followers' work, treat followers with regard to their differences and consider them as a valuable human resource rather than an employee.

12) Organizational culture refers to values, beliefs and assumptions in an organizational system that are shared by the organization's members. It includes

managing change, achieving goals, coordinated teamwork, customer orientation and cultural strength.

13) Managing change refers to personnel who are flexible and adaptable when change is necessary and feel that most change is the result of pressure imposed from top management. They have a clear idea of why and how to proceed throughout the process of change. People believe they can influence or affect their workplace through their ideas and involvement, and they believe that their concerns and anxieties during periods of change are heard and taken into consideration.

14) Achieving goals refers to individuals and teams who have clearly defined goals related to the mission of the organization. They expect to reach their goals and participate in defining specific goals. They constantly stretch their goals to continuously improve. Individuals and teams are measured and rewarded according to how well the goals are achieved, and they also have compatible goals.

15) Coordinated teamwork refers to people who believe in teamwork and have the essential skills needed to work effectively in teams. They know what is expected of them and understand their impact on other people, teams, and functions. These people believe in working together collaboratively, and work together as a team to achieve results for the organization.

16) Customer orientation means they give the highest priority and support to meeting the needs of clients and customers and solving their problems. They see customer and client problems as the organization's responsibility. They set policies and procedures to provide services for their customers' needs. They are always looking for new ways to better serve clients and customers, and solve customers' problems to their satisfaction.

17) Cultural strength refers to people's values and making use of one another's unique strengths and abilities. Everyone knows and understands their objectives and their rights. Business decisions are made on the basis of facts, not just perceptions or assumptions, and they have access to timely and accurate information about what is really happening in the organization and why.

18) Innovation climate refers to employees' freedom to develop their work, they receive participative safety, strive for excellence and get support for innovation.

19) Freedom refers to freely presenting ideas for job development, having the opportunity to do their best and take part in the decision making process within the organization, with the freedom to work and express their ideas.

20) Participative safety refers to safety at work, not being blamed when presenting new ideas, and when mistakes occur they receive reasonable punishment.

21) Striving for excellence means the staff attempts to do their best while applying suggestions from their team to their jobs, checking each other's control and acknowledging increases in performance.

22) Support for innovation means encouraging employees to practice their skills to continually improve their expertise, support operations that are beneficial toward organizational change, manage rules and regulations to support the operation, and receive proper funding for project implementation, while supporting creative staff and always advising their staff.

### **3.3 Research Instruments**

Four instruments were selected to collect data from the sample. These instruments are consistent in the questionnaires. The questionnaires are divided into five parts.

Part 1 Demographics Questionnaire

Part 2 Organizational Effectiveness Assessment

Part 3 Transformational Leadership Assessment

Part 4 Innovation Climate Assessment

Part 5 Organizational Culture Assessment

#### **3.3.1 Steps to Construct the Instruments**

3.3.1.1 The Researcher Constructed the Instruments as Follows:

1) Study concepts, theories, and related research to determine the research objectives, conceptual framework and operational definitions.

2) Define the type of questions, scale of measurement and scoring.

3) Transform operational definitions into questions.

4) Verify the quality of instruments using validity and reliability tests.

5) Adjust the instruments according to the validity tests and pre-tests.

### 3.3.1.2 The Instrument Details are as Follows:

#### 1) Demographics

There were seven questions asked of the respondents, which required them to provide information on their gender, age, education level, employment status, current position, and time spent at their current position.

2) The Organizational Effectiveness Assessment was developed from Quinn and Rohrbaugh's organizational effectiveness assessment (1983). It consists of 22 items to measure four observed variables: 1) rational goal, items 1-5; 2) internal process, items 6-10; 3) open system, items 11-14; and 4) human relations, items 15-22.

3) The Transformational Leadership Assessment was developed from Bass and Avolio's Multifactor Leadership Style (MLQ-5x) (1994). It consists of 21 items to measure four observed variables: 1) idealized influence, items 1-5; 2) inspirational motivation, items 6-10; 3) intellectual stimulation, items 11-16; and 4) individualized consideration, items 17-21.

4) The Innovation Climate Assessment was developed from (De Drue & West, 2001; De Jong, 2007; Roderic, 2007) innovation climate assessment. It consists of 17 items to measure four observed variables: 1) freedom, items 1-5; 2) participative safety, items 6-7; 3) striving for excellence, items 9-11; and 4) support for innovation, items 13-17.

5) The Organizational Culture Assessment was developed from Sashkin and Rosenbach's organizational culture assessment (2013). It consists of 22 items to measure five observed variables: 1) managing change, items 1-4; 2) achieving goals, items 5-8; 3) coordinated teamwork, items 9-12; 4) customer orientation, items 13-17; and 5) cultural strength, items 18-22.

A five-point Likert-type scale was used to assess how the participant's organization was perceived according to the questions, where:

5 refers to the level of practice that occurred in the organization as “highest”

4 refers to the level of practice that occurred in the organization as “high”

3 refers to the level of practice that occurred in the organization as “moderate”

2 refers to the level of practice that occurred in the organization as “low”

1 refers to the level of practice that occurred in the organization as “lowest”

All items used a five point Likert-type scale ranging from 1 = lowest to 5 = highest. Thus, according to the five levels of frequency, the interpretation of these responses was calculated by using the following formula (Boonchom Srisaart, 2000):

$$\text{Interval} = \frac{\text{the highest score} - \text{the lowest score}}{\text{number of intervals}}$$

For this reason, the interval scale in this study was:

$$\text{Interval} = \frac{5 - 1}{5} = 0.8$$

Therefore, the range of five levels of frequency were detailed as below:

1.00 - 1.80 refers to the lowest level of practice

1.81 - 2.60 refers to a low level of practice

2.61 - 3.40 refers to a moderate level of practice

3.41 - 4.20 refers to a high level of practice

4.21 - 5.00 refers to the highest level of practice

### 3.3.2 Quality of Research Instruments

#### 1) Validity

Validity refers to the degree to which a scale performs the function it was designed to perform. Evaluation of scale validity requires investigating the extent to which a scale is measuring what it was designed to measure.

The validity of the questionnaire was established by using the Expert method, which is called content validity. The content validity of measurement in this study was reviewed by three scholars in the field. The Index of Item – Objective Congruence (IOC) was used so as to find the content validity. In this process, the questionnaire was checked by three experts.

The Index of Item – Objective Congruence (IOC) was used to evaluate the items of the questionnaire based on a score ranging from -1 to +1

Congruent = +1

Questionable = 0

Incongruent = -1

The formula of IOC is

$$\text{IOC} = \frac{\sum R}{N}$$

Where IOC = Index of Item – Objective Congruence

$\sum R$  = Sum of Expert's score

N = Number of Experts

Items that had scores lower than 0.5 were revised. On the other hand, items that had scores higher than or equal to 0.5 were reserved. All of the items in this study had IOC more than 0.8. Thus, all the items were reserved.

## 2) Reliability

In order to ensure the reliability of the measurement instruments, reliability was obtained using the Statistical Package for Social Science to analyze the data on the proposed scales. The coefficient was calculated by using Cronbach's Alpha internal consistency method. A pretest was carried out to evaluate the survey. Forty staff of a logistics service business who were not part of the sample group participated in the pretest.

The acceptability of the coefficient alpha should be at least 0.7, and reliability is considered unacceptable if less than 0.4. The value of Cronbach's Alpha is shown in table 3.2.

Table 3.2 Reliability of the Questionnaires

Questionnaire	Number of items	Reliability
1. Organizational effectiveness	22	0.899
2. Transformational leadership	21	0.965
3. Innovation climate	17	0.953
4. Organizational culture	22	0.949
<b>Total</b>	<b>82</b>	<b>0.981</b>

According to the pre-test, the Cronbach's Alpha was 0.981, so the questionnaire was highly reliable.

### 3.4 Data Collection

According to (Sekaran & Bougie, 2010), the data collection methods are an integral part of research design. There are several data collection methods, each with its own advantage and disadvantage. Prior to the initiation of data collection, the researcher sent a request letter to both the public (Thailand Post Company Limited) organization and private (Companies A and B) organizations for the purpose of data collection and to get approvals from all three organizations.

At the data-gathering session, the researcher used both a hard copy questionnaire and an online questionnaire (Using QR code). The researcher's assistant administered the questionnaire between January and March 2020. A total of 531 questionnaires were collected back, so the response rate was 82 percent.

Various forms of data analysis were implemented using a quantitative method. Data were processed through editing, coding, and tabulation before analysis.

### 3.5 Data Analysis

The Causal Relationships model of organizational effectiveness of Logistics Service Providers in Thailand was built according to relevant theories and concepts in

order to check the consistency with empirical data. The model consists of four latent variables, as shown in the following details:

1) Organizational Effectiveness (OE) was measured using four observed variables: rational goal (OE\_RA), internal process (OE\_IP), open system (OE\_OS) and human relations (OE\_HR).

2) Transformational Leadership (TL) was measured using four observed variables: idealized influence (TL\_II), inspirational motivation (TL\_IM), intellectual stimulation (TL\_IS) and individualized consideration (TL\_IC).

3) Innovation Climate (CL) was measured using four observed variables: freedom (CL\_FR), participative safety (CL\_PS), striving for excellence (CL\_SE) and support for innovation (CL\_SI).

4) Organizational culture (OC) was measured using five observed variables: managing change (OC\_MG), achieving goals (OC\_AG), coordinated teamwork (OC\_CT), customer orientation (OC\_CO) and cultural strength (OC\_CS).

For checking the consistency of causal relationships of organizational effectiveness among Logistics Service Providers with empirical data, the researcher specified the following guidelines for analysis:

1) Analyze basic data by using basic descriptive statistics to know frequencies, measure central tendency (mean), and measure dispersion (range and standard deviation) using Statistical Program for Social Sciences (SPSS).

2) Analyze the relationship between variables, which were calculated using Pearson Product Moment Correlation to find the correlation matrix of data and check whether the correlation matrix is significantly different from zero, based on Bartlett's Test of Sphericity, which must be very different from zero, with statistical significance being close to 1.0 (Yuth Kaiwan, 2013).

3) Analyze Path Analysis of the causal relationships among Logistic Service Providers.

4) Assess the harmony of the model with overall empirical data by considering statistics used to measure the consistency levels, as detailed in the following (Nonglak Wiratchai, 1999)

(1) Chi-square statistics ( $\chi^2$ ). Chi-square statistics is used to test the hypothesis and whether the harmony function is zero. If Chi-Square is very low or near zero, it means the model is consistent with the empirical data.

(2) Goodness of Fit Index (GFI). GFI ranges between 0 and 1. GFI should be near 1.00, indicating that the model is consistent with the empirical data.

(3) Adjusted Goodness of Fit Index (AGFI). AGFI is obtained from the GFI when taking into account the sample size, number of variables and degrees of freedom, AGFI has the same characteristics as GFI. AGFI which is greater than 0.90 means the model is consistent with the empirical data.

(4) Comparative Fit Index (CFI), is in a range between 0 and 1.00. If it is greater than 0.95 it means the model is consistent with the empirical data.

(5) Relative Chi-square Statistics ( $\chi^2 / df$ ) is the statistic used to compare the degree of harmony between models with uneven degrees of freedom when relative chi-square is not more than 2.

(6) Root Mean Square Residual Standardized RMR is used to compare the degree of harmony with the empirical data of the model.

(7) Root Mean Square Error of Approximation (RMSEA). The RMSEA falls between 0 and 1.00. If it is less than 0.06, this means the model is consistent with the empirical data.

## CHAPTER 4

### RESULTS OF THE STUDY

This chapter presents the results in three sections. The first section reports on descriptive data about the Respondents' Characteristics. The second section presents the perceived level of organizational effectiveness of the logistics service providers. The third section depicts a path analysis of the causal relationships concerning the organizational effectiveness of those logistics service providers.

For an understanding of the results of this data analysis, the researcher has specified symbols and meanings that are used to represent statistics and various variables that have been used to analyze the data as follows:

Meanings and symbols used in presenting the results of data analysis

#### 1) Symbols Used for Data Analysis

Symbols or alphabets	Meaning
$\bar{X}$	Mean
<i>SD</i>	Standard Deviation
<i>df</i>	Degree of Freedom
<i>p</i>	Statistical significance level
<i>RMSEA</i>	Root Mean Square Error of Approximation
<i>GFI</i>	Goodness of Fit Index
<i>TLI</i>	The Tucker Lewis Index
<i>SRMR</i>	Standard Root Mean Square Residual
<i>DE</i>	Direct Effect
<i>IE</i>	Indirect Effect
<i>TE</i>	Total Effect
<i>S.E.</i>	Standard Error
$R^2$	Coefficient of Determination

<i>MI</i>	Modification Indices
<i>CFI</i>	Comparative Fit Index
<i>GFI</i>	Goodness of Fit Index
<i>AGFI</i>	Adjust Goodness of Fit Index

## 2) Symbols Used to Represent Latent Variables

TL	refers to	transformational leadership
OC	refers to	organizational culture
CL	refers to	innovation climate
OE	refers to	organizational effectiveness

## 3) Symbols Used to Represent Observed Variables

TL_II	refers to	transformational leadership in idealized influence
TL_IM	refers to	transformational leadership in inspirational motivation
TL_IS	refers to	transformational leadership in intellectual stimulation
TL_IC	refers to	transformational leadership in individualized consideration
OC_MC	refers to	organizational culture in managing change
OC_AG	refers to	organizational culture in achieving goals
OC_CT	refers to	organizational culture in coordinated teamwork
OC_CO	refers to	organizational culture in customer orientation
OC_CS	refers to	organizational culture in cultural strength
CL_FR	refers to	innovation climate in freedom
CL_PS	refers to	innovation climate in participative safety
CL_SE	refers to	innovation climate in striving for excellence
CL_SI	refers to	innovation climate in support for innovation
OE_RA	refers to	organizational effectiveness in rational goals
OE_IP	refers to	organizational effectiveness in internal process
OE_OS	refers to	organizational effectiveness in open systems
OE_HR	refers to	organizational effectiveness in human relations

#### 4.1 Characteristics of the Respondent Group

The results of the entire samples are indicated in Table 4.1. The samples consist of management and staff in public logistics service providers, which include Thailand Post Company Limited and two leading international logistics companies. The results indicate the 531 respondents by gender, age, educational level, current position, and work experience in their current position.

Table 4.1 Demographic Variables for Samples of Logistics Service Providers

<b>Demographic Variables</b>	<b>Number</b>	<b>Percentage</b>
<b>Gender</b>		
Male	377	71.00
Female	54	29.00
<b>Total</b>	<b>531</b>	<b>100.00</b>
<b>Age</b>		
Less than or equal to 30 years	171	32.20
31-40 years	229	43.13
41-50 years	105	19.77
51-60 years	25	4.71
More than 60 years	1	0.19
<b>Total</b>	<b>531</b>	<b>100.00</b>
<b>Educational level</b>		
Higher Vocational	216	40.70
Bachelor's Degree	299	56.30
Master's Degree	16	3.00
<b>Total</b>	<b>531</b>	<b>100.00</b>
<b>Work in the organization</b>		
Public	381	71.80
Private	150	28.20
<b>Total</b>	<b>531</b>	<b>100.00</b>

<b>Demographic Variables</b>	<b>Number</b>	<b>Percentage</b>
<b>Current Position</b>		
Manager	28	5.27
Department Head	68	12.81
Office Staff	435	81.92
<b>Total</b>	<b>531</b>	<b>100.00</b>
<b>Current Work Experience</b>		
Less than one year	49	9.20
1-5 years	241	45.40
6-10 years	196	36.90
More than 10 years	45	8.50
<b>Total</b>	<b>531</b>	<b>100.00</b>

From Table 4.1 it's seen that seventy-one percent of the respondents were male. There were few female logistics service providers (29%). In terms of age, the majority of respondents (43.13%) were within the 31-40 age range, followed by the less than or equal to 30 years (32.20%) bracket. The respondents aged between 51 and 60 made up 4.71%, and there was one respondent who was over 60 years old.

The majority of respondents' level of education was a bachelor's degree (56.30%), while 40.70 percent had a higher vocational certificate. Only three percent held a master's degree.

Seventy-one point eight percent worked in a public organization while 28.2 percent worked in a private organization.

With regard to current position, the respondents were divided into three categories: manager, department head and office staff. Most of the respondents were office staff (81.92%) which include depositor staff, e-commerce staff, operational staff, customer service staff, warehouse staff, document separation staff, EMS staff and out-bound postal staff. Twelve point eight percent were department heads, which included the head of service division, head of the business customer office, head of the distribution division, etc. Only five percent were managers.

Forty-five point four percent of respondents had been in their current position for 1-5 years while 36.90 percent had served for 6-10 years. Only 8.50 percent had served in their position for longer than 10 years.

## 4.2 The Level of Perceived Organizational Effectiveness and Its Latent Variables

The researcher presents the results of analysis on average and standard deviation in Tables 4.2-4.6

Table 4.2 Mean and Standard Deviation of Organizational Effectiveness in Public and Private Logistics Service Providers

Organizational effectiveness of logistics service providers in Thailand	Public			Private		
	$\bar{X}$	SD	Interpret	$\bar{X}$	SD	Interpret
<b>Organizational effectiveness</b>	4.27	0.61	Highest	4.39	0.67	Highest
<b>Transformational leadership</b>	4.29	0.67	Highest	4.37	0.65	Highest
<b>Innovation climate</b>	4.30	0.64	Highest	4.40	0.64	Highest
<b>Organizational culture</b>	4.32	0.61	Highest	4.41	0.62	Highest
<b>Total</b>	<b>4.29</b>	<b>0.61</b>	<b>Highest</b>	<b>4.39</b>	<b>0.63</b>	<b>Highest</b>

Table 4.2 shows the perceptions of the respondents in both public and private organizations. Most of the public staff perceived their organizational effectiveness to be at the highest level ( $\bar{X} = 4.29$ ,  $SD = 0.61$ ). When considering each aspect, it was found that their opinions were all highest in all four aspects, ranging from the most highest for organizational culture ( $\bar{X} = 4.32$ ,  $SD = 0.61$ ), innovation climate ( $\bar{X} = 4.30$ ,  $SD = 0.64$ ), transformational leadership ( $\bar{X} = 4.29$ ,  $SD = 0.67$ ) and organizational effectiveness ( $\bar{X} = 4.27$ ,  $SD = 0.61$ ) respectively.

From the viewpoint of respondents in the private organizations, most of them perceived their organizational effectiveness at the highest level ( $\bar{X} = 4.39$ ,  $SD = 0.63$ ). When considering the four aspects, it was found that their opinions were all highest in all aspects, ranging from organizational culture ( $\bar{X} = 4.41$ ,  $SD = 0.62$ ), innovation climate ( $\bar{X} = 4.40$ ,  $SD = 0.64$ ), organizational effectiveness ( $\bar{X} = 4.39$ ,  $SD = 0.67$ ) and transformational leadership ( $\bar{X} = 4.37$ ,  $SD = 0.65$ ), respectively.

Table 4.3 Mean and Standard Deviation of Organizational Effectiveness in Public and Private Logistics Service Providers in the Aspect of Organizational Effectiveness

Organizational Effectiveness	Public			Private		
	$\bar{X}$	SD	Interpret	$\bar{X}$	SD	Interpret
<b>On Rational Goals</b>	<b>4.33</b>	<b>0.62</b>	<b>Highest</b>	<b>4.40</b>	<b>0.59</b>	<b>Highest</b>
1. Work in your organization focuses on quality of work.	4.39	0.62	Highest	4.39	0.55	Highest
2. Work in your organization focuses on getting the best results.	4.31	0.62	Highest	4.43	0.57	Highest
3. Work in your organization focuses on achieving success	4.29	0.70	Highest	4.42	0.60	Highest
4. Work in your organization focuses on achieving work goals.	4.37	0.60	Highest	4.37	0.61	Highest
5. Work in your organization has the best characteristics of work.	4.30	0.65	Highest	4.42	0.61	Highest

Organizational Effectiveness	Public			Private		
	$\bar{X}$	SD	Interpret	$\bar{X}$	SD	Interpret
<b>On Internal Processes</b>	<b>4.26</b>	<b>0.66</b>	<b>Highest</b>	<b>4.34</b>	<b>0.61</b>	<b>Highest</b>
6. Work procedures in the organization are clear and easy to predict results.	4.26	0.70	Highest	4.35	0.67	Highest
7. Work procedures in the organization have the characteristic of flowing continuously and uninterruptedly.	4.28	0.64	Highest	4.37	0.59	Highest
8. Work procedures in the organization have characteristics that have not changed much.	4.25	0.70	Highest	4.34	0.58	Highest
9. Work procedures in the organization have characteristics that depend on other working procedures.	4.29	0.65	Highest	4.32	0.57	Highest
10. Work procedures in the organization have characteristics that must be trusting of other work procedures.	4.24	0.68	Highest	4.32	0.59	Highest
<b>In an Open System</b>	<b>4.30</b>	<b>0.64</b>	<b>Highest</b>	<b>4.42</b>	<b>0.62</b>	<b>Highest</b>
11. Within the organization, new approaches are created in work all the time.	4.26	0.68	Highest	4.45	0.62	Highest
12. Within the organization, work styles are always being	4.32	0.63	Highest	4.44	0.70	Highest

Organizational Effectiveness	Public			Private		
	$\bar{X}$	SD	Interpret	$\bar{X}$	SD	Interpret
improved.						
13. Within the organization, decentralized decision making powers exist in the workplace.	4.29	0.68	Highest	4.41	0.60	Highest
14. Within the organization, new ideas are used in the organization all the time.	4.36	0.63	Highest	4.38	0.59	Highest
<b>On Human Relations</b>	<b>4.27</b>	<b>0.63</b>	<b>Highest</b>	<b>4.40</b>	<b>0.59</b>	<b>Highest</b>
15. Within the organization is the characteristic of being open to participate in expressing opinions.	4.27	0.68	Highest	4.40	0.68	Highest
16. Within the organization is the characteristic of open discussion and debate.	4.26	0.67	Highest	4.34	0.65	Highest
17. Within the organization is the characteristic of giving importance to management and practitioners.	4.27	0.69	Highest	4.38	0.63	Highest
18. Within the organization is the concept that management and practitioners are important to the success of the organization.	4.29	0.65	Highest	4.41	0.67	Highest
19. Management and practitioners in the organization have good	4.27	0.68	Highest	4.44	0.50	Highest

Organizational Effectiveness	Public			Private		
	$\bar{X}$	SD	Interpret	$\bar{X}$	SD	Interpret
relationships with each other.						
20. Management and practitioners in the organization work as a team.	4.31	0.65	Highest	4.43	0.68	Highest
21. Management and practitioners in the organization maintain unity.	4.28	0.63	Highest	4.42	0.65	Highest
22. Working characteristics in the organization consider morality and ethics.	4.28	0.67	Highest	4.43	0.63	Highest
<b>Total</b>	<b>4.27</b>	<b>0.61</b>	<b>Highest</b>	<b>4.39</b>	<b>0.67</b>	<b>Highest</b>

Table 4.3 indicates the respondents from public logistics service providers who perceive their organizational effectiveness to be at the highest level ( $\bar{X} = 4.27$ ,  $SD = 0.61$ ). In the four aspects of organizational effectiveness, the perceptions of the respondents were at the highest levels, ranging from rational goals ( $\bar{X} = 4.33$ ,  $SD = 0.62$ ), an open system ( $\bar{X} = 4.30$ ,  $SD = 0.64$ ), human relations ( $\bar{X} = 4.27$ ,  $SD = 0.63$ ) and internal processes ( $\bar{X} = 4.26$ ,  $SD = 0.66$ ), respectively.

When considering each aspect of organizational effectiveness, the results from the study were as follows:

For rational goals, the respondents' focus on the quality of work had the highest level ( $\bar{X} = 4.39$ ,  $SD = 0.62$ ), while achieving success in the organization had the lowest level ( $\bar{X} = 4.29$ ,  $SD = 0.70$ ).

Regarding an open system, the respondents perceived that, in their organization, new ideas were used all the time ( $\bar{X} = 4.36$ ,  $SD = 0.63$ ) while creating new approaches had the lowest level ( $\bar{X} = 4.26$ ,  $SD = 0.68$ ).

On human relations, the results show that they focused on management and practitioners working as a team ( $\bar{X} = 4.31$ ,  $SD = 0.65$ ), while the characteristic of openness to discussion or debate was low ( $\bar{X} = 4.26$ ,  $SD = 0.67$ ). For the internal process, it was indicated that work procedures which depend on other working procedures were the most important ( $\bar{X} = 4.29$ ,  $SD = 0.65$ ); meanwhile, the characteristic of work that must trust other working procedures was the least important ( $\bar{X} = 4.24$ ,  $SD = 0.68$ ).

As to the viewpoint from private logistics service providers, they also perceived that their organizational effectiveness was at the highest level ( $\bar{X} = 4.39$ ,  $SD = 0.67$ ). Among the four aspects of organizational effectiveness, the perception of respondents had the highest level range for the open system ( $\bar{X} = 4.42$ ,  $SD = 0.62$ ), rational goals and human relations had the same mean and standard deviation ( $\bar{X} = 4.40$ ,  $SD = 0.59$ ), and the last aspect was the internal process ( $\bar{X} = 4.34$ ,  $SD = 0.61$ ). When considering the four aspects of organizational effectiveness, the results were as follows:

For open system, the respondents perceived that within their organization, a new approach was created all the time ( $\bar{X} = 4.45$ ,  $SD = 0.62$ ), while new ideas were always used in their organization ( $\bar{X} = 4.44$ ,  $SD = 0.70$ ).

As for rational goals, the private organizations focused on achieving success as well as achieving goals ( $\bar{X} = 4.42$ ).

On human relations, the respondents perceived that management and practitioners do work as a team ( $\bar{X} = 4.44$ ,  $SD = 0.50$ ), and they also focus on moral and ethics within the organization ( $\bar{X} = 4.43$ ,  $SD = 0.63$ ).

On the internal process, the respondents focused on the continuous flow of work as being the most important aspect ( $\bar{X} = 4.37$ ,  $SD = 0.59$ ).

Table 4.4 Mean and Standard Deviation of Organizational Effectiveness in Public and Private Logistics Service Providers: in the Aspect of Transformational Leadership

Transformational Leadership	Public			Private		
	$\bar{X}$	SD	Interpret	$\bar{X}$	SD	Interpret
<b>Idealized Influence</b>	<b>4.29</b>	<b>0.63</b>	<b>Highest</b>	<b>4.40</b>	<b>0.61</b>	<b>Highest</b>
1. Management behaves as a good example for the benefit of staff at work	4.34	0.64	Highest	4.45	0.60	Highest
2. Management identifies the importance of having clear work goals.	4.30	0.61	Highest	4.39	0.67	Highest
3. Management sacrifices their own interests for mutual interests.	4.22	0.68	Highest	4.40	0.64	Highest
4. Management is very intelligent and has the ability to work.	4.38	0.62	Highest	4.39	0.63	Highest
5. Management emphasizes the importance of dedication to the mission together.	4.25	0.67	Highest	4.39	0.52	Highest
<b>Inspirational Motivation</b>	<b>4.29</b>	<b>0.63</b>	<b>Highest</b>	<b>4.37</b>	<b>0.55</b>	<b>Highest</b>
6. Management looks forward to new possibilities	4.26	0.66	Highest	4.36	0.49	Highest
7. Management expresses confidence that the operation will achieve its goals.	4.35	0.60	Highest	4.43	0.53	Highest
8. Management encourages staff to focus on finding methods to achieve success in their work.	4.27	0.67	Highest	4.37	0.65	Highest

<b>Transformational Leadership</b>	<b>Public</b>			<b>Private</b>		
	$\bar{X}$	SD	Interpret	$\bar{X}$	SD	Interpret
9. Management encourages staff to recognize the important issues that should be considered.	4.31	0.64	Highest	4.37	0.65	Highest
10. Management demonstrates strong determination to complete work as they specify.	4.29	0.63	Highest	4.35	0.53	Highest
<b>Intellectual Stimulation</b>	<b>4.30</b>	<b>0.62</b>	<b>Highest</b>	<b>4.37</b>	<b>0.57</b>	<b>Highest</b>
11. Management gives importance to the opportunity of staff to express their opinions.	4.29	0.63	Highest	4.37	0.60	Highest
12. Management emphasizes letting staff analyze the cause of problems in work using reliable data and evidence.	4.34	0.63	Highest	4.35	0.67	Highest
13. Management is interested in improving working methods to become better.	4.28	0.63	Highest	4.41	0.64	Highest
14. Management tries to find new solutions.	4.29	0.63	Highest	4.39	0.63	Highest
15. Management encourages staff to comment on their work.	4.28	0.63	Highest	4.34	0.53	Highest
16. Management encourages staff to identify problems by using data and evidence rather than thinking by themselves on problems.	4.35	0.63	Highest	4.40	0.65	Highest

<b>Transformational Leadership</b>	<b>Public</b>			<b>Private</b>		
	$\bar{X}$	SD	Interpret	$\bar{X}$	SD	Interpret
<b>Individualized Consideration</b>	<b>4.29</b>	<b>0.63</b>	<b>Highest</b>	<b>4.33</b>	<b>0.63</b>	<b>Highest</b>
17. Management at each level in the organization gives time to recommend individuals for work.	4.28	0.65	Highest	4.31	0.53	Highest
18. Management at each level in the organization gives useful advice for advancement of the individual.	4.28	0.65	Highest	4.33	0.65	Highest
19. Management at each level in the organization focuses on staff to develop their own strengths.	4.31	0.63	Highest	4.35	0.65	Highest
20. Management at each level in the organization treats employees by considering their individual differences.	4.32	0.64	Highest	4.35	0.53	Highest
21. Management at each level in the organization treats employees as important human resources rather than only staff.	4.29	0.62	Highest	4.36	0.65	Highest
<b>Total</b>	<b>4.29</b>	<b>0.67</b>	<b>Highest</b>	<b>4.37</b>	<b>0.65</b>	<b>Highest</b>

Table 4. 4 shows that respondents from public logistics service providers believe that transformational leadership in their organization is at the highest level ( $\bar{X} = 4.29$ ,  $SD = 0.67$ ).

When considering the four components of transformational leadership, they scored intellectual stimulation at the highest level ( $\bar{X} = 4.30$ ,  $SD = 0.62$ ), while the

other three components; idealized influence, inspirational motivation and individual consideration possessed the same mean ( $\bar{X} = 4.29$ ).

From the results, intellectual stimulation was the most important component of transformational leadership for the public staff. They focused on management that encourages staff to identify problems using data and evidence, rather than thinking by themselves on problems ( $\bar{X} = 4.35$ ,  $SD = 0.63$ ). The second aspect that public staff was concerned with was for management that emphasizes letting staff analyze the cause of work problems by using reliable data and evidence ( $\bar{X} = 4.34$ ,  $SD = 0.63$ ).

The other three aspects were idealized influence, inspirational motivation and individualized consideration, all with the same means ( $\bar{X} = 4.29$ ), indicating that public staff perceived transformational leaders who possessed these three characteristics to be important for their organization.

As for the private staff in the international companies, they concluded that transformational leadership in their organization was at the highest level ( $\bar{X} = 4.37$ ,  $SD = 0.65$ ). When considering the four components of transformational leadership, they scored idealized influence at the highest level ( $\bar{X} = 4.40$ ,  $SD = 0.61$ ), while inspirational motivation and intellectual stimulation got the same mean ( $\bar{X} = 4.37$ ), and individualized consideration was the least important.

From their point of view, a transformational leader who behaves as a good role model is very important ( $\bar{X} = 4.40$ ), as are leaders who sacrifice their own interests for mutual interests.

The other two aspects were inspirational motivation, they focused on leaders who encourage staff to find methods to achieve success in their work ( $\bar{X} = 4.37$ ), and intellectual stimulation, by focusing on leaders who are interested in improving work methods to get better results.

Table 4.5 Mean and Standard Deviation of Organizational Effectiveness in Public and Private Logistics Service Providers in the Aspect of Innovation Climate

Innovation Climate	Public			Private		
	$\bar{X}$	SD	Interpret	$\bar{X}$	SD	Interpret
<b>Freedom</b>	<b>4.29</b>	<b>0.65</b>	<b>Highest</b>	<b>4.35</b>	<b>0.62</b>	<b>Highest</b>
1. Staff in the organization can express ideas to develop work freely.	4.32	0.66	Highest	4.36	0.63	Highest
2. The organization gives the opportunity for staff to use their potential in work fully.	4.32	0.67	Highest	4.37	0.64	Highest
3. Staff in the organization participate in decision making.	4.24	0.67	Highest	4.36	0.62	Highest
4. The organization gives the opportunity for staff to work freely.	4.32	0.64	Highest	4.37	0.62	Highest
5. Staff in the organization has the freedom to express their opinions on every issue.	4.29	0.66	Highest	4.33	0.63	Highest
<b>Participative safety</b>	<b>4.25</b>	<b>0.62</b>	<b>Highest</b>	<b>4.37</b>	<b>0.63</b>	<b>Highest</b>
6. When staff in the organization proposes new ideas, even though those ideas fail, the staff are not scolded.	4.26	0.62	Highest	4.34	0.63	Highest
7. When staff in the organization have some errors in their work, they are	4.25	0.67	Highest	4.41	0.64	Highest

Innovation Climate	Public			Private		
	$\bar{X}$	SD	Interpret	$\bar{X}$	SD	Interpret
punished reasonably.						
<b>Striving for excellence</b>	4.30	0.63	Highest	4.45	0.61	Highest
8. Staff in the organization put forth the effort to operate for the best.	4.30	0.64	Highest	4.48	0.61	Highest
9. Staff in the organization uses advice they get while working in a team and applies it.	4.35	0.61	Highest	4.45	0.64	Highest
10. Operations in the organization have control and check each other.	4.27	0.65	Highest	4.43	0.60	Highest
11. Staff in the organization are recognized to increase quality of performance.	4.31	0.63	Highest	4.46	0.62	Highest
<b>Support for innovation</b>	<b>4.33</b>	<b>0.62</b>	<b>Highest</b>	<b>4.41</b>	<b>0.62</b>	<b>Highest</b>
12. The organization supports staff to practice skills and enhance expertise in work continuously.	4.35	0.61	Highest	4.40	0.63	Highest
13. The organization supports operations which are useful for organizational change.	4.33	0.61	Highest	4.45	0.64	Highest
14. The organization supports operations by managing rules and regulations.	4.34	0.63	Highest	4.43	0.60	Highest

Innovation Climate	Public			Private		
	$\bar{X}$	SD	Interpret	$\bar{X}$	SD	Interpret
15. The organization supports a budget for doing projects appropriately.	4.34	0.64	Highest	4.39	0.62	Highest
16. Management supports staff who have creativity in work for being a role model for other staff.	4.34	0.62	Highest	4.41	0.61	Highest
17. Management at each level gives advice for staff continuously.	4.32	0.62	Highest	4.43	0.67	Highest
<b>Total</b>	<b>4.30</b>	<b>0.64</b>	<b>Highest</b>	<b>4.40</b>	<b>0.64</b>	<b>Highest</b>

Table 4.5 indicates what respondents from public logistics service providers perceive regarding the innovation climate in their organization, coming in at the highest level ( $\bar{X} = 4.30$ ,  $SD = 0.64$ ). When considering the four factors of innovation climate, they scored their support for innovation as being the most important ( $\bar{X} = 4.30$ ,  $SD = 0.64$ ), then came striving for excellence ( $\bar{X} = 4.30$ ,  $SD = 0.63$ ), freedom ( $\bar{X} = 4.29$ ,  $SD = 0.62$ ) and participative safety ( $\bar{X} = 4.25$ ,  $SD = 0.62$ ), respectively.

From the results, it shows that support for innovation was important for public staff, they focus on the support of operations using rules and regulations ( $\bar{X} = 4.34$ ), support an appropriate budget ( $\bar{X} = 4.34$ ) and support staff who have creativity in their work and are good role models ( $\bar{X} = 4.34$ ).

Striving for excellence was the second most important factor, the public staff focused on the advice they received from their team to apply to their job ( $\bar{X} = 4.35$ ,  $SD = 0.61$ ).

The other two factors of innovation climate were freedom and participative safety, which were also important. In freedom, the public staff focused on the free

expression of ideas to develop their work ( $\bar{X} = 4.32$ ), the opportunity to work with their full potential ( $\bar{X} = 4.32$ ), and the opportunity to work freely ( $\bar{X} = 4.32$ ).

From the viewpoint of private staff, they expressed that the innovation climate in their organization was at the highest level ( $\bar{X} = 4.40$ ,  $SD = 0.64$ ). They scored the striving for excellence as being the most important ( $\bar{X} = 4.45$ ,  $SD = 0.61$ ), followed by support for innovation ( $\bar{X} = 4.41$ ,  $SD = 0.62$ ), participative safety ( $\bar{X} = 4.37$ ,  $SD = 0.63$ ) and freedom ( $\bar{X} = 4.35$ ,  $SD = 0.62$ ), respectively.

The results show that striving for excellence was important for private staff, while emphasizing those staff who work with their best efforts ( $\bar{X} = 4.48$ ) and the staff who are recognized for increasing their quality of performance.

The support for innovation was the second most important factor, they emphasized the organizational support of operations, which was useful for organizational change ( $\bar{X} = 4.45$ ), then they focused on the managing of rules and regulations ( $\bar{X} = 4.43$ ) and management at each level who give advice for staff continuously ( $\bar{X} = 4.43$ ).

The third factor was participative safety, when private staff pay attention to reasonable punishment if they make some errors at work ( $\bar{X} = 4.41$ ).

The last factor was freedom, they focused on the opportunity to work at their full potential ( $\bar{X} = 4.37$ ) and the opportunity to work freely ( $\bar{X} = 4.32$ ).

Table 4.6 Mean and Standard Deviation of Organizational Effectiveness in Public and Private Logistics Service Providers in the Aspect of Organizational Culture

Organizational culture	Public			Private		
	$\bar{X}$	SD	Interpret	$\bar{X}$	SD	Interpret
<b>Managing change</b>	<b>4.33</b>	<b>0.64</b>	<b>Highest</b>	<b>4.41</b>	<b>0.61</b>	<b>Highest</b>
1. Staff in the organization are flexible and adaptable when change is necessary.	4.38	0.60	Highest	4.47	0.64	Highest
2. Staff in the organization have clear ideas of why and how to proceed throughout the process of change.	4.31	0.61	Highest	4.36	0.52	Highest
3. Staff in the organization believe they can influence and affect their workplace through their ideas and involvement.	4.31	0.66	Highest	4.43	0.63	Highest
4. Staff in the organization believe that their concerns and anxieties during periods of change are heard and taken into consideration.	4.33	0.64	Highest	4.37	0.59	Highest
<b>Achieving goals</b>	<b>4.30</b>	<b>0.62</b>	<b>Highest</b>	<b>4.38</b>	<b>0.67</b>	<b>Highest</b>
5. Staff and team in the organization have clearly defined goals that relate to the goals and mission of the business.	4.33	0.61	Highest	4.38	0.62	Highest

Organizational culture	Public			Private		
	$\bar{X}$	SD	Interpret	$\bar{X}$	SD	Interpret
6. Staff and team in the organization are measured and rewarded according to how well goals are achieved.	4.31	0.62	Highest	4.39	0.65	Highest
7. Staff and team in the organization participate in defining specific goals.	4.29	0.65	Highest	4.39	0.64	Highest
8. The organization constantly stretches goals to continuously improve.	4.27	0.64	Highest	4.37	0.52	Highest
<b>Coordinated teamwork</b>	<b>4.33</b>	<b>0.62</b>	<b>Highest</b>	<b>4.43</b>	<b>0.63</b>	<b>Highest</b>
9. Staff in the organization believe in teamwork and give importance to benefits of team rather than their own.	4.30	0.63	Highest	4.41	0.59	Highest
10. Staff in the organization know what is expected of them and understand their impact on other people, teams and functions.	4.35	0.59	Highest	4.45	0.67	Highest
11. Staff in the organization believe in working together collaboratively, preferring cooperation over competition.	4.31	0.67	Highest	4.42	0.62	Highest
12. Management at all levels work together as a team to achieve results for the organization.	4.36	0.62	Highest	4.45	0.65	Highest

Organizational culture	Public			Private		
	$\bar{X}$	SD	Interpret	$\bar{X}$	SD	Interpret
<b>Customer Orientation</b>	<b>4.33</b>	<b>0.62</b>	<b>Highest</b>	<b>4.44</b>	<b>0.64</b>	<b>Highest</b>
13. The organization gives the highest priority and support to meeting the needs of clients and customers and to solving their problems.	4.32	0.62	Highest	4.45	0.52	Highest
14. Our policies and procedures help us to provide the service our customers want and need.	4.36	0.61	Highest	4.42	0.63	Highest
15. Staff in the organization are always looking for new ways to better serve clients and customers.	4.31	0.63	Highest	4.41	0.59	Highest
16. Staff in the organization who do the best job of serving customers are more likely than others to be recognized and rewarded.	4.32	0.62	Highest	4.50	0.67	Highest
17. When customers have problems with the products or service they receive, those problems are resolved to their satisfaction.	4.35	0.61	Highest	4.41	0.62	Highest
<b>Cultural Strength</b>	<b>4.32</b>	<b>0.61</b>	<b>Highest</b>	<b>4.43</b>	<b>0.65</b>	<b>Highest</b>
18. Staff in the organization value and make use of one another's unique strengths and different abilities.	4.31	0.63	Highest	4.43	0.64	Highest

Organizational culture	Public			Private		
	$\bar{X}$	SD	Interpret	$\bar{X}$	SD	Interpret
19. Staff in the organization know and understand business objectives and priorities.	4.38	0.58	Highest	4.45	0.52	Highest
20. Staff in the organization work by using policies or principles to reach operational goals.	4.29	0.62	Highest	4.41	0.63	Highest
21. Business decisions are most often made on the basis of facts, not just perceptions or assumptions.	4.38	0.60	Highest	4.45	0.59	Highest
22. Staff in the organization have access to timely and accurate information about what is really happening in the organization and why.	4.28	0.60	Highest	4.43	0.67	Highest
<b>Total</b>	<b>4.32</b>	<b>0.61</b>	<b>Highest</b>	<b>4.41</b>	<b>0.62</b>	<b>Highest</b>

Table 4.6 depicts the respondents' perceptions, as public logistics service providers, with their organizational culture being at the highest level ( $\bar{X} = 4.32$ ,  $SD = 0.61$ ). When considering the five components of organizational culture, they perceived that managing change, coordinated teamwork and customer orientation with the same mean ( $\bar{X} = 4.33$ ), followed by cultural strength ( $\bar{X} = 4.32$ ) and achieving goals ( $\bar{X} = 4.30$ ), respectively.

From the results, the public staff focused on managing change in a way such that staff in the organization are flexible and adaptable to change ( $\bar{X} = 4.38$ ,  $SD = 0.60$ ). For coordinated teamwork they focus on how the staff know their expectations

and understand their impact on other people, teams and functions ( $\bar{X} = 4.35$ ,  $SD = 0.59$ ). And for customer orientation, they emphasize policies and procedures that serve the customer's wants and needs ( $\bar{X} = 4.36$ ,  $SD = 0.61$ ).

On cultural strength, the public staff focused on the way the organization knew and understood business objectives and priorities ( $\bar{X} = 4.38$ ) and business decisions were most often made on the basis of facts, not just perceptions or assumptions ( $\bar{X} = 4.38$ ).

On achieving goals, they focused on how the staff and team in the organization had clearly defined goals that relate to the goals and mission of the business.

From the opinions of respondents in these private logistics service providers, they perceived that their organizational culture was at the highest level ( $\bar{X} = 4.41$ ,  $SD = 0.62$ ). They perceived that customer orientation was the most important ( $\bar{X} = 4.44$ ), followed by coordinated teamwork and cultural strength ( $\bar{X} = 4.43$ ), then managing change ( $\bar{X} = 4.41$ ) and lastly, achieving goals.

On customer orientation, they were of the view that the most important aspect was the staff in the organization who did the best job of serving customers, and were thus more likely than others to be recognized and rewarded ( $\bar{X} = 4.50$ ,  $SD = 0.67$ ).

For coordinated teamwork, they focused on those staff in the organization who knew what was expected of them and understood their impact on other people, teams and functions ( $\bar{X} = 4.45$ ) and also focused on management at all levels, working together as a team to achieve results for the organization ( $\bar{X} = 4.45$ ).

And for cultural strength, the private staff emphasized the staff in the organization who knew and understood business objectives and priorities ( $\bar{X} = 4.45$ ), and business decisions were most often made on the basis of facts, not just perceptions or assumptions ( $\bar{X} = 4.45$ ).

In managing change, they emphasized that the staff in the organization were flexible and adaptable to change ( $\bar{X} = 4.47$ ,  $SD = 0.64$ ).

And for achieving goals, they focused on the performance evaluation by achieving goals ( $\bar{X} = 4.39$ ,  $SD = 0.65$ ).

In conclusion, from the analysis of the perceptions of public staff in Thailand Post Company Limited, and private staff in two leading international logistics companies concerning their organizational effectiveness, they perceived that their organizational effectiveness was at the highest level. While considering the three factors - transformational leadership, innovation climate and organizational culture, they also perceived them to be at the highest level. Therefore, this confirmed that the public and private staff had the same opinions about their organizational effectiveness and the factors affecting them. The researcher will then use these data to run a path analysis to prove the research hypothesis.

### **4.3 Path Analysis of Causal Relationships of Organizational Effectiveness of Logistics Service Providers in Thailand**

The path analysis of casual relationships of organizational effectiveness of logistics service providers in Thailand was performed by using a statistical program consisting of four latent variables: organizational effectiveness (OE), transformational leadership (TL), organizational culture (OC), and innovation climate (CL); and 17 observed variables: rational goals (OE\_RA), internal process (OE\_IP), open system (OE\_OS), human relations (OE\_HR), idealized influence (TL\_II), inspirational motivation (TL\_IM), intellectual stimulation (TL\_IS), individualized consideration (TL\_IC), freedom (CL\_FR), participative safety (CL\_PS), striving for excellence (CL\_SE), support for innovation (CL\_SI), managing change (OC\_MC), achieving goals (OC\_AG), coordinated teamwork (OC\_CT), customer orientation (OC\_CO), and cultural strength (OC\_CS).

### 4.3.1 Path analysis and Consistency of Causal Relationships of Organizational Effectiveness of Logistics Service Providers in Thailand

Before analyzing a path analysis of causal relationships of organizational effectiveness of logistics service providers in Thailand, the researcher analyzed the size and direction of relationships between the latent variables, as shown in Table 4.7.

Table 4.7 Correlation Matrix between Latent Variables

Latent variable	OE	TL	OC	CL
OE	1.000			
TL	0.891**	1.000		
OC	0.867**	0.889**	1.000	
CL	0.879**	0.930**	0.906**	1.000

Note: \*\* $p < 0.01$ , \* $p < 0.05$

From Table 4.7, we considered the correlation matrix between latent variables and found that the correlation coefficient of latent variables had the same direction, and the size of relation was positive with the correlation coefficient of latent variables from 0.867-0.930. The pair that had the most correlation coefficient was innovation climate (CL) and transformational leadership (TL) with correlation coefficient 0.930, followed by innovation climate (CL) and organizational culture (OC) with a correlation coefficient of 0.906. The pair that had the least correlation coefficient was organizational culture (OC) and organizational effectiveness (OE) with a correlation coefficient of 0.867.

From considering Bartlett's Test of Sphericity and Kaiser Meyer Olkin (KMO) index (Yuth Kaiwan, 2013), it was indicated that the correlation matrix between latent variables for our model of measurement of causal relationships of organizational effectiveness of logistics service providers in Thailand did not identity

a matrix and the relationship between variables was more than enough to continue the analysis.

Table 4.8 KMO and Bartlett’s Test

Kaiser – Meyer – Olkin Measure of Sampling Adequacy	0.872
Bartlett’s Test of Sphericity Approx. Chi-square	2934.66
df	6
Sig	0.000

Path analysis and consistency of causal relationships of organizational effectiveness of logistics service providers in Thailand, shown in Diagram one

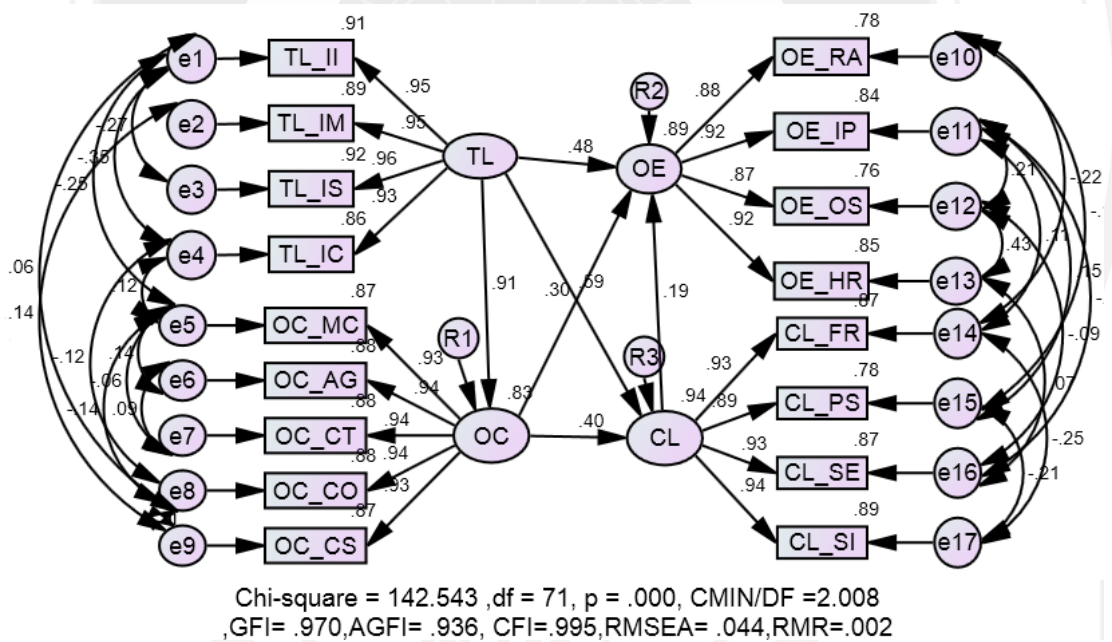


Figure 4.1 Path Analysis of Causal Relationships of Organizational Effectiveness of Logistics Service Providers in Thailand

From Figure 4. 1, Path Analysis of causal relationships of organizational effectiveness of logistics service providers in Thailand, it was found that the model is consistent with the empirical data when considering the statistics used to check consistency of the model with the empirical data, which is chi square 142.543, degree of freedom 71, and relative chi-square, as used to compare the model's different degrees of freedom. Chi square is not more than two. In this model chi-square is 2, which is in the acceptable range of criteria. GFI should be between 0 and 1, and GFI should be near 1.00. This model has GFI equal to 0.970, which means this model is consistent with the empirical data. CFI should be between 0 and 1.00. If more than 0.95, it means the model is consistent with the empirical data. This model had a CFI of 0.995. It can be concluded that it is consistent with the empirical data. AGFI has the same qualification with GFI. It should be more than 0.90. This model had AGFI of 0.936, which means the model is consistent with the empirical data. RMR is 0.002, which is less than 0.05, and RMSEA should be between 0 and 1.00. If less than 0.06 it means the model is consistent with the empirical data. RMSEA in this model is 0.044, which is in an acceptable range, considering statistical measurement consistency, as mentioned. This means the model of causal relationship of organizational effectiveness of logistics service providers is consistent with the empirical data.

#### **4.3.2 Analysis of Direct Effect and Indirect Effect of Causal Relationships of Organizational Effectiveness of Logistics Service Providers in Thailand .....**

Analysis of the direct effect and indirect effect of causal relationships of organizational effectiveness of logistics service providers in Thailand is shown in Table 4.9

Table 4.9 Analysis of Direct Effect and Indirect Effect of Causal Relationships of Organizational Effectiveness of Logistics Service Providers in Thailand

Dependent Variables	CL			OC			OE		
	TE	IE	DE	TE	IE	DE	TE	IE	DE
TL	.66*	.36*	.30*	.91*	-	.91*	.93	.45*	.48*
OC	.40*	-	.40*	-	-	-	.67*	.08*	.59*
CL	-	-	-	-	-	-	.19*	-	.19*
Chi-square=142.543 CFI=0.995 GFI=0.97 AGFI=0.936 RMR=0.002 RMSEA =0.044									

Note: \*p<0.05

From Table 4.9 it was found that organizational effectiveness (OE) has a direct effect from transformational leadership (TL), organizational culture (OC) and innovation climate (CL), with the size of the effect being 0.48, 0.59 and 0.19, respectively.

Organizational culture (OC) has a direct effect from transformational leadership (TL), with size of effect being 0.91.

Innovation climate (CL) has a direct effect from transformational leadership (TL) and organizational culture (OC), which has sizes of effect at 0.30 and 0.40, respectively.

Organizational effectiveness (OE) has an indirect effect from transformational leadership (TL) and organizational culture (OC), which has the size of effect at 0.45 and 0.08, respectively. Innovation climate (CL) has an indirect effect from transformational leadership (TL), which shows the size of effect at 0.36.

The R-SQUARE of organizational effectiveness (OE) is 0.893. This means transformational leadership (TL), organizational culture (OC) and innovation climate (CL) can explain organizational effectiveness to 89.30 percent.

The R-SQUARE of innovation climate ( CL) is 0.942. This means transformational leadership ( TL) and organizational culture ( OC) can explain innovation climate by 94.20 percent.

The R-SQUARE of organizational culture ( OC) is 0.831. This means transformational leadership (TL) can explain organizational culture by 83.10 percent.

From the analysis of direct effects and indirect effects of the causal relationships of organizational effectiveness of logistics service providers in Thailand, we can summarize as follows:

Hypothesis 1 Transformational leadership has a direct effect on organizational effectiveness, has an indirect effect through organizational culture, and has an indirect effect through innovation climate.

The results of hypothesis testing found that transformational leadership has a direct effect on organizational effectiveness (DE = 0.48) with statistical significance of 0.05, which is consistent with the hypothesis. It has an indirect effect through organizational culture ( IE = 0.08) with statistical significance of 0.05, which is consistent with the hypothesis. Innovation climate has a direct effect from transformational leadership ( DE = 0.30) and a direct effect from organizational culture (DE=0.40), but no indirect effect to organizational effectiveness, which is not consistent with the hypothesis.

Hypothesis 2 Organizational culture has a direct effect on organizational effectiveness, and has an indirect effect through innovation climate.

The results of hypothesis testing found that organizational culture has a direct effect on organizational effectiveness (DE = 0.59) and statistically significant at 0.05, which is consistent with the hypothesis. Innovation climate has a direct effect from organizational culture (DE = 0.40) but no indirect effect to organizational effective, which is not consistent with the hypothesis.

Hypothesis 3 Innovation climate has a direct effect on organizational effectiveness.

The results of hypothesis testing found that innovation climate has a direct effect on organizational effectiveness (DE = 0.19) and is statistically significant at 0.05, which is consistent with the hypothesis.

## **CHAPTER 5**

### **DISCUSSION AND RECOMMENDATIONS**

This chapter presents the highlights of the study and discusses the implication of the findings. The chapter begins by discussing the significance of the findings in causal relationships of organizational effectiveness, and is followed by a discussion of recommendations for future research.

#### **5.1 Discussion of Research Findings**

##### **5.1.1 Causal Relationships of Organizational Effectiveness**

The researcher has discussed the research findings according to findings in the analysis of causal relationships of organizational effectiveness of logistics service providers in Thailand, as follows:

###### **a. Organizational Effectiveness**

The most important finding to note is that the management and staff in logistics service providers perceived their organizational effectiveness as being very high. They confirmed that their organization had proper rational goals, used an open system, and focused on human relations as well as concerns over the internal process. These four components also ranked at the high level.

The first component of organizational effectiveness that the management and staff in logistics service providers gave first priority to was for rational goals. Most staff in the organization recognized that their work must focus primarily on quality, this was followed by a focus on achieving their goals and the need to work to get the best results, which shows that logistics service providers, whether a public organization, which in our case was Thailand Post Company Limited, or a leading private logistics company, which in this case was a multinational company, both give importance to their goals for work. This was consistent with Hoy and Miskel's (1991) concept (Hoy & Miskel, 1991), which

summarized the opinion that organizational effectiveness achieves organizational goals, both in terms of quality and quantity. By achieving goals, the organization must manage how to use resources in the organization to achieve specific goals appropriately.

Considering the context of logistics service providers, we can conclude that most of the personnel in logistics service providers give importance to and recognize that their organization works to achieve organizational effectiveness in rational goals, which means the organization has clear plans and sets goals. They focus on operations for productivity and emphasize the utilization of resources for efficiency as well as focus on profit, which are consistent with the concept of (Quinn & Rohrbaugh, 1983) , who proposed a model of rational goals for evaluating organizational effectiveness.

The next component that management and staff in logistics service providers gave importance to was an open system. Most staff recognize that within the organization new concepts are used for work all the time. There has always been work improvement and decentralization in decision-making. It can be seen that the concept of an open system is very important for organizational effectiveness. When considering the context of logistics service providers, both public and private, who have been competing continuously to be number one in service, this study found that both public and private sectors give great importance to the concept of an open system, which means the organization must undergo planning, be ready at all times and have flexibility, adaptability, and utilization of its external environment (Quinn & Rohrbaugh, 1983). The concept of open system therefore reflects the operations of an organization that uses new ideas for work and improves its way of working. When considering the operational report of Thailand Post Company Limited and the leading private logistics companies, the researcher found that each year they had new services to satisfy their customers' needs. For example, in providing logistics services for E-Commerce, Thailand Post Distribution Company Limited ( subsidiary) has a preparation service (Pick and Pack) that uses Artificial Intelligence (AI) such as Chat Bot, which is an important tool for creating new experiences for its customers to buy their products (Thailand Post Company, 2018).

The third component of organizational effectiveness that management and staff in logistics service providers focus on is human relations. Management and staff in the organization recognize that their organization must always work as a team. However, though the management and staff were united, working in the organization with regards to morality and ethics, the opportunity for discussion or debate was still not very open.

The last component of organizational effectiveness that management and staff in logistics service providers recognized was their internal process, which they saw as the working procedures of the organization being clearly defined and not frequently changed; therefore, in order to create organizational effectiveness that is consistent with the concept of (Seashore & Yuchtman, 1967), they have concluded that an effective organization is an organization that has working procedures within the organization at an appropriate level. They do not have more procedures than necessary, which causes the members of the organization to stay united with the organizational internal system and helps the organization to run smoothly. The more the organization can keep the internal process running smoothly, the more organizational effectiveness the organization has.

#### 5.1.1.2 Organizational Culture

The major factor that has a strong direct effect on organizational effectiveness is organizational culture.

Organizational culture is the most important variable because from the results of data analysis, organizational culture is the variable which has the strongest effect on organizational effectiveness among logistics service providers in Thailand. This finding is consistent with many research studies, which have found that organizational culture has an influence or effect on organizational effectiveness. As (Deal & Peterson, 1990) have found, organizational culture has an effect on organizational effectiveness in output, and there is reason to believe that organizational culture makes the organization successful, which is consistent with the research of (Kotter & Heskett, 1992), who found that organizational culture is the most important factor that affects the long-term operations of the organization and can predict the success of the organization.

When considering the components of organizational culture used in this research, we identified five areas, which were: managing change, achieving goals, coordinated teamwork, customer orientation, and cultural strength. The results of this research have shown that the management and staff in logistics service providers are of the opinion that organizational culture in customer orientation is the most important thing to them. They see to it that their organization has a policy that is conducive to providing services that satisfy their customers' needs, which is consistent with current empirical data – that logistics service providers are highly competitive, especially Thailand Post Company Limited, which has transformed from a state enterprise to a limited company in order to increase the potential of their business operations and competitiveness. This provides self-supporting income while still providing social services for the benefit of the people and the nation. As for the two leading logistics companies, which are both multinational companies, both focus on customer orientation and respond to the satisfaction of their customers, as well.

Considering organizational culture, customer orientation is one of the most important aspects. It emphasizes customers' needs. From the results of research, it was found that the management and staff in logistics service providers have seen to it that their organization has a clear policy to respond to customers' needs. They also make sure that staff who serve customers well will be recognized and get rewarded more than other staff, including problem solving for customers, which is important too. It can be seen that there are three concepts of management and staff in logistics service providers: responding to customer needs, good customer service, and focusing on solving problems for customers, all values or beliefs that management and staff must adhere to. These three strong values are important characteristics of organizational culture and can effect organizational effectiveness. They're consistent with the research of (Scholz, 1987), who found that organizational culture is the cause of creating competitive advantage and is also consistent with research by (Parin Bunchaluy, 2013), who found that organizational effectiveness is work performance, which happens from values that affect organizational effectiveness. Adhering to beliefs and values creates unity in work. When policies and practices are consistent with beliefs and values, they contribute to the implementation of a strong organizational culture. Values and practices are strongly bonded with each other and

are a way to improve work performance and effectiveness. Values that are held strongly and widely within the organization help management predict the behavior of members within the organization, including being able to control not getting unwanted results. Therefore, organizational effectiveness often varies according to the shared values that members of the organization adhere to (Parin Bunchaluay, 2013).

Besides customer orientation, the management and staff in logistics service providers also focus on cultural strength. Management and staff recognize that their organization has an organizational culture, which is the working system and mutual understanding system of the members in the organization. The results of the research have shown that most of the members in the organization understand the objectives and priorities of work, and business decision making needs facts to make the organization successful, which is consistent with the research of ( Usanee Mongkolpitaksuk, 2018) , who found that mission culture leads to organizational effectiveness. Mission culture consists of understanding in the missions, goals and objectives of the organization or work, including the priority of working according to a plan and achieving the goals that have been set.

The third component of organizational culture that management and staff in logistics service providers give importance to is managing change. Most members in the organization recognize that operations or conduct in the organization must be flexible and adaptable to change. In addition, most of the members have a clear concept of implementation by the change process. The results of the research have clearly shown that managing change is very important to the operation nowadays. In an era of disruption, the most obvious example is the operation of Thailand Post Company Limited, which tries to manage change all the time because the organization has gone through many changes in this era. Although in the initial phase of transition the organization may encounter some problems, it can still overcome those obstacles. This is probably because the organizational culture of Thailand Post Company Limited has created a majority of members who have a good attitude to change, are flexible and accept change. Despite this, there has been criticism that this organization may not survive when it has to compete with rivals who are leading multinational companies. Thailand Post Company Limited has proven that, in this time, it has managed change every time. Therefore, this makes the

organization still able to stand as a leader among logistics service providers. For the leading multinational companies who are its rivals, the management and staff have accepted and given importance to managing change very well. One reason that management and staff in logistics service providers have good ideas and attitude towards managing change maybe because most of the staff who gave an opinion were Gen Y, with ages between 21 and 37 years old. The staff with the most opinions in this research were between 31 and 40 years old, who do not fear change, are flexible and accept change. Therefore, when the organization has to adapt, to be dynamic all the time, members in the organization cooperate with each other in order to enable the organization to move toward success. This is consistent with the research of (Yiing, 2008) , who found that management must adapt the organizational culture to a dynamic environment in globalization. Moreover, managing change, flexibility and being ready to change were the concepts which were most consistent with adaptability culture, as stated by (Denison, 1990) who focused on creating change for clients and organizational learning.

The component of organizational culture in coordinated teamwork and achieving goals that management and staff in logistics service providers recognize, were at a high level, but had importance for four out of five ranks. Most of them agreed that all levels of management must cooperate as a team to achieve organizational goals, and most members of the organization must have goals that are consistent with the organization' s goals, which is a pattern of cooperative organizational culture that affects organizational effectiveness (Denison, 1990).

#### 5.1.1.3 Transformational Leadership

The results of the research found that transformational leadership is the variable that has the most direct effect on organizational effectiveness for the second rank.

Transformational leadership is the second variable, which has a direct effect on organizational effectiveness for the second rank in organizational culture. There are many research studies that support the finding that transformational leadership has an effect on organizational effectiveness, such as research by (Pratt & Eitzen, 1989) , with their conclusion that organizational effectiveness depends on transformational leadership, followership, development of members in the

organization, and the management system. Factors that have the most effect on organizational effectiveness include transformational leadership, like the research of Branch (1990), who concluded that transformational leadership that has the trademark of a leader will influence the work and manage the organization to achieve effectiveness.

When considering the components of transformational leadership variables, four components stand out: idealized influence, inspiration motivation, intellectual stimulation and individual consideration. The results of the research show that management and staff in logistics service providers have the opinion that an important characteristic and behavior of transformational leadership is intellectual stimulation, especially when management encourages employees to use reason and evidence to identify problems and find ways to solve those problems. Management should focus on staff to analyze the cause of work problems by using reliable data and evidence. Research findings like this do not appear in the previous research, except for the research of (Rui et al., 2010). The research findings found that staff are encouraged to make decisions based on facts and have a positive relationship with transformational leadership, finally leading to organizational effectiveness. This may be due to differences of context and environment. In the current state of business operations, an analysis of the cause of problems, and solving those problems using reliable data and evidence, or in other words, information that is accurate and timely, will help to have effectiveness in the workplace. Therefore, management and staff in logistics service providers need leaders who encourage employees to use reason and evidence to solve problems.

The component of transformational leadership that management and staff in logistics service providers give importance to for the second rank is idealized influence. They acknowledge that management is intelligent and has the ability to work, including behaving as good role models for the staff, which is consistent with the research of (Varangkna Kanchanapatee, 2013). The results of the research found that transformational leadership has an effect on organizational effectiveness, and is the component of transformational leadership in idealized influence that has the most effect on organizational effectiveness. Moreover, it is consistent with the research of (Kuhnert & Lewis, 1987), who concluded that transformational leadership is not a

leader who works for exchanging benefit with subordinates, but subordinates and colleagues must have trust and faith in their leader, which means leaders must be good examples for colleagues. This characteristic is one of the main components of transformational leadership, which is idealized influence. It can be concluded that idealized influence means leaders who behave as role models for followers and have the ability and high standards of work which management and staff in logistics service providers need. The research of (Pongsak Thongpanchang, 2009) of Rajabhat University, which is a government university, also provided research confirming that the component of transformational leadership, called idealized influence, has a positive and direct effect on organizational effectiveness. Meanwhile, the research of (Chanchai Tosanguan, 2010) found that among components of transformational leadership in supervisors in the automobile industry, which are private companies, idealized influence is the most important. Therefore, it can be concluded that transformational leadership with idealized influence is a desirable feature in all types of companies.

The component of transformational leadership that management and staff in logistics service providers give importance to for the third rank is inspiration motivation. They have the opinion that management must show the confidence that they can work to achieve goals and management must encourage staff to recognize important issues in every job. The results of the research were the same as the research of (Rieley, 1993), which confirmed that organizational effectiveness can be achieved when there is an environment that contributes to success through leadership and has the power to stimulate change in a better way. Rieley concluded that leaders must have specific qualifications to help the organization to be successful. One specific qualification is the ability of the leader to clearly encourage communication about working goals, which is a power of leadership that helps create the direction of the organization to go ahead with stability. Research by Banerjee and Krishman in 2000 found that transformational leadership encourages and stimulates followers to have self-confidence and develop themselves to help each other to achieve organizational goals. Therefore, the relationship between transformational leadership and followers leads to organizational effectiveness. In terms of creating inspiration, the research of (Rafferty & Griffin, 2006) studied the impacts of change on personnel,

which include frequency of change, participation in change planning, and impacts from change as a whole. Rafferty and Griffin found that transformational leadership, in a leader who creates inspiration and encourages staff to improve and change their working style, has a great effect on the above change, and the overall result of change is the achievement of organizational success.

The last component of transformational leadership that management and staff in logistics service providers give importance to is individualized consideration. Most management and staff have recognized that management must treat staff by considering the differences between individuals and trying to let employees develop themselves, as well as giving advice to staff individually. These characteristics are desirable in leadership for most employees in every organization. This research is consistent with the research of (Z. M. Wang & Satow, 1994), who discovered that the main factor leading to success of an organization is the ability of leaders to be sympathetic and try to treat their subordinates by considering the differences between people and trying to develop the potential of subordinates, which leads to organizational effectiveness. However, most research on transformational leadership discusses related findings in three main components, inspiration motivation, idealized influence and intellectual stimulation. As for the component of individualized consideration, even though it has appeared in the research, most research studies have found that it is the last component and has little effect on work performance, or is the component that leaders tend to not show or show little, the result of this research has come to the same answer. Management and staff in logistics service providers have recognized individualized consideration less than the other components. In fact, individualized consideration is very important for the operation because each staff is treated by their superior or leader differently. As well, receiving personalized recommendations for each person will make staff recognize sympathy and contribute to good attitudes toward superiors, which may result in better work.

#### 5.1.1.4 Innovation Climate

The results of this research show that innovation climate has a direct effect on organizational effectiveness for the last rank. No research result to support this finding has been found because most research studies found that an atmosphere of innovation has a relationship with or is influenced by other variables, such as

organizational culture. Transformational leadership, then, has an effect or impact on organizational effectiveness. For example, the research of (Sarros et al., 2008) on conceptual frameworks, revealed that leadership and organizational culture are linked in a transformational process that contributes to organizational success or organizational effectiveness. Therefore, they focused on the study of the relationship between transformational leadership, organizational culture and organizational innovation. The results of the research found that transformational leadership has an effect on organizational culture. The component of transformational leadership that most has an effect on organizational culture is if the leader has a clear vision, followed by the component of expectations of high performance and providing individual support to subordinates. The research also found that organizational culture has an influence on organizational climate, which promotes innovation or innovation climate.

In considering the component of innovation climate, there are four components, which include freedom, participative safety, striving for excellence and support for innovation. The research findings have shown that management and staff in logistics service providers recognize that innovation climate in support of innovation is the most important practice within the organization. The organization should try to support operations by managing rules and regulations to facilitate operations. The issue of creating a creative working atmosphere, rules and regulations must be provided to help work be flexible, timely and more competitive. Management and staff in logistics service providers have recognized that in their organization, whether Thailand Post Company Limited or leading private companies, both recognized that their organization must try to support an innovation climate by breaking down walls that block rules and regulations, especially in this era of competition between logistics service providers, which is more intense. Therefore, if management or staff work to create innovation, the rules and regulations must facilitate the operation as well. This idea is consistent with creating an innovation climate in the organization for the competitive advantage and performance of the organization. The organization has to create a working climate appropriately, give freedom and reduce some unnecessary rules and regulations.

The component of innovation climate that management and staff in logistics service providers give importance to for the second rank is striving for excellence. They recognize that the staff in the organization should apply advice gained from working as a team. It has shown that personnel in logistics service providers gives importance to teamwork, which is very necessary for logistics service work, because the working process of logistics service providers is a continuous process and must rely on work before and after their own work, this is organizational effectiveness in the internal process. The findings reveal that organizational effectiveness in internal processes is at a high level when considered from the working process in sequence and relying on other work, and when the working process is seldom changed. Therefore, working together as a team is very important for successful work.

The component of innovation climate that management and staff in logistics service providers give importance to for the third rank is freedom. Employees in the organization should be able to propose job development ideas freely. The organization gives employees the opportunity to fully utilize their potential, and gives the opportunity to work independently. It can be seen that most employees have a positive concept about freedom. This concept is consistent with the definition of innovation climate that many scholars adhere to. Every definition has key words like “freedom of thought” and “freedom to express opinion”. For example, (Ekvall, 1996) said that innovation climate is a climate where members of the organization have freedom of thought and are supported when they propose new ideas. (Roderic, 2007) gave the definition of innovation climate that it must be a climate where management at all levels accepts proposals of new concepts by members in the organization. Members in the organization should have the freedom to express their opinions, participate in work goals and have freedom to create innovation.

The last component of innovation climate is participative safety. Management and staff in logistics service providers recognize that if employees make a mistake in their work, they are reasonably punished, and employees in the organization can propose new ideas, and even though those ideas are not ultimately successful, they will not be scolded. Management and staff recognize that this kind of

idea is very important in the desire to create innovation, because if employees in the organization do not dare attempt trial and error because they fear punishment, new concepts or innovation cannot happen.

### **5.1.2 Discussion of the Findings Based on Research Hypotheses**

The first hypothesis states that transformational leadership has a direct effect on organizational effectiveness, an indirect effect through organizational culture and an indirect effect through innovation climate.

Hypothesis testing found that transformational leadership has a direct effect on organizational effectiveness, with statistical significance based on the hypothesis, and an indirect effect through organizational culture based on the hypothesis. Innovation climate is directly influenced by transformational leadership and is directly influenced by organizational culture, but does not have an indirect effect on organizational effectiveness, which is not based on the hypothesis.

However, when considering R – SQUARE of organizational effectiveness, which was 0.89, it was shown that transformational leadership, organizational culture and innovation climate variables are able to explain the variance of organizational effectiveness variables at 89.30 percent. This means that the concepts of transformational leadership, organizational culture and innovation climate can explain and predict organizational effectiveness at 89.30 percent, which is considered at a high level. Therefore, it may be possible to accept the first hypothesis.

The results of this study are based on the first hypothesis. It can be surmised that the results on transformational leadership are very important for contributing to organizational effectiveness because the most important characteristic of transformational leadership is the ability to change the whole organization for the better (Dubrin, 1998). Transformational leadership has an indirect effect on organizational culture. This result of research confirms that academicians are interested in studying the connection between organizational culture and organizational effectiveness to prove how transformational leadership creates organizational culture; or if the organization has strong organizational culture, how transformational leaders can utilize organizational culture to contribute to organizational effectiveness.

In addition, both transformational leadership and organizational culture have an effect on innovation climate, which is the idea of innovation climate being something that both the government sector and private sector wish to have in their own sectors, because innovation climate takes part in creating change in the organization and being ready for any influence from the environment. Innovation climate will help to improve the quality of people in the organization, help to achieve the objectives of the organization, and lead the organization to operate efficiently, which is consistent with research by, (B. J. Avolio et al., 1999) who found that transformational leadership has an effect and promotes innovation climate and change in the organization. Meanwhile, (Johannessen et al., 1999) found that organizational culture contributes to innovative organizations. Organizational culture may be either a stimulus to contributions to innovation climate, or a barrier. The results of this research confirm that both transformational leadership and organizational culture have a direct effect on innovation climate.

The results of this study also revealed that the concepts of transformational leadership, organizational culture, and innovation climate can explain and predict organizational effectiveness up to 89 percent, which is very high. It means that if the public sector, which is Thailand Post Company Limited in this study, and the private sector, which involves two leading multinational private companies, give importance to transformational leadership, which aims to encourage employees to use reason and evidence to solve problems, have accurate, reliable and timely information as well as focus on organizational culture, focus on the needs of customers as much as possible, including creating innovation climate, by managing rules and regulations to support their work as much as possible. These three components will be able to predict organizational effectiveness in achieving rational goals, which mainly focus on quality and results of work, by up to 89 percent.

The second hypothesis states that organizational culture has a direct effect on organizational effectiveness and an indirect effect through innovation climate.

Hypothesis testing found that organizational culture has a direct effect on organizational effectiveness with statistical significance based on the hypothesis, and innovation climate is directly affected by organizational culture, but does not have an indirect effect on organizational effectiveness, which is not based on the hypothesis.

When considering R - SQUARE of organizational culture, which was 0.83, it was shown that the transformational leadership variable can explain and predict the organizational culture variable up to 83 percent of the time without innovation climate.

The results of this study show that the second hypothesis is acceptable in some parts, in that organizational culture has a direct effect on organizational effectiveness and leads to innovation climate. From the data analysis, it was found that organizational culture has the highest direct effect on organizational effectiveness, followed by transformational leadership and innovation climate. It can be said that organizational culture is the most important variable to contribute to organizational effectiveness among logistics service providers in Thailand.

Organizational culture, which means the values, beliefs, and fundamental principles that make up the foundation of an organization's management system, with personnel in the organization participating in the development of the organization to achieve success and contribute to organizational effectiveness in the operation. When considering organizational culture, the researcher studied both public and private sectors, it was found that Thailand Post Company Limited is a government organization that has an organizational culture, especially in its basic principle, which is the foundation of its organizational management system and is stronger and clearer than in the private sector. This is because Thailand Post Company Limited has a history of establishment lasting over 100 years. Even though it has changed from its civil servant era in response to the mission of government officers and citizens into a state enterprise, the first era of being the postal service office of the Communications Authority of Thailand (CAT) had a big transformation into a limited company in order to increase the potential of business competition, including having an income to sustain itself. The organization has a long history of operation, values, beliefs and principles of living, and so work in the organization will be inherited from past to present. Even though its organizational culture has adapted according to the context or situation, some of its fundamental values and beliefs are likely inherited.

As for the private sector, which included two leading multinational companies, one company has a history of establishment of about 50 years and the other has about 40 years. The companies established their headquarters and have operated for 15

years and 12 years, respectively. If we compare their time of operation for instilling organizational culture in their employees in order to create an organizational culture in which the personnel are involved in the success and development of the organization, it can be seen that the period of time is much shorter than Thailand Post Company Limited. In addition, in this study most of the data were collected from the public sector, which had four times more respondents than the private sector. Therefore, we can conclude that the research findings reflect the organizational culture of the public sector more effectively.

One of the findings of this research found that organizational culture has the strongest effect on organizational effectiveness. It was also found that organizational culture in customer orientation is something that management and staff in logistics service providers adhere to, as they believe that if the organization has a clear policy to respond to customer needs, good customer service, and focuses on solving problems for customers, they will make the organization a success.

In the context of business operations among logistics service providers, nowadays it's highly competitive. Giving importance to customers, both inside and outside, is very important. Therefore, the use of management tools to respond to customers' needs is extremely necessary, such as the use of customer relationship management tools in management systems and creating standards for work, gathering information about customers and communication channel management, and developing products and services to respond to customers' needs, as well as the use of quality management systems by personnel at all levels, both management and staff. They must give importance to customers' needs and expectations by all those involved in the organization. These tools and management systems will contribute organizational efficiency and effectiveness. It can be seen that organizational culture in customer orientation is important for contributing to organizational effectiveness.

The results of this research also found that organizational culture has a direct effect on innovation climate, which is considered very important for any organization nowadays, whether the organization is in the public or private sector, because innovation climate means employees in the organization have freedom and participative safety, and they strive for excellence and support innovation. The component of organizational culture in managing change may affect innovation

climate more than other components. This is because organizational culture in managing change focuses on flexibility and adaptation when necessary, including giving the opportunity for employees to propose ideas and opinions freely to help the organization be able to survive from problems during times of improvement and change.

In conclusion, organizational culture has the strongest effect on organizational effectiveness, especially organizational culture in customer orientation. It also effects innovation climate in managing change.

The third hypothesis states that innovation climate has a direct effect on organizational effectiveness

Hypothesis testing found that innovation climate has a direct effect on organizational effectiveness with statistical significance based on the hypothesis.

When considering the R-SQUARE of innovation climate variable, which was 0.94, it shows that the transformational leadership and organizational culture variables can explain and predict a variance of innovation climate by 94 percent. This means the concept of transformational leadership, combined with the concept of organizational culture, can explain and predict innovation climate up to 94 percent of the time.

The results of this research confirm that innovation climate has an effect on organizational effectiveness. Innovation climate has several definitions, including employees who have freedom, can propose ideas for job development freely, are not scolded if those ideas are not successful, try to get the best results, and are supported to practice their skills and creativity. This research was consistent with the research of (Adams, Bessant, & Phelps, 2006), who found that whether an organization will be more effective partly depends on creating a climate that feels free to initiate creativity, combined with controlling that created innovation to get the greatest benefit. In addition, research by (Dunegan, Tierney, & Duchon, 1992) found that a creative work climate is one of the most important factors for driving innovation to happen within the organization. This is consistent with a study by (Mathison & Einarsen, 2004), who found that the working environment contributes to the creativity and innovation habits of employees.

Many scholars have expressed their opinions on this and have research that supports the premise that innovation climate encourages employees to create innovation or new approaches to work, learning new skills, and creating the stimulation needed for personnel to face risks reasonably. Innovation climate is something that young personnel need and accept, and it is important to help drive modern organizations to their goals, which is consistent with the concept of (Gray, 2007), who concluded that one dimension of organizational success is the freedom to create innovation. Employees should be given the opportunity to try new frameworks or methods, and should have enough freedom from their leaders who are not too forceful to do things in only one way or pattern. If staff have creativity, the leaders should listen and give them an opportunity to work with new methods, which may be more effective than the old one.

As for the element of innovation climate, the management and staff in logistics service providers give the most importance to operating by rules and regulations that facilitate working conveniently, quickly and flexibly. The climate should not be too attached to the rules, which leads to the freedom to experiment with new work and methods, which results in innovation and success in work.

In the context of the public and private organizations used in this study, both try and strive to create innovation climate within their organizations. They believe that innovation is the most important component in creating profitability that leads to organizational competitive advantage. It can be seen that both Thailand Post Company Limited and the two leading multinational companies are trying to present innovation to respond to customers' needs as much as possible, especially when digital factors and E-commerce are more involved.

In conclusion, innovation climate has a direct effect on organizational effectiveness.

### **5.1.3 Summary of Research Findings**

This research has found that organizational culture, transformational leadership and innovation climate has effects on organizational effectiveness. Current organizations have to face change all the time; therefore, the organization must have clear goals, focus on the important things and respond to customers' need. Leaders

must encourage employees to use effective principles, reasons and methods in their work and when solving problems, and the organization must manage rules and regulations to facilitate work. All of these factors will enhance the effectiveness of the organization. The findings from this research found that organizational culture is the most influential factor on organizational effectiveness, especially culture involving customer orientation. Focusing on customer needs and customer satisfaction in this digital disruption era is a challenge for all leaders in the organization, using intellectual stimulation by encouraging all employees to work based on using reason. In addition, organizational culture has an effect on innovation climate, which helps promote employees in the organization to have freedom, strive for excellence and support innovation. The results of this research will help to manage organizations to be more successful, thus giving importance to all levels of transformational leadership while focusing on organizational culture in customer orientation and enhancing innovation climate.

## **5.2 Recommendations**

### **5.2.1 Recommendation for Applying Research Results**

This research is a study of causal relationships of transformational leadership, organizational culture and innovation climate. It has found that the variable that has the strongest direct effect on organizational effectiveness is organizational culture, followed by transformational leadership and the last order, innovation climate. The research results can be applied as follows:

a. **Increasing Organizational Effectiveness Among  
Logistics Service Providers**

Management should give importance to having an organizational culture that facilitates the work of staff. It can be explained in order of importance, as follows:

b. **Customer Orientation**

Organizational culture which focuses on customer orientation is very important. It is concerned with the value, belief and basic principle of service for satisfying customers' needs. In the current situation, the basic concept of responding

to customers' needs and satisfaction is not enough. Management should add the concept of empathy or service called pampering as much as possible. The organization must have an understanding of the customer, know what the customer wants, know where the customer's problems are, and then provide service that is suitable for each customer. If the organization has this kind of organizational culture, it is believed that organizational effectiveness will definitely increase.

### 2) Enhance Cultural Strength

This means an organization that has a clear mission, goals and objectives in its operations, has follow-up assessments from time to time, and improves according to feedback all the time. This will enable the organization to achieve its effectiveness.

### 3) Give Importance to Managing Change

This means promoting the operation or behavior within the organization to be flexible and adaptable when necessary, to facilitate change.

5.2.1.2 Management in Logistics Service Providers should give importance to the components of transformational leadership in two areas according to the research findings, which are 1) encouraging and enhancing employees to use data and evidence to identify problems and find solutions to problems by using systematically collected information. The organization must give importance to information and information systems for decision making, including management of big data for effective organizational management. 2) Leader characteristics; the organization must bring the concept of human resource management in honoring well-behaved leaders who are good role models for employees.

### 5.2.1.3 Create Innovation Climate

Even though it has an effect on organizational effectiveness, that effect is still at a low level. Management in logistics service providers, which are organizations that need innovation for doing their work, must create and enhance innovation climate by encouraging employees to create innovation or propose new ideas for working independently, and dare to take risks and bring good ideas to further development. The organization may consider using rewards as incentive to motivate employees to think creatively, including giving employees the opportunity to learn new skills for working in an environment that is constantly changing. In addition, the

drive for creating innovation climate must operate at all levels of management in order to create a desirable innovation climate. The organization must do this continuously and regularly to have concrete results.

### **5.2.2 Recommendation for Further Research**

Future research studies should be concerned with the following areas:

1) This research is an analysis of organizational effectiveness through variables that effect organizational effectiveness, which are: transformational leadership, organizational culture and innovation climate, only. In the next study, additional variables may be added, such as followers' behavior or good membership behavior, the perception of support from organizations, or learning about an organization in order to enhance understanding and promote performance for the organization to become better.

2) According to the research, the researcher has found that organizational culture is the most influential variable. Therefore, it should study the components of each organizational culture in each area, whether more or less effect on organizational effectiveness is noted in each area.

3) This research is a cross sectional study. However, because an organization has a life span and adapts all the time, continuous monitoring may result in the discovery of new data and knowledge to develop organizational effectiveness that is better or different.

4) Responses to the survey questions were all based on individual perceptions. No objective measures were used for any variables. However, individual perceptions of causal relationships of organizational effectiveness may be a function of individual subjective perceptions of reality rather than an objective measure of reality. Therefore it is recommended that future research should consider an objective measure of the reality.

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**APPENDICES**



**Appendix A**

**Questionnaire Cover Letters Reference Letter**

No...../...

Graduate School of Public  
Administration  
National Institute of Development Administration  
Khlong Chan, Bang Kapi, Bangkok 10240

11 December 2019

Subject: Request for assistance to collect data for research

To:

Attachment

1. Questionnaire in “The Causal Relationships of Organizational Effectiveness of Logistics Service Providers in Thailand”

Whereas Mr. Kemmarin Chupradist, Ph.D. student in Doctor of Public Administration, Public and Private Management Program, National Institute of Development Administration, was approved by the Dissertation Curriculum Committee to do research on “The Causal Relationships of Organizational Effectiveness of Logistics Service Providers in Thailand”, with Associate Professor Dr. Chindalak Vadhanasindhu as the dissertation advisor, the process of collecting data is now being administered. The data which is collected will not affect your organization, and will be used only for general research purposes.

The Graduate School of Public Administration, National Institute of Development Administration, would like to request for assistance from you to allow Mr. Kemmarin Chupradist to collect data from respondent groups, which include management, staff and employees, to answer such questionnaires.

Please kindly consider this request for assistance and I would hereby like to express my thanks for your cooperation.

Yours Sincerely,

(Associate Professor Dr. Boon-Anan Phinaitrup)  
Dean of Graduate School of Public Administration

Secretariat Office (Education Service Section)

Tel: 02-727-3889 Mr. Pichet Pinthong Tel: 097-447-5545

E-mail: kemmarin12@gmail.com



**Appendix B**

**Final Questionnaires  
(Thai and English Version)**



## แบบสอบถามเพื่อการวิจัย

### เรื่อง ความสัมพันธ์เชิงสาเหตุของประสิทธิผลองค์การของธุรกิจบริการโลจิสติกส์ในประเทศไทย

#### คำชี้แจง

1) การสอบถามครั้งนี้เป็นส่วนหนึ่งของการวิจัย เรื่อง ความสัมพันธ์เชิงสาเหตุของประสิทธิผลองค์การของธุรกิจบริการโลจิสติกส์ในประเทศไทย ตามหลักสูตรรัฐประศาสนศาสตรดุษฎีบัณฑิต สาขาวิชาเอกการจัดการภาครัฐและภาคเอกชน สถาบันบัณฑิตพัฒนบริหารศาสตร์ โดยมีวัตถุประสงค์ เพื่อศึกษาความสัมพันธ์เชิงสาเหตุของประสิทธิผลองค์การของธุรกิจบริการโลจิสติกส์ในประเทศไทย

2) แบบสอบถามฉบับนี้เป็นการสอบถามความสัมพันธ์เชิงสาเหตุของประสิทธิผลองค์การของธุรกิจบริการโลจิสติกส์ในประเทศไทย

3) แบบสอบถามแบ่งออกเป็น 3 ตอน ได้แก่

ตอนที่ 1 ข้อมูลพื้นฐานของผู้ตอบแบบสอบถาม เป็นแบบตรวจสอบรายการ (Checklist) ประกอบด้วย เพศ อายุ ระดับการศึกษา ตำแหน่งปัจจุบัน และประสบการณ์การทำงานในตำแหน่งปัจจุบัน

ตอนที่ 2 ความสัมพันธ์เชิงสาเหตุของประสิทธิผลองค์การของธุรกิจบริการโลจิสติกส์ในประเทศไทย เป็นแบบประเมินระดับคะแนนโดยใช้มาตราส่วนประมาณค่า 5 ระดับ (Rating scale)

4) ข้อมูลจากแบบสอบถามจะนำไปวิเคราะห์ความสัมพันธ์เชิงสาเหตุของประสิทธิผลองค์การของธุรกิจบริการโลจิสติกส์ในประเทศไทยในภาพรวมเท่านั้น ไม่มีผลกระทบต่อผู้ตอบแบบสอบถามเป็นรายบุคคลทั้งสิ้น

ผู้วิจัยหวังเป็นอย่างยิ่งว่าจะได้รับความร่วมมือจากท่านเป็นอย่างดี และขอขอบพระคุณในความร่วมมือของท่านเป็นอย่างสูงมา ณ โอกาสนี้ ทั้งนี้ขอความร่วมมือจากท่านส่งกลับคืนผู้วิจัยภายในวันที่ ..... จักเป็นพระคุณยิ่ง

นายเขมรินทร์ ชูประดิษฐ์

นักศึกษาหลักสูตรรัฐประศาสนศาสตรดุษฎีบัณฑิต

(สาขาวิชาเอกการจัดการภาครัฐและภาคเอกชน)

สถาบันบัณฑิตพัฒนบริหารศาสตร์

โทร. 094-9242252

E-mail: kemmarin12@gmail.com

**ตอนที่ 1 ข้อมูลพื้นฐานของผู้ตอบแบบสอบถาม**

โปรดเขียนเครื่องหมาย ✓ ลงในช่อง  หน้าข้อความที่ตรงกับสถานภาพของท่าน

1) เพศ

ชาย  หญิง

2) อายุ (เศษของปี เกิน 6 เดือน นับเป็น 1 ปี)

ต่ำกว่าหรือเท่ากับ 30 ปี  31-40 ปี  41-50 ปี

51-60 ปี  60 ปีขึ้นไป

3) ระดับการศึกษา

ปวส. ปริญญาตรี ปริญญาโท  อื่นๆ (โปรดระบุ).....

4) ทำงานในองค์กร

ภาครัฐ  ภาคเอกชน

5) ตำแหน่งปัจจุบัน

ผู้จัดการ (ฝ่าย / แผนก) (โปรดระบุ) .....

หัวหน้า (ฝ่าย / แผนก) (โปรดระบุ) .....

พนักงานสายงาน(โปรดระบุ)..... ฝ่าย (โปรดระบุ).....

พนักงานประจำศูนย์ (โปรดระบุ).....

เจ้าหน้าที่สายงาน (โปรดระบุ)..... ฝ่าย (โปรดระบุ).....

6) ประสบการณ์การทำงานในตำแหน่งปัจจุบัน (เศษของปี เกิน 6 เดือน นับเป็น 1 ปี)

ต่ำกว่า 1 ปี  1-5 ปี

6-10 ปี  มากกว่า 10 ปี

## ตอนที่ 2 ความสัมพันธ์เชิงสาเหตุของประสิทธิผลองค์กรของธุรกิจบริการโลจิสติกส์ในประเทศไทย

โปรดเขียนเครื่องหมาย ✓ ลงในช่อง  หน้าข้อความที่ตรงกับความเป็นจริงในองค์กรของท่านมากที่สุด โดยมีเกณฑ์ค่าระดับคะแนนดังนี้

### เกณฑ์ค่าระดับคะแนน

- 5 หมายถึง ข้อความตรงกับการปฏิบัติที่เกิดขึ้นในองค์กรในระดับ มากที่สุด
- 4 หมายถึง ข้อความตรงกับการปฏิบัติที่เกิดขึ้นในองค์กรในระดับ มาก
- 3 หมายถึง ข้อความตรงกับการปฏิบัติที่เกิดขึ้นในองค์กรในระดับ ปานกลาง
- 2 หมายถึง ข้อความตรงกับการปฏิบัติที่เกิดขึ้นในองค์กรในระดับ น้อย
- 1 หมายถึง ข้อความตรงกับการปฏิบัติที่เกิดขึ้นในองค์กรในระดับ น้อยที่สุด

### ตัวอย่าง การตอบแบบสอบถาม

ข้อ	ข้อความ	5	4	3	2	1
<b>ด้านเป้าหมายเชิงเหตุผล</b>						
1.	การทำงานในองค์กรของท่านมุ่งเน้นไปที่คุณภาพของผลงาน	✓				

### ตัวแปรด้านประสิทธิผลองค์กร

ข้อ	ข้อความ	5	4	3	2	1
<b>ด้านเป้าหมายเชิงเหตุผล</b>						
1.	การทำงานในองค์กรของท่านมุ่งเน้นไปที่คุณภาพของผลงาน					
2.	การทำงานในองค์กรของท่านมุ่งเน้นไปที่การได้ผลลัพธ์ที่ดีที่สุด					
3.	การทำงานในองค์กรของท่านมุ่งเน้นไปที่การทำงานให้สำเร็จ					
4.	การทำงานในองค์กรของท่านมุ่งเน้นไปที่การบรรลุเป้าหมายของงาน					
5.	การทำงานในองค์กรของท่านมีลักษณะการทำงานให้ดีที่สุดเท่าที่จะสามารถทำได้					

ข้อ	ข้อความ	5	4	3	2	1
<b>ด้านกระบวนการภายใน</b>						
6.	ขั้นตอนการทำงานในองค์การมีความชัดเจน สามารถคาดการณ์ผลลัพธ์ได้					
7.	ขั้นตอนการทำงานในองค์การมีลักษณะเป็นลำดับขั้นต่อเนื่องไม่ติดขัด					
8.	ขั้นตอนการทำงานในองค์การมีลักษณะไม่ค่อยมีการปรับเปลี่ยน					
9.	ขั้นตอนการทำงานในองค์การมีลักษณะที่ต้องพึ่งพาอาศัยขั้นตอนการทำงานอื่น					
10.	ขั้นตอนการทำงานในองค์การมีลักษณะที่ต้องไว้วางใจขั้นตอนการทำงานอื่น					
<b>ด้านระบบเปิด</b>						
11.	ภายในองค์การมีการสร้างสรรค์แนวทางใหม่ๆ ในการทำงานอยู่ตลอดเวลา					
12.	ภายในองค์การมีการปรับปรุงแนวทางการทำงานอยู่เสมอ					
13.	ภายในองค์การมีการทำงานแบบกระจายอำนาจในการตัดสินใจ					
14.	ภายในองค์การมีการนำแนวคิดใหม่ๆ มาใช้ในการทำงานอยู่ตลอดเวลา					
<b>ด้านมนุษยสัมพันธ์</b>						
15.	ภายในองค์การมีลักษณะการทำงานเปิดให้มีส่วนร่วม แสดงความคิดเห็น					
16.	ภายในองค์การมีลักษณะการทำงานโดยเปิดให้มีการอภิปรายหรือถกเถียงกันได้					
17.	ภายในองค์การมีลักษณะการทำงานโดยให้ความสำคัญกับผู้บริหารและผู้ปฏิบัติงาน					
18.	ภายในองค์การมีแนวคิดที่ผู้บริหารและผู้ปฏิบัติงานมีความสำคัญต่อความสำเร็จขององค์การ					

ข้อ	ข้อความ	5	4	3	2	1
19.	ผู้บริหารและผู้ปฏิบัติงานในองค์การมีความสัมพันธ์ที่ดีต่อกัน					
20.	ผู้บริหารและผู้ปฏิบัติงานในองค์การมีการทำงานแบบเป็นทีม					
21.	ผู้บริหารและผู้ปฏิบัติงานในองค์การมีความสามัคคี					
22.	ลักษณะการทำงานในองค์การจะคำนึงถึงคุณธรรมและจริยธรรม					

#### ตัวแปรด้านภาวะผู้นำการเปลี่ยนแปลง

ข้อ	ข้อความ	5	4	3	2	1
<b>การมีอิทธิพลอย่างมีอุดมการณ์</b>						
1.	ผู้บริหารประพฤติตนเป็นตัวอย่างเพื่อให้เกิดประโยชน์แก่พนักงานในการทำงาน					
2.	ผู้บริหารระบุนความสำคัญของการมีเป้าหมายในการทำงานที่ชัดเจน					
3.	ผู้บริหารเสียสละประโยชน์ส่วนตนเพื่อประโยชน์ส่วนรวม					
4.	ผู้บริหารมีความเฉลียวฉลาดและมีความสามารถในการทำงาน					
5.	ผู้บริหารเน้นถึงความสำคัญของการทุ่มเทต่อภารกิจร่วมกัน					
<b>การสร้างแรงบันดาลใจ</b>						
6.	ผู้บริหารมองการณ์ไกลถึงความเป็นไปได้ใหม่ ๆ					
7.	ผู้บริหารแสดงความเชื่อมั่นว่าการปฏิบัติงานจะบรรลุเป้าหมาย					
8.	ผู้บริหารกระตุ้นให้พนักงานมุ่งความสนใจในการค้นหาวิธีการเพื่อจะทำงานเกิดผลสำเร็จ					

ข้อ	ข้อความ	5	4	3	2	1
9.	ผู้บริหารมีการกระตุ้นให้พนักงานตระหนักถึงประเด็นสำคัญที่ควรได้รับการพิจารณา					
10	ผู้บริหารแสดงให้เห็นถึงความตั้งใจอย่างแน่วแน่ที่จะทำงานให้สำเร็จตามที่กำหนด					
<b>การกระตุ้นทางปัญญา</b>						
11	ผู้บริหารให้ความสำคัญกับการเปิดโอกาสให้พนักงานร่วมแสดงความคิดเห็น					
12	ผู้บริหารมุ่งให้พนักงานวิเคราะห์สาเหตุของปัญหาในการทำงานโดยใช้ข้อมูลและหลักฐานที่น่าเชื่อถือ					
13	ผู้บริหารให้ความสนใจที่จะปรับปรุงวิธีการทำงานให้ดีขึ้น					
14	ผู้บริหารมีความพยายามค้นหาวิธีการแก้ปัญหาใหม่ๆ					
15	ผู้บริหารส่งเสริมให้พนักงานแสดงความคิดเห็นในการทำงาน					
16	ผู้บริหารส่งเสริมให้ระบุปัญหาโดยใช้เหตุผลและหลักฐานมากกว่าการคิดเองว่าเป็นปัญหา					
<b>การคำนึงถึงความเป็นปัจเจกบุคคล</b>						
17	ผู้บริหารแต่ละระดับในองค์กรใช้เวลาในการแนะนำการปฏิบัติงานแก่พนักงานเป็นรายบุคคล					
18	ผู้บริหารในแต่ละระดับในองค์กรให้คำแนะนำที่เป็นประโยชน์ต่อความก้าวหน้าของพนักงานเป็นรายบุคคล					
19	ผู้บริหารแต่ละระดับในองค์กรมุ่งให้พนักงานสนใจในการพัฒนาจุดเด่นของตนเอง					
20	ผู้บริหารแต่ละระดับในองค์กรปฏิบัติต่อพนักงานโดยคำนึงถึงความแตกต่างระหว่างบุคคล					
21	ผู้บริหารแต่ละระดับในองค์กรปฏิบัติต่อพนักงานในฐานะที่เป็นทรัพยากรมนุษย์ที่มีความสำคัญมากกว่าในฐานะที่เป็นเพียงพนักงานคนหนึ่งเท่านั้น					

## ตัวแปรด้านบรรยากาศการสร้างสรรคณ์วัตกรรม

ข้อ	ข้อความ	5	4	3	2	1
<b>ความมีอิสระในการทำงาน</b>						
1.	พนักงานในองค์การสามารถเสนอแนวคิดในการพัฒนางานได้อย่างเสรี					
2.	องค์การเปิดโอกาสให้พนักงานได้ใช้ความสามารถในการปฏิบัติงานได้อย่างเต็มที่					
3.	พนักงานในองค์การมีส่วนร่วมในการตัดสินใจภายในองค์การ					
4.	องค์การเปิดโอกาสให้พนักงานทำงานได้อย่างอิสระ					
5.	พนักงานในองค์การมีอิสระในการแสดงความคิดเห็นในทุกเรื่อง					
<b>ความปลอดภัยแบบมีส่วนร่วม</b>						
6.	เมื่อพนักงานในองค์การเสนอแนวคิดใหม่ๆแม้ความคิดนั้นจะไม่ประสบความสำเร็จ พนักงานก็绝不会ถูกตำหนิ					
7.	เมื่อพนักงานในองค์การมีข้อผิดพลาดในการทำงาน พนักงานจะถูกลงโทษอย่างสมควรแก่เหตุ					
<b>ความพยายามเพื่อความเป็นเลิศ</b>						
8.	พนักงานในองค์การมีความพยายามปฏิบัติงานให้ดีที่สุด					
9.	พนักงานในองค์การจะนำคำแนะนำที่ได้รับจากการทำงานเป็นทีมมาประยุกต์ใช้					
10.	การปฏิบัติงานในองค์การมีการควบคุมตรวจสอบซึ่งกันและกัน					
11.	พนักงานในองค์การมีความตระหนักต่อการเพิ่มคุณภาพของผลการปฏิบัติงาน					
<b>การสนับสนุนในการสร้างสรรคณ์นวัตกรรม</b>						
12.	องค์การสนับสนุนให้พนักงานฝึกทักษะเพื่อเสริมสร้างความชำนาญในการทำงานอย่างต่อเนื่อง					
13.	องค์การสนับสนุนการปฏิบัติงานที่เป็นประโยชน์ต่อการเปลี่ยนแปลงองค์การ					

ข้อ	ข้อความ	5	4	3	2	1
14.	องค์การสนับสนุนการปฏิบัติงานโดยจัดการเรื่อง กฎ, ระเบียบต่าง ๆ ให้เอื้อต่อการดำเนินงาน					
15.	องค์การสนับสนุนงบประมาณในการดำเนินโครงการอย่างเหมาะสม					
16.	ผู้บริหารสนับสนุนให้พนักงานที่มีความคิดสร้างสรรค์ในการทำงานเป็นตัวอย่างที่ดีแก่พนักงานคนอื่น ๆ					
17.	ผู้บริหารแต่ละระดับในองค์การให้คำปรึกษาแนะนำพนักงานอยู่เสมอ					

#### ตัวแปรด้านวัฒนธรรมองค์การ

ข้อ	ข้อความ	5	4	3	2	1
<b>การบริหารการเปลี่ยนแปลง</b>						
1.	พนักงานในองค์การมีความยืดหยุ่นและปรับตัวได้เมื่อจำเป็นต้องเปลี่ยนแปลง					
2.	พนักงานในองค์การมีแนวคิดที่ชัดเจนในการดำเนินงานตามกระบวนการเปลี่ยนแปลง					
3.	พนักงานในองค์การเชื่อว่าแนวคิดของพวกเขาจะก่อให้เกิดผลกระทบต่อองค์การได้					
4.	พนักงานในองค์การเชื่อว่าความกังวลที่เกิดขึ้นในช่วงของการเปลี่ยนแปลงจะได้รับการพิจารณา					
<b>การบรรลุเป้าหมาย</b>						
5.	พนักงานและทีมงานในองค์การมีเป้าหมายชัดเจนและสอดคล้องกับเป้าหมายขององค์การ					
6.	พนักงานและทีมงานในองค์การจะได้รับการประเมินและพิจารณาความดีความชอบโดยพิจารณาจากการบรรลุเป้าหมายของงาน					
7.	พนักงานและทีมงานในองค์การมีส่วนร่วมในการกำหนดเป้าหมายที่เฉพาะเจาะจง					

ข้อ	ข้อความ	5	4	3	2	1
8.	องค์กรมีการขยายเป้าหมายการทำงานเพื่อให้เกิดการปรับปรุงอย่างต่อเนื่อง					
<b>การประสานความร่วมมือ</b>						
9.	พนักงานในองค์กรเชื่อมั่นในการทำงานเป็นทีมและให้ความสำคัญต่อประโยชน์ของทีมงานมากกว่าประโยชน์ส่วนตัว					
10.	พนักงานในองค์กรตระหนักถึงความคาดหวังที่มีต่อตนเองและผลกระทบที่อาจเกิดกับผู้อื่น					
11.	พนักงานในองค์กรเชื่อมั่นในการประสานความร่วมมือในการทำงานและพอใจกับการร่วมมือกันทำงาน					
12.	ผู้บริหารทุกระดับในองค์กรทำงานร่วมกันเป็นทีมเพื่อบรรลุผลสำเร็จขององค์กร					
<b>การมุ่งลูกค้า</b>						
13.	องค์กรให้ความสำคัญสูงสุดต่อความต้องการของลูกค้า สนับสนุนการค้นหาความต้องการของลูกค้าและช่วยลูกค้าในการแก้ปัญหา					
14.	นโยบายและการทำงานขององค์กรเอื้อต่อการให้บริการเพื่อตอบสนองความต้องการของลูกค้า					
15.	พนักงานในองค์กรมักแสวงหาแนวทางใหม่ๆ เพื่อบริการลูกค้าให้ดียิ่งขึ้นเสมอ					
16.	พนักงานในองค์กรที่บริการลูกค้าได้เป็นอย่างดีมีแนวโน้มที่จะได้รับการจดจำและได้รับรางวัลมากกว่าพนักงานคนอื่นๆ					
17.	พนักงานในองค์กรมุ่งแก้ปัญหาที่เกิดขึ้นกับสินค้าและบริการเพื่อสร้างความพึงพอใจให้แก่ลูกค้า					

ข้อ	ข้อความ	5	4	3	2	1
ความเข้มแข็งของวัฒนธรรม						
18.	พนักงานในองค์กรมีค่านิยมในการใช้จุดแข็งและความสามารถที่หลากหลายของแต่ละคน					
19.	พนักงานในองค์กรเข้าใจในวัตถุประสงค์และความสำคัญก่อนหลังของงาน					
20.	พนักงานในองค์กรทำงานโดยยึดถือนโยบายและขั้นตอนการทำงานเพื่อให้บรรลุเป้าหมายขององค์กร					
21.	การตัดสินใจทางธุรกิจขององค์กรกระทำโดยการใช้ข้อเท็จจริง ไม่ใช่โดยการรับรู้หรือการคาดเดา					
22.	พนักงานในองค์กรมีสารสนเทศที่แม่นยำและทันเวลาพอที่รับทราบว่าจะเกิดอะไรขึ้นภายในองค์กร					

ขอขอบพระคุณในความร่วมมือจากท่านเป็นอย่างสูง มา ณ โอกาสนี้



### **Questionnaire for Research**

“The Causal Relationships of Organizational Effectiveness of  
Logistics Service Providers in Thailand”

#### **\_\_structions**

1) This questionnaire is part of a research study on the causal relationships of organizational effectiveness of logistics service providers in Thailand for the Doctor of Public Administration Program in Public and Private Management, National Institute of Development Administration. The purpose of this study is to study the causal relationships of organizational effectiveness of logistics service providers in Thailand.

**2) This questionnaire is for asking about the causal relationships of organizational effectiveness of logistics service providers in Thailand.**

3) The questionnaire is divided into 2 parts:

Prt 1. Basic information of respondents

This part is a checklist consisting of gender, age, educational level, current position and current work experience.

Part 2. The Causal Relationship of Organizational Effectiveness of Logistics Service Providers in Thailand

Service Providers in Thailand

This part consists of a rating scale assessment, using a 5-level estimation scale.

4) Data from the questionnaires will be used to analyze the causal relationships of organizational effectiveness of logistics service providers in Thailand as a whole. There is no impact on the individual respondents.

The researcher sincerely hopes to receive your cooperation and would be most thankful for your cooperation on this occasion. Please send this questionnaire back to the researcher by..... and thank you once again.

Mr. Kemmarin Chupradist

Graduate Student in Doctor of Public

(Public and Private Administration Management)

National Institute of Development Administration

Tel. 094-924-2252 E-mail: kemmarin12@gmail.com

### Part 1 Characteristics of the Respondent Group

Please check ✓ the  in front of the message that matches your status.  
1) Gender

a.  Male  Female

2) Age (For a fraction of year more than 6 months, round up to the next full year)

Less than or equal to 30 years  31-40 years  41-50 years  
 51-60 years  More than 60 years

3) Educational level

Higher Vocational  Bachelor's Degree  Master's Degree  
 Other (Please specify)

4) Work in the organization  Public  Private

5) Current Position

Manager (Office/Department) (Please Specify).....

Head (Office/Department) (Please Specify) .....

Line Staff (Please Specify)..... Office (Please Specify).....

Office Staff (Please Specify).....

Line Officer (Please Specify).....Office (Please Specify).....

6) Current work experience (For fraction of year more than 6 months, round up to the next full year)

Less than one year  1-5 years  
 6-10 years  More than 10 years

### Part 2 The Causal Relationships of Organizational Effectiveness of Logistics Service Providers in Thailand

Please check ✓ the  in front of the message that matches the truth in your organization with this following level of score criteria:

#### Level of Score Criteria:

5 refers to the level of practice that occurred in the organization as “highest”

4 refers to the level of practice that occurred in the organization as “high”

3 refers to the level of practice that occurred in the organization as “moderate”

2 refers to the level of practice that occurred in the organization as “low”

1 refers to the level of practice that occurred in the organization as “lowest”

#### Example for Answering the Questionnaire

No.	Message	5	4	3	2	1
<b>On Rational Goals</b>						
1.	Work in your organization focuses on quality of work.	✓				

### Variable in the Aspect of Organizational Effectiveness

No.	Message	5	4	3	2	1
<b>On Rational Goals</b>						
1.	Work in your organization focuses on quality of work					
2.	Work in your organization focuses on getting the best results.					
3.	Work in your organization focuses on achieving success					
4.	Work in your organization focuses on achieving work goals.					
5.	Work in your organization has the best characteristics of work.					
<b>On Internal Processes</b>						
6.	Work procedures in the organization are clear and it's easy to predict results.					
7.	Work procedures in the organization have the characteristic of flowing continuously and uninterruptedly.					
8.	Work procedures in the organization have characteristics that have not changed much.					
9.	Work procedures in the organization have characteristics that depend on other working procedures.					
10.	Work procedures in the organization have characteristics that must be trusting of other work procedures.					
<b>In an Open System</b>						
11.	Within the organization, new approaches are created in work all the time.					
12.	Within the organization, work styles are always being improved.					
13.	Within the organization, decentralized decision making powers exist in the workplace.					
14.	Within the organization, new ideas are used in the organization all the time.					

No.	Message	5	4	3	2	1
<b>On Human Relations</b>						
15.	Within the organization is the characteristic of being open to participate in expressing opinions.					
16.	Within the organization is the characteristic of open discussion and debate.					
17.	Within the organization is the characteristic of giving importance to management and practitioners.					
18.	Within the organization is the concept that management and practitioners are important to the success of the organization.					
19.	Management and practitioners in the organization have good relationships with each other.					
20.	Management and practitioners in the organization work as a team.					
21.	Management and practitioners in the organization maintain unity.					
22.	Working characteristics in the organization consider morality and ethics.					

### Variable in the Aspect of Transformational Leadership

No.	Message	5	4	3	2	1
<b>Idealized Influence</b>						
1.	Management behaves as a good example for the benefit of staff at work.					
2.	Management identifies the importance of having clear work goals.					
3.	Management sacrifices their own interests for mutual interests.					
4.	Management is very intelligent and has the ability to work well.					
5.	Management emphasizes the importance of dedication to the mission together.					
<b>Inspirational Motivation</b>						
6.	Management looks forward to new possibilities.					
7.	Management expresses confidence that the operation will achieve its goals.					
8.	Management encourages staff to focus on finding methods to achieve success in their work.					
9.	Management encourages staff to recognize important issues that should be considered.					
10.	Management demonstrates strong determination to complete work as they specify.					
<b>Intellectual Stimulation</b>						
11.	Management gives importance to the opportunity of staff to express their opinions.					
12.	Management emphasizes letting staff analyze the cause of problems arising in work using reliable data and evidence.					
13.	Management is interested in improving working methods to constantly become better.					
14.	Management tries to find new solutions.					
15.	Management encourages staff to comment on their work.					
16.	Management encourages staff to identify problems by using data and evidence rather than only thinking by themselves about problems.					

No.	Message	5	4	3	2	1
<b>Individualized Consideration</b>						
17	Management at each level in the organization gives time to recommend individuals for work.					
18	Management at each level in the organization gives useful advice for advancement of the individual.					
19	Management at each level in the organization focuses on staff to develop their own strengths.					
20	Management at each level in the organization treats employees by considering their individual differences.					
21	Management at each level in the organization treats employees as important human resources rather than only as staff.					

### Variable in the Aspect of Innovation Climate

No.	Message	5	4	3	2	1
<b>Freedom</b>						
1.	Staff in the organization can freely express ideas to develop their work.					
2.	The organization gives the opportunity for staff to fully use their potential in work.					
3.	Staff in the organization participates in decision making.					
4.	The organization gives the opportunity for staff to work freely.					
5.	Staff in the organization has the freedom to express their opinions on every issue.					
<b>Participative Safety</b>						
6.	When staff in the organization proposes new ideas, even though those ideas fail, the staff are not scolded.					
7.	When staff in the organization have some errors in their work, they are punished reasonably.					
<b>Striving for Excellence</b>						
8.	Staff in the organization puts forth the effort to operate for the best.					
9.	Staff in the organization uses advice they get while working in a team and then applies it.					
10.	Operations in the organization have controls that check each other.					
11.	Staff in the organization recognizes and increases quality of performance.					
<b>Support for Innovation</b>						
12.	The organization continuously supports staff to practice skills and enhance expertise in work.					
13.	The organization supports operations which are useful for organizational change.					
14.	The organization supports operations by managing rules and regulations.					
15.	The organization supports a budget for doing projects appropriately.					
16.	Management supports staff who show creativity in work to be a role model for other staff.					
17.	Management at each level continuously gives advice for staff.					

### Variable in the Aspect of Organizational Culture

No.	Message	5	4	3	2	1
<b>Managing Change</b>						
1.	Staff in the organization are flexible and adaptable when change is necessary.					
2.	Staff in the organization have clear ideas of why and how to proceed throughout the process of change.					
3.	Staff in the organization believe they can influence and affect their workplace through their ideas and involvement.					
4.	Staff in the organization believe that their concerns and anxieties during periods of change are heard and taken into consideration.					
<b>Achieving Goals</b>						
5.	Staff and teams in the organization have clearly defined goals that relate to the goals and mission of the business.					
6.	Staff and teams in the organization are measured and rewarded according to how well goals are achieved.					
7.	Staff and teams in the organization participate in defining specific goals.					
8.	The organization constantly stretches goals to continuously improve.					
<b>Coordinated Teamwork</b>						
9.	Staff in the organization believe in teamwork and give importance to benefits for the team rather than their own.					
10.	Staff in the organization know what is expected of them and understand their impact on other people, teams and functions.					
11.	Staff in the organization believe in working together collaboratively, preferring cooperation over competition.					
12.	Management at all levels works together as a team to achieve results for the organization.					
<b>Customer Orientation</b>						
13.	The organization gives the highest priority and support to meeting the needs of clients and customers and to solving their problems.					

No.	Message	5	4	3	2	1
14.	Our policies and procedures help us to provide the service our customers want and need.					
15.	Staff in the organization are always looking for new ways to better serve clients and customers.					
16.	Staff in the organization who do the best job of serving customers are more likely than others to be recognized and rewarded.					
17.	When customers have problems with the products or services they receive, those problems are resolved to their satisfaction.					
<b>Cultural Strength</b>						
18.	Staff in the organization value and make use of one another's unique strengths and different abilities.					
19.	Staff in the organization know and understand business objectives and priorities.					
20.	Staff in the organization work by using policies or principles to reach operational goals.					
21.	Business decisions are most often made on the basis of facts, not just perceptions or assumptions.					
22.	Staff in the organization have access to timely and accurate information about what is really happening in the organization and why.					

The researcher is most thankful for your cooperation on this occasion.



**Appendix C**

**Research Instrument Reliability Test**

**Reliability**

[DataSet1] C:\Users\KIATTISAK\Documents\vari l.sav

**Scale: ALL VARIABLES****Case Processing Summary**

	N	%
Cases Valid	39	97.5
Excluded <sup>a</sup>	1	2.5
Total	40	100.0

a. listwise deletion based on all variables in the procedure.

**b.****Reliability Statistics**

Cronbach's Alpha	.899	N of Items	22
------------------	------	------------	----

**Item Statistics**

	Mean	Std. Deviation	N
OE_RA1	4.33	.737	39
OE_RA2	4.41	.595	39
OE_RA3	4.33	.621	39
OE_RA4	4.38	.673	39
OE_RA5	4.33	.621	39
OE_IP6	3.90	.788	39
OE_IP7	3.74	.715	39
OE_IP8	3.62	.963	39
OE_IP9	3.85	.933	39
OE_IP10	3.79	.767	39
OE_OS11	3.82	.970	39
OE_OS12	3.62	.782	39
OE_OS13	3.82	.997	39
OE_OS14	3.82	.970	39
OE_HR15	3.95	.944	39
OE_HR16	3.64	1.158	39
OE_HR17	3.95	.857	39
OE_HR18	4.03	.873	39
OE_HR19	3.92	.774	39
OE_HR20	3.82	.790	39
OE_HR21	3.77	.842	39
OE_HR22	3.85	.875	39

**Item-Total Statistics**

Cronbach's' Alpha if Item Deleted	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation
OE_RA1	82.36	102.026	.464 .896
OE_RA2	82.28	103.576	.459 .896
OE_RA3	82.36	104.499	.362 .898
OE_RA4	82.31	103.955	.369 .897
OE_RA5	82.36	104.552	.358 .898
OE_IP6	82.79	101.641	.454 .896
OE_IP7	82.95	101.629	.509 .895
OE_IP8	83.08	105.810	.139 .905
OE_IP9	82.85	103.713	.258 .901
OE_IP10	82.90	99.937	.584 .893
OE_OS11	82.87	97.536	.574 .893
OE_OS12	83.08	99.441	.605 .892
OE_OS13	82.87	95.852	.648 .890
OE_OS14	82.87	96.009	.659 .890
OE_HR15	82.74	95.406	.715 .889
OE_HR16	83.05	95.208	.572 .893
OE_HR17	82.74	98.564	.599 .892
OE_HR18	82.67	99.123	.552 .893
OE_HR19	82.77	98.814	.654 .891
OE_HR20	82.87	99.694	.581 .893
OE_HR21	82.92	98.810	.595 .892
OE_HR22	82.85	99.397	.534 .894

#### Scale Statistics

Mean	Variance	Std. Deviation	N of Items
86.69	109.482	10.463	22

**Reliability**

[DataSet1] C:\Users\KIATTISAK\Documents\vari I.sav

**Scale: ALL VARIABLES****Case Processing Summary**

	N	%
Cases Valid	40	100.0
Excluded <sup>a</sup>	0	0
Total	40	100.0

a. listwise deletion based on all variables in the procedure.

**c. Reliability Statistics**

Cronbach's <sup>a</sup> Alpha	N of Items
.965	21

**Item Statistics**

	Mean	Std. Deviation	N
TL_111	3.72	.933	40
TL_112	3.80	.853	40
TL_113	3.52	.960	40
TL_114	3.65	.949	40
TL_115	3.82	.958	40
TL IM6	3.90	.841	40
TL_IM7	4.05	.783	40
TL IM8	4.00	.784	40
TL_IM9	3.88	.757	40
TL_IM10	3.90	.955	40
TL_IS11	3.68	.829	40
TL_ISI12	3.70	.883	40
TL_IS13	3.82	.844	40
TL_IS14	3.75	.927	40
TL_IS15	3.70	.823	40
TL_IS16	3.80	.758	40
TL_IC17	3.88	.911	40
TL_IC18	3.68	.997	40
TL_IC19	3.55	.876	40
TL_IC20	3.75	.981	40
TL IC21	3.75	.954	40

**Item-Total Statistics**

Cronbach's' Alpha if Item Deleted	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation
TL_II1	75.58	183.071	.774 .963
TL_II2	75.50	185.846	.727 .963
TL_II3	75.77	184.384	.697 .964
TL_II4	75.65	187.721	.572 .965
TL_II5	75.48	183.179	.748 .963
TL_IM6	75.40	186.554	.707 .963
TL_IM7	75.25	186.090	.786 .963
TL_IM8	75.30	186.472	.766 .963
TL_IM9	75.42	186.866	.775 .963
TL_IM10	75.40	181.938	.801 .962
TL_IS11	75.62	185.010	.790 .963
TL_ISI12	75.60	183.221	.816 .962
TL_IS13	75.48	184.615	.792 .963
TL_IS14	75.55	183.074	.780 .963
TL_IS15	75.60	186.297	.736 .963
TL_IS16	75.50	186.974	.770 .963
TL_IC17	75.42	185.943	.673 .964
TL_IC18	75.62	181.471	.783 .963
TL_IC19	75.75	186.449	.681 .964
TL_IC20	75.55	183.536	.715 .963
TL_IC21	75.55	184.254	.708 .963

### Scale Statistics

Mean	Variance	Std. Deviation	N of Items
79.30	203.497	14.265	21

### Reliability

[DataSet1] C:\Users\KIATTISAK\Documents\vari 1.sav

**Scale: ALL VARIABLES**

**Case Processing Summary**

	N	%
Cases Valid	40	1000
Excluded <sup>a</sup>	0	0
Total	40	100.0

a. stwise deletion based on all variables in the procedure.

d.

**Reliability Statistics**

Cronbach's Alpha	.953	N of Items	17
------------------	------	------------	----

**Item Statistics**

	Mean	Std. Deviation	N
IC_FR1	3.75	.840	40
IC_FR2	3.85	.736	40
IC_FR3	3.58	.958	40
IC_FR4	3.55	.959	40
IC_FR5	3.60	.982	40
IC_PS6	3.70	.911	40
IC_PS7	3.85	.975	40
IC_SE8	3.98	.768	40
IC_SE9	3.88	.648	40
IC_SE10	3.80	.823	40
IC_SE11	3.82	.712	40
IC_SI12	3.82	.747	40
IC_SI13	3.68	.859	40
IC_SI14	3.90	.810	40
IC_SI15	3.75	.742	40
IC_SI16	3.80	.791	40
IC_SI17	3.85	1.027	40

**Item-Total Statistics**

Cronbach's' Alpha if Item Deleted	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation
IC_FR1	60.40	104.246	.763 .949
IC_FR2	60.30	105.241	.811 .948
IC_FR3	60.58	102.251	.767 .949
IC_FR4	60.60	103.477	.698 .950
IC_FR5	60.55	101.587	.782 .949
IC_PS6	60.45	102.869	.775 .949
IC_PS7	60.30	103.138	.704 .950
IC_SE8	60.18	107.122	.649 .951
IC_SE9	60.28	108.871	.646 .951
IC_SE10	60.35	106.285	.652 .951
IC_SE11	60.32	108.174	.631 .951
IC_SI12	60.32	106.430	.716 .950
IC_SI13	60.48	102.974	.821 .948
IC_SI14	60.25	105.218	.731 .950
IC_SI15	60.40	105.785	.766 .949
IC_SI16	60.35	106.182	.688 .950
IC_SI17	60.30	102.779	.682 .951

#### Scale Statistics

Mean	Variance	Std. Deviation	N of Items
64.15	118.028	10.864	17

#### Reliability

[DataSet1] C:\Users\KIATTISAK\Documents\vari l.sav

**Scale: ALL VARIABLES****Case Processing Summary**

	N	%
Cases Valid	40	100.0
Excluded <sup>a</sup>	0	0
Total	40	100.0

a. stwise deletion based on all variables in the procedure

e.

**Reliability Statistics**

Cronbach's' Alpha	N of Items
.949	22

**Item Statistics**

	Mean	Std. Deviation	N
OC_MC1	3.90	.709	40
OC_MC2	3.88	.723	40
OC_MC3	3.85	.834	40
OC_MC4	3.88	.822	40
OC_AG5	4.02	.862	40
OC AG6	4.05	.876	40
OC_AG7	3.92	.656	40
OC_AG8	4.05	.639	40
OC_CT9	3.82	.813	40
OC_CT10	4.00	.816	40
OC_TCII	4.00	.906	40
OC_TCI2	3.90	.810	40
OC_COI3	4.12	.648	40
OC_COI4	4.28	.640	40
OC_COI5	4.10	.672	40
OC_COI6	4.08	.730	40
OC_COI7	4.15	.662	40
OC_CSI8	3.92	.694	40
OC_CSI9	3.98	.733	40
OC_CS20	4.10	.709	40
OC_CS21	4.15	.662	40
OC CS22	3.98	.832	40

**Item-Total Statistics**

Cronbach's' Alpha if Item Deleted	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation
OC_MCI	84.22	120.538	.738 .946
OC_MC2	84.25	120.808	.704 .946
OC_MC3	84.27	119.999	.648 .947
OC_MC4	84.25	119.526	.685 .947
OC_AG5	84.10	119.169	.670 .947
OC_AG6	84.07	116.379	.814 .945
OC_AG7	84.20	120.523	.803 .945
OC_AG8	84.07	122.481	.682 .947
OC_CT9	84.30	121.036	.605 .948
OC_CTI0	84.12	117.394	.817 .945
OC_TCI1	84.12	116.574	.773 .945
OC_TCI2	84.22	117.461	.820 .945
OC_COI3	84.00	126.051	.416 .950
OC_COI4	83.85	125.259	.478 .949
OC_COI5	84.02	126.794	.349 .951
OC_COI6	84.05	123.074	.551 .948
OC_C017	83.97	126.025	.408 .950
OC_CSI8	84.20	120.985	.724 .946
OC_CS19	84.15	121.926	.621 .947
OC_CS20	84.02	119.615	.800 .945
OC_CS21	83.97	122.384	.662 .947
OC_CS22	84.15	118.900	.713 .946

### Scale Statistics

Mean	Variance	Std. Deviation	N of Items
88.12	132.522	11.512	22

### Reliability

[DataSet1] C:\Users\KIATTISAK\Documents\vari 1.sav

**Scale: ALL VARIABLES****Case Processing Summary**

	N	%
Cases Valid	40	100.0
Excluded <sup>a</sup>	0	0
Total	40	100.0

a. stwise deletion based on all variables in the procedure

**f. Reliability Statistics**

Cronbach's' Alpha	N of Items
.981	82

**Item Statistics**

	Mean	Std. Deviation	N
OE_RA1	4.35	.736	40
OE_RA2	4.40	.591	40
OE_RA3	4.35	.622	40
OE_RA4	4.40	.672	40
OE_RA5	4.30	.648	40
OE_IP6	3.88	.791	40
OE_IP7	3.72	.716	40
OE_IP8	3.62	.952	40
OE_IP9	3.82	.931	40
OE_IP10	3.82	.781	40
OE_OS11	3.82	.958	40
OE_OS12	3.65	.802	40
OE_OS13	3.82	.984	40
OE_OS14	3.82	.958	40
OE_HR15	3.92	.944	40
OE_HR16	3.62	1.148	40
OE_HR17	3.95	.846	40
OE_HR18	4.05	.876	40
OE_HR19	3.88	.822	40
OE_HR20	3.80	.791	40
OE_HR21	3.72	.877	40
OE_HR22	3.88	.883	40
TL_111	3.72	.933	40
TL_112	3.80	.853	40
TL_113	3.52	.960	40
TL_114	3.65	.949	40
TL_115	3.82	.958	40
TL_IM6	3.90	.841	40
	Mean	Std. Deviation	N
TL_IM7	4.05	.783	40
TL_IM8	4.00	.784	40

TL_IM9	3.88	.757	40
TL_IM10	3.90	.955	40
TL_IS11	3.68	.829	40
TL_ISI12	3.70	.883	40
TL_IS13	3.82	.844	40
TL_IS14	3.75	.927	40
TL_IS15	3.70	.823	40
TL_IS16	3.80	.758	40
TL_IC17	3.88	.911	40
TL_IC18	3.68	.997	40
TL_IC19	3.55	.876	40
TL_IC20	3.75	.981	40
TL_IC21	3.75	.954	40
IC_FR1	3.75	.840	40
IC_FR2	3.85	.736	40
IC_FR3	3.58	.958	40
IC_FR4	3.55	.959	40
IC_FR5	3.60	.982	40
IC_PS6	3.70	.911	40
IC_PS7	3.85	.975	40
IC_SE8	3.98	.768	40
IC_SE9	3.88	.648	40
IC_SE10	3.80	.823	40
IC_SE11	3.82	.712	40
IC_SI12	3.82	.747	40
IC_SI13	3.68	.859	40
IC_SI14	3.90	.810	40
IC_SI15	3.75	.742	40
IC_SI16	3.80	.791	40
IC_SI17	3.85	1.027	40
OC_MC1	3.90	.709	40
OC_MC2	3.88	.723	40
OC_MC3	3.85	.834	40
OC_MC4	3.88	.822	40
OC_AG5	4.02	.862	40
OC_AG6	4.05	.876	40
OC_AG7	3.92	.656	40
OC_AG8	4.05	.639	40
OC_CT9	3.82	.813	40
OC_CT10	4.00	.816	40

	Mean	Std. Deviation	N
OC_TC11	4.00	.906	40
OC_TC12	3.90	.810	40

OC_C013	4.12	.648	40
OC_C014	4.28	.640	40
OC_C015	4.10	.672	40
OC_C016	4.08	.730	40
OC_C017	4.15	.662	40
OC_CS18	3.92	.694	40
OC_CS19	3.98	.733	40
OC_CS20	4.10	.709	40
OC_CS21	4.15	.662	40
OC_CS22	3.98	.832	40

### Item-Total Statistics

Cronbach's' Alpha if Item Deleted	Scale Mean if	Scale Variance if	Corrected	
	Item Deleted	Item Deleted	Item-Total Correlation	
OE_RA1	313.85	1801.413	.407	.981
OE_RA2	313.80	1809.549	.348	.981
OE_RA3	313.85	1810.541	.311	.981
OE_RA4	313.80	1814.215	.222	.981
OE_RA5	313.90	1814.092	.233	.981
OE_IP6	314.32	1806.225	.306	.981
OE_IP7	314.47	1802.974	.393	.981
OE_IP8	314.58	1805.174	.263	.981
OE_IP9	314.38	1811.215	.193	.981
OE_IP10	314.38	1802.292	.369	.981
OE_OS11	314.38	1788.497	.469	.981
OE_OS12	314.55	1798.254	.419	.981
OE_OS13	314.38	1781.112	.545	.981
OE_OS14	314.38	1779.984	.575	.981
OE_HR15	314.28	1772.666	.677	.981
OE_HR16	314.58	1766.558	.617	.981
OE_HR17	314.25	1783.321	.607	.981
OE_HR18	314.15	1780.541	.624	.981
OE_HR19	314.32	1789.866	.530	.981
OE_HR20	314.40	1790.451	.543	.981
OE_HR21	314.47	1785.333	.557	.981
OE_HR22	314.32	1785.866	.546	.981

Cronbach's' Alpha if Item	Scale Mean if	Scale Variance if	Corrected	
	Item Deleted	Item Deleted	Item-Total	

Deleted	Correlation			
TL_111	314.47	1768.461	.740	.980
TL_112	314.40	1779.528	.655	.981
TL_113	314.68	1771.199	.684	.981
TL_114	314.55	1783.792	.533	.981
TL_115	314.38	1773.266	.660	.981
TL_IM6	314.30	1785.651	.577	.981
TL_IM7	314.15	1778.849	.726	.981
TL_IM8	314.20	1776.728	.757	.980
TL_IM9	314.32	1780.328	.727	.981
TL_IM10	314.30	1764.985	.766	.980
TL_IS11	314.52	1774.410	.749	.980
TL_ISI12	314.50	1768.205	.787	.980
TL_IS13	314.38	1774.343	.736	.980
TL_IS14	314.45	1767.638	.756	.980
TL_IS15	314.50	1777.744	.706	.981
TL_IS16	314.40	1780.810	.719	.981
TL_IC17	314.32	1768.481	.758	.980
TL_IC18	314.52	1760.102	.792	.980
TL_IC19	314.65	1772.951	.728	.980
TL_IC20	314.45	1761.382	.790	.980
TL_IC21	314.45	1766.459	.748	.980
IC_FR1	314.45	1778.715	.677	.981
IC_FR2	314.35	1783.618	.696	.981
IC_FR3	314.62	1776.804	.615	.981
IC_FR4	314.65	1780.438	.569	.981
IC_FR5	314.60	1770.041	.683	.981
IC_PS6	314.50	1772.923	.699	.981
IC_PS7	314.35	1767.054	.724	.980
IC_SE8	314.22	1781.153	.705	.981
IC_SE9	314.32	1792.430	.630	.981
IC_SE10	314.40	1780.605	.664	.981
IC_SE11	314.38	1782.394	.740	.981
IC_SII12	314.38	1780.702	.732	.981
IC_SII13	314.52	1770.563	.776	.980
IC_SII14	314.30	1778.267	.709	.981
IC_SII15	314.45	1782.254	.711	.981
IC_8116	314.40	1786.297	.605	.981
IC_SII7	314.35	1770.900	.642	.981

Cronbach's'      Scale Mean if      Scale Variance if      Corrected





**Appendix D**

**Output**

**Out put**

Computation of degrees of freedom (Default model)

Number of distinct sample moments: 153

Number of distinct parameters to be estimated: 82

Degrees of freedom (153 - 82): 71

Result (Default model)

Minimum was achieved

Chi-square = 142.543

Degrees of freedom = 71

Probability level = .000

			Estimate	S.E.	C.R.	P	Label
OC	<---	TL	.863	.028	31.162	***	
CL	<---	TL	.624	.044	14.070	***	
CL	<---	OC	.427	.046	9.365	***	
OE	<---	TL	.420	.083	5.088	***	
OE	<---	CL	.204	.102	1.998	.046	
OE	<---	OC	.284	.067	4.241	***	
TL_IC	<---	TL	1.000				
TL_IS	<---	TL	1.014	.023	44.761	***	
TL_IM	<---	TL	1.031	.024	42.763	***	
TL_II	<---	TL	1.033	.027	38.237	***	
OC_CS	<---	OC	1.000				
OC_CO	<---	OC	1.024	.023	45.420	***	
OC_CT	<---	OC	1.052	.025	41.945	***	
OC_AG	<---	OC	1.059	.026	41.398	***	
OC_MC	<---	OC	1.019	.025	40.366	***	
OE_RA	<---	OE	1.000				
OE_IP	<---	OE	1.124	.035	32.325	***	
OE_OS	<---	OE	1.028	.036	28.387	***	
OE_HR	<---	OE	1.078	.033	32.531	***	

			Estimate	S.E.	C.R.	P	Label
CL_FR	<---	CL	1.000				
CL_PS	<---	CL	1.000	.029	34.048	***	
CL_SE	<---	CL	.969	.024	40.160	***	
CL_SI	<---	CL	.936	.024	38.206	***	

			Estimate
OC	<---	TL	.912
CL	<---	TL	.602
CL	<---	OC	.390
OE	<---	TL	.451
OE	<---	CL	.227
OE	<---	OC	.288
TL_IC	<---	TL	.927
TL_IS	<---	TL	.959
TL_IM	<---	TL	.947
TL_II	<---	TL	.949
OC_CS	<---	OC	.934
OC_CO	<---	OC	.939
OC_CT	<---	OC	.941
OC_AG	<---	OC	.938
OC_MC	<---	OC	.935
OE_RA	<---	OE	.879
OE_IP	<---	OE	.920
OE_OS	<---	OE	.872
OE_HR	<---	OE	.923
CL_FR	<---	CL	.926
CL_PS	<---	CL	.888
CL_SE	<---	CL	.934
CL_SI	<---	CL	.942

	Estimate	S.E.	C.R.	P	Label
e12 <--> e13	.024	.003	7.048	***	
e4 <--> e1	-.010	.002	-4.706	***	
e15 <--> e17	-.010	.003	-3.740	***	
e14 <--> e17	-.007	.002	-3.045	.002	
e11 <--> e12	.012	.003	4.255	***	
e3 <--> e1	-.005	.002	-2.836	.005	
e13 <--> e16	.002	.002	.667	.505	
e12 <--> e16	-.005	.003	-1.930	.054	
e11 <--> e16	-.005	.003	-1.798	.072	
e11 <--> e15	.008	.003	2.330	.020	
e11 <--> e14	.005	.003	2.082	.037	
e10 <--> e15	-.008	.003	-2.479	.013	
e10 <--> e14	-.007	.003	-2.603	.009	
e6 <--> e5	.003	.002	1.420	.156	
e8 <--> e5	-.004	.002	-2.432	.015	
e9 <--> e8	.004	.002	1.990	.047	
e2 <--> e9	.003	.002	1.845	.065	
e1 <--> e5	-.006	.002	-3.281	.001	
e1 <--> e8	.003	.002	1.534	.125	
e4 <--> e5	.004	.002	2.209	.027	
e4 <--> e8	-.002	.002	-1.356	.175	
e1 <--> e10	.007	.002	2.835	.005	
e1 <--> e12	-.005	.002	-2.201	.028	
e7 <--> e6	.003	.002	1.161	.246	
e7 <--> e5	-.002	.002	-1.032	.302	
e5 <--> e17	.003	.002	1.803	.071	
e5 <--> e16	-.002	.002	-1.248	.212	
e5 <--> e14	.009	.002	4.108	***	

		Estimate	S.E.	C.R.	P	Label
e5	<--> e13	-.004	.002	-2.031	.042	
e5	<--> e12	.003	.002	1.313	.189	
e5	<--> e10	-.011	.002	-4.427	***	
e7	<--> e14	-.004	.002	-2.172	.030	
e8	<--> e10	.007	.002	3.020	.003	
e9	<--> e10	.006	.002	2.683	.007	
e2	<--> e14	-.006	.002	-2.899	.004	
e2	<--> e12	.002	.002	1.057	.290	
e2	<--> e11	-.004	.002	-1.961	.050	
e2	<--> e10	.008	.002	3.289	.001	
e3	<--> e15	-.006	.002	-2.948	.003	
e3	<--> e14	.003	.002	1.617	.106	
e4	<--> e17	-.004	.002	-2.323	.020	
e4	<--> e14	.011	.003	4.125	***	

		Estimate
e12	<--> e13	.433
e4	<--> e1	-.284
e15	<--> e17	-.213
e14	<--> e17	-.189
e11	<--> e12	.209
e3	<--> e1	-.205
e13	<--> e16	.039
e12	<--> e16	-.104
e11	<--> e16	-.110
e11	<--> e15	.130
e11	<--> e14	.115
e10	<--> e15	-.125
e10	<--> e14	-.134

		Estimate
e6	<--> e5	.098
e8	<--> e5	-.139
e9	<--> e8	.129
e2	<--> e9	.091
e1	<--> e5	-.187
e1	<--> e8	.086
e4	<--> e5	.116
e4	<--> e8	-.068
e1	<--> e10	.166
e1	<--> e12	-.103
e7	<--> e6	.081
e7	<--> e5	-.072
e5	<--> e17	.110
e5	<--> e16	-.070
e5	<--> e14	.236
e5	<--> e13	-.112
e5	<--> e12	.063
e5	<--> e10	-.236
e7	<--> e14	-.110
e8	<--> e10	.164
e9	<--> e10	.143
e2	<--> e14	-.168
e2	<--> e12	.046
e2	<--> e11	-.108
e2	<--> e10	.181
e3	<--> e15	-.163
e3	<--> e14	.106
e4	<--> e17	-.132

	Estimate				
	Estimate	S.E.	C.R.	P	Label
e4 <--> e14	.254				
TL	.243	.017	14.072	***	
R1	.037	.003	11.666	***	
R3	.015	.002	7.643	***	
R2	.023	.003	8.725	***	
e4	.040	.003	13.380	***	
e3	.022	.002	10.879	***	
e2	.030	.002	13.309	***	
e1	.029	.003	10.544	***	
e9	.032	.003	12.281	***	
e8	.031	.003	11.513	***	
e7	.031	.003	11.040	***	
e6	.033	.003	11.301	***	
e5	.033	.003	10.350	***	
e10	.062	.005	13.719	***	
e11	.048	.004	12.075	***	
e12	.070	.005	13.389	***	
e13	.043	.004	11.721	***	
e14	.044	.003	12.613	***	
e15	.070	.005	14.171	***	
e16	.036	.003	13.563	***	
e17	.029	.003	11.160	***	
	Estimate				
OC	.831				
CL	.942				
OE	.893				
CL_SI	.887				

	Estimate			
CL_SE	.872			
CL_PS	.788			
CL_FR	.857			
OE_HR	.852			
OE_OS	.760			
OE_IP	.847			
OE_RA	.773			
OC_MC	.874			
OC_AG	.880			
OC_CT	.886			
OC_CO	.881			
OC_CS	.871			
TL_II	.901			
TL_IM	.896			
TL_IS	.919			
TL_IC	.860			
	TL	OC	CL	OE
OC	.863	.000	.000	.000
CL	.993	.427	.000	.000
OE	.867	.371	.204	.000
CL_SI	.929	.400	.936	.000
CL_SE	.962	.414	.969	.000
CL_PS	.993	.427	1.000	.000
CL_FR	.993	.427	1.000	.000
OE_HR	.935	.399	.219	1.078
OE_OS	.891	.381	.209	1.028
OE_IP	.975	.417	.229	1.124
OE_RA	.867	.371	.204	1.000

	TL	OC	CL	OE
OC_MC	.879	1.019	.000	.000
OC_AG	.914	1.059	.000	.000
OC_CT	.907	1.052	.000	.000
OC_CO	.883	1.024	.000	.000
OC_CS	.863	1.000	.000	.000
TL_II	1.033	.000	.000	.000
TL_IM	1.031	.000	.000	.000
TL_IS	1.014	.000	.000	.000
TL_IC	1.000	.000	.000	.000

	TL	OC	CL	OE
OC	.912	.000	.000	.000
CL	.957	.390	.000	.000
OE	.931	.376	.227	.000
CL_SI	.902	.367	.942	.000
CL_SE	.894	.364	.934	.000
CL_PS	.850	.346	.888	.000
CL_FR	.886	.361	.926	.000
OE_HR	.859	.347	.209	.923
OE_OS	.811	.328	.198	.872
OE_IP	.857	.346	.209	.920
OE_RA	.819	.331	.199	.879
OC_MC	.852	.935	.000	.000
OC_AG	.855	.938	.000	.000
OC_CT	.858	.941	.000	.000
OC_CO	.856	.939	.000	.000
OC_CS	.851	.934	.000	.000
TL_II	.949	.000	.000	.000
TL_IM	.947	.000	.000	.000

	TL	OC	CL	OE
TL_IS	.959	.000	.000	.000
TL_IC	.927	.000	.000	.000

	TL	OC	CL	OE
OC	.863	.000	.000	.000
CL	.624	.427	.000	.000
OE	.420	.284	.204	.000
CL_SI	.000	.000	.936	.000
CL_SE	.000	.000	.969	.000
CL_PS	.000	.000	1.000	.000
CL_FR	.000	.000	1.000	.000
OE_HR	.000	.000	.000	1.078
OE_OS	.000	.000	.000	1.028
OE_IP	.000	.000	.000	1.124
OE_RA	.000	.000	.000	1.000
OC_MC	.000	1.019	.000	.000
OC_AG	.000	1.059	.000	.000
OC_CT	.000	1.052	.000	.000
OC_CO	.000	1.024	.000	.000
OC_CS	.000	1.000	.000	.000
TL_II	1.033	.000	.000	.000
TL_IM	1.031	.000	.000	.000
TL_IS	1.014	.000	.000	.000
TL_IC	1.000	.000	.000	.000

	TL	OC	CL	OE
OC	.912	.000	.000	.000
CL	.602	.390	.000	.000
OE	.451	.288	.227	.000
CL_SI	.000	.000	.942	.000

	TL	OC	CL	OE
CL_SE	.000	.000	.934	.000
CL_PS	.000	.000	.888	.000
CL_FR	.000	.000	.926	.000
OE_HR	.000	.000	.000	.923
OE_OS	.000	.000	.000	.872
OE_IP	.000	.000	.000	.920
OE_RA	.000	.000	.000	.879
OC_MC	.000	.935	.000	.000
OC_AG	.000	.938	.000	.000
OC_CT	.000	.941	.000	.000
OC_CO	.000	.939	.000	.000
OC_CS	.000	.934	.000	.000
TL_II	.949	.000	.000	.000
TL_IM	.947	.000	.000	.000
TL_IS	.959	.000	.000	.000
TL_IC	.927	.000	.000	.000
	TL	OC	CL	OE
OC	.000	.000	.000	.000
CL	.368	.000	.000	.000
OE	.447	.087	.000	.000
CL_SI	.929	.400	.000	.000
CL_SE	.962	.414	.000	.000
CL_PS	.993	.427	.000	.000
CL_FR	.993	.427	.000	.000
OE_HR	.935	.399	.219	.000
OE_OS	.891	.381	.209	.000
OE_IP	.975	.417	.229	.000
OE_RA	.867	.371	.204	.000

	TL	OC	CL	OE
OC_MC	.879	.000	.000	.000
OC_AG	.914	.000	.000	.000
OC_CT	.907	.000	.000	.000
OC_CO	.883	.000	.000	.000
OC_CS	.863	.000	.000	.000
TL_II	.000	.000	.000	.000
TL_IM	.000	.000	.000	.000
TL_IS	.000	.000	.000	.000
TL_IC	.000	.000	.000	.000

	TL	OC	CL	OE
OC	.000	.000	.000	.000
CL	.355	.000	.000	.000
OE	.480	.088	.000	.000
CL_SI	.902	.367	.000	.000
CL_SE	.894	.364	.000	.000
CL_PS	.850	.346	.000	.000
CL_FR	.886	.361	.000	.000
OE_HR	.859	.347	.209	.000
OE_OS	.811	.328	.198	.000
OE_IP	.857	.346	.209	.000
OE_RA	.819	.331	.199	.000
OC_MC	.852	.000	.000	.000
OC_AG	.855	.000	.000	.000
OC_CT	.858	.000	.000	.000
OC_CO	.856	.000	.000	.000

	TL	OC	CL	OE
OC_CS	.851	.000	.000	.000
TL_II	.000	.000	.000	.000
TL_IM	.000	.000	.000	.000
TL_IS	.000	.000	.000	.000
TL_IC	.000	.000	.000	.000

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	82	142.543	71	.000	2.008
Saturated model	153	.000	0		
Independence model	17	14451.835	136	.000	106.263

Model	RMR	GFI	AGFI	PGFI
Default model	.002	.970	.936	.450
Saturated model	.000	1.000		
Independence model	.216	.087	-.027	.077

Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	.990	.981	.995	.990	.995
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Model	PRATIO	PNFI	PCFI
Default model	.522	.517	.519
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

Model	NCP	LO 90	HI 90
Default model	71.543	41.332	109.534
Saturated model	.000	.000	.000
Independence model	14315.835	13924.447	14713.519

Model	FMIN	F0	LO 90	HI 90
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Model	FMIN	F0	LO 90	HI 90
Default model	.269	.135	.078	.207
Saturated model	.000	.000	.000	.000
Independence model	27.268	27.011	26.273	27.761

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.044	.033	.054	.839
Independence model	.446	.440	.452	.000

Model	AIC	BCC	BIC	CAIC
Default model	306.543	312.308	657.073	739.073
Saturated model	306.000	316.758	960.039	1113.039
Independence model	14485.835	14487.030	14558.506	14575.506

Model	ECVI	LO 90	HI 90	MECVI
Default model	.578	.521	.650	.589
Saturated model	.577	.577	.577	.598
Independence model	27.332	26.593	28.082	27.334

## **BIOGRAPHY**

<b>NAME</b>	Kemmarin Chupradist
<b>ACADEMIC BACKGROUND</b>	Master of Public and Private Management National Institute of Development Administration 2009, year of graduation
<b>EXPERIENCES</b>	Year 2012-2013 Policy and Plan Analyst, ACSF Year 2014-Present Lecturer of Department of Management Southeast Bangkok College

