AVIATION HUMAN CAPITAL DEVELOPMENT: GROUND SERVICE OFFICER AS A CASE

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ABSTRACT

Title of Dissertation	AVIATION HUMAN CAPITAL DEVELOPMENT: GROUND SERVICE OFFICER AS A CASE
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The purpose of this study are to; 1) study the level and the differences of development of human capital in aviation, human capital competency in aviation, and service satisfaction of ground service officers. 2) study the development of human capital that affect the competency of ground service officers. 3) Study the aviation human capital of ground service officers that satisfy the passengers.

This research is primarily quantitative research and the qualitative was supplemented by structured in-depth interviews to foster the results. The sampling groups divided into two main groups. The first samples were those who work in the aviation industry, consisting of full-service airlines and low-cost airlines senior staff level. The second group was full-service and low-cost airline passengers. The data was collected through questionnaires for quantitative. While the qualitative was conducted by interviewing the airlines' executives.

The first objective found that the approaches to developing aviation capital from airlines' employee perspectives are classroom training, learning organization, job rotation, a field trip for learning, and education at highest level. Whereas, the competencies that fit for aviation human capital are having a volunteer attitude, cultural diversity management, communication and interaction skills, communication skills of the foreign language, technological skills, creativity and innovation for the job improvement, service-minded, continuous learning for self-improvement, ethics and morals, being expertise in career, and job achievement at the highest level. The result of passengers' satisfaction on service quality, responsiveness to passengers' needs, reliability and assurance, and service expectation at highest level.

The second objective the approaches affecting aviation human capital development are classroom training, job rotation, on- the- job training, coaching, and learning organization. And the third objective the competences affect passengers' satisfaction towards ground service officers are communication skills of the foreign language, continuous learning for self-improvement, having a volunteer attitude, service-minded, communication and interaction skills, teamwork, emotional quotient, cultural diversity management, and ethics and morals.

The recommendation from this research for policymakers of the government agencies to monitor the aviation standards for the development of aviation personnel. The government agencies should implement policy on the manpower development process for the ground service systematically. Considering that, the institutions should apply the methods of learning and development as well as the necessary competencies to students.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Aviation is one of the important sectors in the service industry since it supports trade and economic improvement i.e. tourism, hospitality, transportation (Piermartini & Linda, 2008). However, the growth of aviation affected both positive and negative impact such as the positive impact can be divided into three types; 1) direct or primary impact refers to the direct employment from airport, airlines, retailers, concessionaires, ground handlers, and air traffic control which generate revenue for the population. 2) indirect impact means the employment and salary of people from suppliers who service airlines, airport and other businesses located in the vicinity the airport, for instance; water supplies, electricity, fuel, construction and cleaning services, and 3) induced impact is the impact coming from those who are employed and spending their salary for living expenses i.e., clothes, food, public transport, and housing, etc. Moreover, aviation allows people in remote areas to access to public services, for example, hospitals and education. Whilst, the negative impact mostly concerns with environmental like noise and air pollution, as well as hazardous waste (Graham, 2014).

Today, the deregulation of air transport permits new airlines to operate more freely, especially low-cost carriers. Furthermore, deregulation encourages adding both domestic and international flights. It is noteworthy that many countries develop and expand the infrastructure like the airport to support growth of the aviation industry. In the meantime, airlines are competing to become hub or center for aviation in its geographic region. The Airports of Thailand (AOT) revealed the aviation industry of Thailand growth was 9.8 percent in 2018 principally from Chinese tourists and the expansion of airlines' routes. From the release of ICAO red flag, the future growth of aviation industry in the next five years is promising. Because there are more than 1,000 aircraft worldwide still to be delivered. The AOT has requested the government to

operate more airports to minimize the congestion of air traffic. It is noteworthy that Airport Authority of Thailand (AOT) has set up a budget around THB 2.2 hundred billion to become regional gateway airport. As well as, asking the government to produce a skilled workforce for both ground services and air personnel in various position to accommodate Thailand as an aviation hub in its region (KrungthēpThurakij, 2018). The outlook from (Airbus, 2016) emphasizes the cause of competitive disadvantage is that the human capital in aviation is insufficient. Airbus (2016) predicts from 2016-2035, that the growth of the industry will increase by 60 percent or will be double from the year 2001.

Meanwhile, the demand will increase dramatically every year 4.5 percent especially in the Asia Pacific region, which will be triple demand for air travel. Furthermore, the traffic is rising continuously 5.8 percent every year from the emerging market such as; China, India, Middle East, and Asia. There was a total of 6.2 billion air travelers in 2014. This resulted the springing up of 47 big cities. Thailand is one of the most 47 popular destinations. Since, there are passengers traveling to the country more than 20,000 person per day. This makes all existing airports accommodate passengers over its capacity.

Whereas, Boeing (2016) forecasts the aviation industry in the next 20 years that there will be the rise of demand for aircraft around 39,600 fleets which accounted for $ 5.9 billion from various factors, for instance; the development of gross domestic product, the diversity of workforces trend, international trade, economic and connectivity investment, and open sky policies around the globe. Technology advancement is also one of the factors which allow aircraft can operate direct flight linking more cities, as well as, the growth of low-cost carriers. Like Airbus, Boeing (2016) sees the strongest growth of aviation in the Asia Pacific market as shown in the below table.

Table 1.1 The Growth of Aviation Industry in Each Region by 2035

Traffic in 2035 by RPKs	**Asia**	**North America**	**Europe**	**Middle East**	**Latin America**	**Africa**
Asia	63	18	19	43	1	9
North America	10	40	17	10	37	4
Europe	11	19	30	26	26	39
Middle East	14	6	14	10	-	24
Latin America	0	16	10	-	35	2
Africa	1	1	8	9	1	22
Total	**100**	**100**	**100**	**100**	**100**	**100**

Note: *Number in percentage

*RPKs means revenue passenger per kilometer

Besides, the International Air Transport Association- IATA (2018) declared in its website that in 2037 the air passengers would be 8.2 billion persons. As a result, the additional workforces are required, respectively, around the globe and are estimated to be 100 million positions. Notably, the Asia Pacific region would experience the most growth in the aviation industry in the world. Due to the growth of the economy in its region, the income surge of the middle class and the numerous populations are key forces of the steady growth of industry. China will likely become the main market of aviation instead of the USA in the late 20th century. India will be ranked number three, where the number of passengers is higher than in the United Kingdom in 2024. For Southeast Asia, Indonesia will dominate the market of total traffic passenger was ranked number ten of the world in 2017. The number of passengers would dramatically increase to be number four of the World in 2030. Whilst, Thailand will be one of the top ten ranking of passenger air traffic replacing Italy.

Airbus, Boeing, and the director of IATA (2018) disclosed, it can be seen clearly that Thailand is one of 47 big cities that the aviation infrastructures are over its capacity

including the service provider multiplication firmly. Presently, the basic infrastructure or the airport and service provider are insufficient in responding to the demand of air travelers. And in the future, there will be more jobs in the aviation industry needed to accommodate the surge of passenger numbers. It is worth noticing that the aviation industry is growing worldwide. Hence, the competition among air carriers is intense, such as low-cost carrier (LCC) in Thailand reduce fare. Furthermore, LCC has implemented a new service onboard called 'premium economy' to expand new segments who like comfort at a low price. Since the seat provided in premium economy is adjustable recline like those in business class seats of full-service airlines. In the destructive competition environment, airlines that have potential human capital armed with knowledge, skills, and abilities would be competitive advantages.

Consequently, IATA (2013a) defines the workforce in an airline company as a product and software composed of the process of services, and people, which are most important to initially impress the passenger on their initial flight. People can create the first impression either positively or negatively during the interaction with a service. provider it is called 'moment of truth'. The moment of truth where the customer and service employee first interact can increase or decrease the satisfaction that affects the return of customer or switching to other airlines. On the other hand, the frontline workforce could change the crisis into an opportunity which means building a concrete relationship with passenger, make them loyal to the airlines. The other issue is how well frontline staff are keen to solve passengers' problems immediately. Undoubtedly, the passengers having good experience that reflect on the airlines' brand and passenger satisfaction makes the airline distinct from its rivals (IATA, 2013b; Wirtz & Lovelock, 2016). Thence, the frontline employees shall interact with responsiveness to the service receiver by check-in passenger and bags quickly; assurance to provide the service with the trust of customers as promised to carry them to a destination safely, punctual departure and arrival of flights; and serve with empathy or understanding of individual client needs.

Thus, the workforce in aviation industry should be professional and have skills set suitable for working in a chaotic environment such as; problem-solving, positive mindset which leads to correct and appropriate behaviors for the customer services, being accessible and flexible for clients to reach the service at any time, any places and

the process of providing services must anticipate passenger's needs. Assisting the customer to see that the service is worth their money paid to the airline by creating reputation and credibility during the interaction. Service quality, then, relates to human resource management, properly by doing job analysis, recruiting, selection, training and development, and performance management., for example, Southwest Airlines, the LCC in the USA, practices the process of selection and training sophistically. As well as, the working process design efficiently to offload and onload baggage to ensure all flights arrive or depart on schedule time. These processes decrease airline costs and passengers' satisfaction (Schneider & White, 2004).

As mentioned above, it can be noticed that the service quality of every workforce in airline companies are crucial to create satisfaction for the customers. Once the customers are delighted, they will return to use the service and become loyal to the organization. As a result, it will generate revenue for the organization and the country from a holistic view. Zeithaml, Bitner, and Gremler (2018) cited in the survey of American Customer Satisfaction Index-Ratings by Industry- ACSI reflected the customer satisfaction affecting the organization's economic and stock value growth.

In the airline industry, the International Air Travel Association IATA (2015) indicated the importance of ground service officers (GSOs) are vital, because they are the first focal point meeting with passenger at the origin airport and destination airport. They perform multiple tasks in handling a flight such as: check-in passenger and baggage, travel document check, managing the seating plan, issue boarding passes, baggage reconciliation or matching checked baggage with the passenger onboard for flight safety. If the passenger missing, the baggage must be offloaded from the aircraft. Besides, GSO must coordinate with various departments to ensure the readiness of the aircraft to depart on time. The nature of GSO task works under pressure. If the flight is delayed, cancelled or re-scheduled, the GSO must confront with passengers' temper and as well as handle the situation. If GSOs could not manage their own emotions, it will affect absenteeism, job performance, and resignations (Karatepe & Choubtarash, 2014). Furthermore, the working schedule of GSO must be set according to the flight, which is hostile to social life, and life span in contrast to office working hours. Most importantly, GSOs is the first security checkpoint of air travelers. They will ask a set of security questions about passengers' baggage, dangerous goods, prohibited items,

noticing passengers' behavior who might be disruptive or unruly according to the aviation regulations. It is worth noticing that these all mentioned factors are the key elements to satisfy passenger and to build loyalty towards the airline (Türeli, Durmaz, Bahçecik, & Akay, 2019). However, the leverage of airline employees' abilities has various factors of concern. For example, the dramatic growth of traffic, the fast-changing technology and the implementation of technology to facilitate service process, security and safety issues in air travel has become intense (IATA, 2015). Zeithaml et al. (2018) argue that even though the airline companies employ technology to support its services, the most important back up and control technology is definitely human or airline workforces.

In Thailand, the Ministry of Industry (2016) has revealed the national strategic development planning of Thailand's industrials 4.0 within 20 years from 2017-2037. The plan is to link technology to enhance the strength of targeted industries and move away from the middle-income trap. The targeted industries are aviation and logistics, digital platform by building a network, infrastructures for transportation, services, and maintenance, repair and overhaul (MRO), set up logistic center to transport high-value and sensitive product by air, building the navigation system and competency development of aviation personnel to become an expert. This project of competency development has been set in strategic number 1. That is to promote and develop human capital to be of high quality refers to the development of people to be happy in every stage of life, being good and healthy, having ethics and morals, discipline, and of good conscience for society ready to adapt to rapid change. The government, has set up a group working on research of the aviation business in Thailand. The government has implemented the Economic Commission Commerce and Industry to run the research project. The committee has assigned the Senate to be responsible for establishing a Subcommittee on Air Transport working group in the study for readiness in Thailand to become the ASEAN aviation hub. By inviting experts in relevant fields including institutions that offer courses in aviation business as a sub-committee, divided into three working groups which are 1) the working group preparing aviation capacity to promote aviation business and related businesses. 2) The working group on preparatory studies for aviation parts and aircraft maintenance industry to support Thailand becoming the center of aviation industry in Asia, and 3) The working group on aviation personnel

readiness preparation to support aviation hub study the opportunities, situations, readiness of aviation personnel, airports and equipment of the civil aviation business in the development of the domestic aviation industry for economic development (Treruttanaset, 2018)

The result of the Subcommittee on Air Transport (2017) reported that the aviation industry in Thailand has multiple growth factors, such as the joint of AEC community, the deregulation of ASEAN air transport, the Eastern Economic Corridor (EEC). The government has prepared the infrastructure, rules, and regulations for air transportation as a policy by developing U-Tapao International Airport to establish aviation industrial estate. And Thailand 4.0 policy that will lead Thailand to change the economic structure, one of the main ideas is the shift from focusing on product manufacturing to the service sector. The aviation industry is classified as a group of creative, cultural and service industries, innovation and high value technology. Besides, the Subcommittee on Air Transport in the Transport Commission National Legislative Assembly has studied by focus group with ten organizations in aviation industry including; Civil Aviation Authority of Thailand (CAAT), Aeronautical Radio of Thailand, Airport of Thailand, Aeronautical Meteorology Division, Thai Meteorological Department, Thailand Professional Quality Institute (TPQI), Thai Smiles Airline, Thai Airways International, Thai Air Asia, Thai Lion Air, Mjet, Bangkok Airways, and New Gen Airways. The result found that the aviation personnel in different duties on ground service has not met the standard requirements. As well as, the graduates from airline business in Thailand's institutions could not fit with the airline standards including poor proficiency in English, lack of safety and security knowledge, lack of service-minded, and lack of a sense of safety awareness. This is consistent with Nickson (2007) disclosed that in the service industry, the management and administration of human capital must align with the competitive strategy of an organization. It is mandatory for the firm to acquire best personnel to fit with the job. On the other hand, it seems that the service industry still lacks people who have skills for services, and there is a high resignation rate. This has resulted from the service industry is highly vulnerable to the external environment and the employment period depends on the tourism season.

Therefore, the government has established Thailand Professional Qualification Institute (TPQI) to connect the development of the human capital user sector to the human capital production sector and to certify professional competency according to the professional standards to meet the needs of business and industry sectors. This will allow individuals to be recognized for competencies that are consistent with professional competencies. The aviation profession is one of the professions that the professional qualifications institute certifies as flight attendants and ground service personnel. Still, the weakness of human capital in Thailand compared to Singapore and Malaysia, found that there are competencies in many areas that will provide the best service at a low level. Therefore, human capital must be developed by the target industry to suit the country's potential. The practice is to deal with educational quality system, according to the characteristics for the 21st century, with a standard professional qualification system supported by TPQI the Thailand Professional Quality Institute (Public organization). Lately, the Thailand Professional Quality Institute has provided professional standards for ground service officers and flight attendants. These two occupations have been input in TPQI system to control the quality and standards in order to be accepted internationally.

According to the memorandum of TPQI number 185/2562, a researcher was promoted to be one of the working groups of professional and quality standards for aviation ground services and support ground services in the terminal to establish professional standards, analyze and create a unit of competencies, synthesize, design the examination to assess the competencies. Then present the results of the professional standards and qualifications to the Professional Standards Subcommittee. TPQI has set the professional and qualification standards since 2014, but the professional standard needs to be revised for the validity of today’s ground service as a best practice. Thailand’s aviation industry has risen continuously in terms of passengers and airport infrastructure. The airport of Thailand planned to construct a new terminal with 960, 000 square meters to accommodate 60 million passenger a year (Prachachatdhurakij, 2019). The Airport Authority of Thailand has six managed airports and is currently undertaking additional airport operations from the Department of Airports for further management. The Department of Airport has 29 supervised airports and will shortly open in four more locations. Those are namely Satun airport, Phatthalung airport,

Mukdahan airport, and Bueng Kan airport including the new project to build an airport in Nakhon Pathom to reduce the congestion of Don Mueang and Suvarnabhumi airports (Prachachatdhurakij, 2019). The purpose is to support the tourism industry, an international transportation, and being international aviation hub. Since, most of the revenue to develop Thailand comes from the tourism industry the requirements of service personnel in air transport could be not fulfilled compared to the expected number of tourists coming to Thailand. In addition, the standard of service competency of human capital personnel does not correspond to the satisfaction demanded by passengers. Ground services can create satisfaction with the service, which will result in passengers returning to travel in the country which will result in an increase in national revenue and will affect the economy as a whole.

Thereupon, according to all the above, the insufficiency of aviation personnel and the lack of a clear set of professional standards for ground service providers, including low a level of service. Thailand's major goal is to gain income from tourism to augment the overall economy to have a steady and sustainable growth. In addition, from various studies researcher did not find any research on guidelines or methods for developing human capital in aviation. The researcher, therefore, wishes to study the guidelines for the development of human capital in aviation in order to set the standard criteria for the development of human aviation capital with the competence to provide services that can meet the passengers to create satisfaction. This will make the aviation business to become a leader in the global aviation industry and to be the aviation hub in Southeast Asia.

It is worth noticing that the aviation plays a key role supporting other business, as well as providing job opportunities, generating revenue to the country. Meanwhile, the rapid growth of the air transportation in the country and region as predicted by Airbus and Boeing. The expansion of the infrastructures, airlines require more knowledgeable and skill-full manpower serve the industry. Unfortunately, the number of workforces is lacking, and skill mismatch from the airlines'requirements. Furthermore, there is no research conducted on how to develop the qualified ground service officer, the suitable competencies for the position of ground service officer. Since, the competence frontline as a ground service officer could make customer delight

and come back to use the service again. That is mean the revenue to the airlines and the overall economy of the country.

1.2 Research Gaps

As refers to the introduction, researcher found these following gaps require to figure out;

1) Research gap 1: The growth of air transportation, and the rise of low-cost airlines causing the service providers lack of competence workforces. There is no study on the level of development, competency, nor the level of passengers' perception on the aviation human capital competencies.

2) Research gap 2: According to IATA, the airlines' product software is the most important to impress and create good experiences of the passengers which are the process and people. Therefore, should there be any differences between full-services and low-cost airlines in the development, competences, and satisfaction of passengers toward ground services.

3) Research gap 3: The position of ground service officer is the frontline employee interacting with passengers, handling flight, bags, safety and security of the flight, assure the passengers receiving high quality of airlines' services. Hence, the ground service officer should be professionalism, having multi-skills set, and knowledge, positive mindset, able to handling multi-tasking. As a result, what development approaches should airlines implement to develop their ground service officers to be well-competence.

4) Research gap 4: As relates research gap number 2, what competencies of ground service officers would lead to service quality of the airlines that satisfy the passengers.

1.3 Research Questions

The research questions were set as a guideline to find out the result according to the research objectives as follow:

1) What is the degree of aviation human capital development, competencies in aviation, and the satisfaction of passenger perceives from ground service officers?

2) What are the differences in human capital development approaches, human capital competencies, and the satisfaction of ground services between low-cost carriers and full-service airlines?

3) What are the approaches for developing human capital that affect to the competency of ground service officer?

4) What are the human capital competencies of ground service officers that affect the satisfaction of aviation services?

1.4 Research Objectives

Consequently, from the above introduction and research questions the research objectives have been set as following:

1) To study the level and the differences of development of human capital in aviation human capital competency in aviation and service satisfaction of ground service officers.

2) To study the development of human capital that affect the competency of ground service officers.

3) To study the aviation human capital competency of ground service officer that satisfy the passengers.

1.5 Research Limitations

The limitation of this study was the population of airline supervisors and senior level, especially low-cost airlines with has few numbers. Due to the number of low-cost airlines flying at Don Mueang Airport, which the researcher has studied, there are only three main airlines. And the population studied is mainly Thai passengers because of the service, the friendliness, and the culture of Thai considered to be a humble and famous nation in services industry.

1.6 Expected Benefits of the Study

The expected benefits of this study aim are;

1) To propose the results from this study for the airlines to use as the guidelines for developing their employees to have the competences according to this research results in order to satisfy passengers that will lead to revenue for the country and resulted in the growth of the country.

2) To present the results of this research to universities that has airline business program to develop students for best practice that will affect the company's performance and the national income from passengers.

3) To propose the results of this research to TPQI for professional and quality standards in aviation ground services and support ground services in the terminal to establish professional standards.

1.7 Scope of the Study

This research studies the development of human capital in the aviation industry at Suvarnabhumi International Airport (BKK) and Don Mueang International Airport (DMK). Where BKK provides mainly for full-service airlines, while DMK provides for low-cost airlines both airports are major airports of Thailand where there are numerous of passengers arriving and departing, as well as ground service officers. This study concentrates on the airline’s employees at supervision level up onward in different department which providing ground services. Furthermore, the data will be collected from top management of airline’s company who worked in the aviation industry for many years. And their expertise and knowledge could be useful for the guidelines in developing the competencies of human capital in aviation, in which will be more value than collecting from the general employees. The passenger who fly with low-cost airlines and full service-airlines are the other group to collect the data. Since, they experienced the services themselves thus they could provide a useful data on the satisfaction and the competences with validity to the research topic. These key informants would make the result of this study reliable and could be useful as a guideline for developing human capital in aviation, especially ground service officers.

Those who could satisfy the needs of passengers, making the passenger delight and come back and use the service to Thailand again. This would generate income, support the growth of aviation industry according to Thailand 4.0 policy sustainably.

CHAPTER 2

LITERATURE REVIEW AND RELATED RESEARCHES

The researcher has studied, and collected data from publications, research reports, articles and theses, to gather and analyze knowledge relevant concepts and theories used in integration for the conceptual framework on this study topic "Aviation Human Capital Development: Ground Service as a Case" which covers these following issues:

2.1 The Definition of Human Capital

2.2 The Components of Human Capital

2.3 The Concept of Human Capital Management and Competency

2.4 The Concept of Human Capital Development, Theories of Learning, and Learning Organization

2.5 The Satisfaction Concept

2.6 Related Research

2.7 Conceptual Framework

2.1 The Definition of Human Capital

The concept of human capital, beginning with economists (Schultz, 1980), wrote a book about 'Investing in People, result in (Schultz, 1980) in a significant improvement in population quality, specifically in agriculture and economy. Investing in humans can be done in many ways, from school education, training, accumulation of skills and work experience, which are considered skills, talent, and expertise to increase the quality of each individual's, knowledge, that is important for productivity and well-being (CIPD, 2017; Gillies, 2017).

Boonkong (2006) stated that human capital is humans with knowledge, skills, capabilities, and expertise to increase productivity. Investing in humans is the hope that people will gain knowledge, ability through education. Then having a higher income and may not be just monetary only, but to be accepted in society or career promotion. The investment in humans, also, will affect the efficiency of production and service, which will affect the growth of the country's overall economy. Therefore, it can be concluded that human capital from an economic point of view as an analysis at the individual level comprises of knowledge, skills, health, and characteristics necessary for living in a society that results in a good society. The quality human capital, then, consists of virtue, morals, ethics, discipline, respect the rules of society.

While B. E Becker and Huselid (2006) mentioned that human capital means the knowledge, abilities, skills and expertise that are inherent in the people of the organization resulting from good quality and hygienic nutrition and receiving an education, training, experience from workplace in the production and services. Human capital is a tool for creating knowledge in an organization that helps to develop processes, strategies, and effective operations (Ananmana, Pruksaarporn, Ninaroon, Sitthiwarongchai, & Pruksaarporn, 2018; Dzinkowski, 2000; Kucharčíková, Tokarčíková, & Blašková, 2015; Razi & More, 2012).

Whereas, Ployhart, Nyberg, Reilly, and Maltarich (2014) has defined human capital is the basic ability of human in terms of knowledge, skills, competencies, and other essential characteristics, which are considered as personal assets that make a well-being and good society. The quality human capital, therefore, consists of virtue, morals, ethics, discipline, and respect social rules. The knowledge, in this regard, is an expression of the basic information processes necessary for a person to perform their job, while the skill is the level of expertise and competency in a job and will increase from the person's experiences. As for the ability is the competency of each person within which they will be carrying longer than its capability and can be adapted for performance in a related task. And other characteristics, which are personality and various characteristics of expression related to personality that affect the performance

of various people (Knowledge, Skills, Ability, other Characteristics-KSAOs) that can be used as intended.

Wykstra (1971) said that humans should be regarded as capital because 1) there is a lot of money involved in the creation and development, especially education 2) the results of human skills help to raise the national gross domestic product and 3) assets in individuals who are knowledgeable, skilled and capable not only increase the gross national product of the country but also create wealth for the country.

Nisada Wedchayanon (2016) said that human capital is a set of knowledge, skills that exist in human, which reflects the ability and value in humans. Human capital can accumulate the investment by formal education, training and development in various ways that will affect the quality of work and quality of product.

In conclusion, human capital means knowledge, expertise, skills, and other characteristics that are accumulated in humans through educations, and work experiences. A good human capital must consist of goodness, morals, ethics, and respect for social rules. To develop human capital involves the investment in education. However, the result of human capital investments is capitalized which have an impact on the country's economy.

2.2 The Components of Human Capital

As the organization enters a global competition in which information and knowledge are important, it is considered an era of knowledge-based economy. The scholars on human resources such as (Danai, 2008; Laakso-Manninen & Viitala, 2007; McCracken, O'Kane, Brown, & McCrory, 2017; Meijerink & Bondarouk, 2018). Therefore, human capital is one of the components of intellectual capital in the new economic era as the knowledge is the intangible driving force of business, and an intangible asset increasing the value. The human capital theory can be considered as comprising two research streams (Ananmana et al., 2018; Dzinkowski, 2000; Kucharčíková et al., 2015) into the quantitative and qualitative human capital, where

the quantitative human capital relates to the population or organization members in the operation, the qualitative is knowledge, skills, and factors that affect work performance. On the other hand, Ployhart and Moliterno (2011) divide the human capital into two levels: individual and unit or organizational level, which are the relationships at the individual level including; knowledge, skills, abilities, and other characteristics (KSAOs) (Wright & McMahan, 2011). The Organizational level is the relationship between organizational phenomena of the increasing in employee's educational experiences.

Laakso-Manninen and Viitala (2007) extends the components of intellectual capital, including motivation and commitment to the organization, which will result in profitability. The intellectual capital consists of three components which are 1) human capital such as managing and augmenting more knowledge, specialization, expertise, and initiative that are both noticeable and unnoticeable, such as attitudes, knowledge, physical and mental emphasis on each individual (CIPD, 2017). 2) Relational capital or social capital is a relationship with customers, networking with business related parties including social systems, beliefs, organization practices, trusting in the organization. And 3) structural capital is a trademark, patents, copyrights, trade secrets, methodologies, etc. It is the intangible assets that add value, such as research and development, brands, patents, and individual capabilities. These intangible assets the organization cannot control. For this reason, the organization must have a model or knowledge that will transform intangible assets to create the value. The model characteristics consist of systematic, openness, dynamic, adaptive, and innovative.

Whereas, Fuente and Ciccone (2003) divide human capital into three dimensions consisting of 1) general skills which are basic skills for reading, the process of bringing information to solve problems, and learning including; the ability to manage information, quantitative skills, basic mathematics to apply for the assumptions and problem solving. 2) specific skills are the ability to use sophisticated technology, techniques for planning in the production process and, 3) technical and scientific skills

are scientific and technical knowledge that is specialized in knowledge management and analysis, basic design principles with logic that accumulates in human capital and can increase the productivity of the organization resulting in increasing revenue.

However, Davenport (1999) divides the components of human capital into various issues, namely talent, knowledge, skills and personal abilities, behavior, and effort. The notion is when all issues combine with other factors, such as time, the model relationship of characteristics composition are explained as follows:

1) Ability is expertise in activities or tasks divided into sub-elements as follows:

(1) Knowledge means boundaries of knowledge in the work or work performance of a person to be success. They must have a wide variety knowledge of both primary knowledge and other knowledge.

(2) Skill is the expertise such as knowing the process work procedures, work methods, dexterity, including the use of movement, the strength of the body to accomplish task according to the mission.

(3) Talents are the inherent qualities, or it may be trained to master them.

2) Behavior is an act that can be seen and observed which reflects the values, ethics, beliefs, and reactions of a person to the world.

3) Effort is to use resources that are both physical mental dedicated to the mission to be successful. This effort will motivate individuals to employ their fullest knowledge, skills, and talents in an ethical way.

4) Time is the basic resource under the supervision of individuals with unique abilities. A person will not be able to create work performance without investing in time.

However, Chira Hongladarom (2012) separates the components of human capital which can be summarized as follows: 1) education and training, 2) analytical

thinking for problem-solving, think outside the box, and being creative 3) morals and ethics including three qualities: integrity, imagination, and innovation. 4) behavior that enhancing the value practicing in daily life and having physical and mental health and happiness, which is called the capital of happiness. 5) having a good relationship with a positive attitude and the understanding of different cultures, building of a social network which is social capital to help developing the country sustainably 6) understanding the principles of sufficiency economy will lead to sustainability, which consists of moderation, reasonableness and prudence as development framework based on knowledge and virtue 7) having technological skills to benefit educational life for researches, and 8) talent, ingenuity, knowledge, skills and attitudes.

As is widely known that human capital is an important factor for the organization's competitiveness. Therefore, to increase the potential of organization's human capital must consist of these five components which are; 1) creativity capital refers to a person who has analytical thinking, think out of the box, system thinking and imaginative, 2) knowledge capital refers to a person who are knowledgeable, knowing the truth that applicable to create shared value and added value from diversity, 3) innovation capital refers to the capability of a person who is able to innovate new value and useable products and services, such as creating of new service innovations must include the understanding needs of customers, be able to manage the changes and enable everyone to participate as a team.

According to Boonton Dockthaisong (2008) concepts the elements of human capital in globalization include; knowledge, skills, competencies for development and innovation are not enough. The human capital must focus on the inside components which are important for the quality human capital. The internal capital or in Thai called Ariyasap, which is a noble quality of a person who has both knowledge and moral conduct, restrain from telling lies, behave with intellectual or wisdom from within. It is a powerful behavior since a person behave from the purification of the mind. This comes from the root of Buddhist science. This can be explained that, it is the inside wisdom which can be used endlessly, and consists of goodness. So, one could perform the task

effectively, diligently, and wisely with consciousness. From the concept of human capital that emphasizes on the cognitive knowledge, it results to the KSM model which consists of the following characteristics; 1) knowledge competency includes high determination, hardworking, future vision, 2) skill competency compose of high responsibility, coordination, imagery, 3) management competency which is the integrity, sacrifice, and discipline, 4) leadership competency refers to the ability to enhance subordinates' motive, able to propose a nice project, 5) organization competency refers to the organization consisting of wise employees, productivity, excellent services, and high employees' motivation, 6) outside competency refers to loyal customer, elite customer, and advocate customer, 7) cognitive elements refers to the workforce of organization have purity of mind which will lead to the growth of organization.

In conclusion, the components of human capital consist of the knowledge, ability, skills, talents of a person accumulated and expressed through their behavior in certain actions with an effort to succeed for a specified time condition. However, the vital component is a social capital, which is the know how to build good relationships and networks. Since as a human being, one lives in diverse societies and are now multi-cultural societies. Therefore, the understanding of the differences by using logic with morals and ethics instead of temper. Another issue is the capability in using technology for daily life, working, and education amid good hygiene, the ability to create something that benefits the organization and the nation under the principles of sufficiency economy theory is necessary. Besides, the cognitive element that has deeper meaning than the intellectual capital which emphasize in the intangible knowledge. As for the cognitive components means having deep intelligence to see things as it is. Having consciousness can employ the insight wisdom with morals. The morality will allow people to conduct good behavior and practices.

2.3 The Concept of Human Capital Management and Competency

Human Capital Management (HCM) divided into three categories which are 1) intellectual capital, 2) social capital and, 3) organizational capital. To manage the intellectual capital and to implement consist of three guidelines as follows:

1) Human capital is the knowledge, skills, abilities and capability to develop innovation by using the knowledge possessed by people and organizations. And the implementation into practices involve; attracting, retaining, developing, and rewarding to build and maintain skills that employee's practice and inspire them.

2) Social capital is a structure of network and formalities supporting workforces can achieve intellectual capital existing in an organization, the flow of knowledge with organization through relationships from both inside and outside organization. The guidelines for implementing social capital in organization, the organizations should consider the design and organization development that will help to promote the process of improvement, data storage and dissemination of knowledge. The advantages of social capital are to reduce the cost of exchanges to trust and to increase flexibility. Next is the good interaction within organization allow better organizational learning. Moreover, the trust of people in organization leads to the competitiveness which other organizations are hardly imitate (Grigoriou & Rothaermel, 2014; Laakso-Manninen & Viitala, 2007; Wu & Lee, 2016).

3) Organizational capital is the institutional knowledge where the organization store in its database or in the manual. The organization can practice organizational capital by applying knowledge management (KM) (Baron & Armstrong, 2007; Boonton Dockthaisong, 2008; Laakso-Manninen & Viitala, 2007).

Due to changes in globalization, and the advancement of technology, in developing human resource to be an efficiency human capital, motivated to learn, and develop throughout their life-long organization must have an effective support system. After the transition from the industrial era to the knowledge-based economy, the organization must integrate knowledge into daily operations by applying knowledge

from human capital to differentiate between organizations in all aspects of its activities including; marketing, production, organization structure, and the investment in human capital (Fitz-enz, 2009).

The industrial revolution progressed after the Second World War and by the end of 1960, personnel management had changed into human resource management, until today, which is called human capital management which reflects the importance of knowledge and skills of an organization in the world of intelligence (Bahuguna, Kumari, & Srivastava, 2009; Fitz-enz, 2009) which (Nisada Wedchayanon, 2016; Teixeira, 2014) were say that the research, the foundations of human capital theory, and the driving forces of skilled, knowledgeable economists have influenced the rapid development of human capital theory in the 60s. There are many researches about understanding of human behavior at social and personal levels. The assessment of various types return on investment in human capital has been conducted. The analyzing the growth and development of countries, regions have been identified through the behavior of individuals, and societies which was determined by individual quality of human capital. Thus, the evolution of management concepts has developed the science of human resource management starting from the 1950s. During 1960s, the concept was supported (Argyris, 1986; Herzberg, 1987; Maslow, 1943) providing value to human resources in the organization, encouraging employees to have a good quality of working life under the principles of behavioral sciences and human capital and industrial relations theories due to economic competition. The economic has fallen in developed countries. Scholars has generated the science of human resource management which widely accepted, because academics believe that this management will improve business performance (Armstrong, 2015; Aston Centre for Human Resources, 2008).

Until the era of globalization, during the years 1980-1990 Boselie (2011) saw that the fierce competition of various organizations causing the dynamics and complexity of the organization; such as shortened product life cycle, the vigorous competitions due to technology advancement, the widespread of knowledge transferring through the internet, higher demand of customer. Consequently, in response to these changes, the management concepts and theories have been developed, such as

resource-based view theory, balanced scorecard that will answer the question how to achieve long-term success of the organization. For this reason, the organization must focus on integrating human resource management activities that will enhance the organization's capabilities, also known as high-performance work systems (HPWS).

Armstrong (2015) considered human capital management (HCM) regarding the acquisition, analysis, and reporting of human resource data to add value in strategic management. The strategic human resource management is to apply the indicators to manage people by seeing people as the organizations ‘assets that focus on achieving competitive advantage through the strategic investment in people such as creating organizational commitment, employees ‘retention, managing talent, and organizing learning and development programs. The HCM acts as a bridge between human resources and organizational strategies (Kucharčíková et al., 2015). Whereas (Spender., 2011) viewed from agency theory perspective that human capital is not an asset of organization to command in contrast human capital is rational person who has imagination to work successfully and agreeing to be influenced for their own benefit. To that end, human capital is an organization representative who is able to do something without expected in certain situations. Although, organizations cannot enforce or control human capital, but scholars in human resources can measure human capital.

From the integration concept of Marr and Chatzkel (2004), defines the human capital management is an integration of management efforts and development of human ability to achieve higher performance. According to this perspective, the role of strategic human capital management consists of both opportunities and challenges. On the opportunity, the organization aware that human resources are like assets that directly affect the organization's performance. The challenge point is to find the skills needed to develop, analyze and communicate to ensure that employees are dedicated and know the direction of organization. Thus, the strategic human capital management consist of systematic data collection and analysis of employee data, helping managers understand the factors that directly affect human management, and helping senior executives

understand employees and identify issues that need to be addressed for efficient management, and also able to design the development plan respectively.

Whereas, Nalbantian, Guzzo, Kieffer, and Doherty (2004) see that strategic human capital management is like a prototype for ensuring management and motivating employees to support the organization to achieve organizational goals. For efficiency, management must be consistent and understandable in building trust and motivation for employees. There are three issues link HCM with organizational strategy, including 1) the assessment that HCM and human resource management make business growth 2) setting the criteria for surveying the integration in detail of using human resources with business strategies. On the other hand, business strategies must be explored to see if they are linked to human resource strategies by analyzing the components of business strategy and what drives business and HR decisions, which activities support and require human capital data, and 3) disclose the organization's performance to HR consider what areas have to be improved for better organization's performance. From this concept, it shows the value of human resources utilization or known as the Return on Investment (ROI). ROI is the useful measurement that meets the needs of 3 groups in the organization, which are 1) HR practitioners, 2) customers and senior managers and, 3) assessment researchers. The assessment of human capital concept can be evaluated both in qualitative and quantitative. In terms of quantitative, can be measured from the cost reduction, decreased in waste, time and quantity of products. On the other hand, the qualitative aspects can be measured by value, human relations within organization. Thus, the quantitative method reveals what is happening, and qualitative method indicates how is it happening in the human capital investment (Fitz-enz, 2009).

In addition, the other concept about strategic human capital development is the Resource-Based View-RBV theory (Priem & Bulter, 2001; Razi & More, 2012). It is a theory that focuses on resources within an organization by dividing resources into 3 types consisting of;

1) Physical Capital Resource i.e. factory, machine, tools, technology and the location of organization.

2) Human Capital Resource i.e. expertise, decision-making, and the intellectual of workforces.

3) Organizational Capital Resource i.e. the organizational structure, managing system, controlling, coordination and communication.

The application of Resource Based View (RBV) theory (B. E Becker & Huselid, 2006; Mweru & Muya, 2016) in human resource management, with the goal of managing talented, and enhancing HR values for the competitive advantage. So that, the human capital shall have high level of skills and behaviors that demonstrate motivation to work. In such a way, to be sustainable competitive of organizational resources Barney and Clark (2009) propose that the organization must consist of four dimensions including:

1) Valuable refers to the value resources that create the competition opportunities. And there is no disadvantage when organization faced with threats. The organization has to review that its valuable resources fit with the strategy, and the competitive environment in the market.

2) Rare refers to rare resources which organization considers that are outstanding, and unique when compared to competitors. Usually, if the organization has resources that are more valuable than competitors, the organization has the potential to create a competitive advantage.

3) Imperfectly imitable refers to the characteristics that are difficult to replicate including:

(1) Unique historical conditions of organization comprise of the procurement and the usage of resources in specific time and place such as the accumulated value and organizational culture, being the first well-known organization in the industry.

(2) Causal ambiguity refers to the organization does not understand or understand only few resources that they control, affecting the competitive advantage in a sustainable way. It could be the organizational characteristics, resources, potential

of the complex network which exists at individual, group level, and information technology.

(3) Social complexity refers to the social phenomena beyond the organization control, such as the relationships of executives in the organization, the organizational culture, and corporate reputation among customers and suppliers. However, the competitors may use substitution methods that can be comparable, such as creating a management team in their own unique way.

4) The ability to exploit by organizational process refers to the processes of organization which are rare, valuable and unable to replicate easily, such as formal reporting structure, management control system, compensation policies, inventory system. These four elements were called complementary resources and capabilities, because if these resources are separated, the potential of the organization will be limited (B. E Becker & Huselid, 2006; Mweru & Muya, 2016)

The RBV theory framework is named VRIO framework consisting of value, rare, imperfect replicate, and organizational process. It shows that the organization can have a sustainable competitive advantage. The organization should possess the value resources, rare, imperfect imitability or high cost for imitating, and the effectiveness of organizational processes in controlling resources as shown in figure 2.1.

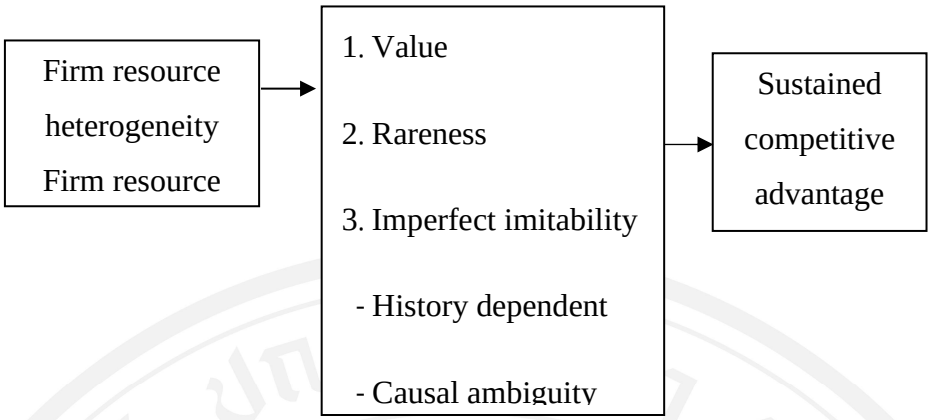


Figure 2.1 VRIO Framework
Sources: Adapted from Barney and Clark (2009).

The concept of human capital management for a competitive advantage focuses on recruiting, retaining, motivating and developing high-quality human capital. As a result, it will make a difference for competitive advantages, i.e. the outstanding performance of the workforces, in combination with high performance. These would make the organization has a competitive advantage. In addition, a well-managed and the continuous development of employees' capabilities or changing their behavior in contributing their knowledge and skills leading to organization's achievement. Thus, human capital is not ordinary resources since it derives from economic science. That means each employee exchange their own intellectual, creativity capital with the wages and salary. Whereas, Boxall (2003) mentioned that human resource strategy and competitive advantage in the service industry, organizations can use human resource to gain a sustainable competitive advantage in service, through the quality of human capital and organizational processes in which, the organization must clearly segment the customer in the market into smaller groups. And to become a unique service expert, the organization must invest in the selection, training, compensation according to the structure of the career.

Today, the business competition is more focused on service than the production. According to PricewaterhouseCoopers-PwC (2019) has introduced the concept of return

on investment measures using the customer experience cycle or (ROX metrics cycles-Return on Experience). The ROX principle is the organization invests in staff development, especially the frontline employees, who interact directly with customer and enhancing the use of technology to change the employees' behavior creating the organizational commitment while cultivating the organizational culture for employees in the same time. This concept is based on the belief that when employees are happy with good experiences from the organization, they will deliver the same happiness to the customers as well. A recent PwC survey of the Global Consumer Insights Survey to measure the success of the new organization, called 'return on experience' or ROX. It was done by creating a good experience for employees (Employee Experience: EX) through the investment in training, development, education, cultivate organizational culture for the frontline employees. Because the frontline staffs are people who can create the experiences for customers, providing information, advise and help customers, and can also adjust the customers' moods and to make a difference. When the employees have good experiences, they will pass on the same experiences through organizational behaviors and culture that are embedded in themselves to the customers for a good experience called (Customer Experience-CX). And surely, the customer will return to use the service, which results to the organization's finances and profits. However, the organization must invest in technology concurrently in order to create a good experience for customers. As Wirtz and Lovelock (2016) say the service productivity is intangible, but it can differentiate the service efficiency by comparing to the standards of other organizations in the same industry. Another point reveals that the service effectiveness by measuring the level of success of an organization that can achieve its objectives, such as the customer satisfaction. As well as, the human capital management (HCM) that helps organizations deliver excellent service. In managing human capital, the organization must hire the right people to develop, build employees' commitment with the organization, empowering decision-making, and motivate them.

From the scholar's point of view, it can be concluded that the concept of human capital management is to develop the human capital of the organization for a sustainable

competitive advantage. By beginning with the selection, training, development, education to augment skills, knowledge, and abilities that will affect the changes of behavior and the attitude of the employees in the organization. The competitive advantage results from the organization having employees with value, rare and cannot be substituted through the organization's management process. The experience and knowledge accumulated in the human capital will enhance the ability to increase competition. Resulting in creativity, innovation and increasing productivity, and making the differentiation through a competitive advantage from human capital, in which the organization can rent from employees but cannot own. So it can be considered that human capital is an element of the intangible assets of the organization such as know-how, creativity which is an important part of organizational success in the age of knowledge-based industry. The acquisition of talent human resources and retain them to create, develop and be embedded the value in products and services is important for the organization to succeed. However, the human capital must be aligned to the strategy of the business and organization. How will the organization develop of its human capital in order to integrate with the strategy and can be measured in both qualitative and quantitative?

The Concept of Competency

The competency is another concept that exist in human capital in order to get qualified personnel and can drive the organization according to the strategic plan that will lead the organization to achieve its goals. The competency is a group of effective components, perform behavior which can be noticed by doing tasks. It is including knowledge, skills, attitudes, habits and motivation on an individual, team, and the organizational level which will lead to high performance and high efficiency. The successful organizations tend to be unique and specialized in specific issues that other organizations do not have. And they are dare to disclose to highlight that unique ability and find new ways to apply it. In the past few decades, organizations that lack of competencies development tend to be stuck in their operations due to the lack of employees with certain qualifications or competencies at work. The organizations that

lack of competence or having limitations of competencies cannot overcome a higher level of competition and lead to the lack of opportunity to discover important issues that will affect the organization's success (Laakso-Manninen & Viitala, 2007).

The concept of competency was created by McClelland (1973) describing the character of human as the iceberg floating in the water. There are some part floating above the water which is the area that can be easily observed and measured namely knowledge, that has been learned. And the skill is special expertise in various fields are the parts that sink underwater. It is the part that has more parts than the others. And they are more difficult to observe and measure. Moreover, it is the part that has more influence on human behavior than other parts. These are social roles, self-image, motives, and traits. For a person to be successful, it must be driven by these insights, hidden characteristics. However, behavior and character can be developed through life and work experiences. There are two main types of competencies which are innate abilities refer to the capabilities that lead to skills and knowledge. Another component is acquired abilities, which is requires learning to develop by using the effort to locate information and experience to help such as accounting skills, and mathematical knowledge is needed to develop through learning (Kīrati Yotyingyong, 2006; Piyachai, 2006) as shown in figure 2.2 as follows

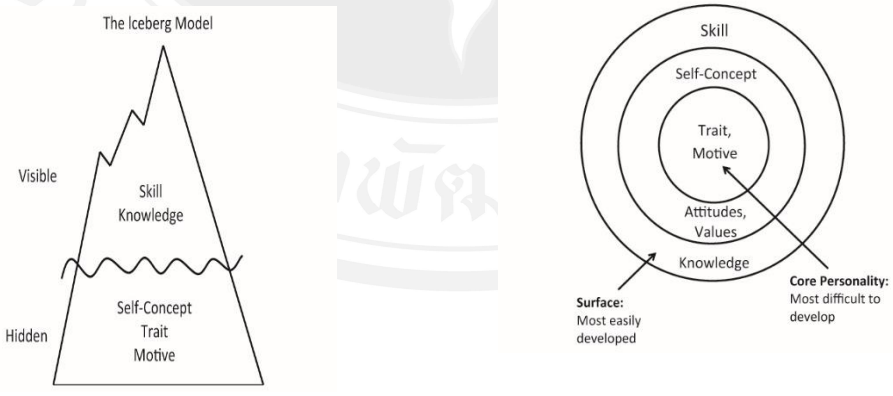


Figure 2.2 Iceberg Model

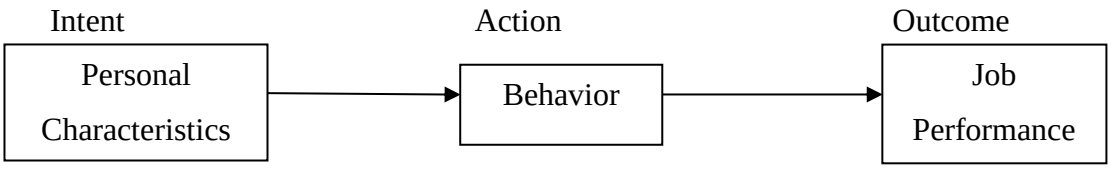
Source: Adapted from, Spencer and Spencer (1993).

Spencer and Spencer (1993) defined competency is a characteristic of a person that is logically related to the effectiveness of the performance that is

1) the underlying characteristics of individual characteristics and are an indication of the way behavior, thoughts or opinions in a particular situation. The characteristics of a person consist of five types, namely motives which are the driving force of a person wants or the select to express behavior. The second type is traits that each individual respond to information, situation one might encounter which can be considered based on the ability to learn individually. The third type is self-concept refers to attitude, opinion, and values towards oneself, such as confidence. People with this type of belief will believe that they can handle the problem effectively. The fourth type is knowledge, which is the scope of information and specific areas of the person. And the fifth type is skills, which are the ability to perform specific tasks using the body. And the use of analytical, logical reasoning and knowledge, such as a dentist, filling the teeth without damaging the nerves in the teeth.

2) Causal relationship is the ability to motivate, the characteristics and concepts of individuals combined into their own determination to predict skills, action behavior and, the result of the work performance.

3) Criterion reference is the criteria that determines the capability by the prediction from 2 statistical significance. Those are superior performance, which is the performance higher than standard. And the other is effective performance refers to acceptable level of work performance. However, these characteristics of the performance must arise from desire, willingness to work effectively, and transferable from one job to another. In addition, it must be able to measure according to accepted standards. It can also be improved by training and development. The meaning of competencies and the examples of motivation leading to success can be demonstrated as shown in figure 2.3 and 2.4.



1. Motives
2. Trait
3. Self-concept
4. Knowledge

Skills

Figure 2.3 Definition of a Competency

Source: Adapted from, Spencer and Spencer (1993).

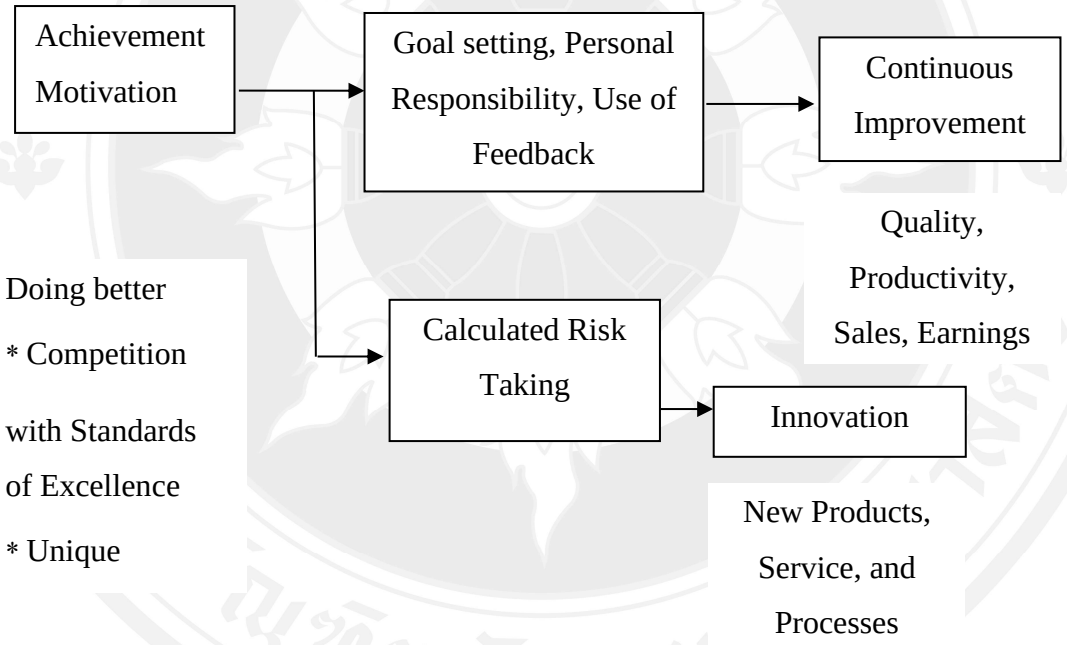


Figure 2.4 Achievement Motivation

Source: Adapted from, Spencer and Spencer (1993).

A high working performance organization requires workforces who have good performance to increase productivity and maximize organizational profit. The organization, therefore, selects talented and high potential personnel to join the firm to

achieve its mission. The learning is a very important characteristic of humans. Since the knowledge is an asset of organization and making a sustainable competition advantage. Because employees of the organization are valuable assets, they can be considered as intellectual capital, which can create high performance for the organization. It relates to the ability or potential that determines the details of behavior, how to be successful. The competency is divided into 3 perspectives, namely knowledge, skills, and attributes (KSA). The knowledge is the information or data that are collected from studies both in educational institutions, training, seminar, or self-study. It also includes the discussions and exchanges of ideas and experiences with people from both the same and different professions. Skills refers to the capabilities which need to be developed and practiced divided into two parts. One is management skills means the skill in job management related to the thought systems and the operation management. The other is technical skills are the skills needed for working or a group of tasks that are different to the duties of the company (Woodruffe, 1992). And last the attributes mean thoughts, feelings, attitudes, motivations, which are inherent traits that rarely change over time, or which are extremely difficult to change.

While Boyatzis (2008) said that the competency is a proper behavior with the intention of a person in various situations that are linked to the person's ability with intention, ideas that lead to effective actions. The behavior of a person comes from the ability or talent of a person, which consists of values, vision, knowledge, performance, life span and career, interests, and lifestyle. That is related to the job and the organization's environment. The job will determine the roles and responsibilities of employees. Whereas, the organizational environment will affect the performance of employees. In short, the organizational environment consists of organizational culture, working atmosphere, structure and system in the organization; including the economic, political, social, and religious condition that affects the organization.

The competency management of Laakso-Manninen and Viitala (2007) mentioned that is an activity with the goal of prevention and strengthening the

performance capability and competitiveness of the organization through knowledge at all levels of the organization. The organization must have direction, purpose, assessment, planning and development of the core competencies of the organization. Most organizations tend to have three core competencies. Those are 1) the customer management competency, such as formulation of customer strategies, knowledge of customer needs, development of customer data, (2) the production process competency, and (3) the operational competency and organizational development. Werner and DeSimone (2009) added the quality skills of the organizations' personnel efficiently the soft skills are indispensable. It consists of communication skills, relationships with customers, sales and teamwork. And it is a necessity of an organization to provide interpersonal and communication skills training for its employees. Interpersonal skill is a skill that organizations need to provide training for employees because of three important trends. Firstly, the popularity of how to work as a team for success. If the organization has a strong team, it can lead to overcome obstacles. Secondly, students and new graduates still lack good communication skills, which organizations needed. And finally, many organizations have changed into diverse organizations in demographics, ages, and transnational cultures.

In America, the United States Department of Labor set and created the standard competencies called 'Employment and Training Administration (ETA). They divide the competencies into 9 tiers including; tier 1 is personal effectiveness competencies such as interpersonal skills. While Bohlouli et al. (2017) explain the interpersonal skills composed of social skills, communication skills, being flexible and conflict resolution skills. For as much as, professional skills consist of the aim for achievement by dedicating skills and abilities, and compassion for others. Whereas, tier 2 is the academic competencies such as reading, writing, analytical thinking, and communication skills. And tier 3 is a workplace competency for instance, teamwork, adaptability, customer focus, planning, creativity, problem-solving, and decision-making, scheduling and coordination, the use of office tools and technology. Tier 4 is

the industry-wide technical competencies which is a performance that determine by representatives in each industry. Tier 6 is the occupation-specific knowledge competencies, for example: administrative, management, public relations and media which depends on the position and type of industries. Tier 7 is occupation-specific technical competencies, tier 8 is occupation-specific requirements, and tier 9 is management competencies such as, the controlling of resources, preparation and assessment of budget, conflict management and team building (Wattanacharoensil & Yoopetch, 2012). In Thailand, there is Thailand Professional Qualification Institute (TPQI) public organization. The TPQI has set occupation standards for airline ground service into 3 level includes level 3, 4, and 5. The key competency standards are effective communication, knowledge of aviation safety regulations concerning with formalities and processes (TPQI, 2019).

While the advanced competencies for service personnel suggested by Spencer and Spencer (1993) are ranked from the most important to the least important, consisting of 14 characteristics as follows:

1) Impact and influence means that the individual can create reliability, presentation with proper language to each client with strategies that influence client by using different humor, language, gestures and sounds.

2) Developing others is the innovation in teaching, flexibility in individual needs, and confidence in one's own potential.

3) Interpersonal understanding is listening to other people's problems, aware of others' emotions, understanding of gesture language, attention to the needs of others, and a deep understanding of the situation in the long term.

4) Self-confidence is the individual's ability to make decisions, responsibility for resolving problems, solve the mistake, questions and provide suggestions to the superior, and having impressive personality.

5) Self-control is the ability to control emotions by focusing on the job, avoid talking inappropriately to customers such as anti, and augment the stress.

6) Other personal effectiveness competencies are learning from mistakes, accurate self-assessment occupational preference, organizational engagement by acting oneself in accordance with the mission of the organization, affiliative interest to coordinate with people, always having a positive expectation for others.

7) Professional expertise by seeking new knowledge and applying knowledge in the profession.

8) Customer service orientation is the working, studying, researching for the customer wants from the questions, complaints and customer needs.

9) Teamwork and cooperation is the persuasion, confidence, and cooperation Bohlouli et al. (2017) includes the ability to collaborate with others, quality of individual in team roles and communication.

10) Analytical thinking is the ability to see a holistic relation of cause and effect, the segregation of complex problem systematically. As Thomas and Kim (2013) sees it as a skill that everyone needs in today's world because it is a world of enormous information that needs to be analyzed for decision-making improvement.

11) Conceptual thinking is the use of pattern, the conceptual framework to analyze situation, building relations, and the ability to modify theory into simple issues to indicate the problem.

12) Initiative is to do more than the job you are responsible, such as quick response to the crisis.

13) Flexibility is the capability to change, having strategy suitable for each situation.

14) Assertiveness/Directiveness is a person who able to create restrictions anything that cannot be provided is not. having behavior that can face problems.

In addition, having skills for understanding the cultural, values and beliefs of others will help smoother work. And the misunderstandings would be reduced, such as customer service training, which increases the quality of the organization by focusing

on customer service and creating relationships with the customers. The skills of the employees are an important basis for good customer service, which consists of interpersonal skills, problem-solving skill, leadership skill, and teamwork. These skills exist in the employees will create a positive attitude, effective communication, courteous and respective others during the service interaction, as well as he/she is able to control self-emotional in the difficulty situations. And surely, the good customer service would make customers come back to use the service again. So that, the organization must develop employees that serve customers, enhancing staff to receive training, specifically the frontline employee who must interact with the customer and knowing the need of customers. In addition, the organization must check the perception of customers to the organization on a regular basis (Langes & Piercy, 2012). Such as sales, recruitment officer, secretary, whose were trained will have the ability to listen and speak effectively, including providing services beyond the expectations of customers, which resulting in customer satisfaction.

The number one airline, for example, in the world for many consecutive years is Singapore Airlines which has focused on teamwork. Team building, at present, many organizations have team-based structure. The team development in an organization is an integral part of the foundation for enhancing organizational quality. Therefore, employees must be able to adapt to the team and build a good relationship within the team (Wirtz & Lovelock, 2016). Singapore Airlines (SIA) flight attendants are divided into teams called 'ward', each team has a team leader as a consultant to advise and develop the team. There are socializing, newsletters which leads the team leader to learn about their weaknesses, strengths of each team member that will be develop. As well as. the team members have opportunity to build good relationships with each other because all employees will rotate and fly together as a team. There are two complementary characteristics of the team elements which are task skills and process skills. The task skill is the skill needed to complete tasks assigned to a team. And process skill is a basic skill that must be used when working as a team with others. It is to maintain good

relationships with teammates including communication, negotiation and conflict resolution.

However, Swanson and Holton III (2009) view the current competency of employees in the organization is not enough for the competition. Since in the context of the organization views the competency of the employee is capable of performing at the level of satisfaction only and does not need to be outstanding or capable of exceeding expectations or above standards. Meanwhile, the change is ongoing and inevitable. Therefore, performance of organization must be redefined to differentiate, and maintain a competitive advantage. To such a degree, everyone in the organization must constantly adjust to new strategies, both at the individual level and team level. This is to meet the needs of all customers which must be outstanding in performance. The process of human capital development must be distinctive enhancing to release the expertise of each individual in organization. The organization should recognize the cognitive theories of expertise. This theory studies the differences between skilled and unskilled people from various perspectives. It is focuses on exploring basic information on the ability of an individual for the problem-solving process. The result found that the knowledgeable to be an expert compose of 1) has more knowledge, 2) able to apply different data to different problem, 3) good memory, 4) solving the problem faster, 5) able to understand the problem clearly, 6) able to analyze the qualitative problem, 7) being aware of any mistake might occur. In conclusion, the expert is a person who can do something higher more efficiently and more effectively than others, having a lot of knowledge and skill for problem-solving. In practical, the behavioral qualifications of an expert divided into two dimensions including: (1) perform the job effectively, and (2) the efficiency outcome of the job.

In addition, there are the skills for 21st century Pokpong and Supanat (2013) reveal that the business sector sees the kills is more important than knowledge for working. Those are professionalism and work ethics, critical thinking and problem solving, oral and written communication, teamwork and collaboration. While the

survey of global partnership schools and GEMS education on top executives and businessmen in 4 countries; England, America, China and Brazil found most necessary skills for new century are technology skill, the ability to communicate multi languages, specific technical skills, self-driven, cross-cultural networking skill, and innovation. The partnership for 21st century skills has proposed the framework for learning in 21st century, which explain the importance of the learning outcome of the contents and knowledge. Those are the principle subjects and knowledge of the importance of life in the 21st century. It consists of learning skills and innovation, technology skills, media and information communication technology, linking life and working skills with learning system.

Soland, Hamilton, and Stecher (2013) conclude the skills for 21st century into three main competencies including: 1) cognitive competencies refer to critical thinking and creative thinking which are important in the transition to a new economy era, 2) interpersonal competencies refer to the competencies needed to make a relationship with others, which begin with the ability to communicate. Since the communication is the basis that will bring many results, such as cooperation and leadership, 3) intrapersonal competencies refer to the competencies that embedded in each individual, which will be used to solve the problems and, influenced on their application in the workplace or elsewhere. It also includes ideas that grow, inspire oneself for success, and patience to reach future goals. In addition, Bakhshi, Downing, Osborne, and Schneider (2017) has discussed the future skills that are needed in the US and UK, from Soland et al. (2013) have disclosed that another important skill is system thinking. The system thinking skill is the ability to remember, understand, and interact, providing feedback in sociotechnical system. For instance, judgement and decision-making, system analysis, and system evaluation. The additional necessary skills are customer service skills, technology design, science and operations analysis.

Knowledge, then, is important for living in 21st century. It is to blend the knowledge and skills such as; 1) knowledge of the world refer to understand and deal with global issues, border problems, environmental problems, learning and working

with people from various cultures and religions, respect others, and ability to use foreign languages, 2) knowledge of finance, economy, business and entrepreneurship refer to the ability to make appropriate decisions economically and know how to use entrepreneurial skills to increase productivity, as well as, the importance of the economic system to society (Evers, 2010) 3) knowledge of citizenship refers to understand the mechanism of government and news. Participating in political activities and acknowledging the impact of political decision in both local and global levels. Knowing the human rights and responsibilities of citizens at all levels, 4) knowledge of health refers to the awareness and understanding of basic health information, the health services, know how to apply the information and services for taking care of own health, how to protect body and mind, such as exercise, eat healthy food, avoiding risk and minimize stress, ability to set health goals for oneself and family, understanding safety and public health issues both locally and globally.

Furthermore, learning and innovation skills are the advanced thinking skills that are necessary and most important to prepare human capital for working in a complex economy, where technology replaces repetitive work. Therefore, 1) creativity and innovation skills are the ability to assess one's own ideas to improve creativity, accepting diverse perspectives, unique, and able to create the concepts to innovations, 2) critical thinking and problem solving are the selection of methods, reasons to the situation effectively. The system thinking is also to analyze the operations of various systems. It is in order to understand the operation of large and complex systems, and able to analyze and assess the evidence, synthesis and linking data set of ideas, the ability to interpret data, conclusions, review their own experiences and learning processes, solving unfamiliar problems through a variety of methods, setting and framing questions that help to explain the solutions, 3) the communication and collaboration are the ability to present thoughts into speech, the clear writing that suitable for the context, able to listen and translate correctly, the ability to use communication to meet a variety of purposes, able to work effectively with a team of multiple members and respect each other, knowing how to use technology and

communication appropriately, understand the responsibility of working as a team, and value the participation of the team (Petchyupa Boonsirijarungrat, 2015).

Information communication technology (ICT) skills media and technology are the advancement in information and communication technology that support working and a life-long learning. Students must learn the managerial skill and make the use of enormous amount of information at utmost benefit, adjust to keep up with rapidly change of technology, able to use technology in working with others and create conceptual that have never been seen before including; 1) information technology skill is timely access to information and critical assessment of data accuracy, apply information creatively in problem solving, systematically handles incoming data at the same time, understand ethical and legal issues related to information technology, 2) media skill is the understanding of media discourses and the impact of media on the beliefs and behavior of society as a whole. As well as, the understanding of the ethical and legal issues related to the use of media, 3) ICT skill is to know how to use technology tools for creating media appropriately, use technology for research, manage and communicate data appropriately.

Life and work skills are the skills to cope with the complexities of living and careers in the information age, consisting of 1) flexibility and the ability to adapt to duties and responsibilities, the ability to work under the constantly changing environments. And being able to deal with unexpected obstacles, handle with feedback and different beliefs to find a suitable solution, especially in a diverse workplace, 2) creativity and self-direction are the ability of time management and working effectively, balancing between short-term and long-term goals, responsible for their own work without control, able to manage and expand knowledge by oneself, analyze and take lessons from past experiences for future development, 3) social skills and cross-cultural learning are the interaction with other people appropriately, being professional, work efficiently with teams from different cultural backgrounds and diverse society, accepting of different concepts 4) increasing productivity and accountability are the ability to achieve goals even when encountering obstacles or pressures, knowing how

to plan, prioritize work according to the goals set, work as a team, and can perform many tasks at the same time, reliable, punctual, respecting diversity in the team 5) leadership and responsibility are the ability to apply interpersonal skills to solve problems and communicate to achieve the goals, know how to use other people's strengths in achieving objectives, responsible for the interests of the community.

Sujittra Tananan (2014) describes the development of human to be suitable for 21st century, consisting of the following characteristics: 1) Multi-skills, 2) Proactive and responsible to act prior the situation forced to do, 3) The ability to work as the organization needs immediately, 4) Self-learning 5) Knowledge worker 6) Ability to adapt 7) have interpersonal skills that can work with others. This skill helps organizations reduce the cost of coordination. And cross-cultural negotiations in the globalization era (Bakhshi et al., 2017), 8) spend less time and have good quality of work, 9) life-long learning (Bohlouli et al., 2017) view that it is a motivation competency for learning which consists of continuous development and curiosity to continue learning, 10) system thinking, 11) efficiency, 12) creativity, 13) deep and up to date knowledge, 14) organization commitment, 15) high competency, 16) having discipline, responsibility, and conscientiousness, 17) having knowledge, skills and abilities (KSAs), 18) having the ability to manage resources such as time, money, and people (Resource Management). Boonkong (2006) adds that having the mindfulness, good habits and personality are profound meaning to a person of kindness, diligence, diligence, honesty, sacrifice, responsibility and punctuality, respect the law, discipline, morality, ethics, norms, which is what the country and society needed.

Worawan Plikhamin (2018) the director of the Bureau of Social Development Strategy, said that the work competency of human capital includes: language and communication skills, professional management skills, collaboration skills, multi-skills, technology and digital skills, analytical skills, financial literacy, along with eight soft skills that should be available in human capital. The eight soft skills are 1) complex problem solving, 2) critical thinking and analyzing data logically, since analytical

thinking is a primary goal of learning at all levels, 3) creativity, 4) people management 5) cooperating with others and adaptability to work with others, 6) emotional intelligence which able to predict and know the cause of behavior other people's reactions (Petchyupa Boonsirijarungrat, 2015), 7) the ability to analyze data, evaluate and decision making, 8) service-minded is a social skill which becomes more demanding when technology replaces humans, but technology cannot provide the services as human being.

Conklin (2013) said that the skills needed for human capital consist of 6 skills which are 1) creativity and innovation skills that reveal the creative and knowledge in the development of innovation and technology processes, 2) communication and collaboration is the ability to use media in a digital environment for communication. And working with others in long-distance by using communication to support the learning for oneself and others, 3) research and information fluency skills are the ability to apply digital tools in collecting, assessing and the use of data, 4) critical thinking skills, problem solving, and decision making are the ability to think, analyze, plan, research, and project management by using appropriate digital tools and resources. 5) digital citizenship is an understanding of humans, cultures and societies related to technology and compliance to the laws and behavior that demonstrates ethics, 6) technology operations and concepts are the ability that is well understood technology system and the use of technology. The people compose of these six skills must be a thinker of the 21st century. The thinker in 21st century shall consist of the willingness to ask questions, having strategic thinking skills, reasonable, knowing how to express thought processes as a metacognition which means the ability of problem-solving, innovation and creativity, emotional intelligence, and effective communication.

As for Gardner (2008), people should have five consciousness which consists of 1) discipline mind refers to people know how to learn, and develop their understanding, 2) synthesizing mind is the people who has received information from many sources and can be classified, assess and understand the information respectively to its

objectives, 3) creating mind is the ability to think outside the box and can be creative beyond the information systems, 4) respectful mind is the acceptance and understanding the differences of each individual, 5) the ethical mind is the people who neglect their own interests by considering the general principles benefit and not being selfishness based on the virtue. Since, humans are in a period of great change to the third round of globalization or millennium, which needs to change the process and new educational system to develop the consciousness of learners to keep up with the era of change (Petchyupa Boonsirijarungrat, 2015).

Piraporn Witoorut (2020) summarizes skills that are in line with the organization's needs for 2020, consisting of hard skills including; communication of foreign language skills, speed of typing skills, the ability in using variety of computer programs, cross-science learning skills, video production skills, science and technology skills, engineering, and mathematics (STEM). The skills that can help people to succeed in the workplace are soft skills, which consisting of creative skills, emotional intelligence, good attitude, flexible, data collecting skills for communication, relationship skills, professionalism in the job field, negotiating skills and forecasting in consumer trends that people must continually learn.

From the scholars' ideas on competencies, it can be concluded that competencies are a group of the performance elements that can be perceived through behavior, knowledge, attitude, habits, motivation, both at the individual, team and organization level that lead to high performance. Competency is a unique characteristic of everyone that indicates the behavior, thought that consists of motivation, personal characteristics, self-attitudes, values, knowledge, and skills that result in the behavior of different people when faced with the same situation. If viewed from a performance perspective, the behavior of an individual will have impact on that person's performance. Every organization needs high performance to increase productivity and profit. Therefore, the organization must recruit and select talented people to join in the company. However, each job inevitably requires employees with different capabilities. In many countries, have set up a central agency to analysis, assess the competencies required for different

functions and levels. For example, in the United States, there is the United States Department of Labor who defined competency standards into nine levels. In Thailand, there is also Thailand Professional Qualification Institute- TPQI (Public Organization), which is a special unit for setting professional standards by specifying different competencies in each profession. However, the stated competency may not be able to meet the needs of the organization as fully as expected due to the dynamics of globalization. The development of competencies in the organization is constantly changing according to new strategies in both individual and team level to meet the needs and satisfaction of customers.

2.4 The Concept of Human Capital Development, Theories of Learning, and Learning Organization

Human capital development is the development of employees to be the intellectual capital of the organization, which consists of the basic skills needed to work; such as technology application, teamwork, including a deep understanding of the organization's operational systems linking to the existing organizational knowledge. In the development of human capital, organization should be clearer than learning because development is important. So that, there should be the indicators set as follows: 1) focusing on investment in people rather than spending, because it helps to have good results in the long term and value added. 2) human resource management policies are parts of the organization's quality differences and focusing on the development that results in continuous learning, such as recruitment, selection, retention and rewarding talented employees, 3) the development must focus on creating the attitude, behavior and socialize of personnel to be loyalty, and the commitment of employees to follow the organization's guidelines (Gold, Holden, Stewart, Iles, & Beardwell, 2013).

S. G. Becker (1993) commented that human capital development is achieved through the training at work, which is the primary step to generate income. And the education of humans can affect the power of consumption and income. People can

invest in many ways for their future. They can invest in education in the workplace, formal education, training and health care, which later will affect their revenue (Kucharčíková et al., 2015; Lauder, Brown, & Tholen, 2012) and spending of individuals because of skills, knowledge and health development. While Wykstra (1971) defines the term, capital refers to the use of natural resources to produce goods by humans. Capital resources are a part of production factors, where the costs and values vary according to use or after the termination of those resources, but human capital is an element of the economic development system.

Human capital development procedures, the organization must examine the following issues: 1) what are the most challenging factors for an organization in the next two years? 2) what must be done with human capital to achieve most opportunities for organizational success, 3) how to make plan run accordingly, 4) what are the key performance indicators (KPIs) and how do they challenge the organizations' factors? 5) what information is needed to measure the performance of human capital? 6) do you involve in the organization's business planning? 7) what human capital data is most useful to the stakeholders? 8) what information is a loophole and how to fix it? 9) the organization's information technology system is up to date and can be changed or respond to organizational needs or not? 10) do you satisfy with the accurate information that is prepared? 11) have you mastered important issues regarding human capital in the global changing trends that stakeholders may raise as questions. 12) is there a direct relationship between the human resource practitioner and management responsibilities? (Baron & Armstrong, 2007)

The strategy for human capital development Armstrong (2015) begins with the definition of the purpose of the human capital management strategy, which consists of the following details:

1) Acquisition the data to analyze and report to determine directions of human resource management process

2) Disclose information to develop business strategy plans

3) Assessments to prove that a good human resource management has an impact to business.

4) Ensuring the HRM strategy and the value creation process through humans

5) Identifying the impact of human on business results

6) Evaluation the value of human capital of the organization

7) Improve the efficiency of the HR department

8) Disclose the organization's human capital performance data to the operations department and the financial department.

9) Show that HR processes can generate financial value.

In this regard, helping people to have skills, knowledge and job ability, Dreher and Dougherty (2001) says that the organization must help develop employees in the operation positions. The development shall include all branches of the organization because the workforce development is creating opportunity for the growth and self-development of employees. Managers should assess needs and development plans in a rapidly changing era to prevent shortages of highly talented employees. The manager may employ information technology to analyze, create new skills, then employees and managers in each department working together for the development plan of employees' in each department focus on 5 dimensions which are; 1) skills 2) training methods 3) planning to higher positions 4) replacement of retired manpower, and 5) analyze the existing skills.

The important issue in developing the capacity of human capital is to clearly separate the attitudes and abilities because of the aptitude that people express in behavior is difficult to change through training. This is because of the attitude is a trait that exist inside people. Whereas, the abilities can be developed through training and the attitudes that people have towards training that will help them develop their potential. Therefore, HR departments must know the attitude of employees before developing them by training and education. In addition, a person must have motivation,

which is another factor of humans which shows that one wants to achieve the results required. The motivation is very important factor in predicting employee behavior. Another factor is opportunity, which is the chance of employees to be developed and demonstrate their ability effectively as in the following diagram 2.5.

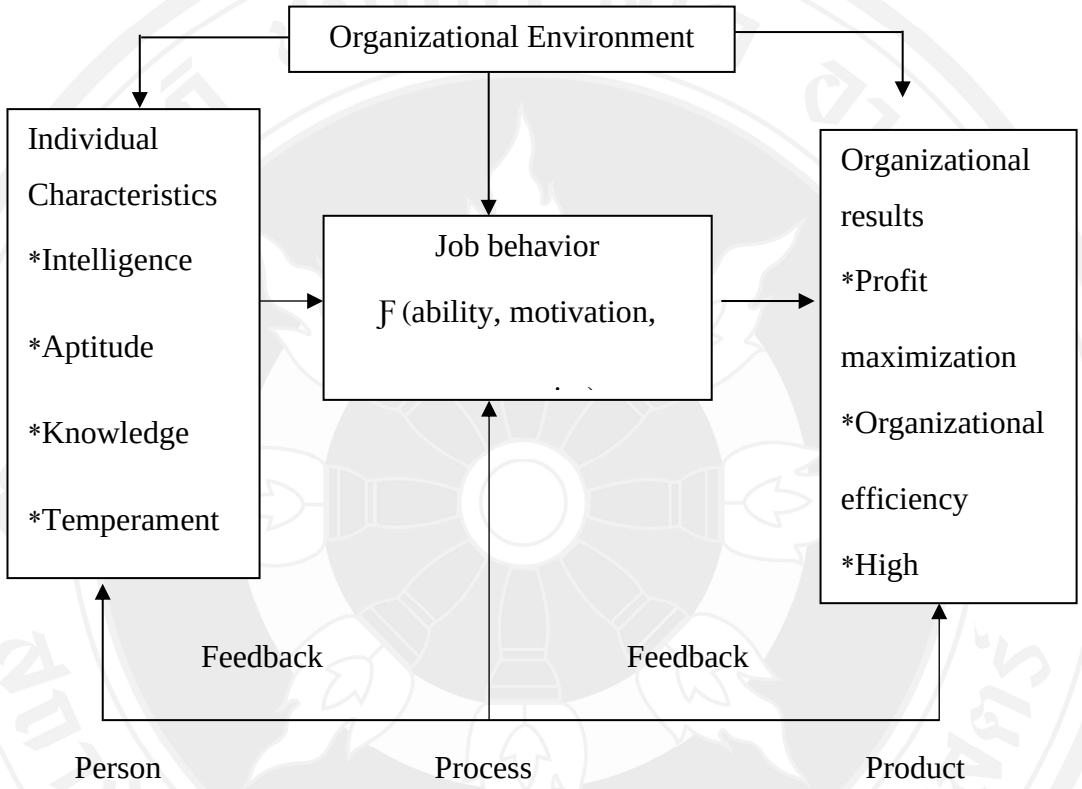


Figure 2.5 General Model of Employee Behavior

Source: Adapted from Dreher and Dougherty (2001).

While S. G. Becker (1993) states that investing in humans through the education system, computer training, health care costs, listening to a lecture on the virtue, punctuality and honesty are all the costs incurred. These are the health development income and aesthetics in one's life span. However, investing in humans is different from investing in products. It is because in human capital we are unable to separate knowledge, skills, health or values from people like the products. From the studies and

researches, reveal that education and training are the most important aspects of investing in humans, where education helps to increase income and improve the well-being of human. The educated person will receive higher income than others who was not educated. An educated human capital, also, enhances knowledge, skills, and problem-solving analysis and creates personal traits that complement the value of people (Gillies, 2017). However, the main problem is the organization does not need the information on the success of people in education, but it needs graduate who can work in real life in accordance with the organization's working system, such as customer care and teamwork. Learning does not just happen in school, but it can be learned everywhere, especially in the workplace. Students who do not prepare to enter the work system while studying, will receive training depending on the type of work, training durations, such as a receptionist, and engineers will spend different learning time. The factors that inevitably affect human capital is family, because the family is the first educator that cultivate training, knowledge, skills, values and behavior of the children. The children from good families are more motivated to learn and develop better than those who do not receive attention from their families. However, the health of parents and the education of the parents have an influence in the dimension of human capital and economic development in developed countries such as America, Japan and in Europe have been developed the income per capita over the past century. Due to the evolution of technological and scientific knowledge that help to increase productivity. The application of scientific knowledge in the production process has a profound effect on the value of education. Therefore, schools and learning through the working process will expand the knowledge of, everyone which will benefit the productivity of organization.

From the perspective of economist Wykstra (1971) view manpower planning, and human capital developing are the result from investments in education system, health development, training from the workplace, rehabilitation of manpower and the labor mobility. Therefore, humans should be seen as a capital because 1) there is a lot of money involved in creating and developing, especially education, 2) the results of

human resource skills help to raise the national gross product, and 3) the cost spending for human resources is not only increases the gross national product, but also generate the wealth of the country.

According to Boonkong (2006), cited that from the economic view point considers that human investment consist of 1) health facilities and services that are the expenses affecting for a human life-long, 2) on-the-job training 3) formal education 4) educational programs for non-business adults, including agricultural programs 5) migration of people for better job opportunities. The investment in human capital and physical capital are both similar and different. The similarity is for instance, good quality of the machine has higher cost. As well as, the higher education the cost is also high. However, the goals of both investments similarly improve quality, production efficiency, and increased income. Both types of investments may be undertaken by the government or by the private sector. Either private or public investment, the benefits will return to the society and private sector, such as; investment in education by one's own money also benefits one's self and society as a whole. While, the difference between investing in human capital and physical capital is that businessmen aim to maximize productivity and profit in order to achieve economy of scale (Gottschalk, 2005). As for human capital, the main goal is to increase knowledge, ability, experience to find a job, earning higher income. In addition, receiving a diploma also affects happiness. However human capital cannot be sold or segregate from individual as the machine. In the meantime, human capital cannot be measured the value like a machine. Human capital depends on the individual's identity, depending on the traits, diligence, responsibilities that originally exist in each individual. Human capital has feelings, and moveable, so to employ human capital requires the art of human relations.

For Brian E. Becker and Huselid (2010) discuss the development of High-Performance Work Systems (HPWS), found that human capital is the organization's most valuable asset. The process of creating human capital is very necessary, because the result of investing in humans will affect the organization's core capabilities and

capabilities. A qualified and skilled human resource will be able to increase the organization's potential and competitive advantage. The key elements in creating human capital which includes: 1) personnel's competencies that are aligned to organizational strategies for engagement and development of firm specific knowledge, products, customers, and internal process as firm requirements, which is Firm Specific Knowledge (FSK). will be integrate to the resource base theory that difficult for other organizations to replicate (Razi & More, 2012), 2) developing performance measurement systems that encourage employees at all levels to participate, be responsible, and follow the organization strategy, 3) develop incentives and motivation systems to build the trust for employees. If employees are involved, accountable and driven to achieve the organization's goals. Everyone will receive higher income. It is can be notice that the individual's cumulative competency from development will increase the effectiveness of the organization. As Swanson and Holton III (2009) show the relationship between investment in education, the training will improve the learning ability of employees, increase the productivity of the organization and resulting to higher pay, as demonstrated the following diagram 2.6.

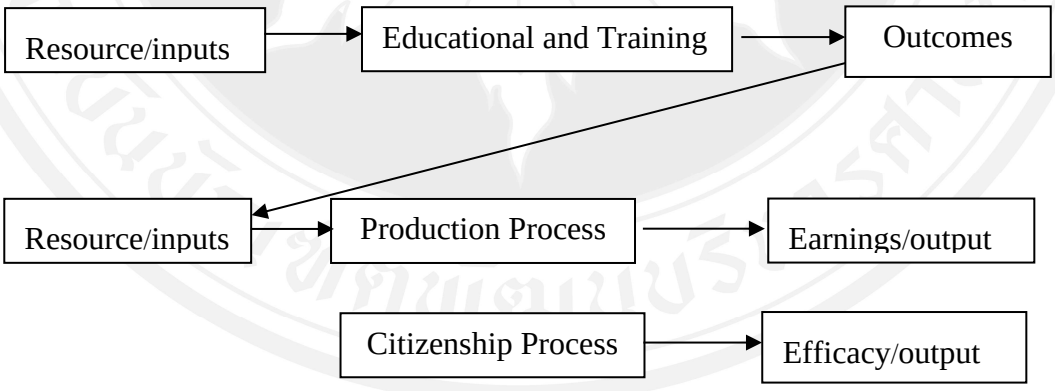


Figure 2.6 A Model of Human Capital Theory

Source: Adapted from Swanson and Holton III (2009).

Human capital development strategies, there must be integrated with the organization's factors consisting of, organizational strategic, the goals of business operations, current organization's strategies, the ownership of organization's development, organizational culture and value, the needs and capabilities of employees' in developing with four key objectives. There are 1) to identify the impact of people and their dedication on businesses that create the value for partners 2) to demonstrate the human resources department can create returns on investments 3) to guideline in business strategic and human resources department planning; and 4) to provide guidance in diagnosing and predicting the existing data to the executives for strategic plan to develop the efficiency of the workforce in organization (Chira Hongladarom, 2012).

Human capital development is the process in developing the employees of organization to increase their potential, knowledge, skills, abilities and characteristics required by the organization. So that, the employees can adapt to work according to the profession for better performance at individual, team and organizational level. The organization has to evaluate the performance to feedback and develop the human resource system in accordance with the organization's strategy. The main activities in human capital development consist of 1) Training & Development 2) Career development 3) Organization development by having sub-components namely the training system, educational systems, development systems, and learning systems (Swanson & Holton III, 2009; Uddin, Naher, Bulbul, Ahmad, & Rahman, 2016).

Garavan Thomas, Morley, Gunnigle, and Collins (2001) states that the development is the acquisition or a short-term development to increase knowledge, skills, and attitudes for better performance to support the growth in future's position. Ploy Suebvises (2018) says that development can be done by learning in many ways. It is knowledge, skills enhancement and experience to support new jobs that are not immediately evaluated. The development is a long-term investment.

Prawet Maharatsakul (2013) proposed that human resource development is an investment in human capital to create knowledge that develops parallelly between

organizations and personnel through various processes. Such as education, job learning training to work, professional development to increase the ability of the employees at both individual and group level. The development of human capital will lead to effective organization operations. In developing employees to be desirable human capital of the organization, at the end the employees shall have a positive attitude towards the organization with the following methods: 1) analyze, plan, train the employees to understand and work correctly. 2) the organization must study the expenses affecting the organization development that all employees should be aware of, and how to develop employees to have skills for organizational effectiveness. 3) develop incentives such as benefits and compensation. 4) provide scholarships for talent employees who can apply knowledge to develop the organization for the long term. This method is also building employees' loyalty. 5) coaching, mentor and on the job training 6) develop a system to promote creativity 7) cultivate employees 'ownership 8) develop competitive knowledge of the industry, marketing mechanisms by presenting managed data systematically 9) stimulating and promoting motivation to interaction with customers.

Swanson and Holton III (2009) discussed the overview of human resource development paradigms that human capital development is divided into two paradigms:1) learning paradigm refers to a human resource development that is widely used in America, divided into three issues, namely (1) individual learning, focusing on human learning and the outcomes. The approaches of the learning consist of adult learning and instructional design. (2) performance-based learning, presently, most human resource development uses learning from work performance. It is to focus on the development of the performance of people who have learned. The principle of this approach comes from continuous learning, but it is the learning that affects overall performance of the organization. And it is systematic learning. (3) the whole system learning focuses on team learning and organizational performance through learning of individual performance by creating a system learning at three levels: individual, team, and organization. And 2) second paradigm is a performance paradigm which is like the

development of the performance or individual performance by the use of technology. It is focusing on holistic results, but the process consists of both learning and not being learned. In other words, the integration of non-learning elements in job performing and non-related to the job separated from the learning system. The performance paradigm consists of 2 components which are (1) individual performance improvement, focusing on the individual performance controlling by people and the usage of technology. (2) the whole system performance improvement is an overview of the learning and non-learning occur at many levels in an organization. It is commonly known as performance improvement or performance consulting.

In short, the development of human capital is the development of organizational employees to be the intellectual capital of the organization. It consists of the basic skills needed for working, technology application, teamwork includes knowledge and understanding of the organization's operational systems that are aligned to the organization's knowledge. The development might be practiced by mentoring, coaching, or in the form of education that empowers employees to have the knowledge and skills to fulfill the needs of organization. As a result, the development will enhance for better performance on every level as a whole. The important issue in the development of human capital is to develop a positive attitude towards the organization. Especially today, in the dynamic environment of change, which the organization cannot predict which skills are appropriate for the future but having good attitudes will affect employee behavior (Lundberg & Westerman, 2020). Therefore, the organization must analyze the development plan, and study the costs might impact to the development. As well as, promoting the creativity, motivate and encouragement employees to interaction with customers, including the knowledge on the industry competitive.

2.4.1 Learning

Learning, from Agryris (2005) perspective refers to the prevention of error and the error correction. Where, Crawshaw, Budhwar, and Davis (2014) provides the meaning of learning is a training, an education and the development that resulting to

cognitive changes, abilities, actions, or interactions with others (Hoy & Miskel, 2005; Siraphatsorn Wongthongdee, 2016). The changes in learning depend on individual development of knowledge, skills, and attitudes. The learning may not be planned in advance or may not be successful in learning. Wagner (2018) states that learning is the fundamental for young children, teenagers, and adults, which process differently depending on the experiences and culture. As human being, people requires learning and development based on the experiences that one may has faced. It is to manage challenges for a better quality of life. While, Noe, Hollenbeck, Gerhart, and Wright (2012) give the meaning of continuous learning is a learning system in which employees must understand the overall process and expect employees to acquire new skills and apply in the workplace. The organization is, also, wants the employees share what they have learned with peers. For the meaning of informal training is a learning from work that employees innovate to work better. Whereas, the formal training is a training program, the curriculum that was created by the by the organization.

Swanson and Holton III (2009) discussed the philosophy of adult learning and presenting the perspective of learning into three issues similar to the learning ontology as follows: 1) the humanistic endeavor in this aspect emphasizes on human potential, most are linked to psychology, philosophy and the existence. Humans are animals that are growing and developing. Learning is seen as increasing the human potential to achieve their goals, which is good for humans. HRD scholars firmly believe that learning is a way to increase human potential. 2) value-neutral transfer of information to learn from this perspective requires a valuable and necessary tool to transfer knowledge. Learning leads to solving everyday problems. The trainer will employ this approach to design, and train, at the initial stage to effectively transfer knowledge and 3) learning as a tool for societal oppression, especially from outside the organization, such as religion uses learning as a tool to create limitations in viewing the world, communism uses learning to control people, culture and delete the beliefs of people etc.

Marquardt (2002) divides learning into three distinct levels, but they are aligned: 1) individual learning is the change in skills, knowledge, attitude and values of individual from self-learning. One will observe and learn based on technology. And Sujittra Tananan (2014) adds that individual learning has three components. Those are the learner needs, that what learner needs and can be used for learning success. Next is learning styles that is the individual characteristics influence to their learning. Everyone has different ways of thinking, and solutions to problems. The third element is training. The training is the teaching activities which adjust suitably for the learners to increase their capacity. 2) Group or Team learning is an increase in cognitive, competency, and skills within a group, which can be achieved by group actions, 3) organizational learning is the enhancement of intellectual and ability through action and the opportunity for continuous development from the organization. While Chakpitak (2009) describes learning in action is the behavior of organizational learning that is separated from individual learning. The organizations will benefit from this learning to solve business problems. And the skills of those who has been trained will be augmented, because it is constantly learning for change. As a result, the organization can better manage the risk.

The adult learning or andragogy, the learners are called participants. Each of the participants have their own learning style. The learning objectives for adult are flexible, and the participants have experiences that leads to learning. The method of active learning shall be applied. The participants have an influence on the study and break time. The cooperation of the participants is highly important. In the discussion, participants are bringing real-life problems raise as the dialogue's issue. So, in this case the participants are like primary resources for ideas and examples. The IATA (2017) has suggested to help adults learn better, it is consisting of the following points: 1) create a safe learning atmosphere; the instructor greeted the participants, trying to remember their names, state the learning objectives before beginning the course, and inform participants of the benefits they will receive after finish the training. The participants appreciate honor from instructor. In the meantime, the instructor must stimulate and

build confidence for everyone. Calling the participants' names for interaction to show sincerity. 2) encourage participants by taking breaks, dividing them into groups for sharing ideas, using gestures to stimulate and call their names often to become familiar. The instructor should allow participant to share experiences for exchanging ideas. Applying these techniques will enable learners to be open-minded. 3) The learning environment must be comfortable, enough lighting, sound, and suitable temperature. The projector must be clearly seen. Learners have appropriate personal space. And a break is planned together. 4) Facilitating dialogue allow learners to express their ideas before feedback to them. As well as, let the participants to evaluate their own learning. And create learning through activities to let the learners find the answers by themselves. The important point is that the instructor must identify what makes the participants excited to learn. What are the driving forces in learning? Furthermore, the instructor should also identify opportunities cost of the learners and their expectation goals. The appropriate of learning time would encourage and motivate the learners positively.

Therefore, the effectiveness in learning, should create an organization as a learning organization. It is a place where learners can expand their creativity. Receiving the motivation to think critically for achievement, and learning to learn with others. An effective learning organization must establish a structure to support training and learning, enhancing, improving and developing the open culture to learn. Participants and learners are known how to control themselves. The organization prevents illegal acts, and political intervention. Having an atmosphere of mutual decision-making and open dialogue would create leadership for participants. The mechanism that always promote learning and respond to new issues must be implemented (Hoy & Miskel, 2005).

In addition, Thaipublica (2019); (Wattanacharoensil & Yoopetch, 2012) published an article from the 10th annual "Rapee Talk" in the academic seminar on transformative learning consists of 1) creating new values is to ask questions to understand oneself goals by using creativity and critical thinking, 2) reconciling

tensions and dilemmas is to understand the world and living with volatile, uncertainty, complex and ambiguity, or known as VUCA, 3) taking responsibilities to the result is the investigation of one's actions and the impact in the future. Using the critical judgment to consider the groups and respect the surrounding environment such as culture, society, others, nature, and the world. Learning for change will be learned through activities by doing the project to get real experience. The teacher will play a facilitator role. Whereas, the environment must appropriate to support the learning (lecture by Vicharn Panich, 2019). Learning for change must be holistic to see a deeper, bigger, broader image than traditional education that coordinates both physically and mentally. It is a study that creates knowledge and changes the personality, mind, body and self in a good way. Leaners can apply knowledge and develop other capabilities such as compassion, leadership, empathetic which is a development of physical, mind, and health (Keynote Address by Nimrod Sheinman, 2019).

While Corley (2011) mentions that adult learning of Malcolm Knowles in 1980 is as the science and art of helping adults learn (Andragogy), adult learning can control oneself to learn. It is called self-directed learning (SDL). The SDL is the initial process of a person planning, self-assessment of the learning experience without help from others. The adult learning will benefit from real life experiences that help in learning. The adult will prepare to learn when they want to change their lives and roles in society. Adult sees the problem as the key issue to apply knowledge urgently and motivated to learn from internal factors rather than external factors. Based on the above assumption, learning management for adults requires a cooperative learning atmosphere, with specific assessments, learners' needs and interests. To design educational activities for adult learner, to achieve the objectives must conduct the learning in sequences. And allow learners to create the learning method, tools, and resources for learning. And last is evaluating the quality of the learning experience. This is to prepare for the next teaching and learning, because adults want to know why they must learn. The instructor must clearly explain the skills and learning objectives. And adults learn better by doing

rather than memorizing. In addition, adults like to solve the problem. The effective learning is learner can use to solve problems in everyday life. Adult learning strategies with ability to control oneself to study (SDL) include the following components. 1) assessing one's own skills and learning needs based on objectives 2) identifying the starting point of a study project 3) providing appropriate learning tools and methods according to goals such as books or research, lecture 4) establish objectives, strategies and evaluation criteria together 5) find strategies for decision making and self-evaluation 6) develop the positive attitude based on the process of learning 7) feedback to learners. In addition, facilitator can motivate and encourage learners through the process of progressive learning and offer a variety of alternative to achieve results. The application of adult learning theory effectively, the organization has to understand the principles of adult learning theory and trying to apply those principles.

For Dale (1970) has analyzed three learning styles, which are learning from real experience or direct experience. The second form is learning from image recognition or pictorial experience. And the third form is learning from abstract experiences or symbolic. Each level of learning is related to specific actions, such as direct experience involves the learners doing by themselves. As for remembering images, the learner sees images, movie, or drawing. Learning from the abstract is about the things that students have never seen or done before. Once they learned, they will be able to remember what specific terminology used by the teacher said. Each individual experience is different, both physically and mentally. Thus, in learning a person starts with direct experiences. And gradually develop from the images that have been seen then summarized and conceptualized the ideas or symbols as understand. Dale has proposed the idea of developing people's learning called 'The Cone of Experience'. It is a learning experience with media and visual tools, reading pictures or letters. According to this approach, the learners will spend less time in learning but also forget quickly. However, learning through media and observation devices will spend more time, but students will remember better from reading the learner learns by using senses, feelings, muscles, it

will take longer time to study, but will also be remembered for longer too. Therefore, it can be concluded that if learners learn from practice, and teaching to others they will be able to remember more.

Learning theory is the concept that has been recognized to explain the nature of learning, or behavior changes. Whereas, the teaching principles are the concepts that concern about teaching practices that consistent with theories. Learning theory starts with human being has been seen in two ways including ethical and behavioral. It is believed that humans are either innate with badness or goodness, and humans are born with neutral characteristics. From the concepts of ethics and behavior, it is the fundamental of multiple learning theories such as; 1) theory of mental discipline believes that strict mental training will make people more intelligent and being good. 2) behaviorism theory believes that humans are rational and free to act. If human was stimulated, human can use the reason and knowledge existing themselves, and 3) theories that focus on cognition and connection (apperception or Sebastianism), which was popular in the 20th century and applied to teaching and learning. This theory believes that humans learn from the five senses that help to learn. There are three levels of learning, 1) sense activity 2) memory characterized and 3) conceptual thinking or understanding. After that, new knowledge and existing knowledge will be linked to solve new problems (Tissana Kaemanee, 2012).

As for Hoy and Miskel (2005), there are three types of learning theories based on the outcomes consisting of 1) behavioral theories related to observing behavioral changes skills and habits of people, 2) cognitive theories are theories that look deeper into thinking processes, memory, creativity, and problem solving and, 3) constructivist theories are theories that interested in people interpretation of events. How the activity lead to knowledge creation. IATA (2017) discloses the pioneer of adult learning theory is Malcolm Knowles. He observed the behaviors of adults learning, and found adults learn better when they know why to learn, freedom to study. Therefore, teaching and learning, for adults must inform the purpose of their studies. As well as, to understand

the behaviors of each individual learning styles are differed, create a learning experience, motivate and start to instruct when learners ready.

The learning theory of Bloom called Bloom Taxonomy (Kaewsaiha, 2019; Pradubwate, 2012) are divided into 3 areas as Taxonomy of Education Objectives. Each dimension is divided according to the level of ability from low to highest which can be explain as following:

1) Cognitive domain comprising of knowledge means the ability to remember different experiences and recalling that experience. comprehension is the ability to tell the essence of a story, expressed with interpretations, predictions, and extensions. Next, is the application of knowledge. The application is the ability to apply knowledge, principles, rules, and procedures to solve problems in other situations. The latter comes analysis means the ability to think of different stories into separate parts. And able to see the relationships of each related parts. After that is synthesis, it is another step, in which people can combine the sub-details together to create something completely new and better. The final stage of cognitive domain is evaluation. It is the ability to make judgments, valuations, and conclusions about the value of things with fairness, and appropriate criteria.

However, Anderson and Krathwohl (2001) redesigned Bloom's cognitive domain to be in line with the 21st century, with two-dimensional changes which were the characteristics of knowledge and intellectual learning by changing new vocabulary. And the explanations in some stages have been changed to reflect the nature of thinking in each hierarchy as follows: 1) from knowledge to remembering is the recall of knowledge and long-term memory. 2) from comprehension to understanding which is the ability of the brain to create meaning through speech, writing, interpreting, summarizing, citing, comparing, and explaining. 3) from application to applying which is the processes or methods of the knowledge usage through thinking in new situations. 4) from analysis to analyzing which is the division of knowledge into parts and then identifying the relevance of each parts that are related to the structure of all knowledge.

5) from synthesis to evaluating which is the ability to check by using intellectual, control, test for discrepancies, and criticism. 6) form evaluation to creating which is the ability to use wisdom to create new things from discoveries or other contexts that can be created, plan, and implement processes (Conklin, 2013; Pradubwate, 2012).

2) Affective domain skills are values, feelings, attitudes, beliefs, interests, and morals. This behavior does not appear immediately, therefore the teaching and learning should arrange appropriately to environment. The teacher constantly input ethics and morals for student to absorb. Then, the psychological behavior will be changed as objectives desired. Initially awareness or receiving which is the feeling that occurs to the phenomenon. After that interprets the stimuli and expresses them in the form of feelings. Then, responding that is an act expressed with consent, willing and satisfied with the stimuli. Later, the valuing which is the selection to practice in accordance with the wide accepted in society, until it becomes a good belief and attitude. From there on, the organizing is the creation of concepts of values that are created by relationships and personality. Consequently, the characterization by value set is the use of values that are regarded as behavioral habits to behave in the right manners.

3) Psychomotor domain is a behavior concern with the muscles, nerves. It is a behavior that demonstrates the ability to perform the work maneuverable, skillfully, expressed with the time and quality of work as a measurement of the skills level. It is consisting of a reflect movements, which learners are practice in correct principles. The latter dimension is the fundamental movement. In this dimension, the learner practices behavior that they are interested in on and on to gain the skills that person is requires. The next dimension is to find the right behavior or perceptual that can be done by oneself without guidance. Because when one attempt to repeat the same actions one will find the correctness from physical activities. The next dimension is continuous practice after the decision or skilled movements. It is to choose their own style and continue doing until able to perform complicated tasks accuracy, quickly, correctly from practice consistently. The next dimension is natural practice or non-

discursive communication. It is a behavior that continuously trained until it can be done quickly and automatically and being ordinary behavior is considered as a high level of performance.

In conclusion, Bloom's Taxonomy divides cognitive ability into two levels. The lower level namely 'Lower- Order Thinking Skills – LOT'. And the highest level called 'Higher-Order Thinking Skills- HOT'. The cognitive ability will begin with basic knowledge upwards to more advanced knowledge. It can be said that start from LOT to HOT skills. The LOT consists of knowledge, understanding, and application of knowledge. While, the analysis, synthesis, and evaluation are at a HOT level. Bakhshi et al. (2017) states that people with high cognitive skills are those who are intelligent and enthusiastic in learning.

Another popular learning theory is that of cooperative or collaborative learning. This theory is learning with a group at least of 3-6 people with different talents helping each other learning to reach the goals of the group. Scholars Johnson & Johnson cited in (Tissana Kaemanee, 2012) suggest that current education promotes competitive learning to usurp the profit rather than solving the problem. Scholars agree that institutions should promote cooperative learning, which can help learners to better learn, practicing social skills, working with others, which are essential skills in living. The components of cooperative learning consist of 5 key issues which are: 1) Positive interdependence refers to cultivate learners to recognize that every member is important. And the success of the group depends on everyone in the group. Allowing students set the goals for working, and learning together. Planning and delegating the assignment within a group together for each person, 2) face-to-face promotive interaction is learners interact with each other how to achieve goals. Enhancing and helping each other to study, and the sitting position should be as a circle for greater interaction between them (Newble & Cannon, 1989) 3) individual accountability of each member which can be determined. People in the group must be responsible and try to perform their assigned tasks to the best of their ability. The groups must set a review

system as well, 4) using interpersonal skills and small group skills, such as social skills, interaction skills, communication and conflict resolution, including respect, acceptance, and trust in each other, the instructor should guides the learners to practice, 5) group processing is the analysis of group work processes to help for learning and improving work. Also, helping to practice cognitive skills (Metacognition) which can assess their own thinking and behavior.

As for Kagan and Kagan (1999) stated the cooperative learning components consist of 6 important elements which are; 1) learning in social interaction with structures and related constructs. That is the interaction in the classroom affecting society, intelligence, and academic development of learners through the activities. Such as, three-step interview, then exchanged the interview data with round robin activity. Then, thinking together with the exchange of knowledge called 'think-pair share'. 2) the basic principles of continuous interaction, having equal participation, positive dependence, and the reliability in each member, 3) Team building and class building to become familiar with each other, create the identity of the team, participatory support assesses of differences, and the development of collaboration 4) teams, in working as a team may be defined by the differences of team members, random selection, a team that interested in the same thing, and teams that speak the same language, 5) management is to manage the differences in students' skills, seating management, noise, guidance, distribution and storage of school supplies, and to manage group behavior. 6) social kills from the research found that cooperative learning approach students will pay attention to teammates, helpful and understanding others better.

The benefits of collaborative learning affect students directly as: 1) greater efforts to achieve which results in higher learning achievement, 2) learning with long-term retention, having internal motivation for achievement, effective use of time, good reasoning, think critically, 3) better positive relationships among students, empathy, able to value the differences, collaboration, and grouping, 4) greater psychological

health, the learners feel good about themselves, having more confidence in oneself, and able to face stress and changes.

There are three types of cooperative learning that are commonly used:

1) Formal cooperative learning group. This group organized by the instructors by planning, organizing, ruling, techniques and methods for teaching to continuously collaborate learning on various topics. This may take many hours or weeks in a row until the learners have learned and achieved their goals.

2) Informal cooperative learning groups. This type of group is organized from time to time. It is included in the normal teaching. In particular, the lectures organize the cooperative learning groups to help students focus and apply special ideas in some issues.

3) Cooperative base group. This type of group is a group in which group members have work experiences. The mutual learning for a long time might build a strong relationship, and members are continuously engaged and caring.

Cooperative learning is student-centered learning by teaching individualized instruction. Because each learner has a background, intelligence, ability, interests differently. The learning and teaching according to the characteristics and need of the individual will help them better improvement. Including, also the teaching and learning by self-directed learners (Self-Directed Learning-SDL) (IATA, 2017).

As for Tissana Kaemanee (2012) states that there are various student-centered learning models, such as knowledge-based teaching. There are three types: 1) mastery learning is a learning process that believes learners are able to learn according to their objectives if they are given sufficient time to learn based on their needs. However, it is depending on their capability and aptitude. 2) Verification teaching is learning from the principle that all learners have potential to learn and be successful in learning. When the learners are receiving assistance as needed. 3) Concept-based Instruction is a teaching and learning based on the conceptual, emphasizing the learning of abstract ideas, which helps learners better transfer knowledge, more concrete and sustainably. It helps

students and teachers learn and build the process for profound knowledge. As well as, looking a holistic and viewing the alignment of knowledge.

There is also experiential learning by gaining the experience, then reflective the observation which leads to ideas and experiments applied in new situations. Authentic Learning is learning by considering the context related to the truth. It is the opportunity of learners to learn from real conditions and problems by mainly using the Problem-Based Learning- PBL. Facing real problems allows students to develop skills that are essential to life. Therefore, they can use critical thinking, and decision making for actions and results of decisions. Every individual seeks the resources to solve the problems. Where all issues will be linked together and will be transferred to other contexts and will continue to change continuously. The learning, therefore, has the form of spiral development that develop from the original (Nonaka, 2005). In addition, a person will receive feedback from their actions whether good, bad, or inappropriate from relevant persons, which is considered a measurement base on the truth quality.

The learning that focus on problem-based consists of two types including; Problem-Based Learning- PBL, which is very popular, by allowing students to face real problems or situations and participate in problem solving to help learners learn meaningfully. And able to develop processes essential skills for living and lifelong learning (Conklin, 2013; Masek & Yamin, 2010; Newble & Cannon, 1989; Zakaria, Maat, & Khalid, 2019). This learning strategy is a group-based learning which the investigation and questions come from each member. The problem-based learning allows students to find the truths they have discovered. The benefits of PBL allow students to learn their thinking in complex situations. That will promote their advanced of thinking skills. In addition, students are also pressured to think critically and creatively. Moreover, it also increases motivation for learners as they practice from real situations, which makes them to become more confident.

In this regards Masek and Yamin (2010) suggest that the PBL model should be adapted to the five teaching objectives as follows: 1) PBL for epistemological

competence is an emphasis on allowing students to apply and manage knowledge. 2) PBL for professional action is a demonstration of knowledge value by being implemented in real life situations. 3) PBL for interdisciplinary understanding is viewing how the knowledge created and what to do with the knowledge. It is to combine the how and what together. 4) PBL for trans-disciplinary learning is an understanding of the scope of various sciences, the situation of the problem, and the critical issue. 5) PBL for critical contestability is the knowledge existing in every situation context, and has been created in variety of problem situations. There are various methods for finding conclusions by asking the questions to understand the importance of a problem. Pyykkönen and Kalliomaa (2013) say the PBL has helped to develop leadership skills and they reveal research results by using PBL in teaching from the National Training Laboratories in Bethel, Maine in 1994, found that the different teaching methods delivered affecting students' memory.

However, the best teaching method is to teach others and learn from the actions. So that learners can apply knowledge, reasoning, problem solving skills, lifelong learning skills, teamwork skills, communication skills, attitude, and the values along with professional ethics in the workplace. Zabit (2010) explained that the PBL approach consisting of three steps: 1) notifying problems 2) finding information and 3) discussing the issues and creating new knowledge to solve the problem. However, the difficulty in using PBL for teaching and learning may arise from the following issues: (1) the role of the teacher must be changed to a facilitator, resulting in the teachers' feeling reduced in value. (2) The role of students' conflicts among themselves and leaving school, not accepting new ideas. (3) Reaction from colleagues because other teachers may use the traditional methods to teach those who use PBL may lack of support. (4) the team management is the role of instructor strategies for teams to be able to join and work together. (5) The process of skills development, especially thinking skills and problem-solving skills, may be difficult for teachers who are not developed in skills.

The next method of student-centered teaching and learning is by using projects called 'Project-Based Instruction'. It is an activity that connect with the real context. Therefore, learning is related to reality. The assignment the project to students resulting the learners through the research process, applying complex advanced thinking. As a result, it helps to develop the intellectual processes of the learners. And helps the student to produce concrete works that demonstrate their knowledge and ideas. Learners and can discuss, exchange, and criticized clearly among them. It is also an exhibition of the project to the public which can create motivation for students to learn, enthusiasm to seek knowledge, and use of knowledge. It is to draw out the various potentials of the learners as well.

Another method of student-centered is the learning that emphasizes on processing skills by scientific research processing which needed to find knowledge and lead to discover new knowledge. The instructor will stimulate thinking skills for students to raise questions and seek knowledge. In the process-oriented learning, it can also be taught from thinking processes by encouraging learners to continually expand their thought emphasizes on core thinking that link to their thoughts. It is to classify, compare, induct, deduct, analysis, synthesis, hypothesis and proof. In addition, group process-based instruction can be organized as a collaborative work with the common objectives of each person performing their duties appropriately (Newble & Cannon, 1989). The teaching management on the research-based instruction is an opportunity for students to use the research process to find knowledge. It is, also, help students to have lifelong learning tools. Especially, as the learners gain direct experience from the research process, the usage of research results as learning content. And the last method is teaching and learning emphasis on self-learning process. Students can choose topics, media, content, and methods according to their interests. The instructor is helping to give advice to participants.

The principles of teaching and learning of student-centered approach is to emphasize the integrated learning style by bringing related content into one issue and

organize learning activities to enable students gain knowledge and understanding in a holistic manner. Also, they can be applied to integrate within the subjects (intradisciplinary). It is the introduction of content in the same subject. The same group of experiences relate to one another, such as Thai language includes reading, writing, speaking, convincing, grammar and literature, etc., or the integration between subjects (interdisciplinary) are to bring the content of many subjects into a single subject, such as the content of Thai language, science, social sciences, art and music combine together.

Teaching and learning can be organized through software packages that focus on allowing students to spend their own time learning using media and technology that does not require instructors. The instructor is only managing the learning, course clarification, objectives and the expected outcomes. This type of teaching and learning is called instruction without teacher. It can be taught by computer assisted instruction, programmed instruction, distance instruction and network teaching. The web-based instruction technology is a vast source of information and people can access any places and time, to use data at low costs.

Development, Learning, Training, and Education, these three words, the human resource development department applies Nadler and Nadler (1991) explain that human resource development consists of three activities: 1) define of human resource development is the learning from experience in an organization by employers within a specific time to bring out the potential of individual increasing work efficiency or personal growth. 2) Activity area consists of three sub-components, namely training, focusing on learning in the current job. Education is the focus on employees' future work and the development is not work-oriented. And 3) the role of human resource developers consisting of an expert role in learning and facilitating, design and develop learning. The human resource development manager provides advice, personnel development, taking care of facilities, and financial facilities, including maintaining relations with employees. Additionally, the advisor role as an expert are to be the voices of employees and change.

From the concept of learning theory, it can be concluded that it is a cognitive change, the ability and interaction with others that can be observed. Learning is fundamental to everyone through different experiences and cultures, in which learning can be both prevention and error correction. Learning is to increase the potential of humans to achieve goals and to solve problems in daily life. Learning in an organization is divided into three levels: individual level, group level, and organizational level. All three types of learning support each other in organizational development to increase organizational capabilities. For adult learning, learners have experiences that can lead to learning by active learning, in which participants have an influence on learning hours and breaks. The adults are being able to control themselves. The instructor is just act as a facilitator responsible for facilitating conversation, adjust the learning environment and atmosphere. In the studies, participants must understand their own goals, using creativity, understand the world and uncertainty, be responsible for their own actions of consequences. There are many forms of learning, but the commonly used is the cooperative learning. It is the learning through real experiences, learning from problems or (Problem-Based Learning), and learning through information media etc.

2.4.2 Training

Wirtz and Lovelock (2016) suggest that the advancement of technology was employed to deliver in the service industry, but many types of services still require direct human interaction between customers and service providers. The service organizations should integrate closely with HR departments and dedicate themselves in the selection, training, and motivation of employees. And develop the employees' technical knowledge for the work performed. Employees should have interaction skills with others and positive attitude. In this regard, if HR manager thinks strategically for creating relationships, motivation, skills and teamwork, or can work without supervision. The organization will have a competitive advantage. Without regard to, the global trend is changing rapidly in both society, information technology, knowledge and the environment. Watson and Nelson (2014) say that technological change makes

the flow of information on three issues: 1) the amount of data that comes in, organizations may need to use a variety of technologies to manage. 2) swift is the speed of each type of data that must be analyzed quickly and 3) the array is the data from various sources in multi formats, such as video, images. These factors are driving organizations and individuals to adapt to the changes occurred to survive in the intense competition. The individual must develop themselves to be outstanding, including knowledge, skills and abilities.

Training is a pre-planned education of the organization with the objective to improve the competency, skills, knowledge and behavior of employees in daily job operations (Boon-anan Phinaitrup, 2016; Noe et al., 2012) or to work at the level that the organization needs. The employees may be trained to increase some competency to work in the current position. The training results can be return to the organization's income, such as comparing the waste before and after the training. (Prawet Maharatsakul, 2013; Tissana Kaemanee, 2012) or to step into new position in the future. It adds value to the organization's operations, and personal growth. The training can be very effective if it is consistent to organizational strategies (Burke, 2014; Sujittra Tananan, 2014). The training techniques use communication methods, transfer knowledge, facts and experiences from the trainer, and between the trainers themselves. By organizing seminars, group discussion, meetings for learning. For changing behavior and meeting objectives, each training technique is effective in creating knowledge, skills, and learning roles of participants differently. However, there is, currently, no best training method because each technique has its own characteristics and weaknesses. It is depending on the speakers will choose to use it according to the suitability with learner's context and training objectives.

For Boon-anan Phinaitrup (2016) describes the basic training process consists of assessment, development, and evaluation (Suthinee, 2017). The evaluation has the goal of collecting data to determine the need of training which requires specific knowledge suitable for ability, skills, and other characteristics (KASOCs). The information is

obtained from the organizational level, job data, and personal information. The organization data collected from organizational analysis. It is the answer to what extent the organization should focus on. What factors affect training, because the organization sets goals, manpower, operational information, organizational climate and organizational indicators. As for job analysis, the purpose is to find the answers that what should teach, how to satisfy the trainees. It can be analyzed by using the task-oriented approach. This approach will explain work activities, practices and methods namely 'worker-oriented approach' for behavior analysis individual analysis, identifies who should receive training and who needs to be trained. In addition to the job analysis, there must be an in-depth analysis of the job components, which is the whole process. It is divided into work types, and a step-by-step workflow that will help achieving organization's goals, increase training effectiveness (Noe et al., 2012; Werner & DeSimone, 2009). After evaluating the training, it can be presented as a training process. The successful training depends on the course under the right circumstances, with five components: 1) insight: the employees must understand what they want to be trained, 2) motivation consists of internal and external motives that the trainers know the benefits 3) new skills and knowledge, the employees must express their own needs to increase their knowledge. 4) real world practice is the trainees to learn from real situations for high efficiency. 5) accountability to be aware of the training results how much understanding and interesting of employees are. This is to plan for your next training session.

Werner and DeSimone (2009) demonstrate the impact of teaching and cognitive learning from the training that focuses on increasing human capital capacity, there must be four components: 1) specifying the goals to be received, 2) preliminary analysis of the condition of the participants what they know or can do before learning, 3) specify conditions that will enhance the learner's competency, such as teaching techniques, methods and tools, 4) to evaluate and monitor the process of learning to see the progress, or find another way. This is to maximize learning that results in the learners developing

in skills, knowledge, and behavioral changes affecting the interaction with the environment and various factors of the learner. There are three issues to consider: trainee characteristic, training design, and transfer training.

The trainees' characteristics have influenced in learning new knowledge including ability to receive training, personality, attitudes, and the ability to train. It is the readiness of the participants in accordance with the level of competence. As well as, the motivation that the participants receive from the work environment. It can be calculated as following formula:

Trainability=f (Motivation x Ability x Perception of the Work Environment)

For the training design, there are components of the conditions of the activity in practice. Such as, the activity area for the large group of participants, or just for some part of the group required. The feedback of learning in the working process, and to transfer the knowledge from training. This consists of identical elements or general principles, stimulus variability, the equipment which support work environment. Furthermore, the opportunity to display the work and atmosphere of knowledge transfer in training.

While IATA (2017) has proposed an adult training, model called the ADDIE model, which consists of the following details:

1) A- Analysis is the analysis of data, target group, the tasks that must be accomplished and the objectives of the training program, such as the need for training. The root causes of problems, objectives, necessary information and methods of data collection. How the training design will be.

2) D- Design is the design by using the result of the analysis, such as the analysis process, develop and assess together, write a lesson plan, objectives, assessment methods, and quality control.

3) D- Develop is the development of training equipment, such as the development of procedures, the guidelines for trainees, training resources, develop and

assist the trainees about working matters, training facilitation, evaluation of training participants and experiments.

4) I- Implement is the testing of training tools and equipment such as the production of training media, intermittent training, assessment and feedback from participants.

5) E- Evaluate is an assessment, it can be performed for each training activity and evaluating the important things in the training, along with providing feedback to the participants.

For instructional strategies, IATA (2017) defines as the methods that instructor use in their training to achieve their learning goals. The methods that the instructors use will help to create educational atmosphere and activities. The activities were held during the course between the instructor and the participants. The methods that the instructors may use are; experiential learning, two-way communication, sharing experiences, and learning to solve real problems by oneself.

The types of training can be categorized according to training approaches, including storytelling, role-play, and practice. It is also can be divided according to participation characteristics consisting of; the trainees are highly involved and joint role. The most popular training method is on the job training, such as job rotation, coaching, mentoring, job instructional training, apprenticeship training, and committee assignment. There is another type called off-the-job training. It is providing information for self-improvement, such as lecture by an expert, conference and discussion, simulation training, case studies, role-playing, games, using the internet and the learning portal, team leader training (Noe et al., 2012; Ploy Suebvises, 2018; Sujittra Tananan, 2014; Werner & DeSimone, 2009).

Therefore, it can be concluded that the training is a form of education that is planned to improve the performance of the employees in daily task to the level that the organization needs. It is also to step up to a new position. There are many forms of training techniques that can be done by communicating and transferring knowledge of

the experience from the instructor to the trainees. As well as, among the trainees themselves. There are various approaches for training employees. Such as, seminars, opinions sharing, meetings. Whereas, the popular training methods is on the job training, job rotation, coaching, mentoring, coaching, and training through a committee. Another method is off the job training, it can be conducted through a lecture by an expert, discussion among participants, the use of simulation, case studies, in which the training process must be evaluated, and development of training results as well.

2.4.3 Education

Good (1973) states the education is the process implementation that results in a person development in ability, attitude, behavior in accordance with social values and morals. The education causes people to be influenced by the environment, which defined for individual and social development, while Dewey (1994) states that education is a social process in creating life experiences that result in prosperity.

Hoy and Miskel (2005) compared the educational and organizational systems are similar and education depend on the social system. The social system is an open system, so education is affected by social values and community resources by systematic management, rules, norms, and culture. The institution, thus, is to prepare people for society. There is a hierarchical structure in the school system that affects the expectations of each individual role. For example, the instructor must plan the lesson and create experience for the learners, as well as draw attention to the learners for efficiency. In the dimension of the organization, the social system is like an organization consisting of commanding, flexible, culture. In the organization, individual uses wisdom to understand roles, duties, perceptions, knowledge, skills, and job expectations. The education is about to change in knowledge or behavior of individuals. The learning will only occur when the experience of the person receiving it results in behavior changes, and knowledge is constantly existing in oneself. There are 3 main elements related to education; 1) behavioral components that focus on observing

changes in behavior, skills, and habits 2) cognitive elements relating to thinking processes, memory, creativity, and problem solving 3) constructivist is about the creation of individual meaning from activities, events and later forming into knowledge.

Education is an activity that is designed and organized by one or more representatives to change the knowledge, skills and characteristics of an individual person, group or community (Crawshaw et al., 2014). The education is a systematic of learning with teachers to achieve goals, enhance knowledge, expertise, morals, and values. It is necessarily for living and beneficial to the society. The focus of the education is to prepare people to be ready to work according to the needs of the organization in the future (Sujittra Tananan, 2014). Besides, the education helps to determine whether the values of personal beliefs that are ready to change in accordance to the organizational values, and the works processes. Without investing in development, it is not possible to expect changes in employees' attitudes and new skills that can support change, which may affect the survival of the organization (Gilley, Eggland, & Gilley, 2002). Hence the education is to transfer experiences from one generation to another as a basis for starting a career. The knowledge gained from educational institutions and societies is not immediately usable. There must be applied and learned in a specific job. It is both formal and informal education that teaching people with knowledge, ability in 1) know-how, 2) problem solving and, 3) accountability (Prawet Maharatsakul, 2013).

Chindalak Vadhanasindhu (2008) states that education is the process of attracting and retaining learners at the elementary level and teaching them how to read. While, Manusawet (2016) defines education in the 4.0 era is the era of education in creating innovation, with technology as a source for the evolution of innovation. In creating fundamental knowledge of individual's everyone's interests by a combination of motivation as a team. Then, the knowledge is expanded with feedback. Knowledge can happen everywhere, every time, and every day. It is a notion that everyone is a teacher that is supported by computer programs and human cooperation. In the working

life, employees in the 4.0 are co-workers and entrepreneurs, who are able to create outstanding and sustainable innovation Sinlarat (2016) adds that the education 4.0 should be creative and productive. Education shall emphasize on teaching creativity and transforms it into a product. However, before the creation of the student will need to think critically, creatively, and innovate to make a concrete product that is accountable.

Education and career development are based on knowledge which is abstract but essential in working for a living by applying knowledge, experience, and techniques learned. Some careers require a specific license or to be certified, such as doctors, lawyers, etc. Many educational institutions offer advanced education programs to meet the needs of those who wish to continue their studies that will benefit their professions. And an organization is also benefitting from experts in educational institutions. In some cases, educational institutions and organizations collaborate to open specialized courses for organizations. in which the organization can choose teachers, including staff that are enrolled able to keep credits for further study in the future. The continuing education by professional association is another form of organization provides employees the opportunity to attend meetings, workshops, and lectures by experts, or research presentations, which are opportunities for employees to build network and share experiences with others. In addition, some professional associations have issued journals and certificates of participation. Another point is that further education by the company-sponsored in continuing education. In some organizations, there are training centers and having their own curriculum called corporate universities, because they can provide flexible education and connect with strategies, organization goals, and missions (Werner & DeSimone, 2009).

The role of human resource development (HRD) in further education consists of three roles which are: 1) enable is to give people in the organization an opportunity to continue their education equally. 2) Resource provider is the provision of resources to support education such as refund of tuition fees paid by employees, taking leave of absence for education, and pay fees to participate in professional association activities.

The organization may pay travel expenses to employees, if they need to develop their career and, 3) monitor is to check that the career development of employees to be in accordance with the plan, training, education, development, and learning systems are related to the knowledge of various related technologies, such as learning psychology, perception, motivation, organizational behavior, management development, acceptance and resistance to change.

In sum, the education is a systematic of human development process to change the skills, behavior, and knowledge of the person by having rules, regulations, and practices as a society. It is to prepare the learners to understand the roles and responsibilities, behavior that is acceptable in society or as the organization expected. However, knowledge from institutional studies in some cases is not immediately applicable, which the learners need to apply in their lives to solve problems, think critically. And for the educational institutions, that provide a professional development and the efficiency of the organization's employees to learn from experts. In this case, the organization has to support employees to enhance the potential of employees and to create engagement.

2.4.4 Learning Organization

The organizational learning can lead to learning organization. The organization learning is divided into two types: (1) Single-loop learning is the ability to find and fix errors in routine work from the usual practice. It is working according to a policy, framework, or a plan. (2) Double-loop learning is to detect errors, then review and improve customs practices, objectives and policies of the organization as well. The double-loop learning helps organizations monitor behavioral changes and set standards or guidelines that should be implemented and also change the basic structure of organizational values and directions (Agryris, 2005; Sujittra Tananan, 2014). This can be summarized as a diagram showing both type organization learning as shown in the following figure 2.7.

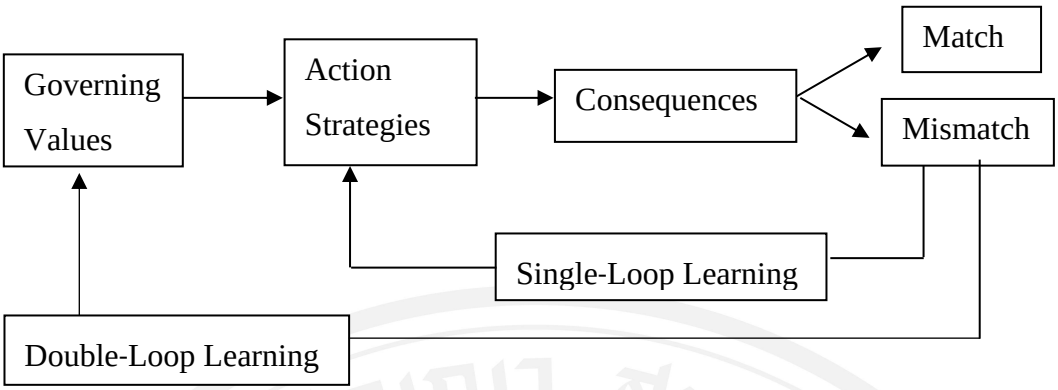


Figure 2.7 Managerial and Organizational Learning

Source: Adapted from, Agryris (2005).

Learning Organization, according to Senge (2006)is an organization in which the people in the organization continuously expand their capabilities at the individual, group, and organizational levels. For the purpose of various levels of people require and an organization of having new ideas, which includes the extension of ideas. It is the continuous learning of individuals learn together throughout the organization (Dawood, Mammona, Fahmeeda, & Ahmed, 2015; Luhn, 2016; Yadav & Agarwal, 2016). The concept of building a learning organization by Senge (2006) is called 'The Fifth Discipline' that is the basis for understanding the learning organization consists of 1) system thinking is a holistic thinking, viewing of the organization system from the inputs process throughout the results. The organizational system is a systematic, which is interconnected relationship with each other. 2) Personal mastery is the people in organization aware of the importance on learning, practice, and lifelong learning to increase their potential. The organization must be able to encourage people in organization to learn, develop, and create awareness in the pursuit of learning. As well as, creating the learning-mind that are intended to learn and create an atmosphere that encourages all colleagues to develop their potential to achieve their goals (Weiss, 2001). 3) Mental model means the pattern of thought, belief, and attitude from experience accumulated to become a conceptual framework of a person. The mental model causes a person having the ability to understand, making decisions in various matters. 4) Shared vision means creating a common attitude of people in the

organization. It is to be able to see the image and to focus in the same direction, which drive towards to the goal swiftly. And 5) team learning means the collaborative learning among members as a group or team. The important goal of team learning is to exchange knowledge and experience with one another. Uneven, it is both formal and informal learning. The learning organization must learn together as a team. There is an exchange of knowledge, experience, skills and thinking methods to improve the intelligence and the potential of the team as a whole. There is, actually, the information transfer between each other of both the new knowledge that has come from the discovery or from outside and within the organization.

Marquardt (2002) gives the meaning of the learning organization is an organization that has a lot of learning. There is ongoing selection and change for the success of the organization. The organization enhance the power to employees to learn from outside and within the organization including from technology on the work-related issue for the most effective production. (Bratianu, 2015; Chakpitak, 2009; Gottschalk, 2005). Thus, Marquardt (2002) proposes a learning organization model consisting of 5 subsystems, the learning subsystem, organization subsystem, people subsystem, knowledge subsystem, and technology subsystem. These five elements are concrete to bring success to the organization. All components are ingredients promoting each other. If any subsystem is weak or missing, the other subsystems will be damaged as well.

For the learning subsystem, it is the dynamics of the learning organization because there are three levels. It consists of individual levels, group level, and organization level. There are important skills such as, systems thinking, mental models, personal mastery, self-directed learning, and dialogue. The learning subsystem relates to the level and type of learning necessary for an organization, including the right organizational skills from learning at all 3 levels, namely personnel levels, group levels, and organizational levels, as follows: 1) individual learning means the changes in skills, knowledge, attitude, and individual values that result from self-learning. The self-learning came from observation and technology. Since, people are the basic units of groups and organizations. Hence, the most effective learning elements are narrative with tools to create a learning environment, mind mapping, etc. 2) Group / Team learning means the emergence of knowledge, skills and competencies within the group.

The team learning can be accomplished with group actions. Teams are very important to the organization, which need to have team learning skills

The team learning will help the organization solve problems, creative thinking. The effective learning of the team focuses on self-managed learning, creativity and independence of the transfer of ideas. Teams will share both positive and negative experiences with other groups in the learning organization. The team consists of the need to formulate complex issues with joint clarification. The need for action, innovation initiatives and coordination. And the ability to support learning for other teams, team learning software, called 'Groupware' or 'Working Support Systems/Group Support Systems', includes video, messaging, chatting, and feedback, interconnection within groups, white board and software for presentation via the internet. (3) Organization learning is the enhancement of wisdom, and operational ability, which is derived from the improvement, continuous improvement throughout the organization. The organizational learning requires experience and knowledge from the past, such as policies, strategies, and the clear forms of knowledge storage.

There are three types of learning organization which consist of characteristics that support each other, namely (1) adaptive learning is the learning that occurs when a person thinks about their experiences in past. Then adjust the current behavior. (2) Predictive learning in the future or anticipatory learning is the process of acquiring knowledge by anticipating and imagining about the future in many ways. It is a method that develops from vision to action and review, diagnose and identify the best opportunities for the future. After that set the guidelines for achieving results. (3) Action learning means learning that combines with the actual working operation, which may be done alone, with other people, or with a group. The action learning will be done by doing problem analysis, ponder the current reality. Then implement into action by blending the learning to real work practice. It is a dynamic process, a powerful program for people to learn efficiently and effectively

While the learning skills of a learning organization consists of five skills that are necessary to start and expand most effective learning in the organization. 1) systems thinking is a conceptual framework that resulting in more complete, holistic view of the various rational patterns. (2) Mental model is the assumptions that are deeply embedded in a person thought influencing one views and actions, such as imagination of learning,

work, or organization commitment, which will also be affecting the interaction and behavior of the circumstances involved. Due to this concept, Senge (2006) says that the working with the thought patterns will begin by learning how to dig out images from the inside or the history of the world. Then reveal those images and examine each other in detail. (3) Personal mastery requires a commitment to lifelong learning which leads to expertise in important tasks of the organization. To strive for the excellence is one of the key elements of a learning organization. (4) Self-directed learning means that everyone is aware the important and the responsibility as an enthusiastic learner, consisting of knowing their own learning styles. The ability to assess needs and self-efficacy by linking with business objectives for the learning needs. (5) Dialogue means the listening and the high-level of communication between people. It is thoughtful listening, considering others' opinions. It must be seen that the pattern of team interaction encourages or undermines the learning. Talking is an important tool to link, and learning coordination, including workplace practices. The dialogue allows the organization to better utilize all existing intelligence (Burke, 2014).

The people subsystem of the learning organization is a system consisting of executives, managers, leaders, including employees, customers, partners, and business partners, suppliers and sellers including the surrounding communities. It empowers and supporting people to be successful. The managers & Leaders must be both instructors, coaches and mentors. The customers will be involved in identifying products and services needed, including training, which can be considered to be part of the organization's learning. The customers can be important sources of information and ideas that are beneficial to learning systems and organizational strategies. For the organization subsystem is a group of people working together in a systematic manner. There is a continuous process consisting of 4 dimensions: vision, culture, strategy, and structure. It is an organizational reform to learning excellence.

The knowledge subsystem for learning organization is the knowledge management in various aspects of the organization. It consists of six dimensions which are acquisition, creation of knowledge, storage, analysis and data mining, transfer and dissemination of knowledge. Due to the knowledge has three main components. There are technical expertise, technical skills, and abstract. From these three elements,

knowledge can be transferred from one person to another for organization efficiency (Kuhn & Porter, 2011). The application and validation is to make six dimensions of the subsystem continue uninterrupted. The scholars are often referred to as knowledge management. It is the development and use of tangible and intangible knowledge in organizations (Zeleny, 2010).

The technology subsystem consists of a network of technology and tools that help people in the organization access to knowledge and exchange information and learning with each other. By including systems and technological processes, as well as the structure of cooperation that will lead to coordination skills, coaching, and other knowledge-related skills. It also includes the use of electronic devices. And advanced learning methods, such as the use of simulations, on-line conference, and two-dimensional technology subsystems consisting of; 1) Technology for managing knowledge means computer technology that helps in gathering and determining codes storing and transferring information throughout the organization and around the world. It also helps organizations to abolish and outdated administrative regulations. The change, development and learning including; the ability to increase various capabilities, such as multi-personnel can retrieve the same data to see at the same time. Employees can work like professionals etc., 2) Technology for enhancing learning involves using the vision, and integrated media training by using computer-based programs. The purpose is to use for better transferring and improving the knowledge and skills of people in the organization (Marquardt, 2002). Therefore, a variety of knowledge must be communicated throughout the organization (Kuhn & Porter, 2011), especially a flexible organization. The flexible organization is the organization that has strong relationships, both inside and outside the organization, and understanding of the dynamic needs of the community, such as an educational institution with an environment that has the power to develop, understand, be respected and communicate knowledge (O' Hair, Kelly, & Williams, 2011).

In conclusion, the learning organization is to increase its capacity of the organization at all levels, consisting of the individual level, team level, and organization level through the continuous learning of members in the organization. The organization has mutual learning, where employees can systematically think and analyze the organization's processes and focus on learning to increase their ability. It is including;

the ability to create conceptual frameworks, attitudes, and understandings, and to be able to analyze decisions. The learning organization is where all employees must have a goal in the same direction and learning, sharing experiences, systematic thinking through teamwork. Along with the linkage within groups and providing feedback, when errors occur. They use historical data as experiences, including their ability to predict the future. This is the development of the employee's vision for action and detailed diagnosis for the best options in the future. The knowledge in an organization must be managed systematically, including seeking, creating, storing, analyzing, and transferring knowledge in order to share and implement. The indispensable thing is the information system of the organization or technology system. Since, it is a tool that allows employees to access knowledge anytime, and anywhere to learn.

Like Loh, Tang, Menkhoff, Chay, and Evers (2010) state that knowledge management is the development and the use of resources, and knowledge in organizations, both tangible and intangible. The university is an important source of knowledge for business, and a place to expose knowledge to be beneficial in practical. Such as, researching and creating new knowledge, teaching to transfer knowledge. The university is a knowledge society that is important in higher education, because it is armed the competence for students. However, in harvesting knowledge and managing knowledge, there are four challenges which are; 1) creating and preserving knowledge, 2) developing knowledge and accessing knowledge, 3) promoting the environment that creates knowledge, and 4) the value of knowledge, which relates to prove that whether the knowledge is as an asset (Jasimuddin, 2012).

Where Lundberg and Westerman (2020) conducted a research in learning organization by focusing on the role of Chief of Learning Organization-CLO. The learning has changed the goal from employee skill development the development of attitude and abilities that help employees solve problems and adaptation. Since, in the future no one knows skills that will be needed. Learning in an organization focuses on allowing employees to learn from real experience immediately. And creating a learning department to increase agility in the organization. The learning is a combination of technology and to share knowledge. The simultaneous learning from many offices around the world, by using technology and building learning flatform from various university programs adapted to the organization. The researchers found that the method

of learning with the 3 I's model consists of; Instruction which is teaching and giving knowledge, Introspection is to analyze, and Immersion is to embed knowledge in the brain of the employees from learning through activities, real experiences rather than teaching in the classroom.

In conclusion the learning organization is the ongoing learning of an organization that will lead to a learning organization by applying knowledge to correct the error, review, set standards, change the fundamental of organization. A learning organization is that occurs at a personal level resulting in the changes in knowledge, skills, attitudes and values of individuals. The team level is to enhance the performance of the team, problem solving, and creativity leads to continuous learning and at the organizational level, it is a continuous development of the entire organization with past knowledge and retention of knowledge. Having a shared vision for the achievement of the objectives of the organization. In the organization, knowledge is provided for job-related learning both from within and outside the organization. The use of technology for effective learning.

2.5 The Satisfaction Concept

Zeithaml et al. (2018) say that today is the era of service-based economy. This concept has been developed from the service industry that has grown and impact on the overall economy in America. The service affects to the employment rate and the gross domestic product (GDP). This concept, later, has spread all over the world. Especially, in China has made the hospitality industry as one of a top priority industry. Many organizations which produce the products aware the importance of services, because only excellent products do not result in the organization achieving sustainable success. Because the service can add value to the product. The customers need services and solutions. Hence, a good service will make customers satisfied. However, the service satisfaction is a broad perspective of concepts. While, the service quality is more specific in various dimensions of service activities based on the perceived elements of quality from the customers received. So, the satisfaction is the assessment of customers

on the products and services whether it meet their needs or not. The satisfaction is associated with feelings of the customers' fulfillment from the products/services. The joyful, happiness, relaxation or confusion may happen, if they feel that the service is neither good nor bad. The result of customer's satisfaction is very important. In the United States, the American Customer Satisfaction Index (ACSI) is measured and believed that customer satisfaction is important to loyalty customer. The organization's income, the value of shares, and the overall indicators of the economy. It is also an indicator of the well-being of the population, as shown in Figure 2.8.

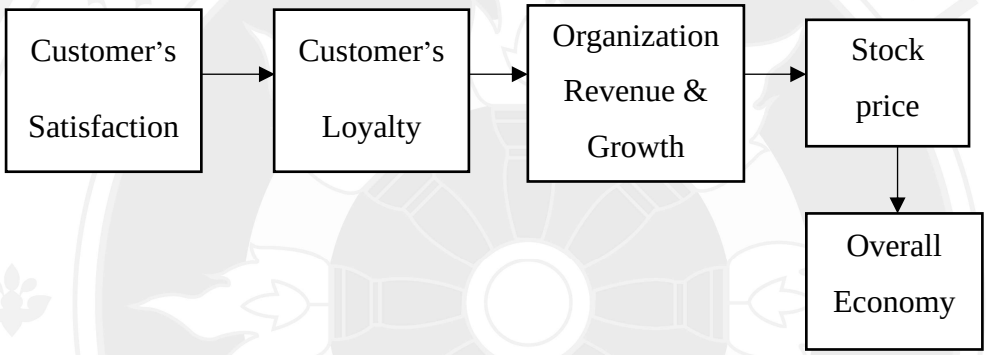


Figure 2.8 The Relatedness of Customer's Satisfaction Effect to Economy
Source: Adapted from; Zeithaml et al. (2018).

There are the gaps between service quality perception and the satisfaction of service recipients arise from; 1) the expectation of the service standard, 2) the gap from referrals of the service received, 3) gaps that arise from service provider which is inefficiency of human capital management, policy, selection, the unclear role of employees, inability to use technology, the lack of teamwork, and motivation etc. To satisfy the customers, all employees must have both technical skills and interactive skills, where technical skills are the skills to work with tools, technology equipment. As for the interaction skills, it involves providing service, being polite, attentive, responding to customers, and understanding customers, knowing how to use humor

when interacting with customers. Furthermore, learning the customer's body language, and listening skills are essential (Zeithaml et al., 2018).

From various service concepts, organizations are interested in improving and competing to provide the best services quality to customers. The service quality within an organization is also important. If employees are happy with the working life in an organization, then resulting to employees' happiness. The employees will deliver that happiness to the customers as well. Korczynski (2002) says that employees are like a mirror of the organization, if employees being happy will surely be ready to provide services with happiness to customers as well, which will affect the satisfaction and return of customers. In addition, when managing human capital for services, there should be a process called the 'Cycle of Capability' which consists of staff selection, and high-quality training. There is a well-designed support system, inspiration, team work, appropriate performance evaluation, rewarding, recognition, and development. The organization should create service as a culture of organization. By the same token, (Heskett, Jones, Loveman, Sasser, & & Schlesinger, 2008) the organization must be aware that the service quality that customers are satisfied with will lead to the profit of the organization as shown in the figure 2.9.

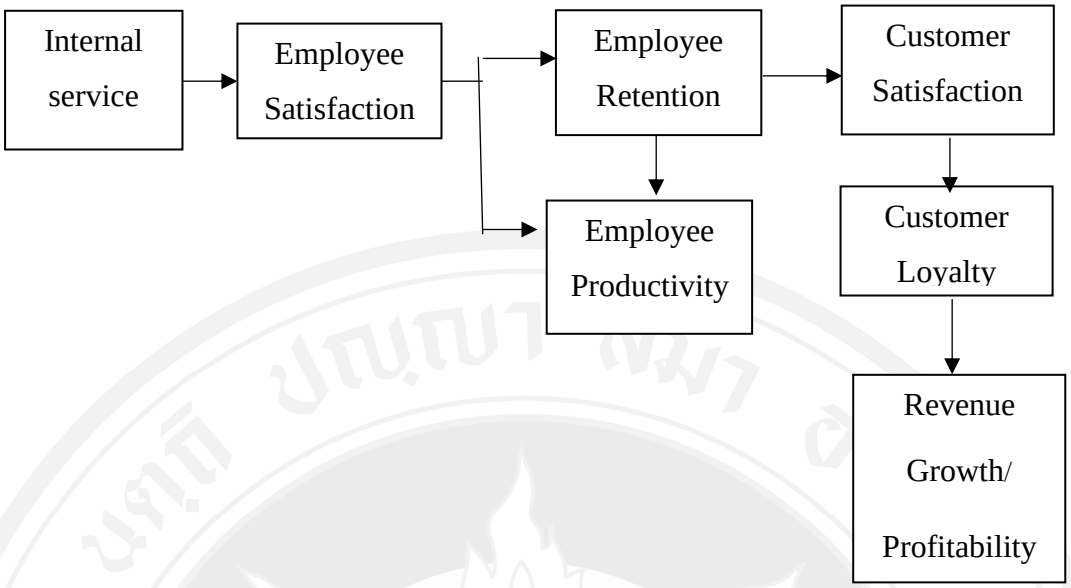


Figure 2.9 The Service Profit Chain

Source: Adapted from Heskett et al. (2008).

This is because of the service has four important features which are; 1) it is intangible, and cannot be try out before receiving the service, 2) the quality of service varies depending on the service provider, 3) the service cannot be separated from the service provider, 4) the service cannot be kept inventory like general products. Therefore, service organizations must balance the operations between organizations, employees, and the customers. Thus, the organization applied service marketing concept into practices. The service marketing concept includes; the internal marketing consists of emphasizing and motivating employees to work as a team to make customers satisfied. The next element is interactive marketing is an employee who delivers services with high competency and delivers services that meet customer needs to be satisfied. The last element is external marketing which is a customer-centered approach. The organization needs to be precise thorough recruitment of qualified person and motivating them to provide services. From the above details, it can be summarized as a diagram. 2.10 service marketing triangle as follows:

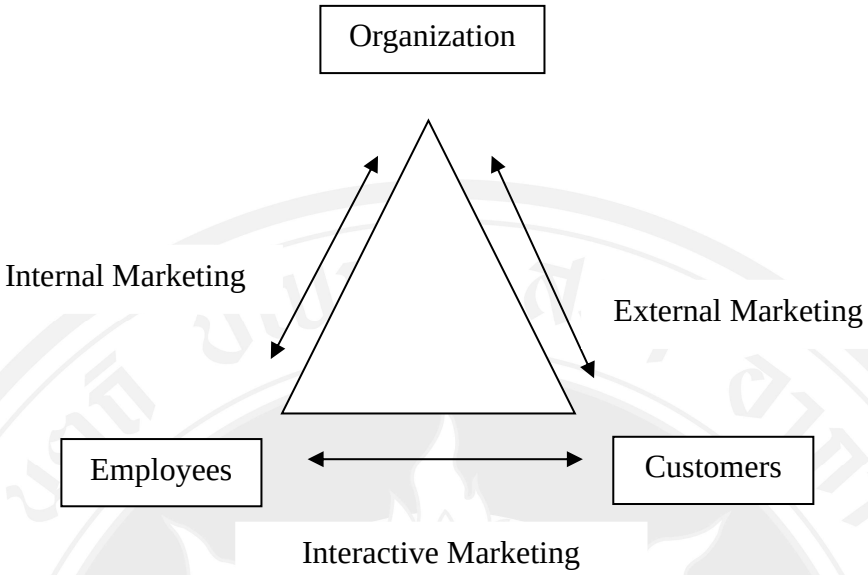


Figure 2.10 Service Marketing Triangle

Source: Adapted from Kotler and Armstrong (2014).

Therefore, it can be concluded that the advancement of technology has made organization competing in the customers' satisfaction, because different organizations are able to produce, and sell similar products quality. But the good service quality which result in customer satisfaction, creating added value for products and services, as well as a good image of the organization. As a result, the customers return to use the service and being a loyal customer, which will affect the organization's income and economy as a whole. The organization must create a balance treat between employees, customers, and organizations. The incentives, recruiting qualified employees, and creating a happy working atmosphere are mandatory to implement. Specifically, for the frontline employees who interact with clients. The organization should consider, because when the frontline staffs are happy, they will pass on that happiness to the clients.

2.5.1 The Definition of Satisfaction

1) The innovation of service
2) Factors affecting while receiving services are;
    (1) Convenience while using the service
    (2) Accuracy of service process details
    (3) Service manners of the service provider
    (4) The complexity of the service process
    (5) The detail-oriented in the service
    (6) Carelessness of service providers
    (7) Skill, wisdom and capability of service providers
3) Factors affecting after service are;
    (1) The service meets with customer expectations
    (2) Completeness of the service
    (3) Consistency in service quality
    (4) The respond to customer complaints
    (5) Value for money or not after the customer has received services.

Then, it can be concluded that the satisfaction is the customers have expectations of the service and the organization can meet the expectations of the customers, resulting in customers' satisfaction. So that, the customers are loyal to the organization, which will affect the value of organizations' stock, and revenue. If looking at the macro level, it will affect the overall economy of the country as well. Thought, an organization must develop human capital in services, creating incentives, and employee loyalty. It is worth noticing that when employees have a good attitude towards the organization, employees will pass on that attitude to customers who receive the services likewise, when one is near a happy person, one will receive that good feelings too. In addition, when customers receive services that exceed expectations, it will result in greater satisfaction. Nowadays, regardless of the industry in which the organization is, firms realized the importance of customer service that will create more value for the organization's products and sustainable business. Especially, in the service industry, the frontline employee who interact with the customers are very important to create a memorable, and satisfied experience for clients.

2.5.2 The Service Assessment Tools, and Service that Affect Satisfaction

From the gap between service providers and service receivers mentioned above. Many scholars have created tools to measure service quality in different dimensions to close the gap of service delivery, such as SERVQUAL tools created by Parasuraman, Zeithaml, and Berry (1985), defined the gap caused by the service process into five dimensions which are; 1) the gap from the customers' expectation between the organization's management perceived the expectations of the customers, 2) the gap that caused by the interpreting of customer expectation from organizations' management to deliver the services that will lead to service quality, 3) the gap between organization's interpreting its understanding of expectations, then deliver to the customer, 4) the gap between service delivery, communication to outside organizations, and 5) the gap between the expectations in service with the service the customers receive. As shown in the following figure 2.11.

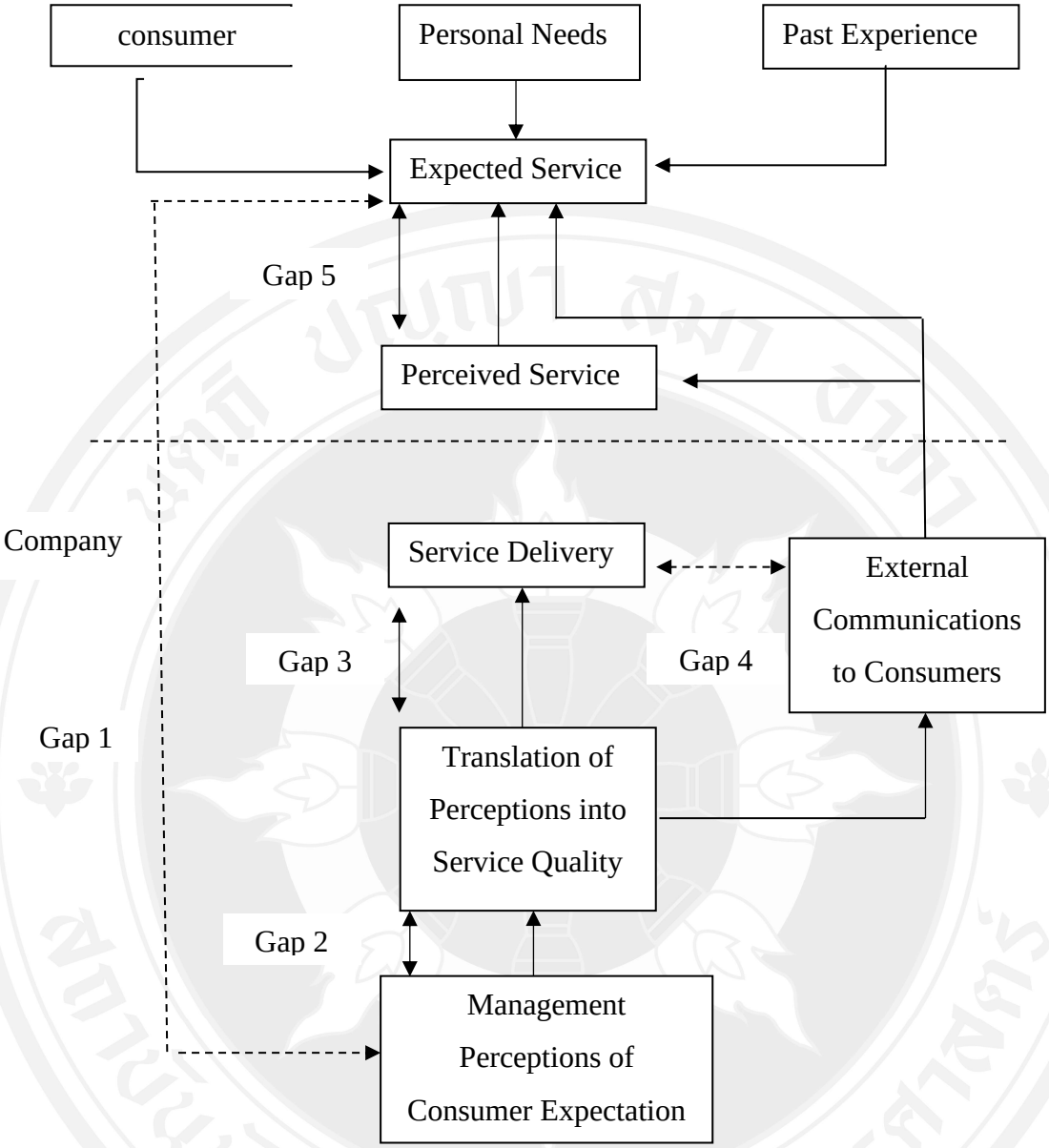


Figure 2.11 SERVQUAL Model

Source: Adapted Parasuraman et al. (1985).

From figure 2.11, the academic, therefore, has found a method to determine the quality of service which will affect the satisfaction of customers from the customer evaluation consisting of five components which are; 1) reliability that the customer will receive the services advertised by the organization, 2) responsiveness is a willingness

to provide service, and support the customer needs timely, 3) tangible is the facilities, the appearance of personnel, which are the image and mobile advertising of the organization from the uniforms that employees wear and communication tools, 4) assurance is related to employee knowledge and politeness, the ability to build accountability and confidence towards customers, and 5) empathy is the service provider taking care and understand of each individual customers, and treat customers as important people. However, there are various factors involved, such as the situation factors, personal factors, price factor, and product quality factors etc. (Havir, 2017; Zeithaml et al., 2018) as shown in the following figure 2.12.

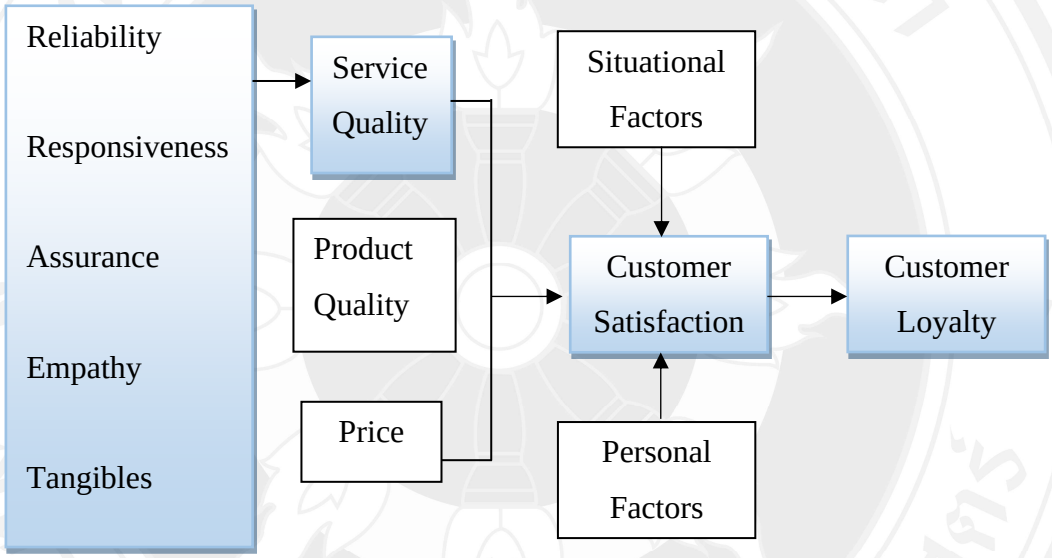


Figure 2.12 Customer Perception of Quality and Customer Satisfaction

Source: Adapted from Zeithaml et al. (2018).

From figure 2.12, scholars have applied five components that directly affecting the quality to determine the dimensions of the service quality model called (SERVQUAL Model). The SERVQUAL model was administered in various studies, as well as in the aviation services, such as Pakdil and Aydın (2007) study the expectations and perceptions of airline services using SERVQUAL tools, which separated the service into 8 main issues related to ground services composing of; 1) service personnel are the dimension of employee behavior, knowledge, , readiness to

help passengers, personality and grooming (Akamavi, Mohamed, Pellmann, & Xu, 2015) 2) responsiveness consisting of handling delayed baggage, the efficiency of check-in and bag register, agility in helping passengers, responding to complaints (Kumar & Kumar, 2019), and willingness to assist passengers, 3) empathy (Ali, Dey, & Filieri, 2015; Kozak, Karatepe, & Avci, 2003; Kumar & Kumar, 2019; Suki, 2014) consists of employee behavior that treats passengers when flights are delayed. Taking care of passenger individually and understanding the needs of passengers. The study found that passengers focus on the responsiveness at highest level. However, latter there were many scholars have adopted the SERVQUAL model to use evaluating in airline quality, which is called AIRQUAL. The AIRQUAL consists of five dimensions, the same as SERVQUAL, but there are some differences in the specific aspects of aviation industry. The five dimensions consist of (1) aircraft tangible related to the aircraft interior, on board meal quality, cleanliness and comfort of seats, and the quality of air conditioners on the plane. (2) Terminal tangibles are related to the shops in the airport, parking area, the size of the airport, the air quality of the airport, the efficiency of the signs, the availability of luggage cart, the efficiency of the security system, the uniform of airport employees, and the availability of seats in waiting area. (3) Personnel dimension is the attitude of the airline staff, knowledge, experiences, the education level, caring of passengers, ticket issuance without error. (4) Empathy is regarding the airline operations including; punctuality of incoming and outgoing flights, public transport from and to the airport, the surveillance of passenger luggage, airline office location, and the number of flights is sufficient for the needs of passengers, and (5) the image means having cheap tickets for customers selection, the consistency in service when compared to the price, and the image of the airline (Kos Koklic, Kukar-Kinney, & Vegelj, 2017; Rady, 2018; Şimşek Demirbağ & Demirbağ, 2017).

Throughout the time, Lucas (2005) said the services that affect satisfaction must include knowledge, ability, and enthusiasm of employees in delivering services to clients, both within and outside the organization resulting positively. The positive result will lead to word-of-mouth and return to use the service again. In the meantime, the organization must have a service culture that will lead to success. Those are; 1) the philosophy of service or the mission of the organization is to determine the direction,

vision that helps to support the daily operations or customer interaction. 2) The roles and expectations of employees are the organization's requirements for measurement that shows the expectations of employees in the effort providing customer services to assess the performance of employees. 3) The service delivery is how the organization's delivering goods and services, policies, and 4) the process is a working manual that is set up for a variety of situations as a guideline when employees encountering different situations. 5) The service is a kind of product developed by organization at an appropriate price and meets the needs of consumers. 6) The management is the readiness of the management to answer questions, and help the customer service staff, including the enthusiasm to give professional advice to the staff. 7) The awards and incentives is to motivate employees by monetary or gifts for employees who work efficiently, and last 8) promotion of learning on technical skills and knowledge, as well as adjusting the attitudes of employees in providing excellent service.

As, the positive communication to customers is important which helps the organization achieve its goals, because the employees who interact with customers are the organization's representatives (Branson, 2013). In communicating, whether it is positive or negative the employees interact with clients, the reaction from clients will be the same. So, the use of verbal and nonverbal communication correctly and clearly. The employees can increase the effectiveness of interaction with other people. Such as, making eyes contact when interact with clients, by looking at the eye can indicate the level of customer interest in the products and services. Also, it helps to describe the relationship level, which influence on customer decisions, and the expression in communication. For nonverbal communication is the posture, facial expression, standing, and gestures during the client's service. The customers, as usual, observe employees' personality, appearance, and grooming. So, to keep the body clean, neat hair style and clothing which employees should be aware. On the other hand, the diversity of customers is normal in humanity. And it is not too difficult to deal with to provide good service. It is just knowing other cultures and opening up to learn. Since, humans are traveling, working, or studying abroad away from their home country. Humans, always, carry their cultures with them, and these differences allow others to learn new cultures.

From the gap concept between services and expectations, the customers who paid for services always form and expectation to receive good services. Then, the customers will compare an actual service with their expectation while interacting with service provider. The service provider can deliver either positive or negative services which effects to organization. If customers have high expectations, the service delivered must be excellent. The high expectations may derive from social media or word-of-mouth. Therefore, scholars have invented the service quality measurement tool, focusing on five components including reliability, responsiveness, assurance, empathy, and tangibles. However, the employees who deliver services must have knowledge in the services and products of organization, as well as, the organizational service processes including the service skills which enable them to provide good service quality.

2.6 Related Research

This part, the researcher presents the research related to learning and factors affecting the learning, human capital development in the aviation industry both in Thailand and abroad.

2.6.1 Research on Factors Affecting the Learning in Thailand

Anaraki (2018) conducted a study the effectiveness of blended learning by classroom teaching and through technology for self-learners (Bruce, 2017). Researchers collected data online from 500 students of Assumption University. The interview technique was administered to lecturers after finishing the semester. There were 323 questionnaires return. From the study, researcher found that blended learning through the use of e-Learning which students can access from technology, such as smartphone, iPad, computer. The blended learning enhances learning skills of student, and the sample group can learn better. The result from the interview, also, revealed that teaching online make students better understand the lesson. The midterm and final exam scores were compared. It is found that the student scores increase, and the overall result is at highly satisfied with the blended learning approach. However, Bruce (2017)

indicates the weaknesses of using technology for learning and teaching could harm the human beliefs, values, roles, customs, and other issues as human in society should have.

Sasitorn Leksuksri (2016) conducted causal analysis of factors to develop the competency of workforce for the 21st century. The study was conducted by using quantitative with the sample group from service sectors, agricultural and industrial sectors, totaling 2,000 people in 4 regions of Thailand. There were northern, northeastern, southern, central, and Bangkok its vicinity provinces. There were 400 sampling per region, using multi-stage random sampling, questionnaires, and interviews to collect data. Then, analyze data by using structural equation modelling. Three variables were studied which are: 1) literacy and reading ability 2) mathematical ability, 3) problem solving ability by the usage of technology. The result found that literacy competencies and reading abilities were influenced by engaging to reading, and self-concept. The indirect influenced by the motivation of reading and the environment that promotes reading. The ability to calculate is influenced by motivation to achieve in calculation, and the attitude towards calculation. And indirect influence the ability of calculation is the use of information technology for communication and numerical learning. The third variable is the ability to solve problems by using technology. The result shown that it was influenced by systematic thinking, motivation of using technology. There are two indirect factors, which are the supporting from organization/department through the acceptance technology usage. And the supporting from family. The community is influenced through technology acceptance and motivation to use technology.

Vong and Kaewurai (2017) conducted a study to create a model to promote the development of analytical thinking and the ability to teach of teacher student to teach critical thinking skill at the Regional Learning Center, Tha Kaew Province. Cambodia. There were three steps in conducting this research, which are the development and examination of teaching styles. The second step is to implement the lesson plan. And the third step is to evaluate the lesson plan. The sample consisted of 15 teacher students who passed the lesson plan learning. The research instruments consisted of lesson plans and instruction manuals, teaching materials, the pre-test and post-test, classroom observation, and observing the analytical thinking methods. The researchers analyzed the data by observing from the teaching practice. And the statistical test by Wilcoxon

test to compare the results between the exams before and after the course. The content analysis applied to identify feedback from learning activities along with structured interviews. The results of the study found that the composition of the teaching model is at a high level and can be adapted due to the complete composition of the teaching plan and the teaching objectives, content structure, activity arrangement. The teacher students develop critical thinking at a high level. Researchers have summarized the appropriate teaching and learning outcomes, by helping trainees to develop analytical thinking ability. The energetic learning activities or environments help attracting learners' attention to validate information and application of knowledge, which will help promote critical thinking skills and the ability to teach critical thinking.

Panya, Meekhun, and Laddawan (2018) studied the training model that affects the attitude and behavior of participation in learning activities. The construct participation behavior in instructional activities is that students can learn and search for knowledge through a variety of activities, including helping teachers to find information about students of Rajabhat University. The study was performed by analyzing. Researchers believe that the education must be organized in along with activities, which will create knowledge, consciousness, morality, and engagement to the locality. In the study, the researchers divided 3 experimental groups; 1 of the three group is control group by randomly selecting 120 students from Lampang Rajabhat University, divided into four groups. The first group having psychological training along with group skills training. Group 2 integrates teaching with psychology. Group 3 integrates teaching with skills training, and the control group is group 4 to practice other skills. The result found that integrated training in psychology and coaching skills have best effect on learning concentration, self-control, and attitude towards activity participation. The integration of psychological training and skill training has an effect on motivation for success and attitude towards others.

Techataweewan and Prasertsin (2018) studied the indicators for improving Thai student's skills in digital learning by using mixed-methods research. First, researchers conducted qualitative research in questioning the indicators that help students learn digital. After that, the development of tools for checking the indicators to analyze the confirmatory factor analysis–CFA. From the study found that the indicator for the development of students' digital skills in university from 1,183 samples consisting of 4

key indicators are: 1) operation skills consists of learning skills, invention, and presentation, 2) thinking skills consists of analysis, evaluation, and creativity, 3) collaboration skills consists of teamwork, networking, and sharing, and 4) awareness skills consists of morals and ethics, law literacy, safeguarding self. The researchers suggested to examine students' skills prior before learning to help them better learn digital.

Ratiporn Teungfung and Kosol Jitwirat (2009) synthesized the researches and academic articles on the creation of a human capital development model in the context of dynamic changes. The purpose of this study was to create a competitive advantage in an era of changes. The result found that there were 6 aspects of human capital development under dynamic changes. Those were to be a learning organization that continuously leads to new Knowledge to organizations, human capital development in line with the organization's vision, leadership development, talent management, and the creation of organizational culture. These six factors will lead organization develop human capital to be organization's intellectual capital for a sustainable competition.

2.6.2 Research Related on Competency, Service Quality of Airlines in other Countries

Farooq, Salam, Fayolle, Jaafar, and Ayupp (2018) studied the impact factors on the service quality and satisfaction of passengers towards Malaysian Airlines. The researchers using the Structural Equation Modelling-SEM method to study the variables of personnel, service providers, consisting of employees' grooming (Ruetzler, Taylor, Reynolds, Baker, & Killen, 2012). Where Şimşek Demirbağ and Demirbağ (2017) provide additional comments from the study using the AIRQUAL model with quantitative studies by using Structural Equation Model (SEM). The result revealed that passengers want to see service providers good-looking and good-hearted, good human relations, which have a positive influence on satisfaction. The employees know their duties. The staff can answer questions as passengers' need. And the responsiveness variable consists of; the airline takes good care of the luggage; ticket agents are polite. The results of the study show that the service personnel and understanding of others affect the quality of service. Airlines should create differentiation strategies and considering the recruitment, training of its staff to deliver personalized service by

understanding passengers, which passengers expect to receive warm service and personal services.

Chen and Chang (2005) examined the service quality of airlines in Taiwan from a process perspective using Importance-Performance Analysis (IPA) technique, which focuses on frontline employees who meet and interact with passengers, because frontline employee meets with hundreds of passengers on each working day, and each passenger has different expectations. The service industry should focus on customer (customer-oriented) because it helps to build a good relationship and loyalty to the organization (Razi & More, 2012). The result found that passengers provide good service and should maintain as standard of service consist of; service efficiency of ground staff, politeness of ground staff, politeness of reservation staff, and a convenient check-in process. Specifically, the ground staff did a good job, but passengers are not paying attention on the proactive work of the ground staff and the personality (Ruetzler et al., 2012).

Ho and Wu (2019) studied the design of work helps to motivate employees developing excellent service delivery in the airline industry. Researchers use the self-determination theory to search for factors of social perception design and the benefits of psychological interaction to enhance the service quality of the airline. The service quality measured by the SERVQUAL model consists of 5 dimensions which are; tangibles, reliability, responsiveness, assurance and empathy, where the questions in each dimension include, for example, the personality and grooming of the employee, trust in resolving passenger problems, willingness to help passengers, knowledgeable staff able to answer passengers' questions, and the attention to individual passengers. The coefficient in all 5 dimensions are 0.800, 0.921, 0.901, 0.92, 0.889 respectively. From the study, it is found that social factors affect socialization motivation. And the motivation to socialize has a positive effect on the service quality of the airline. This is because the social motivation is the link between the impact of social awareness and service quality. Researchers have suggested airlines to increase socialization by allowing employees to interact with passengers, such as help to advise passengers who are traveling for the first time, paying attention to passengers who look confused. The increasing customer contact will benefit employees in understanding that their work or responsibilities can help others. To know one's own potential and traveling difficulties

of passengers. And if the employees can solve the problem for the passengers, it will also affect the motivation of the employees.

Türeli et al. (2019) analyzed the importance of the innovative behavior of ground service officer affecting passenger satisfaction. In this study, the researchers used a qualitative method to identify the skills and characteristics of qualified ground service officer, consisting of; customer service skills, which can make clients trust and withstand the pressures, teamwork skills, relationships skills, understand people of different cultures, and are ready to help others, technology skills, being polite and able to work on deadlines, communication skills, having curiosity and creativity, problem-solving skills, with flexibility, having inspiration and enthusiasm. Researchers have suggested the idea of managing human resources as ground service officer, start from recruiting the right people, and training the delivery of services with understanding of others, showing the importance of passengers. In addition, to cultivate the creative characteristic of employees for problems-solving, being patience and polite. In working as a team will enhance the improvement of communication skills, and understand different cultural vulnerabilities, including training for employees to respect others.

2.6.3 Research Related on Competency, Service Quality of Airlines in Thailand

Wattanacharoensil and Yoopetch (2012) conducted a study on the competency of human resources in Thailand for airline ground services at Suvarnabhumi Airport. So that foreign airlines are aware of, and understand Thai people. Hence, the airline can determine positive and negative factors in supporting the airlines operation. This could allow foreign airlines to apply human resource strategies to improve airline quality. Researchers used the questionnaire to conduct the research by considering the competency characteristics to design questionnaire from United States Department of Labor called ‘Employment and Training Administration (ETA). The researchers applied competencies tier 1-4 performance, consisting of personal effectiveness, academic, workplace, and industry-wide technical, with the integration of tier 3-4 as airlines require specific performance from both tiers, such as customer focus, troubleshooting, decisions making, baggage handling, coordination. As well as, using the SERVQUAL to use in questionnaires. In the meantime, the Delphi technique was

applied to conduct research divided into three phases, namely the panel and questionnaire preparation. The second phase is a survey phase, and the third phase is data analysis. From the study, it is found that Thai ground service officers have outstanding characteristics of service with politeness of the Thais, providing service with willingness. There is empathy for others, ready to help, which can create moment of truth for customers. The weakness is the poor English communication. It is consistent with Transport (2017) also found Thai ground service officers are poor in English. Furthermore, researchers found that the lack of discipline, lack of positive attitude towards careers, in which the responsibilities of ground service officers are important to airline services (Saha Gour & Theingi, 2009) as a whole.

Sricharoenpramong (2018) studied the development of service quality of ground service personnel at Don Mueang Airport. Mainly using quantitative methods and primary data was collected by questionnaires of 400 Thai passengers using SERQUAL concept to design the questionnaire divided into two parts; the first part is the basic data of respondents, and the second part is to evaluate service quality of ground staff in 3 positions, consisting of check-in staff, boarding gate staff, and staff working at the luggage conveyor belt. For secondary data was collected from thesis, books, academic textbooks. The researcher analyzed data by using descriptive statistics t-test and F test (one-way ANOVA). The result found that ground service officers working at Don Mueang Airport was overall at a medium level. As for the employees who operate at the baggage conveyor belt, the operational quality is lower than expected. The researchers suggested airlines to focus on human capital development and organization at the same time, because all airlines in the world have similar products and services, but human capital can make a difference from competitors. Human capital development for service professional consists of five development areas as follows; (1) training employees to be accountability, being careful (2) the organization should encourage its employees to be willing to help passengers and be ready to respond to the needs of passengers at all times. (3) The organization should train its staff to be a person who is knowledgeable and courteous, ready to serve, and communicate effectively, (4) airlines should increase awareness of employees to be enthusiastic, and (5) staff should dress appropriately, and neat.

Kuosuwan, Sutthachaidee, Musikamas, and Tunjoy (2019) conducted a study of factors in deciding to use low-cost airlines on the route between Don Mueang Airport to Guangzhou, Changsha and Chongqing, by collecting data from a Thais flying with Thai Air Asia and Thai Lion Air. The sample collected 200 passengers from each airline. Researchers mainly conduct quantitative studies. And using a questionnaire with 7Ps including; product, price, place, promotion, people, process, and physical evidence. The result found that factors affecting the selection of flying with low-cost airline on personnel dimension were at highest level for both ground services officer and flight attendants. This can be divided into details as follows; good personality, willingness to provide service, politeness and friendliness. The staff are knowledgeable in airline products and services. The staff are enthusiastic to help solving problems for passengers. Like Charoensettasilp and Wu (2014), it found that passengers are satisfied with the low-cost airline services in Thailand from the ground service officers as a whole.

Treruttanaset (2018) conducted a study on the competencies of graduates in the airline business; International College, Suan Sunandha Rajabhat University. The research mainly using quantitative research, supplemented by qualitative research. The quantitative data was collected by using questionnaires and analyzed by Pearson's Product Moment Correlation Coefficient with multiple regression analysis. Qualitative data was collected using in-depth interviews and structural analysis. The content analysis was used to interpret the qualitative data. The samples were graduates from the airline business program from International college Suan Sunandha Rajabhat University. Those who were working in airline companies, their colleague Supervisor, and airline Manager. From the study, it is found that the graduates' competency in having good human relations is at the highest level, followed by service minds. While the ability to use technology and foreign language usage is at low level. The operational knowledge in the aviation is at a very good level which results in a high level of job performance. For personal competencies that affect work performance, including accountability, service mind, and analytical ability. Researcher suggested for teaching to develop important skills in airline business to learning by doing.

CHAPTER 3

CONCEPTUAL FRAMEWORK, RESEARCH METHODOLOGY

The research ‘Aviation Human Capital Development: Ground Service Officer as a Case’. The reasons to study in this topic, researcher sees the importance of the development of human capital in aviation to be ready for various skills, knowledge, attitude, and working skills. This is to develop human capital suitable for an era of dynamic changes. By creating the service satisfaction to passengers, to return and use of the service again. As a result, it will have a positive effect on the airline's operations and contribute to the economic growth of the country that focuses mainly on earning money from travel industry. The study has specified the research methodology framework as follows:

3.1 Conceptual Framework
3.2 Research Variables
3.3 Hypotheses
3.4 Operational Definitions
3.5 Unit of Analysis, Target Population and Samplings
3.6 Research Instrument
3.7 Research Instrument Testing
3.8 Data Collections
3.9 Data Processing and Analysis
3.10 Research Design
3.11 Reliability Analysis

3.1 Conceptual Framework

This research topic ‘Aviation Human Capital Development: Ground Service Officer as a Case. The researcher has determined the study model and conceptual

framework from literature review, theories and concepts related to the competency of (Spencer & Spencer, 1993), which are the characteristics of a person relating to reasoning and efficiency in working. It can be explained that individual intents leading to act at the specific outcome. The intention consists of a person characters including: motivation, personality, self-concept, and knowledge. These characters will dominate a person to behave with their existing skills to achieve the job performance.

On the other hand, the general model of employee behavior from (Dreher & Dougherty, 2001) stated that the individual characters including: intelligence, aptitude, knowledge, temperament, preferences, and expectation lead to job behavior. Whereas, the job behavior was influenced by the function of ability, motivation and opportunity of each individual receive which will result to the organizational profit, efficiency and productivity. These are all affected by the organizational environment; hence the feedback of each process is required.

The other concept is the relatedness of customer's satisfaction to the organization's income and the overall economy of a country (Zeithaml et al., 2018). This concept can be explained that the customer's satisfaction leads to loyalty and return to use the services. The returning of customers means the higher income of organization, the stock value of a firm, and reflect to overall economy. From the above-mentioned concept, researcher has integrated the three concepts into the study model of the aviation human capital development research as shown in figure 3.1. The study model of aviation human capital development focuses on the individual characteristics (intelligence, aptitude, knowledge, temperament, preferences, and expectations), which affect to a person performing the job that was influenced by ability, motivation, and opportunity. A job performance of the employees could make the customer delight and satisfy with the services. Thence, the customer's satisfaction will create loyalty and revenue to organization, efficiency, productivity, and the whole economy of the country.

In summarization, the competence of workforces could affect the customer's satisfaction, firm's performance, and the overall economy. Therefore, the development of employees with the right approaches to reach their maximize capability for the job performance is crucial.

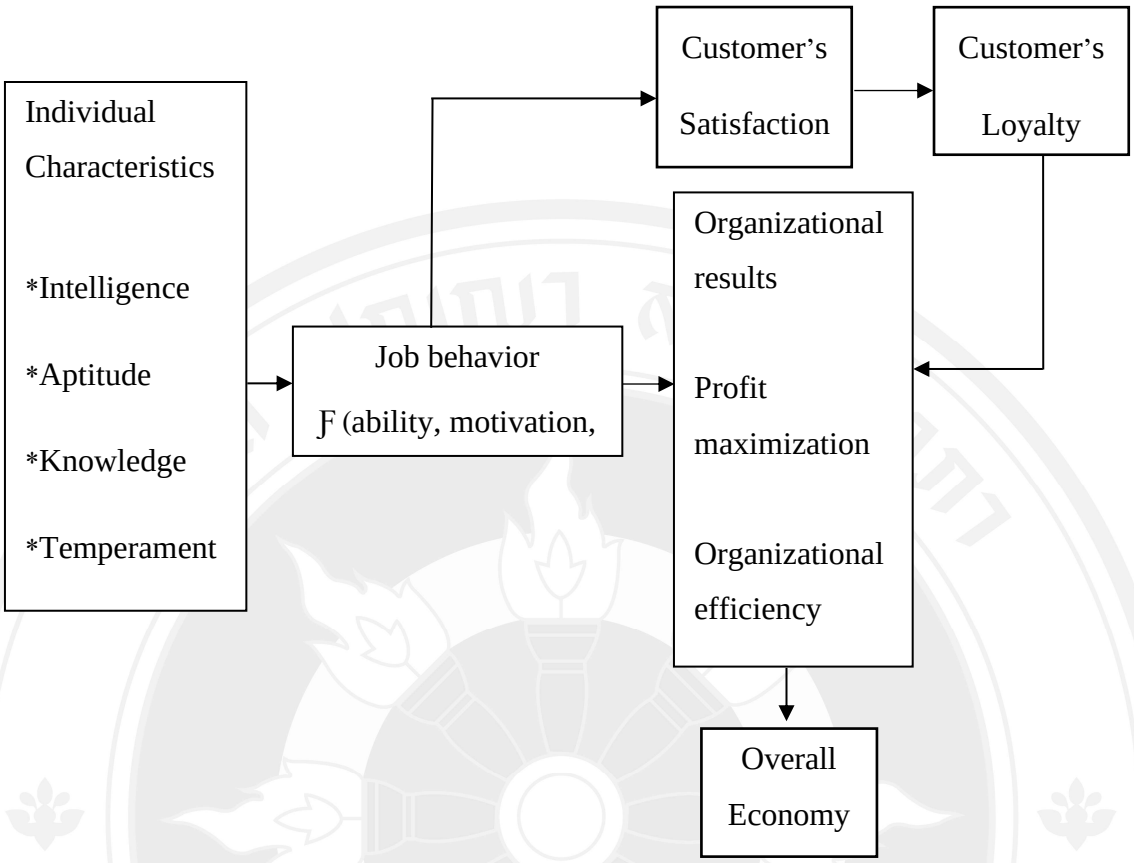


Figure 3.1 The Study Model for Aviation Human Capital Development

According to the study model, it can be explained that the airline companies are able to attract passengers to become loyalty, and come back to use the service again, which will result in revenue generating into the company and the overall economy of the country. So, this is the main reason in determining the model for the research mentioned above including, the satisfaction assessment of service receivers in airlines, it is more concrete measurement than the performance which is abstracted in the measurement. Since the inquiries from passengers, who are service receivers will be more realistic information than those from the airlines' related. Due to one may involve with the performance of organization, which may have positive attitude to the organization. And, it may result in inaccurate information for the result. Therefore, the model shown in Figure 3.2 will use as the study framework by integrating the model to guideline for the development of aviation human capital: a case study of ground service officer as follows:

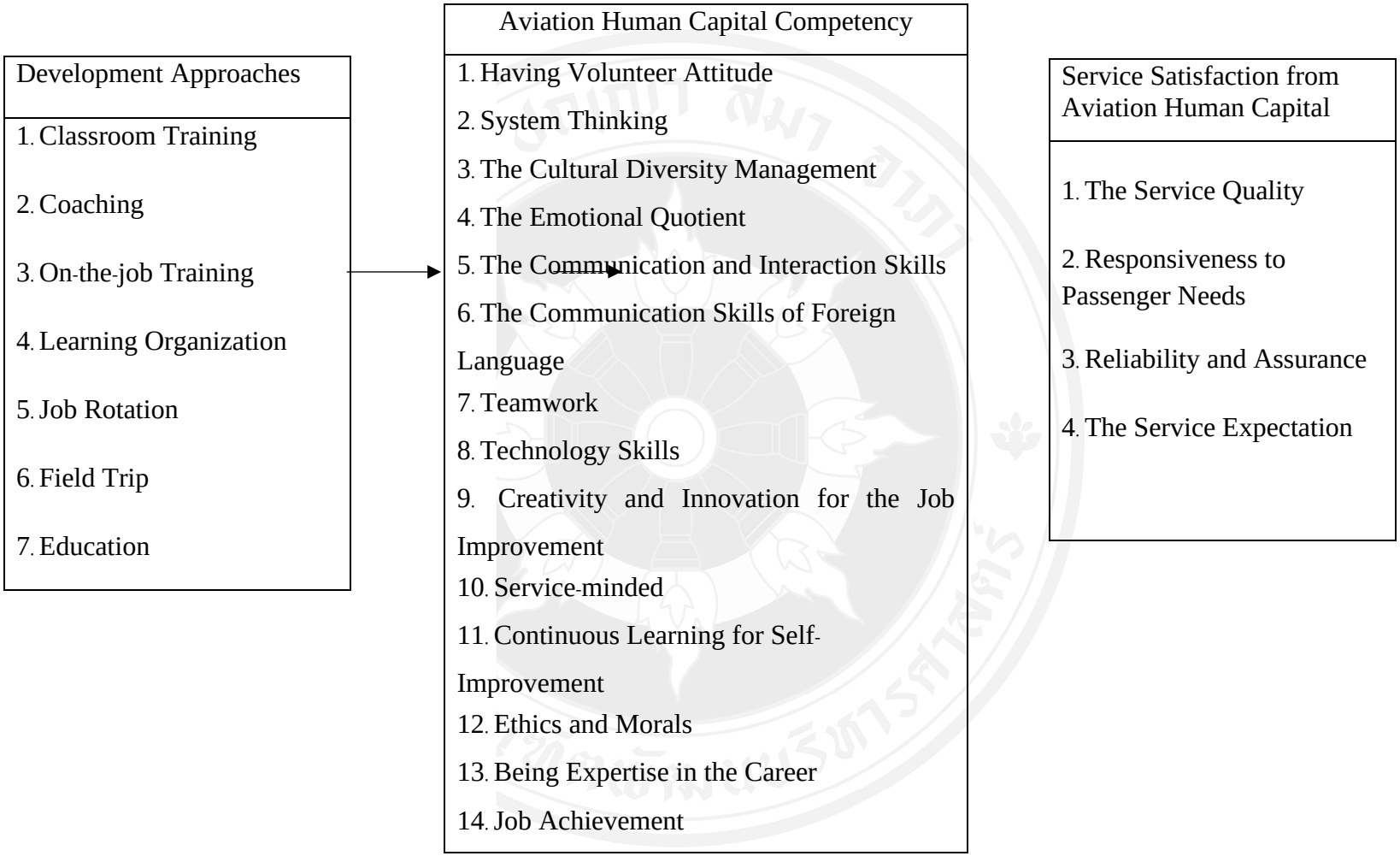


Figure 3.2 Research Conceptual Framework for Aviation Human Capital Development: Ground Service Officer as a Case

3.2 Research Variables

Table 3.1 Sources of Independent Variables

Human Capital Development Variables	**Scholars**									
	Dreher and Dougherty (2001)	Swanson and Holton III (2009)	Crawshaw et al. (2014)	Nadler and Nadler (1991)	Noe et al. (2012)	Burke (2014)	IATA (2017)	Prawet Maharatsakul (2013)	Sujittra Tananan (2014)	Ploy Suebvises (2018)
1. Classroom Training	✓	✓	✓	✓	✓	✓				
2. Coaching		✓					✓	✓	✓	✓
3. On-the-job Training		✓					✓	✓		
4. Learning Organization		-	-	-	-	-	-	-	-	-
5. Job Rotation							✓		✓	✓
6. Field Trip									✓	✓
7. Education		✓	✓						✓	

Human Capital Development Variables	**Scholars**									
	Boonkong (2006)	Dale (1970)	Tissana Kaemanee (2012)	Marquardt (2002)	Agryris (2005)	Hoy and Miskel (2005)	Senge (2006)	Gilley et al. (2002)	O' Hair et al. (2011)	Werner and DeSimone (2009)
1. Classroom Training	-	-	-	-	-	-	-	-	-	-
2. Coaching	-	-	-	-	-	-	-	-	-	-
3. On-the-job Training	✓	✓	✓				✓	✓		
4. Learning Organization				✓	✓	✓	✓			
5. Job Rotation										✓
6. Field Trip	-	-	-	-	-	-	-	-	-	-
7. Education								✓	✓	

Table 3.2 Sources of Dependent Variables

Human Capital Competency Variables	**Scholars**									
	Dreher and Dougherty (2001)	Boonkong (2006)	Gardner (2008)	Chira Hongladarom (2012)	Bohlouli et al. (2017)	Pokpong and Supanat (2013)	Soland et al. (2013)	Prawet Maharatsakul (2013)	Worawan Plikhamin (2018)	Zabit (2010)
1. Having Volunteer Attitude	✓	✓	✓					✓		
2. System Thinking			✓	✓	✓	✓	✓		✓	✓
3. Cultural Diversity Management				✓						
4. Emotional Quotient									✓	
5. Communication and Interaction Skills					✓	✓				
6. Communication Skills in Foreign Language						✓			✓	
7. Teamwork					✓	✓			✓	
8. Technological Skills				✓	✓	✓				
9. Creativity and Innovation for the Job Improvement				✓	✓		✓	✓	✓	✓

Human Capital Competency Variables	**Scholars**									
	Werner and DeSimone (2009)	Spencer and Spencer (1993)	Bakhshi et al. (2017)	Conklin (2013)	Türeli et al. (2019)	Wattanacharoensil and Yoopetch (2012)	Piraporn Witoorut (2020)	Zeithaml et al. (2018)	Langes and Piercy (2012)	Wirtz and Lovelock (2016)
1. Having Volunteer Attitude	-	-	-	-	-	-	-	-	-	-
2. System Thinking	-	-	-	-	-	-	-	-	-	-
3. Cultural Diversity Management	✓	✓	✓	✓	✓					
4. Emotional Quotient		✓		✓			✓	✓		
5. Communication and Interaction Skills	✓					✓	✓	✓	✓	
6. Communication Skills in Foreign Language						✓	✓			
7. Teamwork	✓	✓		✓						✓
8. Technological Skills				✓						
9. Creativity and Innovation for the Job Improvement	-	-	-	-	-	-	-	-	-	-

Human Capital Competency Variables	**Scholars**									
	Wirtz and Lovelock (2016)	Spencer and Spencer (1993)	Boonkong (2006)	Boonton Dockthaisong (2008)	Bohlouli et al. (2017)	Gardner (2008)	Kuhn and Porter (2011)	Prawet Maharatsakul (2013)	Worawan Plikhamin (2018)	Luhn (2016)
10. Service-minded	✓				✓			✓		
11. Continuous Learning for Self-Improvement							✓			✓
12. Ethics and Morals			✓	✓		✓			✓	
13. Being Expertise in the Career		✓		✓	✓					
14. Job Achievement				✓	✓					

Human Capital Competency Variables	**Scholars**									
	Kotler and Armstrong (2014)	Marquardt (2002)	Agryris (2005)	Dawood et al. (2015)	Senge (2006)	B. E Becker and Huselid (2006)	Mweru and Muya (2016)	S. G. Becker (1993)	Yadav and Agarwal (2016)	Manninen and Viitala (2007)
10. Service-minded	✓							✓		✓
11. Continuous Learning for Self-Improvement		✓	✓	✓	✓				✓	
12. Ethics and Morals	-	-	-	-	-	-	-	-	-	-
13. Being Expertise in the Career	-	-	-	-	-	-	-	-	-	-
14. Job Achievement							✓			

Table 3.3 Sources of Satisfaction Variables

Satisfaction Variables	Scholars									
	Zeithaml et al. (2018)	Parasuraman et al. (1985)	Wirtz and Lovelock (2016)	Korczynski (2002)	Kumar and Kumar (2019)	Ali et al. (2015)	Boyatzis (2008)	Sricharoenpramong (2018)	Tsafarakis, Kokotas, and Pantouvakis (2018)	Kozak et al. (2003)
1. Service Quality	✓	✓	✓	✓						
2. Responsiveness to Passenger Needs		✓			✓	✓		✓	✓	✓
3. Reliability and Assurance	✓	✓	✓				✓	✓		
4. Service Expectation	✓	✓	✓	✓						

3.3 Hypotheses

1) The aviation human capital development approaches, human capital competency, and the service satisfaction receive from aviation human capital of full-service airlines and low-cost airlines are different.

2) The aviation competencies: in having volunteer attitude, system thinking, cultural diversity management, emotional quotient, communication and interaction skills, communication in foreign language, teamwork, technological skills, creativity and innovation for the job improvement, service-minded, continuous learning for self-

improvement, ethics and morals, being expertise in the career, and job achievement affecting to the satisfaction of service receiver from aviation human capital.

3) The human capital development approaches: classroom training, coaching, on-the-job training, learning organization, job rotation, field trip, and education affecting the aviation human capital to create passengers' satisfaction.

3.4 Operational Definitions

Table 3.4 Definition of Independent Variables Human Capital Development Approaches

Human Capital Development Approach	Operational Definition	Key Indicators
1. Classroom Training refers to a study that is planned to improve the competency, skills, knowledge, and behavior of airline staffs for aviation operations that the organization needs in current position, or to prepare for a new position in the future	Training is conducted in the classroom by the experts transferring knowledge and practical work, simulation in the operation and set up a group discussion for learning together.	The airlines are transferring knowledge and experiences in actual work by specialized experts, creating simulation situations during training in the classroom, and managing group discussions for collaborative learning.
2. Coaching refers to the development that enhances the capability of the airline staffs in knowledge, and skills that the organization needs to improve work performance at a personal, team, and organization level from coaching, mentor, supervisor, subordinate	The airline has a mentoring system for coaching and supervising the actual training, supervised by supervisors, as well as providing a coaching system by a group of staff who performing the task together.	The airlines are establishing a coaching system for teaching, supervision, practice by supervisor closely, as well as, implement the coaching by a group of staff who working together

Human Capital Development Approach	Operational Definition	Key Indicators
3. On-the-job Training refers to the developmental learning from the real practice of the airline staff that focuses on the experience in various situations, according to the actual situation and problems, allowing the learner to develop the skills necessary to work, and critical thinking.	The airline encourages employees to exchange, learn from the problems, analyze, and solve problems that occur from real operations by creating learning and exchanging opinions, critiques from the situation.	Airlines allow employees to learn from real situation, learning focusing on problem-solving from the job, and the learning and exchanging critical opinions from the job
4. Learning Organization refers to the organization has expanded its capacity on a personal, team, and organization level. It is an airline organization that has continuous learning and changes for its success. By the use of technology to support the learning.	Airlines are using technology for learning, where employees can learn from electronic media anytime, anywhere when they need it, and media learning systems can also be interacting with colleagues in the same organization related to work.	Airlines are creating job learning from electronic media within the organization (Intranet), creating network-based learning in an organization, and creating lessons for learning anywhere, anytime from the organization's website

Human Capital Development Approach	Operational Definition	Key Indicators
5. Job rotation refers to the changing duties of ground service officer to work in other departments including; to work in other offices in the same position to learn new duties, augmenting potential, knowledge, expertise, and new skills. Or to join different working group in the organization to learn and understand colleagues in various departments, including building good friendships.	The airline has a development system for staff by shifting duties to different departments in the organization and working in the same department, but changing the duties of daily operations, including the same work but different locations to have the opportunity to learn. increase skills from different situations in different contexts and also increase knowledge and service capabilities	Airlines implement the duty rotation of services in different departments to increase service skills more widely, job rotation of the same type but in different contexts to increase skills in different situations, and the rotation of different jobs in order to create a professional learning in the service.

Human Capital Development Approach	Operational Definition	Key Indicators
6. Field trip refers to the organization gives the employees opportunity to study at the headquarters airports that the airline operates in both domestic and international including, a study visits in a related business organization, and an organization that is recognized for excellence in service. To gain new experiences, promote learning, creativity, management skills.	Airlines encourage employees to learn at the headquarters of the airlines, and airlines partners which has reputation for excellent service, including sending employees for a study visit from leading service organizations both domestically and internationally to increase staff expertise in the work.	Airlines deploy a study visit in an airline alliance that is excellent in the services domestically, the study trips of leading companies in the country for learning and adaptation, and the study trips at leading companies in foreign countries to create job expertise

Human Capital Development Approach	Operational Definition	Key Indicators
7. Education refers to the learning through the educational system with a plan that focuses on the future work of the learner. It is the development of abilities, attitudes, behaviors based on values and morality in society, which is a transfer of experience from generation to generation as a basis for careers and expanding knowledge in management, problem solving and responsibility. By receiving financial support from the organization, which will help strengthen the organization's engagement, increase the potential for the development of staff as an organization's capital.	The airline gives employees the opportunity to learn increasing their qualifications to a higher level in formal educational system within the country. Including participating in additional short courses related to the job and education courses from the International Air Transport Association (IATA) to increase skills, knowledge, capabilities and change employee behavior.	Airlines enhance the education to increase qualifications in the professional working field from institutions within the country, support additional studies certificate program enhancing skills from professional associations, and additional studies in related work from domestic and foreign institutions

Table 3.5 Definition of Dependent Variables Human Capital Competencies

Human Capital Competencies	Operational Definition	Key Indicators
1. Having Volunteer Attitude refers to a good-hearted human capital, having mercy, responsibility, able to coordinate, adapt, and work with others, taking into account of public interest.	The ground service officers are enthusiastic and ready to help passengers all the time. Dedicated to work regardless of personal interests and willing to provide good service.	The staffs are enthusiastic in helping others all the time, working with the primary interest in mind for others, and willingness to provide service at all times
2. System thinking refers to human capital who has ability to use quantitative and qualitative skills to apply in problem solving by analyzing according to the principles based on cause and effect that have a high impact on performance And can see the causes, the consequences, and can divide the complex problems systematically	Ground service officers who are knowledgeable, skilled and able to think critically about the consequences of their actions. Having the ability to reason in analytical thinking step by step and can understand the relation of the problem to find a correct solution	Airlines' employees are having the knowledge and skills in analysis, relating to work and the consequences including the ability to think critically and reasonably, having a holistic analysis of working system to determine direct solutions of the problems.

Human Capital Competencies	Operational Definition	Key Indicators
3. The cultural diversity management refers to human capital that has an understanding of differences cultures and able to adapt, understand, as well as, can create a network to be a social capital that will be a part of organizational development.	A ground service officer who is knowledgeable, and understanding various cultural differences and being able to manage client cultural differences with understanding. As well as, the ability to apply passenger services from different countries with different cultures.	Staffs are having knowledge of diverse cultural set, the ability to handle and manage cultural differences in the workplace, and ability to adapt the services in line with cultural differences.
4. Emotional quotient refers to human capital with a positive attitude. optimistic and ready to help the client to the best of their ability. Being able to control their emotions by focusing on working. Being flexible, adaptable and able to work under pressure situations.	Ground service officers who are able to control their emotions under pressure from working. And knowing their frustration and adjusting emotions to be in accordance with friendly service by delivering honesty and hospitality to passengers.	Staffs are having the ability to build relationships and friendliness to clients, the ability to handle and manage cultural differences in the workplace, and the ability to adapt the services in line with cultural differences

Human Capital Competencies	Operational Definition	Key Indicators
5. The communication skills refers to human capital that has the ability to use verbal language, including speaking, reading, listening and writing. And ability to use nonverbal language which is the language that expresses from face and body. As well as being able to read the gestures of the client. Able to use persuasive communication and build relationships with clients.	Ground service officers who have the art of speaking, negotiating in a graceful manner, suitable for both verbal and nonverbal language. Being a good speaker and listener, knowing the use of accents and speech spacing. Make eye contact with the other person to show the intention of listening to the passengers' problems.	Airlines' staffs are able to communicate in both spoken and body language, having the speaking techniques and being a good listener, and having the knowledge and skills in two-way communication.

Human Capital Competencies	Operational Definition	Key Indicators
6. The communication in foreign language refers to human capital that has English communication skills on listening, speaking, reading, and writing fluently. Eloquently with confidence in accordance with the standards accepted by the aviation industry to help deliver excellent and efficient service.	Ground service officers who are able to communicate in English with confidence. fluently, understanding of what passenger's needs, the problem issues that are related to the airline operations. The ability of English communication is in accordance with the basic and high standards accepted by the airline, including the ability to communicate in a third language at a fluent level	Airlines' staffs are able to communicate, understand English correctly, able to communicate third language fluently at least one or two language, and able to communicate of foreign language at basic level and advance level.

Human Capital Competencies	Operational Definition	Key Indicators
7. Teamwork refers to human capital who collaborates and can work as a team, or a group. Accepting opinions of others, able to be both a leader and a follower. Having a good relationship within the team that help achieve tasks and maintain relationships with clients and team.	Ground service officers who have good attitudes towards teamwork, cooperate willingly when requested or offer to help friends in the same team, responsible for all actions taken together as a team, honor in accepting opinions of team members.	Airlines's workforces are having good attitude towards teamwork and cooperation, mutual responsibility in the work team, and express of honor and acceptance of the team's opinions.

Human Capital Competencies	Operational Definition	Key Indicators
8. Technology skills refers to human capital who has digital literacy, technology skills that beneficial for working. This will bring the competitiveness of the organization. Facilitating service for customers, and creating impressive experience for clients. And who is able to access the data, critical assessment of data accuracy.	Ground service officers who are information technology savvy for active operations, and are able to advise passengers on the use of information, deliver airline services through information technology, including to adapt to work and problem-solving assignments quickly and efficiently.	Employees of airlines are having a savvy knowledge and skills using technology for job, able to apply technology for responsible task, and to provide suggestion for passenger using information technology.
9. Creativity and innovation for the Job improvement refers to human capital who is able to think outside the box creatively, with talent, ingenuity, and analytical thinking in service processes, new service innovations, understand the needs of customers to facilitate the clients. And able to manage the change.	A creative ground service officers, providing new forms of service delivered to passengers beyond the expectations of clients according to the situation. And able to use the understanding of service needs of clients to adjust the service to be in line with on-site problem resolution in a timely manner.	Airlines' employees are having creative idea to improve better service, able to innovate for service delivery according to the situation, and able to create and change the work to be in line with the on-site problem resolution in a timely manner.

Human Capital Competencies	Operational Definition	Key Indicators
10. Service-minded refers to human capital who know for the customer needs from the questions, complaints and wants, along with finding a solution to the problem. Providing feedback to customers and supervisor. Including who has good personality, willing to serve exceeding customer expectations, polite, detail-oriented, and using humor while interacting with customers.	A ground service officers who are committed to courteous service to passengers with attentive care, which can be sensed that there is a willingness to provide services from the heart, including being aware that good service will affect the value of the organization.	The ground staffs are express and provide the service from the within, provide the service with politeness, courteous and caring for passengers all the time, and having the awareness of providing valuable service to clients.
11. Continuous learning for self-improvement refers to human capital that is dedicated to self-development. Always seeking new knowledge, keep up with the changes in the social, economic, cultural, industrial and future environment for career advancement.	The ground service officers who demonstrated their enthusiasm, and willingness to learn about tasks. Create a network of knowledge exchanges in the same professional field and different professions, including seeking knowledge from electronic media for self-improvement.	The ground staffs are always concentrating and willing to learn responsible task, sought of learning about job, duties from electronic media continuously for self-development, knowledge sharing in the same or different careers to increase professional skills.

Human Capital Competencies	Operational Definition	Key Indicators
12. Ethics and morals refers to the human capital who has legitimacy as the basis for action. Having Morals and ethics, honest, do not take advantage of others, having truth, sacrifice, high responsibility that lead the organization to prosperity.	Ground service officers who perform their duties with honesty. do not cheat, or taking advantage from colleagues, and work with morality, ethics in their careers by providing equal and fair service at all levels.	All staffs are adhering and comply with professional ethics and morals in the workplace, provide the service to clients equally, and being honest and integrity in the profession.
13. Being expertise in the career refers to human capital who consists of higher knowledge about duties, process, working system. The ability to use the information available with different solutions. Being careful to prevent errors and work efficiently and effectively.	A ground service officers who specialize in careers, consisting of knowledge related to their duties, rules and regulations, both domestically and internationally. And develop skills in accordance with key indicators on knowledge and duties on a regular basis, Performing the standard of operation according to the organization's regulations, including knowledge enhancement from outside the organization and within the organization	The ground service officers are keen to development skill to become an expert in the job professionally, knowledge development from various channels, both inside and outside the organization, and performing the assigned task according to the international standards.

Human Capital Competencies	Operational Definition	Key Indicators
14. Job achievement refers to human capital with skills, knowledge, expertise. And the qualities that were carried out through practice. The use of resources that are physically and mentally dedicated to achieving the organization's goals.	A ground service officers who commit to achieve their goals, when assigned to a job or work by learning from other departments. There is a dedication both physically and mentally to achieve the results of the assigned work successfully.	The ground staffs are having a focus mind for the job completement, concentrate on the service goals to strive for success, and job commitment every time has been assigned to achieve for success.

Table 3.6 Definition of Dependent Variables: Satisfaction

The Satisfaction Variables	Operational Definition	Key Indicators
1. Service quality refers to service that added value to products and services, which create satisfaction to clients, response to customers' needs, and can be measured by the reliability and trustworthy, responsiveness of service provider. The quality of goods, the trust in knowledge and ability of employees.	A ground service officers who provide service to passengers, having good knowledge about the products and services of the airline, able to explain to the client thoroughly. And able to fix problems quickly which will affect the satisfaction of clients.	The ground staffs are providing the accurate and complete of the service information, speed in problems solving, and having completeness of tools and equipment for the services.

The Satisfaction Variables	Operational Definition	Key Indicators
2. Responsiveness to passenger needs refers to the reaction of employees in communicating, delivering of goods and services efficiently. The service process is accurate, meticulously and help customers. Services with the attention to details, as per the customer's requirements.	Ground service officers who have a good understanding of the customers' needs, considerate, and attentive to clients. Whom always ready to deliver passenger support services.	The ground staffs are ready for passenger service at all times, empathy to passengers and detail-oriented, and providing assistance and receiving answers and recommendations correctly and responsibly.
3. Reliability and Assurance refers to the service provider who has thorough knowledge of the service and service processes, with good personality, and grooming, clean, neat, reliable. And able to negotiate, communicate effectively and convince effectively.	Ground service officers who have knowledge, skills, expertise in professional service. The dress code is clean, has a good personality, credibility, and communication skills for customer-centered services.	The ground staffs are express positives communications when deliver the services, having knowledge, skills and expertise in providing professional services, and their personality and grooming look professional.

The Satisfaction Variables	Operational Definition	Key Indicators
4. Service Expectation refers to the perception and expectation of the customers before buying products and services from the organization. And the organization can meet the expectations of the customers, resulting in customers' satisfaction, customers loyalty. This will deliver the effect on stock value, income of the organization and economy at the macro level.	The airline company is able to deliver the services and products as advertised through various media to meet the expectations of the passengers, resulting in the satisfaction of the passengers.	The service standard of ground staffs meets the customer's expectation, and the level of satisfaction for the service received.

3.5 Unit of Analysis, Target Population and Samplings

The unit of analysis and population are as follow:

1) Unit of analysis are airline employees and passengers who use the full-service airline at Suvarnabhumi Airport, low-cost airline employees and passengers using low-cost airlines at Don Mueang Airport.

2) Population in this research consists of airline staffs, senior executives, managers and supervisors in various departments of the ground operations. In this regard, the determination of the full-service airlines by selecting the airlines have been awarded best airline in the world for 2017 based on Skytrax ranking 20 airlines, which Zhang (2017) provides the information of 20 airlines from first to twentieth as follows: 1) Qatar Airways, 2) Singapore Airlines, 3) All Nippon Airways, 4) Emirates, 5) Cathay Pacific Airways, 6) EVA Air, 7) Lufthansa, 8) Etihad Airways, 9) Hainan Airlines, 10)) Garuda Airlines, 11) Thai Airways, 12) Turkish Airlines, 13) Virgin Australia, 14) Swiss Airlines, 15) Qantas Airways, 6) Japan Airlines, 17) Austrian Airlines, 18) Air France, 19) Air New Zealand, and 20) Asiana Airlines. There are two airlines out of twenty airlines that do not operate to Thailand: Virgin Australia, and Air New Zealand. Hence, the researcher added Bangkok Airways, a private airline operated by Thai, and was voted the best regional airline in 2017 as well. Thus, in total, the target airlines to collect data at Suvarnabhumi Airport are 19 airlines.

The population data collection at Don Mueang Airport consists of senior executives, management, and airline Officer. The objective is to collect data from low-cost airlines registered in Thailand consisting of 1) Thai Air Asia, 2) Thai Lion Air, and 3) Nok Air. These three low-cost airlines have highest market share in Thailand respectively (The Civil Aviation Authority of Thailand, 2017).

3.5.1 Samplings

The samplings for questionnaires distribution, researcher use probability sampling from the designated airlines as following:

1) The systematic sampling was employed in selecting a representative of n units from a population of size N, in which each population unit has the same probability of being selected as samples. The calculating of sample size for the accuracy of the estimation by using the following formula;

$$N = \frac{z^2 P(1-P)}{e^2}$$

Where N = size of the desired sample

Z = Z value at a confidence level of 95%

P = percentage of upcoming events

e = error level

Due to the targeted 19 full-services airlines at Suvarnabhumi Airport (BKK), there are only 152 people, and low-cost airlines serving at Don Mueang Airport (DMK), there are only 3 airlines having targeted sample of 50 people, which is a minimum according to the population Yamane's formula. Therefore, no random sampling was done. The researcher then collected the data with questionnaires along with in-depth interviews of all samples.

2) For passenger sampling, the researcher uses non-probability sampling with convenience sampling. The data is collected 400 passenger who use full-service airlines at Suvarnabhumi Airport, and 400 passengers who use low-cost airlines at Don Mueang Airport, which is according to Taro's sample table at a 95% confidence level (Anchana Na Ranong, 2011). As for the interview samples, the structured in-depth interviews were administered according to the non-probability sampling by applied snowball sampling approach from senior management and department managers, then interview until the answer is received according to the research objectives. The sampling was summarized as shown in table 3.7.

Table 3.7 Saplings

Samplings	**Site**		**Type of Airlines/No. of Sample**		**Instruments**		**Total No.**
	BKK	DMK	Full-Services	Low-Cost	In-depth Interview	Questionnaires	
Airline Executives	✓	✓	19	5	✓		24
Airline Staffs	✓	✓	152	50		✓	202
Passengers	✓	✓	400	400		✓	800

3.6 Research Instruments

In this research, the researcher has studied, researched, reviewed literature and related research works. The purpose is to create a conceptual framework as a guideline for the development of research instrument which are questionnaires and the interview protocol to survey the sample. The research was mainly stress on quantitative, while the qualitative was also conducted to foster the result. Thus, there are two key instruments as following;

1) The instrument used to collect data in this study is the questionnaire. The researcher administered analytical study from the documents, concepts, theories and related research, and then determines them as a conceptual framework. It consists of the independent variables and the dependent variables by defining the operations of each variable and then defining the action definition as a question for both variables. The questionnaire consists of four parts including:

Part 1: Basic information of the respondent as a close-ended question, such as gender, age, education level, income.

Part 2: The question concerning with the aviation human capital development approach

Part 3: The question about the competency including: the competency to perform the task. The close-ended question and rating scale were administered by comparative analysis of attitude and behavior. There are answers to choose from, with a tool called the Likert's Scale Methodology. The criteria define by using the standard deviation to score the equal range of feelings, divided into 5 continuous stages as follows:

5 means highest
4 means high
3 means medium
2 means low
1 means lowest

The interpretation of the 5 levels of importance and satisfaction has the following criteria of consideration from the interval calculation:

The interval equation is

$$\text{The interval} = \frac{\text{highest score-lowest score}}{\text{Number of levels}}$$

$$= \frac{5 - 1}{5}$$

$$\text{The result is} = 0.80$$

Then, the interval scales are as follow;

4.21-5.00 means the respondent perceives at highest level

3.41- 4.20 means the respondent perceives at high level

2.61-3.40 means the respondent perceives at medium level

1.81-2.60 means the respondent perceives at low level

1.00-1.80 means the respondent perceives at lowest level

Part 4: The question consists of the degree of respondent's satisfaction

Part 5: Open-ended question allow respondent to fill out their opinion

2) The second instrument is an interview protocol, researcher employed structure in-depth interview by set specific questions in advance from the conceptual framework to interview the airline's executives. Those are key informants.

3.7 Research Instrument Testing

The research instrument testing, researcher created a questionnaire based on variables from the conceptual framework squeezed by reviewing literature and related theories. The questions were write based on theoretical definitions and operational definitions in determining the indicators of each variable. The quantitative research instrument testing by using reliability test. The researcher used the questionnaires for quantitative research to conduct pretest tests with a total of 30 sets of samples. Then, researcher analyzes the data by using Cronbach's Alpha coefficient test reliability. The result with an alpha value of 0.70 onwards, was considered reliable and can be used with real samples (Vaus, 2002). After that, examining the draft of the questionnaire to examine the words, idioms, sentences, and clarity of the questions in order to be more complete before taking the actual data from the sample group. The reliability of the questionnaire is greater than 0.80 onwards, as shown in table 3.8-3.10. For the theoretical accuracy testing, the form of construct validity is used. The experts are Assoc. Prof. Dr. Denis S. Ushakov; the lecturer at International College; Suan Sunandha Rajabhat University, and the dissertation advisor Assoc. Prof. Dr. Chindalak Vadhanasindhu examine the questions based on the construct validity before delegate the questionnaire.

For the quantitative instrument testing, the experts as mentioned in the questionnaire inspection will also be inspectors. Checking the theoretical validity measure all the contents of the research objectives. The experts studied the conceptual documents and related research both domestically and internationally regarding human capital competency, learning and development. After that, the researcher examined and improved the questionnaire draft. The draft was checked the words, idioms, sentences, clarity of the question. Then it was brought to consult with experts in related academic fields, checking again. It is to be covered the set of all questions in order to meet the needs and the objectives of this research. And modified before using it in the research. In examining the item objective congruency–IOC, researcher proposed to three scholars in human resource management field. In which the number of experts in content validation is appropriate for consideration, the minimum number of acceptable experts must not less than 3 persons. While, the creditability testing of the question will be used to confirm the content between the interview from the following evaluation criteria (Lynn, 1986).

+1 means the question is valid

0 means unsure or unable to decide

- 1 means the question is not valid

The item objective congruency (IOC) equation is as follow:

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

When IOC = the index of validity between the question and objective

ƐR = the sum of the expert opinion

N = number of experts

The index of item- IOC score from the expert's consideration of clarity and suitability of the questions should has IOC equal 0.5-1.0 which mean the questions are valid.

To examine the construct validity to assess the questions information whether the questions are consistent to the requirement of this research. The researcher applied

factor analysis to measure the construct validity by exploratory factor analysis- EFA. This is to reduce the variables by combining the variables which have similar weight scores, and re-grouping the variables set which related to each other. Researcher employed the analysis of statistics ‘Kaiser-Meyer-Olkin-KMO and Bartlett’s Test of Sphericity’ to determine whether the results of the variables are appropriate to analyze the composition or not by considering the r = correlation coefficient. In general, if the KMO value is less than 0.50, it is considered inappropriate for the composition analysis technique. Each of the KMO values is considered as follows:

KMO value 0.90 or higher means data are most suitable.

KMO value 0.80-0.89, means data is appropriate to a high level

KMO value 0.70-0.79, means data are suitable at medium level

KMO value 0.60-0.69, means data is appropriate to a low level

KMO value 0.50-0.59, means data is very least suitable.

KMO value <0.500, means data not suitable (Vaus, 2002)

3.8 Data Collections

1) Data were collected from airline companies by using questionnaires. The station managers, chiefs and deputy chief of airlines from various ground departments, including human resources were distributed. The sample group to collect data is 8 persons from each of 19 airlines operating at Suvarnabhumi International Airport (BKK). Therefore, there were totally of 202 people, divided into 152 full-service airlines and 50 low-cost airlines operating at Don Meaung International Airport (DMK) to analyze the required characteristics of ground service officers, and the most effective development approaches. The qualitative methods were also applied by using in-depth interview.

2) There are a number of passengers using both airports. And there is also uncertainty in the flights schedule and date of operations for each airline. So that, the

sample cannot be determined to specify, therefore the minimum number is used according to the formula of Yamane (Yamane, 1973), which acceptable tolerance at 5% of the sample group. Thus, researcher collects 400 samples at each airport, accounted in total of 800 samples at both airports to delegate questionnaires inquiring about the competency airlines human capital, and the satisfaction of the clients.

3) Data collection from the interview specified the interview questions according to the conceptual framework by open-ended questions. The research experts Assoc. Prof. Dr. Denis S. Ushakov; the lecturer at International College; Suan Sunandha Rajabhat University, and researcher's advisor Assoc. Prof. Dr. Chindalak Vadhanasindhu examine the questions based on the construct validity. After that, the researcher interviewed the executives of airlines companies. Then, ask the interviewee to recommend other persons from different department, who can provide accurate information related to the research content in the human capital development variables, the competencies in aviation until get the answer for research objectives.

In this research, the researcher divided the data collection beginning with the collection of data used in the research by searching the data from various sources in order to be useful in determining the conceptual framework of the study. And formulating the guidelines the questions set. The data has been collected both in qualitative and quantitative from secondary data sources, that is, data from books, academic journals, and the internet. Whereas, the primary data was collected from the sampling group and from the meeting of Thailand Professional Qualification Institute (Public Organization) – TPQI. Researcher was appointed as a working group member to set up the standard professional competency of passenger ground service of Thailand.

The data collected from both type of airlines and passengers of full-service and low-cost airlines at BKK and DMK airports. Thereafter, the factor analysis applied to extract the right competence of ground service officer. The factor analysis score lower than 0.5 is not acceptable.

To collect data on factors affecting learning and learning methods that best suitable for learning, the research design for the questionnaire uses an experimental design as of cross-sectional study or the survey research. It refers to the data was collected only once from airlines' officers at senior level in various department. Those are head of passenger ground service, assistant station manager, head of training and development, senior passenger services, lounges supervisor, customer service supervisor, senior ticket and reservation, and lost and found supervisor.

As for the interview research design, the research designed as a group of people or collectivity design. It is pinned on the top management of airlines, such as chief executive, senior manager, traffic manager, human resource manager, station manager, training and development director, customer relation manager, ticket and reservation manager, and lost and found department head by using in-depth interview.

In order to conduct the research systematically and be able to find the answer to the objectives set. Researcher conducted this research by administering questionnaire and structured in-depth interview. The mixed-method research is complementary each other and fostering the result, closing the gap which might found the deep details from the questionnaire.

3.9 Data Processing and Analysis

Data analysis after the validation, researcher analyzed the data by dividing into two parts which are;

1) Descriptive statistical analysis of frequency, percentage, mean, standard deviation. The Statistical Package for the Social Science–SPSS for Windows was used to analyze the data from questionnaires.

2) Inferential statistical analysis, the researcher applied factor analysis, from the conceptual framework, the researcher used independent t-test to investigate the difference of mean values between two independent samples. Thenceforth, the multiple regression analysis applied to study of the relationship between the dependent

variables to explain the consistency of independent variables X to variable Y, whether the regression can describe relationships well or not.

3) The qualitative data analysis, the researcher collecting the data and analyze from subsection to the majority by induction method in which the causality of the relationship between all data. Then, performing the interpretation in a descriptive style to answer the research objectives.

3.10 Research Variables Design

To make the research systematically, and able to answer the objectives, in this study, the questionnaires and structured in-depth interview techniques were administered to collect data. So that, the two approaches will complement each other filling in the gap of the research. And to find out the depth information, which may not be able to find the answer from the questionnaire, the variables used in this study are as follows:

1) The variables of human capital development in aviation consist of the types to develop aviation personnel to have better performance that is consistent with the work characteristics in order to achieve the passengers' satisfaction.

2) The variables of aviation human capital competencies which exist in each individual to behave and perform the task striving for organizations' success.

3) The satisfaction in airline's services including the satisfaction in various aspect that create passengers' satisfaction. And leading to positive attitude towards the airlines company to return using the service again. As a result, this will generate revenue for the airlines, airports, and other related services that derive from the impressive service from ground service officers.

3.11 Reliability Analysis

The reliability pre-testing, and post-test were conducted for the confidence of the questionnaire. The researchers tested it with Cronbach's Alpha's. The alpha coefficient with an alpha value 0.70 onwards means reliable and able to be used with real samples. The reliability pre-test was conducted before delegate the questionnaire to collect data. While, the reliability post-test was conducted after all data was collected. In this regard, the researcher conducted an overall test of both type of airlines due to the small number of samples from the airline and the same set of questions. And testing the alpha coefficient of Cronbach's Alpha for the passenger questionnaire using the airline service, the researcher conducted the test in general because the questions were the same set of questions as well. The overall result of reliability test was higher than 0.70. The result of the reliability test was shown in appendix B and C.

CHAPTER 4

DATA ANALYSIS AND RESEARCH RESULTS

The data analysis of the study on Aviation Human Capital Development: Ground Service Officer as a Case. The analysis was divided into two parts: the first part was the analysis of the questionnaire consisting of data of sample group from the questionnaire consisting of airline staff at the station manager level, department heads and deputy department heads of ground service providers at Suvarnabhumi Airport, 152 persons, Don Mueang Airport, 50 persons. And a sample of 400 airline users from full-service airlines at Suvarnabhumi Airport and low-cost airlines at Don Mueang Airport, 400 persons. The second part was the analysis of structured in-depth interview from key informants, who were top management of the 20 targeted airlines. Those airlines were full-service ranked by Skytrax. There were 20 persons in total from full-service airlines operating at BKK airport. In addition, there were 5 persons from low-cost airlines operating at DMK. The total numbers of 25 top management for structured in-depth interview. The researcher received the complete data as planned in accordance with the research objectives. In this chapter, the data analysis and research results were divided into 6 sub-section as follow:

4.1 The Data Analysis from the Questionnaire

4.2 Objective Number 1: The Results of the Analysis Comparing the Level and the Differences of Aviation Human Capital Competencies and Passengers' Satisfaction on Ground Service Personnel from the Passengers' Perspective of Full-service Airlines and Low-cost Airlines. (Answers to the Research Questions One and Two)

4.3 Factor Analysis

4.4 Objective Number 2: The Development Approaches Affecting the Competency of Ground Service Officers. (Answers to the Research Question Three)

4.5 Objective Number 3: The Aviation Human Capital Competency of Ground Service Officer that Satisfy the Passengers. (Answers to the Research Question Four)

4.6 Summary

4.1 The Data Analysis from the Questionnaire

The descriptive analysis of data from the questionnaires of full-service airlines' staff at BKK regarding the background of the population studied.

Table 4.1 Number and Percentage of the Respondents' Basic Information of Full-Service Airlines Employees

Basic Information	**Number**	**Percentage**
Full-service airlines	152	100
Total	**152**	**100**
Gender		
Male	65	42.8
Female	87	57.2
Total	**152**	**100**
Age		
21-30 years-old	17	11.2
31-40 years-old	75	49.3
41-50 years-old	39	25.7
51-60 years-old	21	13.8
Total	**152**	**100**

Basic Information	Number	Percentage
Educational level		
Diploma	3	**2.0**
Bachelor degree	91	59.9
Master degree	54	35.5
PhD.	4	2.6
Total	**152**	**100**
Working experience		
Less than 5 years	17	11.2
5 years	6	3.9
10 years	42	27.6
15 years	55	36.2
20 years	4	2.6
More than 20 years	28	18.4
Total	**152**	**100**
Working department		
Ground service	76	50
Ticketing	12	7.9
Lounges	4	2.6
Human resources	4	2.6
Learning & Development	24	15.8
Others	32	21.1
Total	**152**	**100**

Basic Information	Number	Percentage
Job title		
Department manager	16	10.5
Station manager	4	2.6
Department head	12	7.9
Senior staff	48	31.6
Others	32	21.1
Total	**152**	**100**

From table 4.1 the background analysis of 152 full-service airline staff, accounting for 100 percent. The majority of them were female at 57.2 percent, compared with 42.8 percent for males. And the age range is between 31-40 years, or 49.3 percent, followed by age 41-50 years, 25.7 percent. Most of the sampling populations have a bachelor's degree, more than half of the respondents at a rate of 59.9 percent, followed by 35.5 percent of master's degrees. It was found that the most of respondents had 15 years working experience with the rate of 36.2 percent, followed by 10 years of work experience at 27.6 percent. And the working experience for more than 20 years or more at the rate of 18.4 percent, respectively. Half of the respondents work in the ground service department, followed by other departments which the respondents did not disclose the work department of 21.1 percent. Next is the training and development department with the rate of 15.8 percent. For the working positions in the organization, the respondents did not disclose the information at the highest 47.4 percent. Followed by senior airline officers with 31.6 percent.

Based on the above information, it can be concluded that the full-service airline staff who provide information are credible for both female and males as they are educated at the bachelor's and master's degrees. The age range of the respondents

showed the ability in analytical thinking. And with more than ten years of working experience, there is a great deal of insight into airline service. In addition, the majority of them worked in the ground passenger division, which were considered direct users of this study and many of the respondents were senior officers, who considered the data obtained from the questionnaire to be highly reliable.

1) The descriptive analysis of data from the questionnaires from low-cost airlines' staff at DMK regarding the background of the population studied.

Table 4.2 Number and Percentage of the Respondents' Basic Information of Low-Cost Airlines Employees

Basic Information	**Number**	**Percentage**
Low-cost airlines	50	100
Total	**50**	**100**
Gender		
Male	23	46
Female	27	54
Total	**50**	**100**
Low-cost airlines	50	100
Total	**50**	**100**
Gender		
Male	23	46
Female	27	54
Total	**50**	**100**

Basic Information	Number	Percentage
Age		
21-30 years-old	10	20
31-40 years-old	4	8
41-50 years-old	17	34
51-60 years-old	19	38
Total	**50**	**100**
Educational level		
Diploma	6	12
Bachelor degree	29	58
Master degree	11	22
PhD.	4	8
Total	**50**	**100**
Working experience		
Less than 5 years	10	20
5 years	-	-
10 years	-	-
15 years	6	12
20 years	4	8
More than 20 years	30	60
Total	**50**	**100**
Working department		
Ground service	10	20
Ticketing	13	26
Lounges	2	4
Human resources	4	8
Learning & Development	-	-

Basic Information	Number	Percentage
Others	21	42
Total	**50**	**100**
Job title		
Department manager	4	10.5
Station manager	2	2.6
Department head	-	-

Basic Information	Number	Percentage
Senior staff	9	18
Others	35	70
Total	50	**100**

From Table 4.2, background analysis of airline staff, 50 respondents working on low-cost airlines, accounting for 100 percent. The vast majority of them were female at 54 percent compared to 46 percent of males and 38 percent in age range 51-60 years-old followed by age between 41-50 years-old, 34 percent. More than half of the respondents studied at the bachelor's degree, or 58 percent and master's degree at 22 percent. And it was found that the work experience of the respondents had more than 20 years with the rate of 60 percent. Followed by those who have less than 5 years of work experience at the rate of 20 percent and work experience of 15 years or more at the rate of 12 percent, respectively. Nearly half of the respondents work in other departments, in which the respondents did not disclose the work department. Followed by the ticketing department with the rate of 26 percent, followed by the passenger department with the rate of 20 percent. For the working position, the highest number of non-disclosure respondents were at work in the organization, followed by senior staff at 18 percent.

From the above data, it can be concluded that low-cost airline staff who provide information are reliable because most of them have the qualifications and the

age range which can be logical to answer questionnaires with an undergraduate and master degree level education, the age range between 45-60 years old. The samplings are considered to be of high maturity and with more than ten years of work experience. This is a large group of samples that can provide a good insight into airline service. Therefore, it can be considered that the information obtained from the questionnaire is reliable.

2) The descriptive analysis of data from the questionnaires of full-service airlines' passengers at BKK regarding the background of the population studied.

Table 4.3 Number and Percentage of the Respondents' Basic Information of Full-Service Airlines Passengers

Basic Information	**Number**	**Percentage**
Gender		
Male	182	45.5
Female	218	54.5
Total	**400**	**100**
Age		
18-23 years-old	40	10
24-29 years-old	114	28.5
30-35 years-old	81	20.3
36-41 years-old	39	9.8
42-47 years-old	86	21.5
Others	40	10.0
Total	**152**	**100**

Basic Information	Number	Percentage
Educational level		
Diploma	63	15.8
Bachelor degree	159	39.8
Master degree	132	33.0
PhD.	15	3.8
Educational level		
Diploma	63	15.8
Others	31	7.8
Total	**400**	**100**
Occupation		
Students	45	18
Corporate employees	92	36.8
Government officers	35	14
State enterprise employees	18	7.2
Private business	27	10.8
Others	33	13.2
State enterprise employees	18	7.2
Total	**250**	**100**
Income/THB		
Less than 15,000	33	13.2
15,000-25,000	41	16.4

Basic Information	Number	Percentage
26,000-36,000	51	20.4
37,000-47,000	32	12.8
48,000-58,000	33	13.2
59,000-69,000	26	10.4
70,000-80,000	4	1.6
More than 80,000	30	12.0
Total	**250**	**100**
Purpose of journey		
Holidays	100	25
Travelling	196	49
Visiting-friends and relatives (VFR)	67	16.8
Education	21	5.3
Others	16	4
Total	**400**	**100**

From Table 4.3, the analysis of the passengers' background data who use the full-service airlines are mostly female, 218 persons, representing 54.5 percent. Followed by males, accounting for 45.5 percent. The highest number of aged ranges between 24-29 years, followed by age range 42-47 years. And later in between 30-35 years, representing 28.5, 21.5 and 20.3 percent, respectively. Most of them hold a bachelor's degree with 159 persons, followed by a master's degree with 132 persons and a diploma level of 63, representing 39.8%, 33.0 and 15.8% respectively. The respondents were employed in corporate employees, the number was 92, followed by the number of students 45, government officers, 33 people, representing 36.8%, 18.0 and 14.0%,

accordingly. The monthly income of respondents were 26,000-36,000 baht, with a total of 51 people, followed by 15,000-25,000 baht with a total of 41 people and later has a monthly income 48,000-58,000 baht and less than 15,000 baht per month were the same at 33 people, representing 20.4%, 16.4 and 13.2%, respectively. The objectives of most of traveling for tourism, 196 persons, followed by leisure travel, 100 people, visiting-friends and relatives 67 people, 49.0%, 25.0% and 16.8% reciprocally.

From the above data, it can be concluded that the respondents using the full-service airline providing the information were credible for both female and male because they were employed. They were employed and be an educated person at both the diploma level, bachelor's and master's degrees. However, the sample group of respondents with age group demonstrated maturity in analytical thinking in providing information. And contains work experiences, and learning that requires a variety of skills to achieve the goals, sources can be trusted from a sample of respondents.

3) The descriptive analysis of data from the questionnaires of low-cost airlines' passengers at DMK regarding the background of the population studied.

Table 4.4 Number and Percentage of the Respondents' Basic Information of Low-Cost Airlines Passengers

Basic Information	**Number**	**Percentage**
Gender		
Male	156	39
Female	244	61
Total	**400**	**100**

Basic Information	Number	Percentage
Age		
18-23 years-old	50	12.5
24-29 years-old	129	32.3
30-35 years-old	107	26.8
36-41 years-old	43	10.8
42-47 years-old	46	11.5
Others	25	6.3
Total	**400**	**100**
Educational level		
Diploma	82	20.5
Bachelor degree	200	50
Master degree	82	20.5
PhD.	10	2.5
Others	26	6.5
Total	**400**	**100**
Occupation		
Students	62	23
Corporate employees	73	27
Government officers	41	15.2
State enterprise employees	19	7
Private business	47	17.4
Others	28	10.4
Total	**270**	**100**

Basic Information	Number	Percentage
Income/THB		
Less than 15,000	65	24.1
15,000-25,000	76	28.1
26,000-36,000	60	22.2
37,000-47,000	10	3.7
48,000-58,000	16	5.9
59,000-69,000	6	2.2
70,000-80,000	11	4.1
More than 80,000	26	9.6
Total	**270**	**100**
Purpose of journey		
Holidays	130	32.5
Travelling	210	52.5
Visiting-friends and relatives (VFR)	33	8.3
Education	27	6.8
Others	-	-
Total	**400**	**100**

From Table 4.4, a background analysis of the low-cost airline passengers at Don Mueang Airport, the majority respondents were 244 females, representing 61.0 percent followed by males, accounting for 39.0 percent. Most of them were aged between 24-29 years, 129 people, followed by the age of 30-35 years, 107 people and

later in the age range between 18-23 years, 50 people, representing 32.3 percent, 26.8 and 12.5 percent orderly. There are 200 undergraduate students, followed by diplomas and master's degrees, with the same number of 82 people, and 26 people were not identified, accounting for 50.0%, 20.5 and 6.5% respectively. The largest number worked as a corporate employees 73 person, followed by the number of students 62 people and private business with 47, accounting for 27.0, 23.0 and 17.4 percent, commonly. The respondent's monthly income of 15,000-25,000 baht, with the highest number of 76 people, followed by monthly income less than 15,000 baht per month with 65 people, and 26,000-36,000 baht per month, 60 people, representing 28.1 percent, 24.1 percent and 22.2 percent, conjointly. And found that the purpose of travel of respondents who use the low-cost airline services at Don Mueang Airport the most for tourism are 210 people, followed by leisure 130 people, visiting-friends and relatives with the number of 33 people accounted for 52.5 percent, 32.5 percent and 8.3 percent, respectively.

In summary, the data of the respondents who used low-cost airlines at Don Mueang Airport found that most of the passengers were during their working age, which could be shown that the surveyed respondents were capable of assessing questionnaires responses and critiquing. The analytical thinking and qualifications are at a level that can provide reliable information in answering questionnaires for a reason, because they were knowledgeable at the graduate level and were a group of people who were employed in practice. Since, in the workplaces it must always use knowledge, critical thinking, and logic in order to achieve its goals.

Therefore, it can be concluded that the results of the analysis of the respondents, who were full-service airline's staff and low-cost airline's staff, were reliable according to the years of experience working in the aviation industry with more than ten years. This is including the education level and are considered to be those who can provide insights for logical reasoning. For the respondents who used full-service and low-cost airlines were considered reliable in providing information in the survey, for example: by considering the age in the working group, and education level.

Reliability test of questionnaires received from airlines' station manager, department heads and deputy heads of various departments of ground service operations. And passengers at Suvarnabhumi Airport and Don Mueang Airport to test the reliability of the meter as follows:

4.2 Objective number 1: The Results of the Analysis Comparing the Level and the Differences of Aviation Human Capital Competencies and Passengers' Satisfaction on Ground Service Personnel from the Passengers' Perspective of Full-Service Airlines and Low-Cost Airlines. (Answers to the Research Questions One and Two)

Table 4.4 Comparing the Mean and Level of Aviation Human Capital Development Approaches of Full-Service Airlines and Low-Cost Airlines from the Airlines' employees Opinion

Development Approaches	Full-Service Airlines		Development Approaches	Low-Cost Airlines	
	Mean	SD		Mean	SD
1. Job rotation	4.55	.624	1. Classroom Training	4.59	.694
2. Field trip for learning	4.48	.630	2. Field trip for learning	4.56	.450
3. Classroom Training	4.45	.663	3. Education	4.53	.536
4. Education	4.43	.740	4. Job rotation	4.48	.491
5. Learning organization	4.38	.641	5. Learning organization	4.38	.549

Development Approaches	Full-Service Airlines		Development Approaches	Low-Cost Airlines	
	Mean	**SD**		**Mean**	**SD**
6. On-the-job training	4.16	.677	6. On-the-job training	4.18	.714
7. Coaching	3.76	.761	7. Coaching	3.75	.607
Total	**4.31**	**.545**		**4.35**	**.428**

From Table 4.5, it was found that the respondents of full-service airlines' employees saw that the approach for developing ground service personnel with the most appropriate level were: job rotation with a mean of 4.55 and a standard deviation of 0.624. Following by a field trip for learning with the mean of 4.48 and the standard deviation of 0.630, the classroom training with the mean of 4.45 and the standard deviation of 0.663. The following are education to further qualifications, being a learning organization, on-the-job training, and coaching. The mean values were 4.43, 4.38, 4.16 and 3.76 and the standard deviation was 0.740, 0.641, 0.677, 0.761, respectively. On the other hand, the respondents of low-cost airlines found that the most appropriate approaches for ground service personnel development were: the classroom training had an average value of 4.59 and a standard deviation of 0.536. Following by the field trip for learning were averaged 4.56 with a standard deviation of 0.450. Next is the education to increase the qualifications with a mean of 4.53 and a standard deviation of 0.491. job rotation, building a learning organization, on-the-job training, and coaching with mean and standard deviations of 4.48 (0.491), 4.38 (0.549), 4.18 (0.714) and 3.75 (0.607), respectively.

In conclusion, respondents, who are full-service staff, said job rotation is the most appropriate approach. Secondly, is a field trip for learning, the classroom training, while to be a learning organization, and education are at the same mean level. In the next order, including on-the-job training and coaching is at the high level, where all developmental approaches are at the highest level. As for low-cost airlines, the staff's opinion highlighted the most development approach was classroom training, followed

by a field trip for learning, education to increase qualifications, job rotation, being a learning organization, on-the-job training. The low-cost employees view that coaching is of the least important when all developmental approaches are compared. So that, all development approaches are at the highest level while coaching and on-the-job training are at high level.

By comparing the opinions of the chief officers and deputy head level on the aviation human capital development approaches of full-service and low-cost airlines, the same opinion is that: classroom training, job rotation, to be a learning organization, field trip for learning, education for additional qualifications at the highest level. On the other hand, on-the-job training and coaching were at a high level.

1) Comparing the mean and the competencies level of full-service and low-cost airlines human capital from a sample of full-service and low-cost airline staffs.

Table 4.5 Comparing the Mean Level of Aviation Human Capital Competencies of Full-Service Airlines and Low-Cost Airlines from the Airlines' Employees Opinion

Aviation Human Capital Competencies	**Full-Service Airlines**		**Aviation Human Capital Competencies**	**Low-Cost Airlines**	
	Mean	**SD**		**Mean**	**SD**
1. Service-minded	4.52	.575	1. Communication and interaction skills	4.80	.397
2. Communication and interaction skills	4.51	.591	2. Cultural diversity management	4.68	.520
3. Job achievement	4.45	.593	3. System thinking	4.64	.624
4. Creativity and innovation for the job improvement	4.43	.505	4. Technological skills	4.57	.556

Aviation Human Capital Competencies	Full-Service Airlines		Aviation Human Capital Competencies	Low-Cost Airlines	
	Mean	**SD**		**Mean**	**SD**
5. Continuous learning for self-improvement	4.40	.618	5. Service-minded	4.56	.468
6. Teamwork	4.39	.673	6. Job achievement	4.53	.491
7. Being expertise in the career	4.38	.610	7. Teamwork	4.52	.551
8. Technological skills	4.36	.690	8. Emotional Quotient	4.47	.736
9. System thinking	4.34	.776	9. Continuous learning for self-improvement	4.43	.541
10. Having volunteer attitude	4.32	.722	10. The communication skills of foreign language	4.41	.556
11. The communication skills of foreign language	4.32	.754	11. Creativity and innovation for the job improvement	4.40	.514
12. Cultural diversity management	4.29	.778	12. Being expertise in the career	4.39	.612
13. Emotional Quotient	4.23	.760	13. Having volunteer attitude	4.23	1.07
14. Ethics and morals	4.08	.661	14. Ethics and morals	4.05	.577
Total	**4.36**	**.548**		**4.48**	**.403**

From table 4.6 shows the comparison of mean level of human capital competencies between full-service and low-cost airlines. The opinions of the sample group of full-service airline staff found that the most appropriate level of ground staff competencies in delivering services to satisfy the service receivers were: service-minded with a mean of 4.52 and a standard deviation of 0.575. Followed by the communication and interaction skills with the mean of 4.51, the standard deviation of 0.591, the job

achievement with mean of 4.45 with a standard deviation of 0.593, the creativity and innovation for the job improvement with the mean of 4.43, the standard deviation of 0.505, the continuous learning for self-improvement, teamwork, being expertise in the career, technological skills, and system thinking with mean of 4.40, 4.39, 4.38, 4.36, and 4.34 with a standard deviation of 0.618, 0.673, 0.610, 0.690, and 0.776 accordingly. As for the competencies which the full-service airline staff considered as having the least suitable level were ethics and morals with a mean of 4.08 and standard deviation of 0.661.

On the other hand, respondents of low-cost airlines' workforce found that the most appropriate ground staff competencies were: communication and interaction skills with the mean of 4.80, the standard deviation of 0.397, followed by the cultural diversity management had a mean of 4.68 with a standard deviation of 0.52. Next, is the system thinking has a mean of 4.64 and a standard deviation of 0.624, technological skills, service-minded, job achievement, teamwork, emotional quotient, with a mean of 4.57, 4.56, 4.53, 4.52, and 4.47, and standard deviation 0.556, 0.468, 0.491, 0.551, and 0.736 reciprocally. Whereas, ethics and morals have the lowest mean among other competencies at 4.05 and standard deviation 0.577.

By comparison, the opinions of the supervisor and deputy supervisors of full-service and low-cost airlines' workforce are of the same opinion that having volunteer attitude, system thinking, cultural diversity management, emotional quotient, communication and interaction skills, the communication skills of foreign language, teamwork, technological skills, creativity and innovation for the job improvement, being expertise in the career, and job achievement, are at highest level, while the ethics and morals was at high level.

Table 4.6 Comparing the Mean Level of Aviation Human Capital Competencies of Ground Service Between Full-Service Airlines and Low-Cost Airline from Passengers' Perspective

Aviation Human Capital Competencies	Full-Service Airlines		Aviation Human Capital Competencies	Low-Cost Airlines	
	Mean	SD		Mean	SD
1. Service-minded	4.60	.522	1. Ethics and morals	4.66	.493
2. Ethics and morals	4.59	.550	2. Service-minded	4.64	.465
3. Technological skills	4.53	.573	3. Creativity and innovation for the job improvement	4.56	.515
4. Creativity and innovation for the job improvement	4.50	.581	4. Technological skills	4.55	.500
5. Continuous learning for self-improvement	4.46	.552	5. Continuous learning for self-improvement	4.49	.500
6. Having volunteer attitude	4.35	.583	6. Having volunteer attitude	4.38	.555
7. The communication skills of foreign language	4.28	.586	7. The communication skills of foreign language	4.30	.546
8. Communication and interaction skills	4.25	.619	8. Job achievement	4.27	.579
9. Being expertise in the career	4.24	.542	9. Communication and interaction skills	4.27	.569
10. Cultural diversity management	4.23	.536	10. Cultural diversity management	4.24	.508
11. Job achievement	4.21	.661	11. Being expertise in the career	4.23	.529
12. Teamwork	4.09	.685	12. Teamwork	4.12	.676
13. Emotional quotient	3.91	.616	13. Emotional quotient	3.95	.605

Aviation Human Capital Competencies	Full-Service Airlines		Aviation Human Capital Competencies	Low-Cost Airlines	
	Mean	**SD**		**Mean**	**SD**
14. System thinking	3.84	.633	14. System thinking	3.85	.613
Total	**4.29**	**.460**		**4.32**	**.420**

Table 4.7 shows the average of human capital competencies of ground services comparisons between full-service and low-cost airlines. The passengers using full-service airlines at Suvarnabhumi Airport gives the highest level of importance to the competency of the ground services. When considering each aspect, it was found that service-minded had the highest mean of 4.60 and the standard deviation of 0.522. Followed by ethics and morals with a mean of 4.59 with a standard deviation of 0.550, technological skills with a mean of 4.53, standard deviation 0.537, continuous learning for self-improvement, the communication skills of foreign language, communication and interaction skills with a mean of 4.46, 4.35, 4.28, and 4.22, and standard deviation 0.552, 0.583, 0.586, and 0.619 respectively. The sample group found that emotional intelligence was the least important with the mean of 3.91, with a standard deviation of 0.616. While, most of the competencies are at a highest level except for systematic thinking, emotional quotient, teamwork, and job achievement were at high level.

For the sample group of passengers using the low-cost airlines at Don Mueang Airport, the highest priority was on the competency of ethics and morals with the highest mean of 4.66, and the standard deviation of 0.493. Followed by a service-minded with the mean score at 4.64, standard deviation of 0.465. And the next order is the creativity and innovation for the job improvement with a mean of 4.56 and standard deviation of 0.515. The technological skills, continuous learning for self-improvement, having volunteer attitude, the communication skills of foreign language with mean values of 4.55, 4.49, 4.38, 4.30 and standard deviations of 0.500, 0.500, 0.555 and 0.546. While, the job achievement and the communication and interaction skills were at the same mean level 4.27. The sample group found that systematic thinking was the least significant, with a mean of 3.85 and a standard deviation of 0.613.

The results of the analysis from the comparison of passengers' opinions using full-service and low-cost airlines found that there was an opinion on the human capital competencies in ground services that were suitable for the performance of the service the same. Those were the competencies of having volunteer attitude, cultural diversity management, the communication and interaction skills, the communication skills of foreign language, technological skills, creativity and innovation for the job improvement, service-minded, continuous learning for self-improvement, ethics and morals, being expertise in the career, and job achievement at highest important level. Where, teamwork, emotional quotient, and system thinking were at high level.

2) The analysis of the data comparing the mean level of satisfaction between full-service and low-cost airlines based on passenger opinions of receiving human capital ground services.

Table 4.7 Comparing the Mean Level of Satisfaction Between Full-Service and Low-Cost Airlines Based on Passenger Opinions of Receiving Human Capital Ground Services

Passengers' Satisfaction	**Full-Service Airlines**		**Passengers' Satisfaction**	**Low-Cost Airlines**	
	Mean	**SD**		**Mean**	**SD**
1. The service expectation	4.63	.502	1. The service expectation	4.62	.489
2. Responsiveness to passengers' needs	4.59	.531	2. Responsiveness to passengers' needs	4.61	.504
3. The service quality	4.57	.502	3. The service quality	4.61	.504
4. Reliability and assurance	4.56	.509	4. Reliability and assurance	4.59	.477
Total	**4.59**	**.468**		**4.61**	**.449**

From Tables 4.8 shows the average relative satisfaction of full-service and low-cost airlines' passengers. The level of satisfaction of the full-service airlines'

users found that the response to customer expectations had the highest mean average of 4.63 and a standard deviation of 0.502, followed by the responsiveness to passengers' needs at a level mean of 4.59 and a standard deviation of 0.531. The next is the service quality with an average of 4.57 and a standard deviation of 0.502. The reliability and assurance of the full airline have an average of 4.56 and a standard deviation of equal 0.509. It is can be clearly seen that all factors were at the highest level of satisfaction from the service expectation, responsiveness to passengers' needs, service quality, and reliability and assurance. On the other hand, the users of low-cost carriers found the same opinions as full-service users, the service expectation with an average of 4.62 and a standard deviation of 0.489, followed by responsiveness to passengers' needs, the service quality have the same mean 4.61 and standard deviation of 0.485 and 0.504, followed by reliability and assurance with a mean of 4.59 and a standard deviation of 0.477. The highest level of satisfaction is service expectation, followed by responsiveness to passengers' needs, the service quality, and reliability and assurance in every metric.

In summary, passengers who use full-service and low-cost airlines stress the importance of the service satisfaction on the same issues at highest level; in terms of service quality, responsiveness to passengers' needs, reliability and assurance, and service expectations.

As the result revealed that the level of human capital development approaches of both type of airlines staffs' perspective on class room training, job rotation, to be a learning organization, field trip for learning, education for higher capability are at highest level, whereas on-the-job training and coaching are at high level. Meanwhile, the airlines' staffs of both types of airlines found the competencies fit for the ground service position at highest level are: having volunteer attitude, system thinking, cultural diversity management, emotional quotient, communication and interaction skills, the communication skills of foreign language, teamwork, technological skills, creativity

and innovation for the job improvement, being expertise in the career, and job achievement. While, ethics and morals are at high level.

The satisfaction of passenger who use full-service and low-cost airlines are all the same at highest level in terms of service quality, responsiveness to passengers' needs, reliability and assurance, and service expectations.

4.2.1 Hypothesis Testing by Applying Inferential Statistic

The hypothesis testing on the aviation human capital development approaches, human capital competencies, and service satisfaction of passengers towards aviation human capital between full-service and low-cost airlines from the questionnaires data of the airline staffs; manager, deputy, supervisors, and passengers using full-service and low-cost airlines. The result was grouped as follow;

1) The aviation human capital approaches of full-service airlines at Suvarnabhumi Airport and low-cost airlines at Don Mueang Airport are different. Analyzing the opinions of airlines' workforces on the level of station manager, department head, deputy head, and supervisors.

Table 4.8 Analysis of the Differences in Aviation Human Capital Development Approaches from Opinions of Airlines' Employees with Independent t-test

Aviation Human Capital Development Approaches	**Airlines' Workforces**	**n**	**M**	**SD**	**t**	***p***
1. Classroom Training	Full-service	152	4.35	.623	2.551	.112
	Low-cost	50	4.43	.480		
2. Coaching	Full-service	152	4.31	.752	6.875	.009*
	Low-cost	50	4.66	.532		
	Full-service	152	4.51	.591	14.848	.000***
3. On-the-job Training	Low-cost	50	4.80	.397	5.960	

Aviation Human Capital Development Approaches	Airlines' Workforces	n	M	SD	t	*p*
4. Learning organization	Full-service	152	4.45	.607	5.960	.000***
	Low-cost	50	4.30	.403		
5. Job rotation	Full-service	152	4.40	.618	0.82	.775
	Low-cost	50	4.43	.541		
6. Field trip for learning	Full-service	152	4.08	.661	.732	.393
	Low-cost	50	4.05	.577		
7. Education	Full-service	152	4.45	.593	.009	.925
	Low-cost	50	4.53	.491		
Total	**Full-service**	**152**	**4.36**	**.528**	**5.265**	**.023***
	Low-cost	**50**	**4.48**	**.384**		

Note: * 0.05, **0.001, ***0.000 mean difference at significant level

From Table 4.9, the results of the analysis on the differences aviation human capital development approaches between full-service airlines and low-cost airlines shown that classroom training, job rotation, field trip for learning, education have no differences between full-service airlines and low-cost airlines, despite coaching, on-the-job training, and learning organization were different at significant level of 0.009, 0.000. The overall of development approaches from the airlines' employees differed at a significant level of 0.023

As a result, both full-service airlines and low-cost airlines perspective revealed that the classroom training, job rotation, field trip for learning, and education have no differences, but highlighted on coaching, on-the-job training, and to become a learning organization that differed due to the distinct of airline's operating cost.

2) The human capital competency hypothesis testing of full-service and low-cost airlines is different from the opinions of airlines' workforces on the level of station manager, department head, deputy head, and supervisors.

Table 4.9 Analysis of the Differences in Aviation Human Capital Competencies from Opinions of Airlines' Employees with Independent T-test

Aviation Human Capital Competencies	Airlines' Workforces	n	M	SD	t	*p*
1. Having volunteer attitude	Full-service	152	4.23	.722	2.539	.113
	Low-cost	50	4.32	1.07		
2. System thinking	Full-service	152	4.34	.776	5.108	.025*
	Low-cost	50	4.64	.624		
3. Cultural diversity management	Full-service	152	4.29	.778	7.041	.009*
	Low-cost	50	4.68	.520		
4. Emotional quotient	Full-service	152	4.23	.760	.101	.751
	Low-cost	50	4.47	.736		
5. Communication and interaction skills	Full-service	152	4.51	.591	14.484	.000**
	Low-cost	50	4.80	.397		
6. Communication skills of foreign language	Full-service	152	4.41	.556	5.729	.018*
	Low-cost	50	4.32	.754		
7. Teamwork	Full-service	152	4.36	.690	1.460	.228
	Low-cost	50	4.57	.556		
8. Technological skills	Full-service	152	4.36	.690	4.808	.029*
	Low-cost	50	4.57	.556		
9. Creativity and innovation for the job improvement	Full-service	152	4.43	.505	.061	.822
	Low-cost	50	4.40	.514		
10. Service-minded	Full-service	152	4.52	.575	3.612	.059
	Low-cost	50	4.56	.468		
11. Continuous learning for self-improvement	Full-service	152	4.40	.618	.082	.775
	Low-cost	50	4.43	.505		
12. Ethics and morals	Full-service	152	4.08	.661	.732	.393
	Low-cost	50	4.05	.577		

Aviation Human Capital Competencies	Airlines' Workforces	n	M	SD	t	*p*
13. Being expertise in career	Full-service	152	4.38	.610	.024	.876
	Low-cost	50	4.39	.612		
14. Job achievement	Full-service	152	4.45	.593	.009	.925
	Low-cost	50	4.53	.491		
Total	**Full-service**	**152**	**4.36**	**.548**	**6.802**	**.010***
	Low-cost	**50**	**4.48**	**.403**		

Note: * 0.05, **0.001, ***0.000 mean difference at significant level

From Table 4.10, the results of the analysis on aviation human capital competencies between full-service airlines and low-cost airlines employee's perspective shown that having volunteer attitude, emotional quotient, teamwork, creativity and innovation for the job improvement, service-minded, continuous learning for self-improvement, ethics and morals, being expertise in career, and job achievement have no differences. Whereas, the system thinking, cultural diversity management, communication skills of foreign language, and technological skills were different.

3) The human capital competency hypothesis testing of full-service and low-cost airlines is different from the opinions of the passengers.

Table 4.10 Analysis of the Differences in Aviation Human Capital Competencies from Opinions of Airlines' Passengers with independent t-test

Aviation Human Capital Competencies	Passengers	n	M	SD	t	*p*
1. Having volunteer attitude	Full-service	400	4.35	.583	.686	.408
	Low-cost	400	4.38	.551		
2. System thinking	Full-service	400	3.84	.633	.833	.362
	Low-cost	400	3.85	.613		
3. Cultural diversity management	Full-service	400	4.21	.633	.580	.446
	Low-cost	400	4.24	.508		
4. Emotional quotient	Full-service	400	3.91	.616	1.818	.178
	Low-cost	400	3.95	.605		
5. Communication and interaction skills	Full-service	400	4.22	.619	1.304	.254
	Low-cost	400	4.27	.569		
6. Communication skills of foreign language	Full-service	400	4.28	.586	.787	.375
	Low-cost	400	4.30	.546		
7. Teamwork	Full-service	400	4.09	.685	.035	.852
	Low-cost	400	4.12	.676		
8. Technological skills	Full-service	400	4.53	.537	.917	.339
	Low-cost	400	4.55	.500		
9. Creativity and innovation for the job improvement	Full-service	400	4.50	.581	8.629	.003*
	Low-cost	400	4.62	.515		
10. Service-minded	Full-service	400	4.60	.522	3.225	.073
	Low-cost	400	4.64	.465		
11. Continuous learning for self-improvement	Full-service	400	4.46	.552	2.148	.143
	Low-cost	400	4.49	.500		
12. Ethics and morals	Full-service	400	4.45	.550	5.584	.018*
	Low-cost	400	4.68	.493		

Aviation Human Capital Competencies	Passengers	n	M	SD	t	*p*
13. Being expertise in career	Full-service	400	4.21	.542	.875	.986
	Low-cost	400	4.23	.529		
14. Job achievement	Full-service	400	4.20	.593	.771	.790
	Low-cost	400	4.27	.579		
Total	**Full-service**	**400**	**4.28**	**.460**	**1.299**	**.255**
	Low-cost	**400**	**4.32**	**.420**		

Note: * 0.05, **0.001, ***0.000 Mean difference at Significant Level

From Table 4.11, the analysis results of 14 aspects of the human capital competencies hypothesis test from the opinions of the full-service airline passengers and low-cost airline passengers found that having volunteer attitude, system thinking, cultural diversity management, emotional quotient, communication and interaction skills, communication skills of foreign language, teamwork, technological skills, service-minded, continuous learning for self-improvement, being expertise in career, and job achievement have no differences. While, creativity and innovation for the job improvement, and ethics and morals passengers using full-service and low-cost airlines see that there is a difference.

Table 4.11 Analysis of the Service Satisfaction in Aviation Human Capital from the Opinions of Full-Service and Low-Cost Airlines' Passengers with Independent T-test

Service Satisfaction in Aviation Human Capital	**Passengers**	**n**	**M**	**SD**	**t**	***p***
1. Service quality	Full-service	400	4.57	.502	2.099	.148
	Low-cost	400	4.61	.485		
2. Responsiveness to passengers' needs	Full-service	400	4.59	.531	1.140	.286
	Low-cost	400	4.61	.504		
3. Reliability and assurance	Full-service	400	4.56	.509	.612	.434
	Low-cost	400	4.59	.477		
4. Service expectation	Full-service	400	4.63	.502	.049	.826
	Low-cost	400	4.62	.489		
Total	**Full-service**	**400**	**4.59**	**.468**	**.242**	**.623**
	Low-cost	**400**	**4.61**	**.449**		

Note: * 0.05, **0.001, **0.000 mean Difference at Significant Level

From Table 4.12, the analysis of the service satisfaction hypothesis of aviation human capital ground services based on opinions of full-service airline passengers and low-cost airline passengers found that service quality, responsiveness to passengers' needs, reliability and assurance, and service expectation have no differences.

From the airlines' employees view point, the result revealed that the human capital development approaches on coaching, on-the-job training, and learning organization are different between full-service and low-cost airlines. For the human capital competencies, there are four competencies different between full-service and

low-cost airlines including; system thinking, cultural diversity management, communication skills of foreign language, and technological skills.

On the other hand, from the passengers' perspective there are two competencies different between full-service and low-cost airlines including; creativity and innovation for the job improvement, and ethics and morals. Thought, the satisfaction of passengers toward ground service officer of full-service and low-cost airlines has no differences.

4.3 Factor Analysis

This part is to organize questions of similar variables under the same element or factor by analyzing the elements of specific data obtained from the questionnaire. Then, combining the groups of related variables in the same factor. This will explain the factors affecting the aviation human capital development approach and the aviation human capital competency factors affecting the service satisfaction of passengers in aviation human capital service provided with details as hereinafter: The factor analysis for questionnaire data from low-cost airlines employees did not perform because there were only 50 sampling. Since, there must be at least 100 data samples were required for the factor analysis (Hatcher & Stepanski, 1994). In addition, the analysis of the composition of the variables was eliminated to a loading factor of less than 0.5 (Vaus, 2002). In this study, researcher employed the analysis of statistics 'Kaiser-Meyer-Olkin-KMO and Bartlett's Test of Sphericity' to determine whether the results of the variables are appropriate to analyze the composition or not by considering the r = correlation coefficient. In general, if the KMO value is less than 0.50, it is considered inappropriate for the composition analysis technique. This is to reduce the variables by combining, re-grouping the variables which have similar weight scores and related to each other.

4.3.1 Factor Analysis of Aviation Human Capital Development Approaches and Aviation Human Capital Competency from Full-Service Airlines' Employees.

The aviation human capital development approaches from full-service airlines' employee's perspective. There are seven key factors of aviation human capital development approaches, and each factor composes of three elements. Thus, the total number of factors in the development approaches are 21 issues. It could be explained that the cumulative variance was 86.264, where factor 1 was 14.046% more than the total variation than the others. The researcher analyzed the factors loading by the orthogon rotation of the factor axis by VARIMAX method as shown in table 4.13.

Table 4.12 Factor Analysis of Aviation Human Capital Development from Full-Service Airlines' Employees Perspective

Variables and components	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Question 1		.784					
Question 2		.830					
Question 3		.853					
Question 4					.905		
Question 5					.861		
Question 6					.649		
Question 7	.732						
Question 8	.875						
Question 9	.820						
Question 10				.825			
Question 11				.812			
Question 12				.787			
Question 13			.831				

Variables and components	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Question 14			.867				
Question 15			.792				
Question 16							.717
Question 17							.747
Question 18							.598
Question 19						.695	
Question 20						.784	
Question 21						.809	

From Table 4.13, factor analysis of seven aspects of the aviation human capital development approaches variables from full-service airlines' employee's perspective, which consist of 21 questions, shows that all passenger ground service development approaches are properly aligned with the question of variables according to the operational definition. The composition analysis results can be described as follows.

1) Component variable 1: on-the-job training consist of sub-variables including; learning the job from real practices, learning from problem-solving from the job, and learning and idea sharing analytically from the real working situation (Questions number 7-9).

2) Component variable 2: classroom training composes of sub-variables on learning from the experts in airlines industry, classroom simulation/ role-play, and group discussion (Question 1-3).

3) Component variable 3: job rotation including; the job rotation in different service department for expanding service skills, job rotation in the same position but different context, and job rotation in different position for learning to be professional (Questions 13-15).

4) Component variable 4: learning organization consist of the creation of learning via the intranet, the creation of learning via the organizational network, and the creation of learning via web-based learning (Questions 10-12)

5) Component variable 5: coaching incorporates with the organization set up coaching system, close control by supervisor, and using peer coaching system (Questions 4-6).

6) Component variable 6: education made up of the education to get higher degree related to the job from domestic institution, the education to get certificate from aviation association, and the education relating to the job from both domestic and international institution (Questions 19-21), and last,

7) Component variable 7: field trip for learning comprises of the field trip in the same alliances which has best practice in service, field trip in best practice organization in the country to benchmark and adapt into practices, and field trip in reputation organization abroad to be more expertise (Questions 16-18).

Since the low-cost airline staff sample was not equal to the factor analysis benchmark, the researcher then combined the sample with the full-service airline staff to analyze the factors of the aviation human capital development approaches to test whether the elements of the aviation human capital development approach either remain the same or not.

4.3.2 The Aviation Human Capital Development Approaches

from the perspective of full-service and low-cost airline staff; it can be explained that cumulative variance is 85.971, where factor 1 can explain the total variation 14.493% more than any other factor. The researcher analyzed the factors loading by the orthogon rotation of the factor axis by VARIMAX method as shown in table 4.14.

Table 4.13 Factor Analysis of Aviation Human Capital Development from Full-Service and Low-Cost Airlines' Employees Perspective

Variables and components	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Question 1		.775					
Question 2		.827					
Question 3		.836					
Question 4				.903			
Question 5				.856			
Question 6				.739			
Question 7	.751						
Question 8	.888						
Question 9	.824						
Question 10					.828		
Question 11					.781		
Question 12					.782		
Question 13			.842				
Question 14			.852				
Question 15			.742				
Question 16							.751
Question 17							.753
Question 18							.608
Question 19						.647	
Question 20						.765	
Question 21						.806	

From table 4.14, it is worth noticing that the factor analysis of aviation human capital development approaches from full-service and low-cost airlines employees compose of seven factors, almost likely to full-service airlines' employees. Where, the

4th and 5th factors are alternate only, where the 4th component is the coaching. There are appropriate questions in the definition of operational. And the fifth factor is the building of a learning organization. These all seven developmental approaches are important, which airlines must adopt each approach to develop their own staff appropriately and in a variety of ways. From the results of the component analysis, they can be described as follows.

1) Component variable 1: on-the-job training with the sub-element factors of learning the job from real practices, learning from problem-solving from the job, and learning and sharing the idea analytically from the real working situation (Questions 7-9).

2) Component variable 2: classroom training including the sub-variables of learning from the experts in airline industry, classroom simulation/ role-play, and group discussion (Questions 1-3)

3) Component variable 3: job rotation consists of the job rotation in different service department for expanding service skills, job rotation in the same position but different context, and job rotation in different position for learning to be professional (Questions 13-15).

4) Component variable 4: coaching is the organization set up coaching system, close control by supervisor, and using peer coaching system (Questions 4-6).

5) Component variable 5: learning organization contains with the creation of learning via the internet, the creation of learning via the organizational network, and the creation of learning via web-based learning (Questions 10-12).

6) Component variable 6: education incorporate with variables of the education to get higher degree related to the job from domestic institution, education to get certificate from aviation association, and education relating to the job both domestic and international institution (Questions 19-21).

7) Component variable 7: field trip for learning comprises with the field trip in the same alliances which has best practice in service, field trip in best practice

organization in the country to benchmark and adapt into practice, and field trip in reputation organization abroad to be more expertise (Questions 16-18).

As refer to the result of factor analysis in aviation human capital development approaches from full-service and low-cost airlines' employees revealed that there were sub-variables of the 4th element and the sub-variables of the 5th element had different ratings from the factor analysis results from the full-service airline staff. In the combination of both sample groups from two type of airlines, the overall, component 4 is coaching, while component 4 of full-service airlines, is a learning organization. In the same taken, the overall of two airlines stress the component 5 is learning organization, whereas full-service airline staffs highlighted on coaching.

The researchers analyzed the competencies' factors of passenger ground service officer from full-service airlines view point. The competencies (CPC) of aviation human capital have been segregated into 14 issues, each of competency consist of three sub-variables. So, there are 42 variables in total. It could be explained that the cumulative variance was 71.117, where factor 1 could explain the total variation 19.268% more than the others. The researcher analyzed the factors loading by the orthogon rotation of the factor axis by VARIMAX method as shown in table 4.15.

Table 4.14 Factor Analysis of Aviation Human Capital Competencies from Full-Service Airlines' Employees Perspective

Variables and components	**Component 1**	**Component 2**	**Component 3**	**Component 4**	**Component 5**	**Component 6**	**Component 7**
Question 1					.723		
Question 2					.814		
Question 3					.832		
Question 4				.793			
Question 5				.562			

Variables and components	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Question 6				.744			
Question 7				.686			
Question 8				.683			
Question 9				.630			
Question 10				.666			
Question 11				.578			
Question 12	-	-	-	-	-	-	-
Question 13		.607					
Question 14		.560					
Question 15			.514				
Question 16			.577				
Question 17			.660				
Question 18		.788					
Question 19					.806		
Question 20					.755		
Question 21					.630		
Question 22	-	-	-	-	-	-	-
Question 23	-	-	-	-	-	-	-
Question 24	-	-	-	-	-	-	-
Question 25	-	-	-	-	-	-	-
Question 26	-	-	-	-	-	-	-
Question 27	-	-	-	-	-	-	-
Question 28			.721				
Question 29			.790				
Question 30			.702				
Question 31							.799
Question 32							.806
Question 33							.634

Variables and components	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Question 34	.688						
Question 35	.707						
Question 36	.685						
Question 37					.629		
Question 38					.623		
Question 39					.704		
Question 40							.567
Question 41							.610
Question 42							.588

From table 4.15, the factor analysis of competency variables in aviation human capital for all 14 areas from full-service airlines' workforces. The result shown that the variables were incorporated into 7 competency variables. The questions had been arranged according to new variables as following;

1) Component variable 1: having ethics and morals consist of questions number 34-36 according to the original variables of the research framework.

2) Component variable 2: the ability to interact with customer composes of questions number 13, 14, and 18. This is to arrange new variables with similar questions in the same group.

3) Component variable 3: English communication skill for service job incorporate with questions number 15-17 of communication skills of foreign language, and questions number 28-30 of service-minded combined into the third variable.

4) Component variable 4: managing cultural diversity systematically is the key component working in the airport environment. That is the process of service

logically. This variable includes questions number 4-6 of system thinking, 7-9 cultural diversity management, and 10-12 emotional quotient formed into the fourth variable.

5) Component variable 5: being professional in ground operation, it consists of variables according to the competencies conceptual framework including: having volunteer attitude (questions number 1-3), teamwork (questions number 19-21), and being expertise in career (questions number 37-39) combined to variable 5.

6) Component variable 6: job achievement consists of the questions number 40-42 according to the original variables of the research framework.

7) Component variable 7: continuous learning for self-improvement consist of questions number 31-33 same as original variable of the research framework.

However, because the sample group of low-cost airline staff was not equal to the factor analysis benchmark, the researcher then combined the sample with the full-service airline staff for analysis. This is to find the overall aviation human capital competency component of both types of airlines to test whether the aviation human capital competency component remains the same, as shown in Table 4.16.

Table 4.15 Factor Analysis of Aviation Human Capital Competencies from Full-Service and Low-Cost Airlines' Employees Perspective

Variables and components	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Question 1					.734		
Question 2					.810		
Question 3					.811		
Question 4				.756			
Question 5				.599			
Question 6				.742			

Variables and components	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Question 7				.707			
Question 8				.628			
Question 9				.565			
Question 10				.570			
Question 11				.505			
Question 12				.501			
Question 13		.519					
Question 14		.696					
Question 15		.660					
Question 16			.648				
Question 17			.761				
Question 18			.807				
Question 19					.732		
Question 20					.651		
Question 21					.572		
Question 22	-	-	-	-	-	-	-
Question 23	-	-	-	-	-	-	-
Question 24	-	-	-	-	-	-	-
Question 25	-	-	-	-	-	-	-
Question 26	-	-	-	-	-	-	-
Question 27	-	-	-	-	-	-	-
Question 28			.663				
Question 29			.746				
Question 30			.715				
Question 31							.801
Question 32							.766
Question 33							.658
Question 34	.735						

Variables and components	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Question 35	.737						
Question 36	.746						
Question 37						.610	
Question 38						.594	
Question 39						.749	
Question 40							.591
Question 41							.622
Question 42							.624

From table 4.16, the factor analysis of 14 competency variables in aviation human capital from full-service and low-cost airlines employees. The result shown that the competency variables were incorporated into new 7 variables. There are two elements in which the question is the same as the factor analysis from the full-service airline staff, while the other five are rearranged as follows:

1) Component variable 1: having ethics and morals consists of questions number 34-36.

2) Component variable 2: social intelligence composes of the ability to communicate effectively both verbal and non-verbal language, having speaking techniques and being a good listener, having the knowledge and skills in two-way communication (Questions 13-15).

3) Component variable 3: English communication skill for service job consists of questions number 16-18, and 28-30.

4) Component variable 4: managing cultural diversity systematically is the key component working in the airport environment. That is the process of service

logically. This variable includes questions number 4-6 of system thinking, 7-9 cultural diversity management, and 10-12 emotional quotient formed into the fourth variable.

5) Component variable 5: being enthusiastic in job performance consists of questions 1-3 for having volunteer attitude according to the original framework and rearrange question items 19-21.

6) Component variable 6: job achievement composes of questions number 37-39; skill development to become an expert in the job, knowledge development from various channels, both inside and outside the organization, and performing the assigned task according to the international standards.

7) Component variable 7: learning for the job successful consists of original variable framework from continuous learning for self-improvement, and the achievement of the task (Questions number 31-33, 40-42).

Based on the results of the factor analysis of the overall aviation human capital competency parameters of the respondents, who were the two types of airline employees combined. The first and fourth component variables are the same as those of the full-service airline staff likewise: having ethics and morals and management of cultural diversity systematically. The component variable number three is slightly different in the question of the elements, but the overall variables are generally similar.

4.3.3 Factor Analysis of Aviation Human Capital Competency from Full-Service Airlines' Passengers

Table 4.16 Factor Analysis of Aviation Human Capital Competency from Full-Service Airlines' Passengers

Variables and components	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Question 1					.660		
Question 2					.600		
Question 3					.740		
Question 4	-	-	-	-	-	-	-
Question 5	-	-	-	-	-	-	-
Question 6	-	-	-	-	-	-	-
Question 7				.649			
Question 8				.582			
Question 9				.670			
Question 10		.790					
Question 11		.796					
Question 12		.780					
Question 13			.546				
Question 14			.789				
Question 15			.589				
Question 16						.666	
Question 17						.578	
Question 18						.649	
Question 19			.693				
Question 20			.835				
Question 21			.803				

Variables and components	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Question 22	-	-	-	-	-	-	-
Question 23	-	-	-	-	-	-	-
Question 24	-	-	-	-	-	-	-
Question 25	-	-	-	-	-	-	-
Question 26	-	-	-	-	-	-	-
Question 27	-	-	-	-	-	-	-
Question 28	.817						
Question 29	.739						
Question 30	.778						
Question 31						.662	
Question 32						.664	
Question 33						.585	
Question 34	.775						
Question 35	.765						
Question 36	.824						
Question 37				.751			
Question 38				.743			
Question 39				.767			
Question 40				.511			
Question 41				.591			
Question 42				.615			

From table 4.17 the factor analysis of 14 aviation human capital competencies from full-service airlines' passengers found that the questions 4-6 and 22- 27 were omitted because the weight factor was less than 0.5. However, 6 new variables have been arranged. There are 2 competencies variable remained according to the conceptual

variables: having volunteer attitudes, and emotional quotient. The rest of the elements are reorganized as follows.

1) Component variable 1: having ethics and moral for service consists of the sub-variables of service-mined on questions number 28-30, and ethics and morals on questions number 34-36.

2) Component variable 2: emotional quotient composes of the same conceptual framework questions number 10-12.

3) Component variable 3: social skills consist of the conceptual variables of the communication and interaction skills, question 13-15 and teamwork, question 19-21.

4) Component variable 4: being job expertise to achieve results, this competency incorporates with cultural diversity management, questions number 7-9, being expertise in career, questions number 37-39, and job achievement, questions number 40-42.

5) Component variable 5: having volunteer attitude includes the same variable as original conceptual framework, question 1-3.

6) Component variable 6: the ability to communicate foreign language in a job, this competency includes the variable of communication in foreign language, questions number 16-18, and continuous learning for self-improvement, questions number 31-33.

4.3.4 Factor Analysis of Aviation Human Capital Competency from Low-Cost Airlines' Passengers

Table 4.17 Factor Analysis of Aviation Human Capital Competency from Low-Cost Airlines' Passengers

Variables and components	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Question 1					.682		
Question 2					.616		
Question 3					.716		
Question 4	-	-	-	-	-	-	-
Question 5	-	-	-	-	-	-	-
Question 6	-	-	-	-	-	-	-
Question 7				.683			
Question 8				.662			
Question 9				.700			
Question 10		.796					
Question 11		.826					
Question 12		.795					
Question 13			.503				
Question 14			.798				
Question 15			.513				
Question 16						.712	
Question 17						.667	
Question 18						.706	
Question 19			.753				
Question 20			.838				
Question 21			.781				
Question 22	-	-	-	-	-	-	-

Variables and components	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Question 23	-	-	-	-	-	-	-
Question 24	-	-	-	-	-	-	-
Question 25	-	-	-	-	-	-	-
Question 26	-	-	-	-	-	-	-
Question 27	-	-	-	-	-	-	-
Question 28	.821						.821
Question 29	.761						.761
Question 30	.797						.797
Question 31						.634	
Question 32						.677	
Question 33						.587	
Question 34	.774						.774
Question 35	.770						.770
Question 36	.800						.800
Question 37				.617			
Question 38				.558			
Question 39				.705			
Question 40				.513			
Question 41				.628			
Question 42				.742			

From table 4.18 the factor analysis of 14 aviation human capital competencies from full-service airlines' passengers found that the questions 4-6 and 22- 27 were deleted because the weight factor was less than 0.5. However, there are 6 new variables have been arranged. There are 2 competencies variable remained according to the conceptual variables: having volunteer attitudes, and emotional quotient. The rest of the elements are reorganized as follows.

1) Component variable 1: having ethics and moral for service consists of the sub-variables of service-mined on questions number 28-30, and ethics and morals on questions number 34-36.

2) Component variable 2: emotional quotient composes of the same conceptual framework questions number 10-12.

3) Component variable 3: social skills consist of the conceptual variables of the communication and interaction skills, question 13-15 and teamwork, question 19-21.

4) Component variable 4: being job expertise to achieve results, this competency incorporates with cultural diversity management, questions number 7-9, being expertise in career, questions number 37-39, and job achievement, questions number 40-42.

5) Component variable 5: having volunteer attitude includes the same variable as original conceptual framework, question 1-3.

6) Component variable 6: the ability to communicate foreign language in a job, this competency includes the variable of communication in foreign language, questions number 16-18, and continuous learning for self-improvement, questions number 31-33.

However, the researcher analyzes the overall factor analysis from the sample group of full-service and low-cost airlines passengers as follows.

4.3.5 The Analysis of the Overall Factor Analysis of Aviation Human Capital Competency from the Sample Group of Full-Service and Low-Cost Airlines Passengers

Table 4.18 Factor Analysis of Aviation Human Capital Competency from Full-Service and Low-Cost Airlines Passengers

Variables and components	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Question 1					.635		
Question 2					.595		
Question 3					.683		
Question 4	-	-	-	-	-	-	-
Question 5	-	-	-	-	-	-	-
Question 6	-	-	-	-	-	-	-
Question 7				.684			
Question 8				.622			
Question 9				.740			
Question 10		.797					
Question 11		.808					
Question 12		.787					
Question 13			.513				
Question 14			.787				
Question 15			.563				
Question 16						.680	
Question 17						.614	
Question 18						.664	
Question 19			.740				
Question 20			.835				
Question 21			.787				
Question 22	-	-	-	-	-	-	-
Question 23	-	-	-	-	-	-	-
Question 24	-	-	-	-	-	-	-
Question 25	-	-	-	-	-	-	-

Variables and components	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7
Question 26	-	-	-	-	-	-	-
Question 27	-	-	-	-	-	-	-
Question 28	.809						.809
Question 29	.737						.737
Question 30	.767						.767
Question 31	.500						.500
Question 32	-	-	-	-	-	-	-
Question 33	-	-	-	-	-	-	-
Question 34	.807						.807
Question 35	.786						.786
Question 36	.815						.815
Question 37				.687			
Question 38				.516			
Question 39				.733			
Question 40				.507			
Question 41				.589			
Question 42				.612			

From table 4.19 the factor analysis of 14 aviation human capital competencies from full-service and low-cost airlines' passengers found that the questions 4-6 and 22-27 were deleted because the weight factor was less than 0.5. However, there are 6 new variables have been arranged. There are 2 competencies variable remained according to the original conceptual variables: having volunteer attitudes, and emotional quotient. The rest of the elements are reorganized as follows.

1) Component variable 1: having ethics and moral for service consists of the sub-variables of service-mined on questions number 28-30, and ethics and morals on questions number 34-36.

2) Component variable 2: emotional quotient composes of the same conceptual framework questions number 10-12.

3) Component variable 3: social skills consist of the conceptual variables of the communication and interaction skills, question 13-15 and teamwork, question 19-21.

4) Component variable 4: being job expertise to achieve results, this competency incorporates with cultural diversity management, questions number 7-9, being expertise in career, questions number 37-39, and job achievement, questions number 40-42.

5) Component variable 5: having volunteer attitude includes the same variable as original conceptual framework, question 1-3.

6) Component variable 6: the ability to communicate foreign language in a job, this competency includes the variable of communication in foreign language, questions number 16-18, and continuous learning for self-improvement, questions number 31-33.

In conclusion, the factor analysis of overall aviation human capital competency parameters from the respondents, who were full-service and low-cost airlines passengers combined, found that it has the same components as the full-service airline passenger, including: having ethics and moral for service, emotional quotient, social skills, being job expertise to achieve results, having volunteer attitude, and the ability to communicate foreign language in a job.

Based on the results of factor analysis, the researcher created a new conceptual framework for the aviation human capital development approaches and aviation human capital competencies from full-service airline staff, human capital development approach and aviation human capital competency of full-service and low-cost airlines' employee's perspective as a whole. And aviation human capital competencies and the satisfaction in of full-service airlines' passengers toward aviation human capital, aviation human capital competencies and the satisfaction in of low-cost airlines'

passengers toward aviation human capital, and aviation human capital competencies and the satisfaction in of full-service and low-cost airlines' passengers toward aviation human capital, as follow;

Figure 4.1 The Conceptual Framework after Factor Analysis the Development Approaches Affecting to Aviation Human Capital a Full-Service Airlines' Employees' Perspective

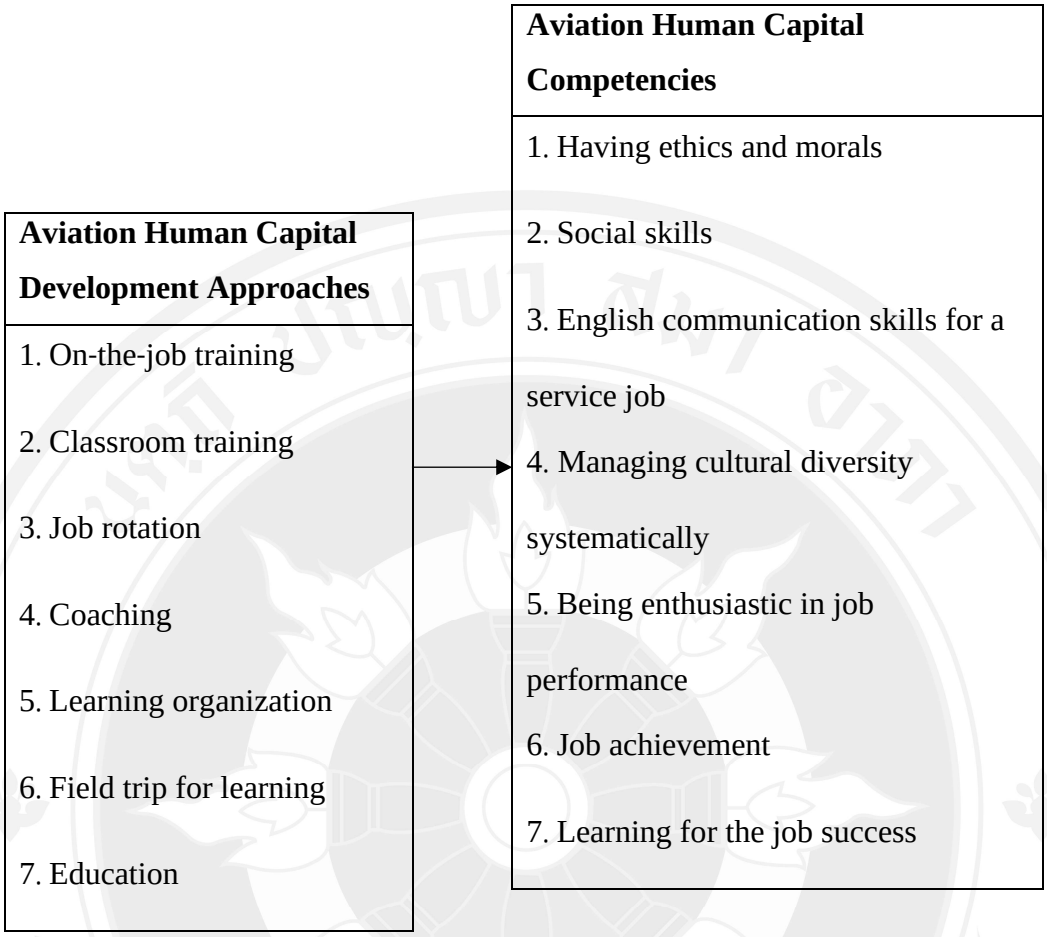


Figure 4.2 The Conceptual Framework after Factor Analysis of the Development Approaches Affecting to Aviation Human Capital a Full-Service and Low-Cost Airlines' Employees' Perspective

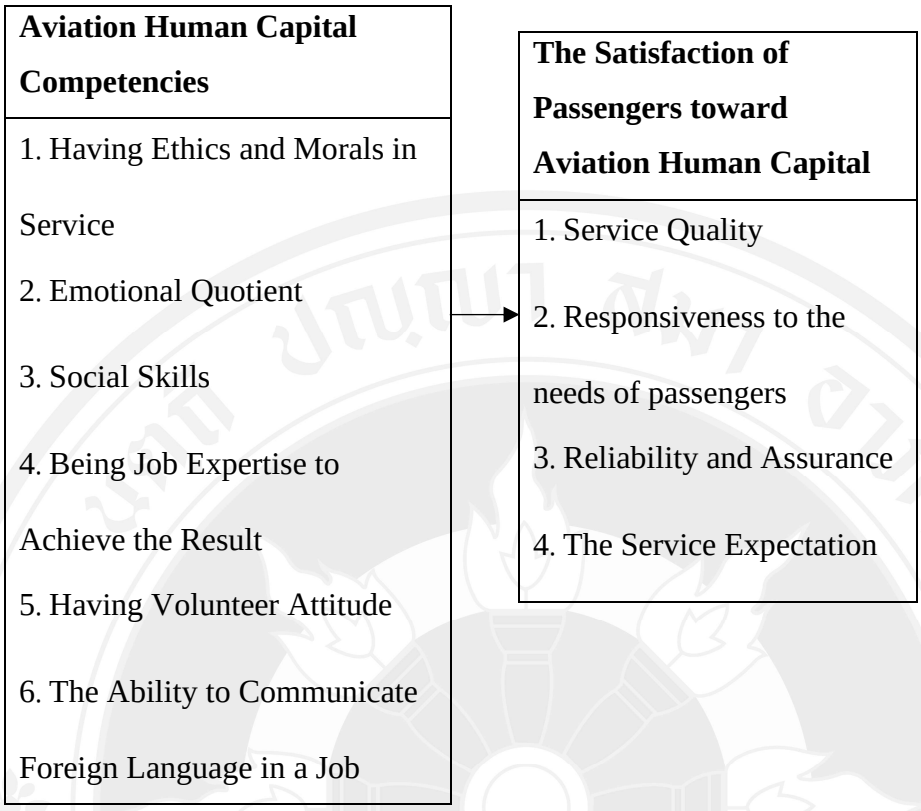


Figure 4.3 The Conceptual Framework after Factor Analysis of the Aviation Human Capital Competencies Affecting to the Satisfaction a Perspective from Full-Service Airlines' Passengers

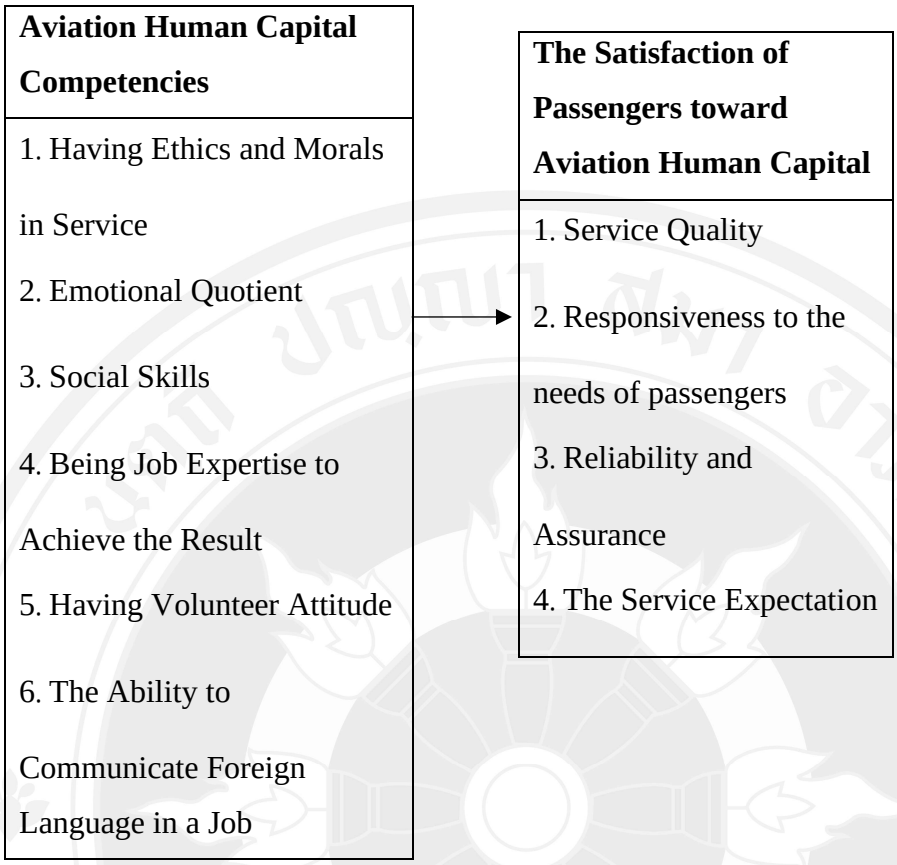


Figure 4.4 The Conceptual Framework after Factor Analysis of the Aviation Human Capital Competencies Affecting to the Satisfaction a Perspective from Low-Cost Airlines' Passengers

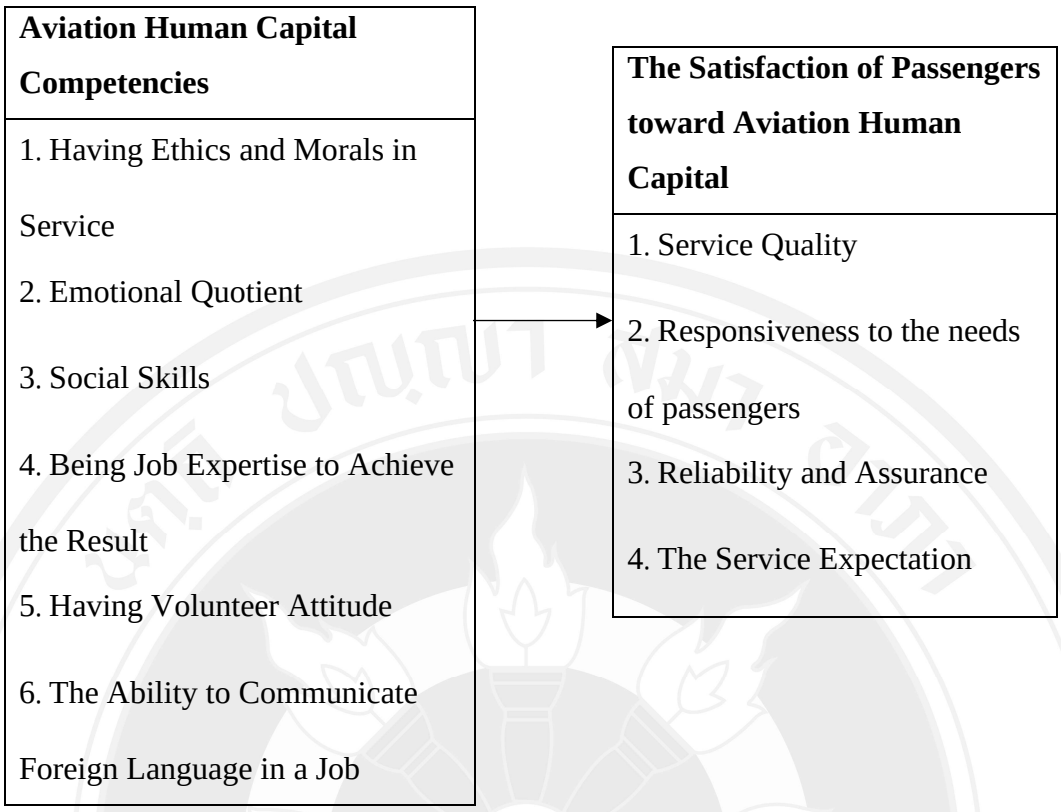


Figure 4.5 The Conceptual Framework after Factor Analysis of the Aviation Human Capital Competencies Affecting to the Satisfaction a Perspective from Full-Service and Low-Cost Airlines' Passengers

4.4 Objective Number 2: The Development Approaches Affecting the Competency of Ground Service Officers (Answers to the Research Question Three)

This part is the multiple regression analysis of the aviation human capital development approaches, aviation human capital competencies.

4.4.1 Multiple Regression Analysis of Variable from the Conceptual Framework

The multiple regression of aviation human capital development affecting to the competencies of human capital from full-service and low-cost airlines' employee's perspective according to the conceptual frame work 4.1

Table 4.19 Multiple Regression Comparing Development Approaches Affecting Aviation Human Capital Competencies from Full-Services and Low-Cost Airlines Employee's Perspective

Aviation Human Capital Development Approaches		**Aviation Human Capital Competencies**	**R**	**t**	**P**
Constant	.573	Full-Service Airlines	.934	4.133	
Classroom Training			.241	6.520	.000***
Job Rotation			.228	4.169	.000***
Learning Organization			.132	3.463	.001**
On-the Job Training			.128	3.249	.001**
R^2 = .873					
F = 141.040					
Constant	1.073	Low-Cost Airlines	.974	4.969	Constant
Classroom Training			.345	7.409	.000***

Aviation Human Capital Development Approaches	Aviation Human Capital Competencies	R	t	P
Job Rotation		.183	4.884	.000***
On-the Job Training		.181	5.066	.000***
Coaching		-.121	-2.823	.007**
R^2 = .949				
F = 110.715				

Note: * 0.05, **0.001, ***0.000 mean difference significant level

From table 4.20, the multiple regression test results showed that the respondents, who were full-service airline officers, had the opinion on the approach to aviation human capital development that had the greatest impact on aviation human capital competencies, including: classroom training, job rotation, learning organization, and on-the-job training respectively. It can be explained the dependent variable at 87.3% (R^2 = .873) with a value of F = 141.040, indicating that the human capital development approaches for classroom training, job rotation, on-the- job training, and coaching that have the coefficients affecting the aviation human capital competencies as shown in the following equation.

Aviation Human Capital Competencies = 0.573+ 0.241 (Classroom Training) + 0.228 (Job Rotation) + 0.132 (Learning Organization) + 0.128 (On-the-Job Training)

On the other hand, the sample group of respondents, who are low-cost airline officials, had the opinion on the approach to aviation human capital development that had the most effect on aviation human capital competency were classroom training, job rotation, on-the-job training, and coaching. It can be explained the dependent variable at 94.9% (R^2 = .949) with a value of F = 110.715, indicating that the human capital development approaches for classroom training, job rotation, on-the- job training, and

coaching which have the coefficients affecting the aviation human capital competencies as shown in the following equation.

Aviation Human Capital Competencies = 1.073 + 0.345 (Classroom Training) + 0.183 (Job Rotation) + 0.181 (On-the-Job Training) + (-0.121) (Coaching)

Table 4.20 Multiple Regression Development Approaches Affecting Aviation Human Capital Competencies from Full-Services and Low-Cost Airlines Employee's Perspective

Aviation Human Capital Development Approaches		**Aviation Human Capital Competencies**	**R**	**t**	**P**
Constant	.671		.935	6.043	
Classroom Training		Full-Service	.271	9.118	.000***
Job Rotation		Airlines and	.193	5.339	.000***
On-the Job Training		Low-Cost Airlines	.152	4.981	.000***
Education			.094	2.407	.017*
Learning Organization			.084	2.954	.004*
R^2 = .873					
F = 191.061					

Note: * 0.05, **0.001, ***0.000 mean difference significant level

From Table 4.21, the results of multiple regression tests showed that the respondents, who were full-service and low-cost airlines officers, had opinions on aviation human capital development approaches affecting their competencies the most are; classroom training, job rotation, on-the-job training, education, and learning organization. These approaches are able to explain the dependent variables at 87.3% (R^2 = .873) with F value equal to 191.061 that representing the classroom training, job

rotation, on-the-job training, education and learning organization have the coefficients affecting the aviation human capital competencies as shown in the following equation.

Aviation Human Capital Competencies = 0.671 + 0.271 (Classroom Training) + 0.193 (Job Rotation) + 0.152 (On-the-Job Training) + 0.094 (Education) + 0.084 (Learning Organization)

4.4.2 Interview Content Analysis on Human Capital Development Approaches

The analysis in this section is the analysis of structured in-depth interview from key informants. The key informant were 19 full-service airline executives and five low-cost airlines in total of 24 persons. The interviews were conducted by introducing each other or snow ball technique until complete information was obtained, which can answer the research objectives of all 24 people. And using all the data to be descriptive synthesis by synthesizing information from inductive approach - with causality to describe the actual phenomenon, the results of the analysis are as follows:

4.4.2.1 The content analysis on aviation human capital approaches affecting the competences of airlines' passenger ground service workforces from top executives of full-service airlines at BKK.

The development approaches for airlines' passenger ground service human capital is to achieve knowledge and expertise in the work of human capital performing ground operations that must facilitate the passenger's journey to and from the country successfully with services based on safety, international travel regulations and policies of airlines and airports. This will bring the reputation of airlines and airports of the country. Firstly, the human capital should be developed through the use of classroom training approaches whether new employees or existing employees. This is to learn theories related to the development of human capital in aviation by describing the content. Such as training on regulations of the International Air Transport Association (IATA), International Civil Aviation Organization (ICAO), reservation

system, check-in for passenger and baggage, dangerous goods (DGR), the process of applying for permission of prohibited products, lost and found system, as in an interview with senior management that;

> The human capital development of ground service officer operating at airports to accommodate passengers is a paramount importance to educate employees. It is to be used in practice, especially our new staff, the assessment of English level. We also consider personality to be able to work in services to provide. Once we have selected it, classroom training will be an important tool to understand the nature of work in the working position. The lectures are required to invite expert speakers in that field to give educate them. This includes the staff who have already performed the job, we need to periodically conduct classroom training. (Executive of major airlines in the Middle East, personal communication, January, 12, 2020).

While another airline executive said that;

> The important of human capital development approaches, whether for new employees or existing employees, if we want to increase the knowledge and skills of our passenger ground service officer. The first tool is a classroom training to learn the nature of the job and apply the related theory to illustrate the performance of that position. (Airline senior management for Southeast Asia, personal communication, January 12, 2020).

Another executive commented that in order to achieve the goals, the missions, and the airline's vision. The airlines must continuously develop human capital through classroom training in order to develop content of knowledge that will develop those employees. As said;

> First of all, in order to develop people in the aviation organization to achieve the performance that we need, the employees need to learn theory for job the performing. The classroom training is the first process to understand the nature of the work that one has to perform. (European National Airline Executive, personal communication, February 15, 2020).

In addition, an executive from an airline in the East Asia region added that classroom training is essential for employees to learn the theory from the experts, by broadcasting, lecture knowledge to employees in order to perform the job as following interviews;

> From my long-time working experience in airlines, I think the classroom training is very important for employees to learn and understand what work they have to do. (Executive of a private airline in East Asia, personal communication, February 15, 2020).

The development tools for aviation human capital in the position passenger ground service officer to be knowledgeable and skillful suit for high performance in delivering services; the airlines must conduct the classroom training by experts in their respective professional fields is a great importance. However, the training should be conducted a group discussion where the trainer must include a case study which the participants can express their opinions within the group and communicate in two-ways communication. The trainees must be able to ask and answer until the content is understood clearly as an interview with senior human resources executives of private airlines flying between regions in Thailand mentioned that;

> A good classroom training requires two-way communication in order for the audience to understand the content being trained by the lecturer. A case study must be developed and a discussion will be made. As a result, the trainees will get complete and profound knowledge. (An Executive of Private Airline in

Thailand, Human Resources Department, personal communication, February 25, 2020)

Another senior executive of the airline provided consistent information that;

The classroom training is the first tool that must be provided in the development of human capital competencies. But if described by the theory alone, it will not bring any benefit. After leaving the classroom, all the trainees will forget. The trainer must provide a group discussion. The group are organized depending on the case study from the actual practice. The group discussion brought the trainees to comment on the case that happened. To be more effective, the lecturer will provide the correct theoretical answers and must be consistent with the actual context. (European Airlines Human Resources Director, personal communication, February 10, 2020)

In addition to the classroom training, if you want the airline's ground service personnel to increase their knowledge and gain operational expertise, there is a need for practical training in that area, known as apprenticeship or (on-the-job training). It is the training approach to apply the knowledge from classroom training to the actual work in an trial method, based on the concept of (Dale, 1970) referring to the experience, which divides the learning process in different ways. It was found that if learning from first-hand experience will lead to deep understanding and long-lasting memory. Therefore, when there is a classroom training with discussions between learners and trainers, after that the trainees must be learned from hands-on experience with on-site operation, according to an interview with an airline executive said that;

On-the-job training is important after learning theory in the classroom. Where knowledge will accumulate in the self-efficacy of employees when there is a problem in the job performance. It can create a driving force to draw on the

knowledge that is contained in each individual or tacit knowledge which is accumulated from the training to use in the work. That means the training require actual operations as well. (National Airline Executive in Southeast Asia, personal communication, February 13, 2020).

Another leading airline executive also commented that "If the training is without practiced, it will not benefit because the staff will not remember the topics described by the trainers. But when the employees have practiced, they will apply knowledge to manage and embed in their minds, beliefs and values as the concepts and apply them at the right time in each situation correctly. And the effectiveness of work as well as solving errors that occur in the early stages of operation"

The development of human capital competencies in classroom training to acquire knowledge from the expert trainer is an explicit knowledge management for passenger ground service officer to accumulate the know-how within themselves. During the lecture, there are cases for the trainees to study in combination with theoretical knowledge for applying together, which allow the trainees to be in-depth thinker. Then, if there is a job practical by applying knowledge from the field of operations, it will be more intelligible, skillful, an expertise in that job until a person can perform the job to a certain extent. However, when going to perform the job in the specified job description, which ground personnel must use a job description approach into practices. The next important human capital development tool is coaching by the supervisor or team leader as the instructor. The coach must teach the working process with clarifying objectives, how to perform the thoroughly and transfer techniques to ensure the correct operation and effectiveness of the work, as well as to correct errors that occur in the early stages of the operation. In addition, the supervisor should proceed to have a mentoring system. The mentoring system is allowing the senior to act as a mentor in the work, guiding, transferring knowledge and creating motivation to employees. So that, the employees can adapt to the organization, able to perform well

as well as to work well as a team. As refers to an interview with the full-service airline's human resources management that;

> Another tool for developing human capital to work potentially is the coaching system. It must be taught to new employees in the department where supervisors guides, direct, teach them in organizational policies, and the broader scope of work. Then, provide a mentoring system that teaches new workforce, teaching the details of the work so that they can bring their knowledge to develop into working skills. (The Australian executive full-service airline, personal communication, February 17, 2020).

In this regard, other executives commented that it was consistent with the coaching that;

> Coaching is also very important in the development of aviation personnel in ground service. So that the staff can be confident in their performance. If something goes wrong and new staff does not understand, so one can ask the mentor. As a result, new staff can perform to meet the needs of the organization. (Full-service airline executive in East Asia, personal communication, February 17, 2020).

> Our airlines, we put a lot of emphasis on after having trained in the classroom and practiced to gain hands-on experience from the job. When our ground service personnel go to work in the specified position. We have taught the work by divided into 2 parts including: in the broader perspective, the supervisor teaches the job in a controlling manner, keeping track of the main job characteristics objectives. While, part 2: the supervisor or team leader must establish a brotherhood mentoring system. This is a relationship between more experienced employees and less experienced employees. This is so important

that human capital is able to work well. (Middle East full-service airlines' executive, personal communication, 21 February 2020).

While the other international full-service airline executives have similarly commented that;

"Coaching is required. So that the skilled-incumbent in the job teaching the working process. It could be a supervisor, or a colleague who was set up as a mentor. It is considered to help develop people who come later to be confidence to work, not feeling alone, and able to join as a team. If there is a classroom training and on-the-job training, it requires a coaching system or mentoring system as well, which will help the employees become more competent. The work will be resulted in the goal of the airline." (European full airline executive, personal communication, February 21, 2020).

To develop airline's passenger ground service officer, to become the service providers best performance to impress passengers and come back to service again. The organization must continuously develop human capital, not just a single training session. If there are a new work systems or new technology being introduced into the service work, the human resources department must consider the need for long-term training and development planning. For the training where classroom training is required to learn theory and practice the actual work, there also must be a coaching session from the team leader. But one thing is extremely important that the organization needs to manage as a learning organization using modern technology into the organization to be a channel for transferring new knowledge. That is from the management team into the practice, and there is a seminar to exchange knowledge among practitioners in solving problems or a channel for consultation with management in case of a problem, obstacles in various work, which is considered a teamwork organization to learn together.

As many executives have commented as follows:

> For another human capital development approach that will help employees continually learn in their work and other duties, to learn together in terms of policy, vision, mission of the organization. The organization must utilize technology for inclusive learning and access to both the upper and lower levels. That means the organizations must create a collaborative learning organization in airlines to enhance their job expertise. (Full-service European airline executive, personal communication, February 21, 2020).

While another foreign airline executive added in the same way that;

> Employee learning must be continuous learning. Learn endlessly throughout the life like a Japanese. Our airlines, we have established an intranet system for communication between executives and subordinates, and among operators to learn, guide, consult together in various tasks. By learning and solving problems together will help staff increase better performance. (Full-service airline executive in East Asia, personal communication, December 2, 2019).

Human capital development in classroom training to gain knowledge and understanding of theoretical related to practical work, to have on-the job training until understanding of how to work in the position assigned by each individual as in job description details. It will cause a change in oneself behavior to pay more attention to responsible work, and when entering the real work practice, it will use coaching to provide human capital to have confidence in working properly. If there are any questions or mistakes, new staff will have an advisor from the team leader or mentor. And at the same time, to develop continuously the organizations must provide knowledge and communication channels to enhance human capital capacity in the organization by creating a learning organization.

These tools are the main ways to develop human capital in an organization to be competent to perform better, but once they have developed to a certain level, further development will be made to enable greater learning and hands-on experience. The next tool is job rotation in order to learn another job, but it is also a service-like, for example from reservation, moving to passenger ground service or passenger baggage tracing, etc. This is to increase skills in different jobs, but requires services to passengers, according to the airline management's opinion that;

> Another development of human capital in service is a job rotation that will bring a wide variety of knowledge in the different work, but it is still a service job to learn about providing services with a different nature. What is more, employees will understand and enhance their skills in providing different types of services. (Full-service European airline executive, personal communication, February 21, 2020).

At the same time, another full-service airline human resource executive from Europe has similarly commented:

> The rotation of jobs between duties, but the same ground-based services, such as the reservation department and passenger baggage lost and found, which are different but the same passenger service work, creates knowledge based on the understanding of other services work better.

In addition, a field trip for learning is another tool that will increase employee's knowledge and working skills. It is to compare one's own work with that of a well-known knowledge management in personnel, to create beliefs and values in the person, and to create competencies. Then, the next tools for human capital development is a field trip for learning both within the same organization and other organizations which are best practice in services for benchmarking. And apply the knowledge of the

successful organization and in the scope of the ground officers are responsible including the rotation of jobs in the same organization, but different types of work by still being the same service. This will allow human capital to learn the differences in service of different service receivers in different nationalities. And as a result, the passenger ground service officers will understand, learn and augment each individual self-efficacy in service. As the comments of the airline executives said;

> The field trip for learning from an organization that is excellent in service, is necessary for employees to have visit in order to be compared and applied in the job. Unfortunately, most of the time, we used for those who are going to be promoted to higher position for a broader vision. (Full-service airlines executive in Southeast Asia, personal communication, December 12, 2019).

> Another foreign airline human resource manager from Australia has supported that; "In order to increase the competency of the ground staff in service, a field trip for learning should also be required so that the staff will get a different perspective. Then, compare it with their work, it is good helps to apply in service to work. (Full-service airline executive in Australia continent, personal communication, December 12, 2019).

For the following human capital development approaches: that is an additional study to increase individual qualification or the education. It is the application of knowledge gained from education to be applied and applied to work. This is considered to develop human capital to have a broader perspective and knowledge, but it is mostly used as preparation for those who will be promoted to higher positions. As in the interview of the full-service airline executives that;

> To further education is increasing qualifications, which are also important human capital development approach. But it is mostly used for the preparation

> of officers to get higher positions. However, if it is a matter of competence in the job the classroom training, on-the-job training, coaching, job rotation, and being a learning organization are enough enhancing employees to have an excellent job skill. (Chinese full-service airline executive, personal communication, December 2, 2019).

While the airline's human resource management executives of Japanese airlines agree that;

> An education approach to increase the qualification, we will focus on those who will be getting to a higher position, but if anyone is going to further their master's degree. We considered it is good to each individual own development. We are happy and satisfied that our employee will develop himself and be able to move to a higher position.

From the in-depth interview content analysis, researcher consider the individual's content and interpret the principles, cause and effect. Then, leads to inductive of the aviation human capital development approaches. It found that the classroom training approach is the most important foundation for the development of passenger ground service officer in the airport operations. The striving to be outstanding competencies in providing services to passengers is to provide experts in each area as a guest speaker, cultivate theoretical knowledge, applying theory with case studies, and role-play. Hence, to create an understanding of the work that will be implemented the two-way communication. And for the interaction between the trainer and the trainees mutual understanding the problems that may arise from the job performance. Thus, there must be a set of on-the-job training or the practical training sessions accordingly to gain hands-on experience. These will allow the ground service officer have insight understanding and long-term remembering. For approaches in the next order is coaching. This approach is allowing the passenger ground service officer learn how to perform

the actual position from supervisors and mentors. And when there is a reasonable period of operation, there must be a rotation of the job in different positions but the same service nature. Where, the next development approach is learning organization. Its purpose is to achieve mutual learning with modern technology systems. The field trip for learning, and education to increase one's own qualifications are the subsequent development approaches.

In summary, the guidelines for the development of aviation human capital based on content analysis from the full-service airlines' executives revealed that; the first approach is classroom training, followed by on-the-job training, coaching, job rotation, and learning organization are the primary approaches for developing airlines' ground service personnel. Nevertheless, the field trip for learning and education are suited for either the workforces that will be promoted to high level or improve the employees' skill. These two approaches are the consequences from the five approaches mentioned earlier.

4.4.2.2 The content analysis in descending order on aviation human capital approaches affecting the competences of airlines' passenger ground service workforces from top executives of low-cost airlines at DMK.

From an analysis of in-depth interviews with 5 low-cost airline executives at Don Mueang Airport, from 3 airlines commented on the development of ground service officer that the guidelines for the development of ground service personnel: the first fundamental developmental approach is classroom training to provide human capital with theoretical knowledge, principles for understanding the nature of work to be performed according to job description. However, the trainers must have expertise and skills in the content of the training in which various activities must be organized. It is in order to memorize the knowledge gained from the classroom. The subsequent development tools include on-the-job training to enable hands-on learning, which will enable ground service officers to better understand, remember and be able

to apply knowledge into practice properly. As an interview with the director of the low-cost airline training department at Don Mueang Airport, said:

> The basic approach of human resource development should be a classroom training for learning theory, service principles and other aspects. After that, there must be a period of trial on-the-job training that will enable the ground personnel to fully understand thoroughly until they can perform the task. (Thai-Indonesian director of low-cost airlines training, personal communication, January 23, 2020).

Another low-cost airline executive said in a similar direction on the classroom training should be based development. Then, there should be on-the-job training for learning from real experiences in order to understand service guidelines and foster awareness of excellent service as follows:

> Ground service is very important for an airline. So, providing knowledge through classroom training is the primary key. This must be followed up by organizing activities during the training to gain understanding of work content and theory. Then followed by a practical training by learning from hands-on experience on encountering the real problems, and how to solve correctly. (Thai low-cost airline executive in human resources, personal communication, November 16, 2019).

In addition, another low-cost airline executive also commented on how human capital development in ground services should be preliminary in the classroom. And, continue with on-the-job training in order to achieve basic knowledge and skills in airport operations as said;

> The classroom training is the basis for airline personnel to learn the main policies, general knowledge before going into details of the work, and to understand the working philosophy of our airlines. After that, the practice will be implemented in order to learn what the real job does, in order to apply it to the actual working. (Thai low-cost airline executive, personal communication, December 20, 2019).

For the subsequent development approach, analyzed from the content of the information, there were different commentators on the study visit for learning from different organizations before doing the actual work. Because if visiting for learning first, it will make aviation personnel have a better understanding of the job before they have actually practiced their work. The field trip for learning is contributing ground service personnel more confidence on their job performance. But most of the information is that the training and practical training is sufficient to enable aviation personnel to have the basic knowledge and skills performing the job. As for the field trip for learning, it should be a guideline for development after working for a period of time, it should be studied to see the excellent organizational to develop and improve the work. If the organization has planned for higher position, therefore a field trip for learning from different organizations for a wider perspective should be implemented. This is to have a broader perspective as an interview;

> Once classroom training is undertaken, an apprenticeship is also required to achieve greater understanding. Then should have a study visit to learn from the organization that is excellent in the issue of training. This is to find the difference and then perform the actual work, there must also be coaching and mentoring as well. (Thai-Malaysian low-cost airline executive, personal communication, December 20, 2019).

While Thai low-cost airline collaboration with Singapore executives in Human Resources Management said;

In fact, classroom training is of fundamental importance to learning. Then, there is a need for on-the-job training so that the employees will gain more understanding. And then get down to operational work with coaching by the team leader and should have a mentoring system as well.

The Thai and Indonesian low-cost airline executives, added in the same manner that; "The classroom training comes first. Followed by on-the-job training and then actually work on it, but during the actual work, it must be taught as well by mentoring system. The employees will be more confident and perform better."

It was analyzed and can be concluded that the airline personnel development approach for ground service should have first; the classroom training and then on-the-job training will result in basic competency in the operation. After that, during actual operations, there must be coaching to build confidence and a team building for effective collaboration.

The next approach to develop human capital is to be a learning organization to continually educate all airline employees through electronic communication, regardless of system construction as the intranet or Line group to learn together. When working for a period of time, the job rotation approach is used to reduce boredom and learn new and different jobs, but still a service work for passengers. And, when the organization wants to determine the position to promote the higher level for the employees, it is necessary to have a field trip for learning both domestically and internationally to enhance a different perspective and apply it to the work. The final level is an additional education to increase the qualifications of personnel with leadership qualities. And the organization wants to promote its employees to be good management. The organization, therefore, is pushing for further education at the master's level or in leading institutions to obtain a certificate of expertise in each area. As in the interview of the airline management as follows;

> Building a learning organization, it is very important tool for human capital development. The airline has an intranet for employees to be able to study new policies or principles of knowledge employees at all times. And we do have a chat channel to exchange ideas with each other as well as solving any problems that arise. Furthermore, the Line group allows employees to discuss about variety of tasks. (Thai- Malaysian low-cost airline executive, personal communication, December 20, 2019).

While other executives of the Thai low-cost airline gave a consistent opinion that;

> Our airline, in addition, has an intranet, we also do courses so that employees can access the intranet for self-development, continuous learning from anywhere, anytime. It is a learning organization. (Thai low-cost airline executive, personal communication, December 20, 2019).

As for the approach mentioned above, most management view that it is sufficient for the development of the airline employees' competencies in ground service to perform the task. As for job rotation, it will be a development guideline when employees are working for a period of time until having sufficient skills. The executives have to rotate them to perform in different roles. But it is the same service, such as changing duties from the check-in staff to lost and found etc., which has different duties, but it is a service for passengers as well. As the executives of low-cost airlines commented as follows:

> The job rotation, should be used as an employee's development guideline after performing work for a while. The main reason is for employees to learn about

other jobs within the airport, they will enhance the service capability. (Thai low-cost airline executive, personal communication, November 16, 2019).

A Thai-Indonesian low-cost airline executive has similarly commented that "In my opinion, I have worked in the airline company for more than 20 years. Though, the job rotation should be implemented after the employee has worked for a while by switching to another job that is also in a ground service. That has to be a job that contacts with passenger services as well."

Thai low-cost airline executives commented that the subsequent development should be a field trip in different airlines for learning. This will give different perspectives of service, knowledge benchmarking. This will be useful for adapting and applying in their organization. While, the additional educational approach to increasing the qualifications provides a guide for employees to ascend to higher positions. The organization will support to further education which provide a high level of knowledge to more complex practices. As in the interview as follows;

The field trip for learning in other airlines, we will provide some employees who have the qualifications required by the organization for the field trip in best practice organization to adapt in our organization. As for the education approach to increase the qualifications, most of the staff will be encouraged to work until they are skilled at some level, we will encourage them to further study in diploma, which domestic or international institutions, or at the certificate level, or at a higher degree to apply advance knowledge to develop jobs, and be promoted to a higher position. (Thai low-cost airline executive, personal communication, December 20, 2019).

In summary, aviation human capital development approaches according to the content analysis of low-cost airline executives at Don Mueang Airport were found that; the first development approach affecting the aviation human capital is the

classroom training, followed by on-the-job training, coaching, learning organization, job rotation, field trip for learning, and education.

When analyzing all content aspects by weighting the content, the information on the intent of the full and low-cost airline executives without the bias of the researcher found that; the major approaches for the development of aviation human capital in descending order are: the classroom training, on-the-job training, coaching, job rotation, learning organization respectively. As for the field trip for learning, and education to increase qualifications. These are the guidelines for human capital development when working for a while to promote to a higher position.

4.5 Objective Number 3: The Aviation Human Capital Competency of Ground Service Officer that Satisfy the Passengers (Answers to the Research Question Four)

4.5.1 The Multiple Regression Analysis on Aviation Human Capital Competencies, and the Holistic View of the Passengers of Full-Service and Low-Cost Airlines

Table 4.21 Multiple Regression Comparing the Aviation Human Capital Competencies Affecting to the Satisfaction of Full-Services and Low-Cost Airlines User's Perspective

Aviation Human Capital Competencies		Passenger's Satisfaction	R	t	P
Constant	.892	Full-Service Airlines	.854	7.306	
Ability to communicate foreign language in a job			.645	17.310	.000***

Aviation Human Capital Competencies		Passenger's Satisfaction	R	t	P
Having volunteer Attitude			.138	3.154	.002*
R^2 = .729					
F = 176.307					
Constant	.715	Low-Cost Airlines	.845	5.328	
Ability to communicate foreign language in a job			.780	20.853	.000***
Social skills			.083	3.211	.001**
R^2 = .714					
F = 163.182					

Note: * 0.05, **0.001, ***0.000 mean difference significant level

From table 4.22, the result of multiple regression analysis revealed that the respondents who were full-service airlines users emphasized on the ability to communicate foreign language in a job, and having volunteer attitude of aviation human capital competencies. It can be interpreted that these characteristics would make them satisfy with the airline's ground services. These competencies are able to predict the dependent variables at 72.9% (R^2 = .729) with F value at 176.307. It shows that the variables of the ability to communicate foreign language in a job, and having volunteer attitude have the coefficients affecting the passenger's satisfaction as shown in the following equation.

The satisfaction of passengers toward full-service airlines' human capital = 0.892+ 0.645 (The ability to communicate foreign language in a job) + 0.138 (Having volunteer attitude)

Whereas, the passengers of low-cost airlines disclosed that the competencies of aviation human capital most affected to their satisfaction were; the ability to communicate foreign language in a job, and social skills. These competencies can

predict the dependent variables at 71.4% (R^2 = .729) with F value at 163.182. Thus, the competencies of the ability to communicate foreign language in a job, and social skills represent the coefficients affecting the passenger's satisfaction as shown in the following equation.

The satisfaction of passengers toward low-cost airlines' human capital = 0.715+ 0.780 (The ability to communicate foreign language in a job) + 0.083 (Social Skills)

1) The multiple regression analysis on aviation human capital competencies, from both full-service and low-cost airlines' passenger perspectives.

Table 4.22 Multiple Regression Analysis of Aviation Human Capital Competencies Affecting the Satisfaction of both Full-Services and Low-Cost Airlines Passenger's

Aviation Human Capital Competencies		**Passenger's Satisfaction**	**R**	**t**	**P**
Constant	.820	Full-Service Airlines and Low-Cost Airlines	.847	9.085	
Ability to communicate foreign language in a job		Full-Service Airlines and Low-Cost Airlines	.710	26.925	.000***
Having volunteer Attitude			.089	2.926	.004*
Social skills			.061	3.382	.001**
R^2 = .718					
F = 336.708					

Note: * 0.05, **0.001, ***0.000 mean difference significant level

From table 4.23, the result of multiple regression analysis revealed that the respondents who were full-service and low-cost airlines users stressed on the ability to communicate foreign language in a job, having volunteer attitude, and social skills of

aviation human capital competencies. It can be interpreted that these characteristics would make passenger satisfy with the airline's ground services of both type of airlines. These competencies are able to predict the dependent variables at 71.8% (R^2 = .718) with F value at 336.708. It shows that the variables of the ability to communicate foreign language in a job, having volunteer attitude, and social skills have the coefficients affecting the passenger's satisfaction as shown in the following equation

The satisfaction of passengers toward full-service and low-cost airlines' human capital = 0.820 + 0.710 (The ability to communicate foreign language in a job) + 0.089 (Having Volunteer Attitude) + 0.061 (Social Skills)

Based on the multiple regression analysis for the approaches of aviation human capital development according to the opinions of the full-service airlines staff consisted of: classroom training, job rotation, being a learning organization, and on-the-job training. As for the development of human capital in aviation from the perspective of low-cost airlines' employees, namely classroom training, job rotation, on-the-job training, and coaching. It can be seen that the aviation human capital development approach from the opinions of full-service and low-cost airlines staffs are the same, in terms of classroom training. job rotation, and on-the-job training. When the data from the two airlines were combined for multiple regression analysis, the guidelines for the development of aviation human capital were found to be: classroom training, job rotation, on-the-job training, additional education to increase qualifications, and being a learning organization affecting the human capital competencies of aviation.

For the results of a regression analysis of the competencies affecting service satisfaction of the airlines' users toward the aviation human capital based on passenger opinions of full-service airlines, two competencies were found: the competence in communication language in the job, and having a volunteer attitude. The viewpoint of low-cost airlines' passengers that the ability to communicate language in the job, and social skills affect the service satisfaction receiving from aviation human capital. And when using the aggregated data of the sample group of full-service and low-cost airlines,

the multiple regression analyzes were found that the satisfactory effects on the service satisfaction were: the ability to communicate language in the job, having a volunteer attitude, and social skills.

4.5.2 Interview Content Analysis on Human Capital Competencies for Ground Service Officer

The content analysis of aviation human competencies of passenger ground services at Suvarnabhumi Airport.

The fundamental competency for the aviation personnel in providing services to passengers is service-minded. It is to impress the passengers. Nonetheless, each person has different characteristics, habits, values that exist within them, which is formed by the shaping of their families, schools and the society around that form different habits. In this regard, all airlines required to recruit passenger ground service officer who has service-minded personality expressing their service-oriented behavior. The airline personnel selection is based on the service performance embedded in the applicants as a basis to obtain personnel suitable for ground service who must dealing with passengers. The passengers are holding their values, culture, and believe with them from many countries. Therefore, the aviation personnel must have a service-minded as the core. As refer to the interview with the full-service airlines executives is as follows:

> The first competencies that aviation personnel must have; I emphasize that it is a basic must have, is a service-minded. Because we serve passengers from various countries with different behavior. Therefore, our staff must have a mindful mind how to provide a service that impresses passengers. (Full-service airlines executive from the Middle East, personal communication, December 23, 2019)

While other full-service airline executives commented that;

> People are different as a result from family, school and society. In spite of, the service of the airline, we will consider the personality of applicants from their gesture·s expression, a glimpse of a conscience that will serve passengers the best. (Full-service European airline executive, personal communication, December 23, 2019).

Passenger service work without service-minded will result a negative effect on the airline, airport, and country. The passenger ground service officers must understand the needs of passengers and provide services that they desire. As in the interview that:

> If we get people who do not have service-minded. It will cause a lot of negative effects on our organization. We do business, we want passengers to be impressed with our service and come back to use our airline again and again. The ground personnel who have to interact with passengers will make a first impression whether negatively or positively. (Private full-service airline executive in Thailand, personal communication, December 23, 2019).

In addition to the competence of service-minded of ground service personnel, the following important competencies that airline management has focused on is having volunteer attitude. Since, providing impressive service to passengers is not just a job responsibility. If the passenger has any problems in relation to any issue within the airport, the aviation personnel must volunteer to serve the needs of the passenger, even if it is not their primary duty. The volunteer attitude means the willingness to help all passengers. This will cause an impression because it will be remembered by passengers for a long time. Then passengers will become loyal to that airline. As an interview with Chinese executives of full-service airlines that;

> Competency of service-minded and volunteerism is a must if you are working as the passenger's service in an airport. Actually, the meaning of service-minded and having volunteer attitude are quite similar. The service-minded has to be a volunteer spirit that wants to help others in any way. (Chinese full-fledged airline executive in Asia, personal communication, December 2, 2019).

However, one of the airlines managements was also have the same opinion that ethics and morals will result in a volunteer attitude along the way, with the aim of helping others. Which is an attitude that can perform tasks result to the satisfaction of the passengers.

> Having a positive attitude towards service requires a volunteer spirit. This performance is fundamental for a passenger ground service officer in airports. With this opportunity, it will be able to satisfy passengers at once. (Full-service airline's executive from Europe, personal communication, February 21, 2020).

For subsequent competencies of ground service officers must serve passengers from many countries with diverse cultures, values, beliefs and attitudes. There are also languages that differ according to a person's origin. Therefore, the passenger ground service officers need to be able to communicate foreign language besides English. The third and fourth languages are very important like Russian, Chinese or Spanish, etc. Since if the passenger's language is communicated, it will make a strong impression on the native speaker. And will easily make the service being more impressive. At the same time, a person who works in the airport environment must understand cultural differences, social values and behaviors of each nation. Then, a person should be able to manage cultural differences. It would help to to understand and be able to provide services that meet the needs of passengers. This is including nonverbal communication

that neither is the same nor different in each country, such as greeting hello. Some nations use worship or 'wai' similar to Thailand. Some nations use the bow. Some nations greet each other using their cheeks. Some nations act loudly, but it is a normal nature of race. Therefore, it must be followed in accordance with the culture of each nation, which will affect to provide excellent service, creating maximum satisfaction for the passengers. As in the interview of airline executives as follows;

> To work in the airport, apart from having ethics and morals, and it is very important to be fluent in a foreign language, especially a second language other than English. Such as Russian, Chinese, or any other language. The knowledge of language must be communicative, and also understand the different cultures of each country and language as well. This will get the job done smoothly. (Chief Executive of Airlines in Southeast Asia, personal communication, January 12, 2020).

While other executives have also supported this idea that;

> The competence to acquire knowledge of a third language other than English is very important. You should know a lot of languages, but be able to communicate clearly, not just a simple greeting. And a person should understand the values, beliefs and cultures of different gestures that are expressed, such as: various greetings or expressions of different characteristics, such as accepting responses by nodding are not just nods, for Japanese, bow and tend not to look at the other person's eyes because the long gaze is considered impolite. And, as with passengers from the Middle East, getting close and eye contact with a female is disrespectful. As Europeans we have to look into the eyes of the interlocutor to know that we are listening and interested in what has communicated. These are the essential things for passenger ground service officer. (Middle East full-service airline executive, personal communication, January 12, 2020).

In operating at the airport, in addition to having the competencies as mentioned above. The key competencies that resulted from the inside of the ground service workforce to impress passengers with a lasting impression in mind, including: the communication and interactions skills, and emotional intelligence are the subsequent competencies. It can be explained that both of these competencies must exist in together for a good interaction, there should be two ways of communicating, both the messenger and the receiver. It is to achieve mutual understanding and to show friendly attitude both verbal and non-verbal. Since, the passenger service job is a sensitive subject, it may be misleading from communication. The ground service personnel must have a good interpersonal competence and understand others in a knowledgeable manner. The emotional intelligence coupled with interaction results in satisfying and impressive passengers' satisfaction. As an interview with airline management that;

> Another important aspect of ground service worker is their ability to communicate and interact with others. This is very important even if you have a positive attitude towards service, but unable to communicate well with passengers. We do not want. You need to understand the communication technique, how to speak making passenger understand without causing misunderstanding from facial and gesture expression. (East Asian full-service airlines executive, personal communication, December 2, 2019).

While another full-service airline executive said similarly,

> Actually, if there is good service but poor communication with passengers, then it will not make an impression. Therefore, this competency is required and must have emotional intelligence. It is the ability to control emotions, understanding of passenger's feelings, because passengers come from different nations and have different problems. A ground service will be absorbing the passenger

tempered blow out. Therefore, the passenger ground service officer must be able to control the situation. So, the ground workforce must have emotional quotient along with communication and interaction skills. (Full-service airlines of Thailand senior management, personal communication, January 12, 2020).

In which another management agreed that;

The ability to communicate and interact with people is essential in communicating with passengers, but it must also be coupled with the emotional intelligence. Otherwise, they will not be able to interact with the guide. It is resulting to the dissatisfaction with the service. (Full-service airline executive in the Middle East Region, personal communication, February 17, 2020).

In addition to the aforementioned competencies, a passenger ground service officer must have to accomplish the task. However, the basis for good service must have ethics and morals, which means that service providers must have good mind within oneself. This will show up in good behavior, kindness and ethical to others in accordance with the ethical framework of airlines and the world society. It is in accordance with the International Air Transport Association (IATA) code of conduct for setting up a framework of action that emphasizes passenger safety. Overall, it is to have honest of good conduct, both physically, verbally and mentally to perform their duties correctly and completely. And to abstain from the things that should be ignored and to act with discretion, to know reason, to be reasonable, to be timely and respect others. It is also to provide service with willingness. As an interview with airline management as follows;

One thing that is important, besides having a service-minded is to have an emotional intelligence for getting along with others, but also must have ethics and morals. It is having good behavior, both physically, verbally, and

compassionate or the four sublime states of mind. Then, a person will work with good intentions, prudence, reasonably for passengers which is considered necessary. (Full-service airlines of Thailand senior management, personal communication, January 12, 2020).

Other executives gave the same opinion on morality, ethics, saying "To serve well must have morality, that is, good behavior. Complying with airline regulations, including ICAO or IATA, and uphold the principle of compassion and humility to passengers, empathy to the people." (Executive, private full-service airline, personal communication, February 25, 2020).

For another competency is the technological skills or the application of information technology, which is very necessary in the digital era. The operator must be able to use new technology fluently and quickly to serve passengers in both normal and emergency situations. Due to every system and equipment to support passenger services in the airport uses modern technology and all systems are linked. As in the interview of airline executives as follows;

A qualified ground service officer is a person who always ready to serve. And a person must exist the ability to adapt using the technology swiftly to serve passengers as quickly as possible. The technology is used in the airports and airlines all interconnected networks. So that the officers must have outstanding abilities in this field as well. (Airline senior management for Southeast Asia, personal communication, January 12, 2020).

The same opinion of another full-service airline executive commented that;

Working in the airport, if you are good at service but not good at technology, that is mean you are failed. Because of the systems in the airport are connected

by modern technology systems. The ground service personnel must therefore have the capability to use passenger service technology quickly and in all manner. (Full-service airline executive in the Middle East region, personal communication, February 17, 2020).

As for aviation human capital competencies, one of the most important competencies in airport operations include: the job achievement which a person focusing on the achievement of work. It is one of the elements that should be a commitment to accomplish tasks, even if it is hard or difficult, which will be the competency with the service to achieve the passengers without problems. Or any obstacles. And to satisfy with passengers, therefore, the ground service personnel must have this capability. It is an internal drive to act, no matter what work is performed, it must be accomplished every time passengers are serviced. As in the interview with airlines management as follows;

Competency on the job achievement is a competence that ground service personnel must possess, along with competence related to communicating with passengers. If a person works without the goal to accomplish, it will cause damage to passengers and to the airlines. (European Full-service airline executive, personal communication, February 15, 2020).

While full-service airline executives commented that;

> Any work without the competence that is determined to be persistent in achieving the goal. It cannot achieve their own goals and the organization. The work of an airline service is very important in terms of safety. And the speed to be punctual correctly, without this capability will cause damage to passenger travel. (Full-fledged airline executive in Southeast Asia, personal communication, December 12, 2019).

For a teamwork, creativity and innovation for the job improvement, continuous learning for self-improvement, being expertise in the career, and system thinking are the complement competencies allowing passenger ground service officer to perform a better service. These competencies are not the key competence for ground services. As refers to the executive interviewed that;

> I thinking, the priority competency is service-minded with volunteer attitude, foreign language communication, cultural diversity management, the communication and interaction skills with others along with emotional intelligence, ethics and morals, job achievement, are the basic key competencies for a service job. However, the other competency should be included is technological skills. Since, today the aviation industry was applied modern technology. While, the employees must stress on the effort, self-awareness to perform the task successfully whether it is difficult. Whereas, the other competencies are the components that will make service work better. But it is not yet a core competence in a person to be a good service worker. (Full-service airline in Thailand, senior management, personal communication, January 12, 2020).

Summary of aviation human capital competencies according to the weighted analysis based on interviews with executives of full-service airlines, Suvarnabhumi Airport found that the core competencies of aviation human capital as the top first for

passenger ground service officer is service-minded, followed by having volunteer attitude, communication skills of foreign language, communication and interaction skills, emotional quotient, cultural diversity management, ethics and morals, technological skills, and job achievement respectively. Considering that, the system thinking, teamwork, creativity and innovation for the job improvement, continuous learning for self-improvement, being the expertise in career are the complementary competences that will provide employees with additional skills resulted in better service work.

4.5.3 The Content Analysis of Aviation Human Competencies of Passenger Ground Services at Don Mueang Airport.

The summary from the content analysis of the interview data. It can be synthesized from a mostly logical subsection of cause and effect without the prejudice of the interviewer. The first human capital competencies in airport services are: service-minded, followed by having volunteer attitude. Since service work has to have a service-minded that was formed from childhood. It makes people behave differently. The ground service workers serve passengers from all over the world. There are different problems. The service provider must have a service-mind at all times. And the service-minded must be coupled with having volunteer attitude that willing to help passengers in all matters, even if they are not in their job duties. It must also have the communication and interaction skills, and emotional intelligence, in order to understand needs, and empathize the passengers. It would help to create a good relationship from chatting, gestures, and words in communication that will be understood by both parties. It must also be competent in emotional intelligence to work with others, and to serve passengers with understanding, unbiased, accepting of any problems and willing to assist passengers.

The following competencies that employees must have, especially when working at the airports are: the communication skills of foreign language, besides communicating in English fluently, responding, answering questions based on correct

grammar. The ability to communicate more than two languages in order to communicate properly with passengers is essential. The other is cultural diversity management competency, due to the beliefs and values of passengers' nations are different. Therefore, the ground officer who is in constant contact with passengers must have knowledge of these matters so as not to misunderstand passengers' expressions which are different and able to communicate in a comprehensible manner.

For the next competence is the ethics and morals of the ground service officer, the need to have good conduct, both physically, verbally, reasonably and effectively, respect for the rules, for both Thai and the world society. It is to practice the career code of conduct and humbly serve passengers, polite speech expressing from the heart. And another competency in the next order that ground service officer must have is technological skills. It refers to the ability to use modern information technology smartly, quickly. And able to employ technology for services promptly, due to most of the airports equipped with modern technology. Another competence that should be have in a ground service officer is a job achievement. When a person incorporated with the service-minded, having a technological ability, he/she must have a passionate mind to complete any task, regardless of whether the job has any obstacles. As an interview with the executives of low-cost airlines as follows;

> As for me, as I have been working in the airport for 20 years, I think that the service field in the airport as a passenger ground officer must have good service-minded coupled with volunteering, good communication skills, emotional quotient, and ethics and morals. These are the basic competence of ground staff to serve the passenger's needs. Another competency is technological skills that a ground staffs are able to employ technology quickly, savvy for the service. Last, it is a must competency that is job achievement. It is the effort of a person to do the job done according to organization goals. (Thai executive low-cost airline, personal comminication, February 13, 2020)

Other executives commented on the human capital competencies in aviation that;

> If the service work in the airport having good service-minded must be number one and accompanied by volunteerism that wants to help others. And another important competency is the ability to communicate in foreign language, followed by communication and interaction skills, emotional quotient to empathize others. And it is very important to recognize values, belief, non-verbal communication of other cultures. On the other hand, the ethics and morals of employees which must include goodness of both verbal, and good behavior in service. Moreover, it is followed by the good use of modern information technology, being service expertise in the career, but it's indispensable to focus on the success of the work that must be existed. I think all of these competencies are must have for a passenger ground service officer. (Thai-Malaysian low-cost airline executive, personal communication, December 20, 2019)

While another executive gave an idea of aviation human capital competencies that;

> The main foundations for the competency of ground service workers are: ethics and morals, service-minded, having volunteer attitude, communication and interaction skills, emotional quotient, communication of foreign language, cultural diversity awareness of other nations. These are the competencies that ground officer shall have. In the meantime, the technological skills, job achievement would make the employees distinctive." (Thai low-cost airline executive, personal communication, December 20, 2019)

In addition, other executives have expressed their view of human capital competencies in the airline's ground services that;

> The fundamental core competencies of all human capital in aviation must have: ethics and morals which reflect the mindfulness and willing to serve other people very well. That is related to service-minded. It is come along with having volunteer attitude, the communication and interaction skills with passengers, and emotional quotient. More importantly, it is the ability to communicate foreign language and even better with third language. The emotional quotient is the ability to compatible with team members in organization or the passengers. And this one is even more important, being compassionate and willing to help others. All of these are the fundamental and should have the competence of technology savvy that is good enough to work. And finally, the job achievement to accomplish the task, all of which are key competencies that must be had. (Thai low-cost airline executive in human resources, personal interview, 16 November 2019)

For the system thinking competency, teamwork, creativity and innovation for the job improvement, continuous learning for self-improvement, being expertise in career are the complementary competences for ground staffs to perform more efficiently in services. So everyone should have these elements too rather, it is the subsequent competencies, not the fundamental core competencies for airport service. As an interview with low-cost airline executives saying;

> The system thinking, creativity and innovation in the job. Personally, it is not the major competences that ground staff should have but should also have this capability as well. While, on the part of the continuous learning capability on their own, and having expertise in that profession, when employees come to work if they want to be progress in the career, they should continue the self-learning competency so that they can have the professional competency. This is including being creative and innovation in the job by themselves which is not a

core competency. (Thai low-cost airline training director, personal communication, January 23, 2020)

In summary, human capital competencies in aviation based on content analysis from interviews with management of low-cost airlines at Don Mueang Airport showed that the core competencies of the ground service workforce in descending order are: service-minded, having volunteer attitude, communication and interaction skills, emotional quotient, communication of foreign language, cultural diversity management, ethics and morals, technological skills, and job achievement accordingly. For the competencies of system thinking, teamwork, creativity and innovation for the job improvement, continuous learning for self-improvement, being expertise in the career are the complementary competence which would allow ground service officer performing the task better not including as the core competencies in aviation.

The researcher analyzed all the content by weighting the content obtained from interviews with airline executives from Suvarnabhumi Airport and Don Mueang Airport, it was concluded that the core competencies of ground service personnel should consist of descending performance, namely: service-minded, having volunteer attitude, communication and interaction skills, emotional quotient, communication of foreign language, cultural diversity management, ethics and morals, system thinking, teamwork, creativity and innovation for the job improvement, technological skills, job achievement, continuous learning for self-improvement, and being expertise in the career.

4.6 Summary

Summarize the results of data analysis from questionnaires with descriptive statistics, and inferential statistics including content analysis from the interviews are as follows:

4.6.1 Level of Aviation Human Capital Development Approach

Based on the analysis of aviation human capital development approaches of full-service airlines operating at Suvarnabhumi Airport, and low-cost airlines operating at Don Mueang Airport found that: the station manager, deputy manager, department head, supervisors, and deputy supervisors have the same opinion that the classroom training, learning organization, job rotation, field trip for learning, and education are at highest level. Whereas, on-the-job training and coaching are at high level.

4.6.2 Level of Aviation Human Capital Competency for Ground Services

Based on the analysis of aviation human capital competencies of full-service airlines operating at Suvarnabhumi Airport, and low-cost airlines operating at Don Mueang Airport found that: the station manager, deputy manager, department head, supervisors, and deputy supervisors are of the same opinion that having volunteer attitude, system thinking, cultural diversity management, emotional quotient, communication and interaction skills, communication of foreign language, teamwork, technological skills, creativity and innovation for the job improvement, service-minded, continuous learning for self-improvement, being expertise in career, and job achievement are at the highest level, while ethics and morals is at high level.

4.6.3 Level of Aviation Human Capital Competency Eligible for Ground Services

From the analysis results of passengers' opinions using the full-service airlines at Suvarnabhumi Airport, and low-cost airlines at Don Mueang Airport found passengers who use both types of airline services have the same opinion. Human capital competencies in ground services suitable for performing passenger services are at the following levels: having volunteer attitude, cultural diversity management, emotional quotient, communication and interaction skills, communication of foreign language, technological skills, creativity and innovation for the job improvement, service-minded, continuous learning for self-improvement, ethics and morals, being expertise in the

career, and job achievement are at highest level. While, teamwork, emotional quotient, and system thinking are at high level.

Based on the analysis result of aviation human capital competencies from airlines' station manager, deputy manager, department head, supervisors, and deputy supervisors, and the analysis from the passengers both full-service and low-cost airlines are slightly different. Since, from the airlines' employee's opinion stress on the view of a person who did work in an airline company. Whereas, the passengers view the end result which is the satisfaction that they will receive from the airlines. When applying the cause and effect analysis, researcher sees that the passenger's opinion is neutral and is a direct receiver. Therefore, the summarization of the research analysis results mainly based on the opinions of passengers.

4.6.4 The Level of Passenger Satisfaction Towards the Aviation Human Capital in the Ground Service.

The analysis results of the passengers' opinions using the full-service airline service at Suvarnabhumi Airport, and low-cost airlines at Don Mueang Airport found that passengers using both types of airlines share the same opinion. The service quality, responsiveness to passengers' needs, reliability and assurance, and the service expectation are at highest level.

A comparative study of the differences between the development of human capital approaches in the ground services, human capital competencies in ground services, and the satisfaction of passengers on full-service and low-cost airlines towards aviation human capital ground services at Suvarnabhumi Airport, and low-cost airlines at Don Mueang Airport, from the questionnaire of passengers using full-service and low-cost airlines, airline officers at the department head level and the deputy head of department are as follows;

The differences of aviation human capital development approaches of ground services.

Hypothesis: Aviation human capital development approaches on classroom training, coaching, on-the-job training, learning organization, job rotation, field trip for learning, education of both types of airlines are different.

The result from t-test analysis found that classroom training, job rotation, field trip for learning, and education are not different.

Whereas, coaching, on-the-job training, and learning organization are different.

Differences in aviation human capital competencies in ground service from airlines' staff perspectives.

Hypothesis: Aviation human capital competencies in passenger ground services: having volunteer attitude, system thinking, cultural diversity management, emotional quotient, communication and interaction skills, communication of foreign language, teamwork, technological skills, creativity and innovation for the job improvement, service-minded, continuous learning for self-improvement, ethics and morals, being expertise in career, job achievement, of both types of airlines are different.

The result from t-test analysis found that having volunteer attitude, emotional quotient, teamwork, creativity and innovation for the job improvement, service-minded, continuous learning for self-improvement, ethics and morals, being expertise in career, and job achievement are not different.

Whereas, system thinking, cultural diversity management, communication and interaction skills, technological skills, of both types of airlines are different.

Differences in aviation human capital competencies in ground service from passenger perspectives.

Hypothesis: Aviation human capital competencies in ground services: having volunteer attitude, system thinking, cultural diversity management, emotional quotient, communication and interaction skills, communication of foreign language, teamwork, technological skills, creativity and innovation for the job improvement, service-minded,

continuous learning for self-improvement, ethics and morals, being expertise in career, job achievement, of both types of airlines are different.

The result from t-test analysis of the competencies of human capital in ground services of full-service and low-cost airlines found that passengers using both types of airline services have the following views on human capital competencies in ground services: having volunteer attitude, system thinking, cultural diversity management, emotional quotient, communication and interaction skills, communication of foreign language, teamwork, technological skills, service-minded, continuous learning for self-improvement, being expertise in career, job achievement are not different. It is the aviation workforces operating in both types of airlines have in common to perform the job. While, the creativity and innovation for the job improvement, and ethics and morals are different.

4.6.5 The Difference in Service Satisfaction of Aviation Human Capital in Ground Services from the Passenger's Point of View.

Hypothesis: The satisfaction in service of aviation human capital in terms of quality of service, responsiveness to passengers' needs, reliability and assurance, and the service expectation of both types of airlines are different.

The result from t-test analysis found that the service satisfaction of passenger on service quality, responsiveness to passengers' needs, reliability and assurance, and the service expectation towards the aviation human capital in ground services are not different.

4.6.6 Aviation Human Capital Development Approaches Affecting to Aviation Human Capital Competency in Ground Service Based on the Opinion of the Airline's Chief Department Officer and Deputy of the Department of both Types of Airlines.

The analysis result of multiple regression on aviation human capital development approaches affecting to aviation human capital competencies from the

questionnaires data based on airline's employees at management level, head of department and deputy head from full-service airlines found that the classroom training, job rotation, learning organization, and on-the-job training affect to the aviation human capital competencies in passenger ground services.

The aviation human capital development approaches affect to the aviation human capital competencies based on low-cost airline's employees at management level, head of department and deputy head were the classroom training, job rotation, on-the-job training and coaching.

The aviation human capital development approaches affect to the aviation human capital competencies based on full-service and low-cost airline's employees at management level, head of department and deputy head were the classroom training, job rotation, on-the-job training, education, and learning organization.

The aviation human capital development approaches affect to the aviation human capital competencies based on the interview content analysis of full-service airline's executives found six approaches consisting of classroom training, on-the-job training, coaching, job rotation, learning organization, and field trip for learning.

The aviation human capital development approaches affect to the aviation human capital competencies based on the interview content analysis of low-cost airline's executives found seven approaches consisting of classroom training, on-the-job training, coaching, learning organization, job rotation, field trip for learning, and education.

As it can be seen that the result of multiple regression analysis and the interview content analysis were slightly different. After analyzing the content and comparing it with statistical results, it can be summarized the approach to aviation human capital development that affects the competency of the aviation human capital that will create operational performance. And then affect the passenger satisfaction. as follows; classroom training, job rotation, on-the-job training, coaching, and learning organization.

4.6.7 The Results Analysis of Aviation Human Capital Competencies in Ground Services Affecting Passenger's Satisfaction Toward Aviation Human Capital Based on Opinions of Full-Service and Low-Cost Airline Passengers. and the Interviews Content Analysis with Top Management of both Types of Airlines

The results of the multiple regression analysis from the questionnaires of full-service airlines passengers were found the ability to communicate foreign language in a job, and having volunteer attitude affecting to the passenger's satisfaction towards the aviation human capital in ground services.

The results of the multiple regression analysis from the questionnaires of low-cost airlines passengers were found the ability to communicate foreign language in a job, and social skills affecting to the passenger's satisfaction towards the aviation human capital in ground services.

The results of the multiple regression analysis from the questionnaires of full-service and low-cost airlines passengers were found the ability to communicate foreign language in a job, having volunteer attitude, and social skills affecting to the passenger's satisfaction towards the aviation human capital in ground services.

The aviation human capital competencies based on the interview content analysis of full-service airline's executives found service-minded, having volunteer attitude, the communication of foreign language in a job, the communication and interaction skills, emotional quotient, cultural diversity management, ethics and morals, and technological skills affecting the passenger's satisfaction respectively.

The aviation human capital competencies based on the interview content analysis of low-cost airline's executives found service-minded, having volunteer attitude, the communication and interaction skills, emotional quotient, the communication of foreign language in a job, cultural diversity management, ethics and morals, and technological skills affecting the passenger's satisfaction respectively.

After that the researcher has analyzed the result comparing between multiple regression and the content analysis of the airline's executives, it is found that there are

only few issues different. While airline executives have more than 10 years of experience in airline operations, they understood and able to analyze the core competencies that should affect the performance to achieve the highest passenger satisfaction level. On the other hand, the passengers have an impartial and consumer view of what performance affects the quality of the airline's human capital service. Therefore, after analyzing logically, it can be concluded that aviation human capital competencies affecting passenger satisfaction from ground services should include the following competencies: the ability to communicate foreign language in a job, continuous learning for self-improvement, having volunteer attitude, service-minded, communication and interaction skills, teamwork, emotional quotient, cultural diversity management, and ethics and morals.

CHAPTER 5

CONCLUSION, CONTRIBUTIONS, RECOMMENDATIONS AND IMPLEMENTATIONS

The study of aviation human capital development approaches: a case study of ground service officer has three key issues presented including: conclusions, contributions, and recommendations and implementations of this research. It was administered of statistical test and the in-depth interview content analysis to figure out four research objectives. Those were;

Objective number 1 To study the level and the differences of development of human capital in aviation, human capital competency in aviation and service satisfaction of ground service officers.

Objective number 2 To study the development of human capital that affect the competency of ground service officers, and

Objective number 3 To study the human capital competency factors affecting the services that make the service receivers satisfied with the ground services.

This study was mainly applied quantitative research and complemented by structured in-depth interview. The purpose of using mixed methods is to gain the insight information filling the gap of quantitative method, which concrete the result getting from quantitative research. For the sample group, it was classified into 2 groups: The first samples were those working in the aviation industry. It consists of 152 people in high-level position of full-service airlines and 50 people from low-cost airlines. The data was collected by distributing questionnaires of 202 sets. And in-depth interviews with 24 executives of full-service and low-cost airlines. The second group is a full-service airline passenger who flies at Suvarnabhumi Airport, totaling 400 people. And 400 passengers using low-cost airlines at Don Mueang Airport. The data was collected by distributing to a full-service airline's passengers 400 and 400 sets of low-cost airlines users for a total of 800 sets.

The research was conducted according to the research methodology, consisting of: population and sample, data collection, instruments used to collect data, the reliability testing, the analysis by descriptive statistic and inferential statistic. Research variables consisted of 7 independent variables approaches for the development of aviation human capital including: 1) classroom training 2) coaching 3) on-the-job training 4) learning organization 5) job rotation 6) field trips for learning, and 7) education.

The dependent variable were 14 aspects of human capital competencies, consisting of 1) having volunteer attitude 2) system thinking 3) cultural diversity management 4) emotional quotient 5) communication and interaction skills 6) communication skills of foreign language 7) teamwork 8) technological skills 9) creativity and innovation for the job improvement 10) service-minded 11) continuous learning for self-improvement 12) ethics and morals 13) being expertise in the career 14) job achievement. And variables according to the service satisfaction of aviation human capital in 4 areas, which consist of (1) the service quality (2) responsiveness to passengers' needs (3) reliability and assurance (4) the service expectation.

The benefits from this study are divided into two areas: human resource development in the aviation industry and in academic areas. In terms of human capital development, airlines can use the model to develop human capital in the organization in order to have the competencies to impress users and create a good experience for passengers returning to service as loyalty passengers to the airline. And present the development model to Thailand Professional Qualifications Institutes (Public Organization) for airline ground service professional qualification standard in terminal services to support in establishing a competency standard framework for assessing human capital characteristics in the field of national ground services. For academic aspects: acquire knowledge and models for further study and describe approaches for the development of aviation human capital in relation to aviation human capital competencies. The institution that offers aviation business education at the graduate level can be used as a guideline for teaching and learning and further research.

5.1 Conclusion

The presentation of the results is divided into 5 parts according to the research objective. Researcher presents the results of analysis of data from descriptive statistical tests, inferential statistics, and methodological in-depth interviews are summarized as follows:

5.1.1 Objective Number 1 the Level and he Differences of Development of Human Capital in Aviation, Human Capital Competency in Aviation and Service Satisfaction of Ground Service Officers.

The results of the study analyzed the data on the approaches to human capital development in the interpretation from the sample group of full-service and low-cost airlines employees in a holistic approach a suitable level, sorted from most to least, including: classroom training, learning organization, job rotation, field trip for learning, and education were at highest level. Meanwhile, on-the-job training and coaching were at high level.

The results of the aviation competencies level analysis from the perspective of full-service and low-cost airlines employees, in overall, ranked from the highest level found that: having volunteer attitude, system thinking, cultural diversity management, emotional quotient, communication and interaction skills, communication of foreign language, teamwork, creativity and innovation for a job improvement, service-minded, continuous learning for self-improvement, being expertise in career, and job achievement were at highest level, while ethics and morals is at high level.

For the study of aviation human capital competencies, from the perspective of passengers using full-service and low-cost airlines, it was found that human capital competencies fit for ground service, were in the order of highest ranked as follows: having volunteer attitude, cultural diversity management, communication and interaction skills, communication of foreign language, technological skills, creativity and innovation for a job improvement, service-minded, continuous learning for self-improvement, ethics and morals, being expertise in career, and job achievement were

at highest level, whereas teamwork, emotional quotient, and system thinking were at high level.

The results of the passenger' satisfaction towards the aviation human capital in the field of ground services, according to the passengers using full-service and low-cost airlines in all four areas were equally highest including: service quality, responsiveness to passengers' needs, reliability and assurance, and the service expectation.

The comparative study results from a hypothesis test by using t-test statistics on approaches for the development of aviation human capital between a sample of the airline's officers at management level of full-service airlines and low-cost airlines revealed that classroom training, job rotation, field trip for learning, and education were not different, while coaching, on-the-job training, and learning organization were different between two type of airlines.

Considering that the study of human capital competency in aviation from the perspective of full-service airline and low-cost airlines' staff, it was found that having volunteer attitude, emotional quotient, teamwork, creativity and innovation for the job improvement, service-minded, continuous learning for self-improvement, ethics and morals, being expertise in career, and job achievement were not different. In contrast, there were four competencies different including: cultural diversity management, communication and interaction skills, and technological skills.

The results of passengers' opinions of full-service airlines comparing to low-cost airlines' passengers on the competence factors suitable for ground service aviation human capital found that: having volunteer attitude, system thinking, cultural diversity management, emotional quotient, communication and interaction skills, communication of foreign language, teamwork, technological skills, service-minded, continuous learning for self-improvement, being expertise in career, job achievement were not different. The passengers found that, creativity and innovation for a job improvement, and ethics and morals were different.

5.1.2 Objective Number 2 the Development of Human Capital that Affect the Competency of Ground Service Officers.

The results analysis of interview data and inferential statistics showed that: the approaches for the development of aviation human capital that affect the competency of aviation human capital creating operational competencies include: classroom training, on-the-job training, coaching, and learning organization.

5.1.3 Objective Number 3 the Human Capital Competency Factors Affecting the Services That Make the Service Receivers Satisfied with the Ground Services.

The results of the study, analyzing the content of interviews with airlines' executives of both types of operation, and inferential statistical data analysis from passengers using both types of airlines, it was found that: communication of foreign language, continuous learning for self-improvement, having volunteer attitude, communication and interaction skills, teamwork, emotional quotient, cultural diversity management, and ethics and morals affecting to the satisfaction of passengers.

5.2 Contributions

The research on aviation human capital development: a case study of ground service officer statistical significance was tested according to the research objectives. The results can be discussed as follows:

The results of the study on the approach to develop human capital in aviation for full-service and low-cost airlines from the views of the manager, head of department, and deputy head, supervisor of the airline officers. In addition, information from in-depth interviews with top executives of both types of airlines shown that; there were 5 development approaches highest suitable for aviation human capital development. Those were classroom training, learning organization, job rotation, field trip for

learning, and education. Then, followed by on-the-job training, and coaching which can be explained as following;

The classroom training is the knowledge and experience transfer from experts including creating simulations and giving opportunities for participants to discuss and exchange ideas. In which IATA (2017) cited the learning of adults (andragogy) learners are called participants. Each participant has his or her own learning style. The cooperation of the learners is very important. The andragogy is the learning activity which brings real-life problem-centered problems into learning. All Participants are like a primary resource of ideas and examples. Therefore, classroom training is beneficial for participants to gain knowledge by sharing experiences of experts and other participants in class. Studying in the classroom is encouraging learners with groups for sharing ideas, provide opportunities for students to share ideas, chat and communicate. As, Langes and Piercy (2012) describes employee training as enhancing skills and understanding of organizational culture, beliefs, and values to facilitate smooth operations and reduce misunderstandings. The classroom training is one of the methods for developing human capital in order to increase quality, efficiency, potential, to have the knowledge, skills, abilities and characteristics required by the organization to be used for better performance, at the individual, team and organization level. (Boonkong, 2006; Swanson & Holton III, 2009; Uddin et al., 2016) Though, Crawshaw et al. (2014) has said that training is about learning that changes the cognition, ability, action and interaction with others.

For being a learning organization based on the concept of (Senge, 2006). It is an organization in which people in the organization have continually expanded their capabilities both at the individual, group and organizational level. It is to serve the goals that people of different levels want and to be an innovative organization. This is also the idea expansion, and a continuous learning of individuals in ways to learn together throughout the organization (Dawood et al., 2015; Luhn, 2016; Yadav & Agarwal, 2016). That is, the organization creates learning by interacting networks within the organization through the electronic media system within the organization and the

organization's website so that employees can learn at all times. Academician Agryris (2005) said that organizational learning leads to two forms of learning organization. It is to find and correct mistakes in routine tasks called single-loop learning, as for finding errors and revising the practice to help organizations modify and set standards. This leads to create new value is called double-loop learning. While, Marquardt (2002) describes the system elements of a learning organization. The learning subsystem is considered to create a critical skill for employees to change in knowledge, attitude and values through self-learning by technology. It can be seen that being a learning organization is the development of people throughout the organization at all levels simultaneously. The learning organization affects the review, improve standards, values, and changes for the continued improvement.

As for the development approach, job rotation is to change duties in order to create learning, it can be work in the same or different functions in different contexts. It is for more extensive different experience, and one of the processes of action learning that may alone, with peers, or groups of people to learn effectively and efficiently (Marquardt, 2002). Job rotation is considered human capital development based on the theory of cooperative learning. That is the training of social skills, working with others, communicating, accepting and trusting each other. It arises from the interaction of working and learning together, helping and understanding each other, which will benefit the employees. The employees will try harder to achieve goals, motivated, and spending the time effectively (Kagan & Kagan, 1999; Newble & Cannon, 1989; Tissana Kaemanee, 2012). In addition, job rotation is a development that emphasizes the employee experience leading to new ideas and applications in real-working situations. It is developed with consideration of the context that relates to the real problems, employees will face in other contexts, and will be improved from the original knowledge base (Nonaka, 2005; Zabit, 2010).

The field trip for learning approach is considered as part of the educational process that will affect the human development to see from real examples after

theoretical learning. This approach is enhancing the employees to develop thinking and memorization processes from having the opportunity to study and visit. The trainees will create the meaning from activities and events into knowledge (Hoy & Miskel, 2005). For example, Gilley et al. (2002) commented that the study was a transmission of experience from generation to generation. That is the knowledge from classroom learning alone is not enough. It has to be applied and learned in a specific area of work. Therefore, the study trips for learning are one of the processes that help to develop human capital. They will learn from real operators of specific fields, and benchmarking. The field trip for learning help promote the development of theoretical knowledge from the classroom. The field trip for learning may be a study visit to affiliate companies, excellent partners in service, or leading companies either in the country or abroad. For example, scholars Sinlarat (2016) and Werner and DeSimone (2009) have mentioned that the study in conjunction with the field trip, is a collaboration between the organization and the educational institution to open a specific curriculum for the organization. On the other hand, it is the collaborating with professional associations to be able to connect with strategies goal of the organization.

The other development approach is an education approach to enhance qualifications. It is an education to increase skills, professional qualifications from professional institutions or educational institutions both within the country and abroad. The education will help achieve career advancement and generate more income for individual. According to S. G. Becker (1993) education will enhance the well-being for the future and generate income that affects the power of consumption and personal spending as a result of self-development from education. Like Good (1973), education is defined as a process by which individuals develop their abilities, attitude and behavior. Where, Dewey (1994) adds that education creates life experiences that contribute to prosperity. Like Crawshaw et al. (2014) states that education is structured, instructor-led learning to achieve its goals, enhancing knowledge, expertise, moral values for living and contributing to society. The focus of education is to prepare

individuals to work with the needs of the organization in the future. Therefore, the education is an additional qualification that help to improve the potential of human capital in the organization in terms of knowledge, skills, and operational capability for greater efficiency. As well as adding value to each individual.

For practical training (on-the-job training), it is the learning of the job in the real workplace by doing the work and solving the problems from the operation. So that trainees can apply their skills, knowledge from training to perform and solve problems by their own. As Noe et al. (2012) and Werner and DeSimone (2009) say that training can be successful, when participants are truly understood and learn from real world practice. It is to allow participants to learn from real situations, hands-on operations for maximum efficiency. Like Dale (1970), scholars who have invented experiential learning are called the cone of experience. The notion is learners will remember better, longer from own self experience.

The coaching approach is a system of mentors to teach jobs closely, which may be a group of workers or supervisors. It is one of the most popular forms of human capital development with a greater involvement and role in the participants. The coach must create an atmosphere of study and activity by explaining, lecturing, experimenting with two-way communication, sharing experiences. And the coach encourages the learning for trainees by solving real problems (IATA, 2017; Ploy Suebvises, 2018; Sujittra Tananan, 2014; Werner & DeSimone, 2009). In addition, coaching from seniors, supervisors, or colleagues will help to pass on organizational culture and to better connect the goodwill in teamwork.

The results of the competencies level on human capital in aviation for full-service and low-cost airlines from the opinion of the manager, head of department, and deputy head, supervisor of the airline officers. In addition, the information from in-depth interviews with top executives of both types of airlines shown the most suitable competencies including: having volunteer attitude, cultural diversity management, communication and interaction skills, communication of foreign language,

technological skills, creativity and innovation for the job improvement, service-minded, continuous learning for self-improvement, ethics and morals, being expertise in career, and job achievement, forasmuch as teamwork, emotional quotient, and system thinking are suitable at high level.

The first competency is having volunteer attitude. It is a readiness performance and eager to help others willingly. Also, it refers to a person who works in the interests of the public rather than own self. This can be considered as human capital with sacrifice, honest and highly motivated to deliver excellent service (Boonton Dockthaisong, 2008). The next competency is the ability to manage cultural differences, which refers to the aviation human capital with knowledge of different cultures, able to adapt, resolve and manage cultural differences in service delivery. In this regard, scholars see that individuals with different cultural understanding are flexible. There is a strategy for making adjustments appropriate to different situations, to perform the task smoothly and less misunderstandings (Chira Hongladarom, 2012; Langes & Piercy, 2012; Spencer & Spencer, 1993).

The communication and interaction skills consist of the ability to communicate in both verbal and non-verbal, and having the art of speaking and listening skills. For the communication skills of foreign language competencies contains the ability to communicate in English understandably and correctly at both the basic and advanced levels. This includes the ability to communicate in a third language. The latter subsequent competency is the technological skills or the ability to applied of information technology. It is a knowledge, ability to adapt information technology applications to responsible jobs, being able to advise passengers on how to use the technology. The next is creativity and innovation for the job improvement consist of being creative and developing new working process, creating new service innovations according to the situation that is consistent with quick resolution of the problem.

All competencies mentioned above consisting of communication and interaction skills, communication skills of foreign language, technological skills, creativity and innovation for the job improvement are crucial for the job performance

of ground service officer. Since the ground service officer must meet, communicate, explain the passengers to understand clearly, and interact with numerous passengers in a day. It is also very important to create a good experience, therefore the communication and interaction skills along with the level of English comprehension is required including the appropriate use of verbal and nonverbal language. This is considered a 21st century skill that Thailand wants to develop the country's human capital. Bakhshi et al. (2017) discussed the future skills that are needed in the future. Those were the competency in the ability to present ideas in speaking, writing something clear, suitable for the context, able to listen and interpret correctly. However, in the context of Thai people, English communication is still low compared to ASEAN countries. Therefore, Worawan Plikhamin (2018) presents the multiple competencies for developing human capital of Thailand that are important, such as language and communication skills. It is consistent with the research results of Wattanacharoensil and Yoopetch (2012) found that the weakness of Thai ground service officers is the low skills in English communication. And supported by the study of Treruttanaset (2018) found that competencies of aviation business graduates were low in foreign language skills. And Piraporn Witoorut (2020) has described effective foreign language communication skills as the preferred skill of organizations in 2020. It is therefore imperative to develop aviation human capital in ground service in Thailand on foreign language communication. It is for effective communication, able to explain, problems-solving for the passengers impressively. Especially, if a ground service officer is able to speak the third language, it can create a very pleasant experience for passengers.

In addition, the technological skills is having the skills in the application of information technology for convenience and speedy of work, which Fuente and Ciccone (2003) sees as a fundamental skill for productivity and problem solving in response to customer demand and innovation. It is to adapt the working process to fit with the on-site context. As well as, this competence is considered that being creative intelligence facilitating the service to create a memorable experience for passengers.

The skills in the application of information technology. It is considered an essential skill for the 21st century that each individual being digital citizens. The digital citizen qualifications include an understanding of human, cultural and social aspects of technology and legal practice, as well as ethical behavior, technological skills and the concept of technology, the understanding of technology concepts, systems, and applications (Conklin, 2013; Spencer & Spencer, 1993).

The next essential competency for service providers is indispensable: the service-minded. It refers to the expressions of service behavior that come from the heart, courteous, and caring for passengers. And knowing the value of good service that will be delivered to the recipient. Scholars such as (Carlaw & Deming, 1999; Korczynski, 2002; Kotler & Armstrong, 2014; Schneider & White, 2004; Timm, 2011; Zeithaml et al., 2018) commented: receiving good service makes customers satisfied and come back to use the service consistently, until they become loyalty customers with the organization. The end result is the income and profit of the organization itself. Hence, the good service depends on the efficiency, the skills of the service provider interacting with the customer. Therefore, the organization must develop motivate, create a happy working environment with providing devices to support the service process that will help the service goes smoothly.

For the continuous learning for job improvement, it is the pursuit of knowledge of the job. The employees are exchanging knowledge with others in the same profession and different professions, and ready to develop themselves continuously. The following competency is ethics and morals. This means a ground staff who has professional ethics, treat others equally, and being honest. Service work, especially working in airlines company that face a lot of customers on a daily basis. Furthermore, the trend of customer demand is always changing. Therefore, the service providers should include the above qualifications: continuous learning for self-improvement competencies. That is important, because it is the search for information and knowledge in the work, exchange of knowledge with peers and other occupations. This will allow employees gain new

knowledge and new perspectives. In addition, competencies in ethics and morals are organizations want people with honesty, having good professional ethics (Boonton Dockthaisong, 2008; Chira Hongladarom, 2012). It is consistent with (Boonkong, 2006) said that quality human capital, in addition to having the knowledge, skills, health, and traits necessary to live a good life. There must be goodness, morality, ethics, respect the rules of society. As well as human resource scholars Ployhart et al. (2014) said that human capital quality consists of goodness, morality, ethics, discipline, and respect for the rules of ethics. That results in good behavior, comply with the rules, kind-hearted, and good wishes for others, good intentions, rational which will reflect good service.

The next competency is being expertise in the career or the professional expertise. It is a competency in which a person develops skills until the formation of expertise in their duties. The staff is diligent seeking knowledge from various sources to develop oneself to have more potential. Which will affect the performance of duties according to the standards of the organization. And for the job achievement or the ability to focus on the achievement of work. It is the competence in the person that results in the mind focused on the achievement of duties. A human capital who is always reaching for the goals and achieve the assigned results for the performance of teamwork. It consists of having a positive attitude in working with others, shared responsibility, and respect each other. For competencies that focus on the achievement of work. It is a competency coupled with professional expertise. The a For competencies that focus on the achievement of work It is competency coupled with professional expertise. Ability to develop oneself by researching knowledge from various sources and able to perform duties according to international standards. ability to develop oneself by researching knowledge from various sources and able to perform duties according to international standards. This is in line with Spender. (2011) commenting on agency theory that human capital is rational and imaginative to accomplish and consent to be induced for its own interests. Therefore, good management and understanding that will enhance the ability of employees or change employee's behavior in delivering their knowledge and skills

to help the organization achieve its goals. Where, Nalbantian et al. (2004), offers a way to encourage employees to focus on the achievement of work through motivation, and encouraging employees to develop themselves in connection with organizational strategies. Swanson and Holton III (2009) offers a cognitive theory of expertise that people with expertise have the following elements: increased knowledge to be able to do something at a high level, having a lot of knowledge and skills and solve problems well. That individual also has behavioral features, which works efficiently. And the jobs outcome is effectively. Soland et al. (2013) views that the person who has the job achievement competency will inspire own self to be success and patience to pursue future goals. It is the ability to achieve the goals even when faced with obstacles or pressures. People must know to plan, prioritize, manage work to achieve the goals set. And can perform many tasks at the same time.

The next one is the emotional quotient. It is the ability of a person to control their own emotions, being tolerant to stressful situations and able to tune in to positive events. And systematic thinking competency which consists of the ability of individuals to relate the cause and effect of their actions. A Step-by-step analytical thinking and the ability to see the holistic relationship of problems for effective solutions. For example, Senge (2006) mentions that systematic thinking is a holistic view of all processes rationally in a coherent way that results the imagination of working learning. The system thinking will influence a person's behavior. That will lead to expertise in important work of the organization. So, working in the airline must work as a team and coordinate well to get the aircraft depart and arrive on time. Especially, if there is a delay, there must be coordination between each department to help solving the problem quickly and efficiently. For that reason, teamwork and emotional quotient is vital. It is an essential skill for service providers to manage stressful situations, because the customer service job is a very stressful (Timm, 2011). Thus, the looking at the whole system, rationally with positive thinking and neither taking the customer's anger into account nor considered a personal matter is very important. Since, the customer wants to vent their

dissatisfaction with the airline, not the person serving them. In which Petchyupa Boonsirijarungrat (2015) says that emotional intelligence is one of the factors that promote success. Due to this ability make individual able to manage one's own emotions. When a person is able to manage his emotions, the problem-solving will be done by reasoning, and think critically. Meanwhile, a person will also feel empathy and understanding of others that feeling will influence the effectiveness of good customer interaction (Conklin, 2013).

The results of the satisfaction levels from the passengers using both full-service and low-cost airlines revealed that the satisfaction on service quality, responsiveness on passengers' needs, reliability and assurance, and the service expectation are at highest level. It can be explained that the service receivers are expected to receive a standard service from the airline. Usually, the customers will trust when meeting employees who are well-groomed, knowledgeable, and can explain to the customer clearly, kindly in a professional manner. In addition, the customers satisfy with a service provider who is attentive and ready to assist passengers in solving problems at all times. As Zeithaml et al. (2018) say, it is now an era for the service economy. Since, the service will increase the value of the product and the customer wants good service along with problem solving. A good service will result in customer satisfaction, feeling fulfilled in what they want, being happy and come back to use the service again. In consequence, it will affect the profit of the organization. To the end, a person who will create satisfaction is the front-line employee. For this reason, Korczynski (2002) suggested that organizations must manage human capital in services start from the selection process, implement high quality training, inspire and work as a team, develop the organization to have a culture of service. Therefrom, the front-line staff is like a mirror reflecting the organization itself.

The results of the differences in aviation human capital development approaches between full-service and low-cost airlines employees' perspectives were found that there are three different approaches to both types of airlines namely: coaching, on-the-job

training, and learning organization. This is due to the different operating patterns of the two airlines, full-service airlines prefer to use outsources of their employees for each flight. Normally, in the airline office, there are only one to five actual employees. On the account of reducing the operating costs including: human capital management in recruitment, selection, job training, and operational training, as well as building a learning organization throughout the organization. This is because most full-service airlines have international headquarters that set policies and dispatch foreign staff on a regular basis with a few local staff for ground services. For the development of full-service airline staff, the employees will be able to develop new knowledge through regular training at headquarter abroad. In contrast, the low-cost airlines operating characteristics with the high frequencies, there are several flights departure and arriving each day. As well as, the operations center located in Thailand. Thus, it is necessary to require a large number of employees to perform duties on each flight. Consequently, the human resource department has to recruit, select employees along with developing employees to have knowledge on the operating process of airline and organizational culture. For this reason, low-cost airlines need training, coaching, on-the-job training and the creation of a learning organization to develop their own people to become proficient in the job. It also prepares employees to move up to higher positions, such as relocate and promoted to the position of supervisor or station manager at other airports in Thailand, where airline has its operations.

The results of the differences on aviation human capital competencies in ground services, according to the views of full-service and low-cost airlines employees found that the cultural diversity management, communication and interaction skills, technological skills were different. Whereas form the passengers' perspectives using full-service and low-cost-airlines found that the creativity and innovation for the job improvement, and ethics and morals were different. It can be Which can be analyzed that the cultural diversity management, communication and interaction skills, and technological skills from the both types of airline's employees view point differ due to full-service airline operates mainly international routes with a multinational passenger.

For the communication and interaction skills, the full-service airline' employees are required to coordinate the control of flight operations and being as a center of the decision-making to assist, and advise the outsource employees on any issues might occur in daily flights operations. Besides, it also requires a fluent level of foreign language communication skills, be able to handle issues and interact with passengers foreign properly.

For the technology skills, which airline's employees must be able to adapt the application of information technology to work. Low-cost airlines mainly focus on the technology used in passenger service rather than full-service airlines, which can be clearly seen at Don Mueang Airport. Passengers are advised to register for their tickets by themselves rather than having the staff register through the check-in counter. And at the self-registration service kiosk, there will always be staff to help and instruct the passengers. This is conforming with PricewaterhouseCoopers-PwC (2019) study, discusses the use of technology to assist in service by transforming customer behavior and creating new customer experiences. The notion is allowing employees to help, provide information, advise and adjust customer moods that will make a difference. When customers have a good experience, they will return to use the service continuously.

For the passengers' perspective using full-service and low-cost airlines see different performance in creativity and innovation for the job improvement, and ethics and morals. It can be analyzed that due to the fierce competition in the industry, then airlines have to constantly create and innovate of new products and services to be unique, and to be differentiate themselves from competitors (IATA, 2013a). For low-cost airlines, as mostly operate short haul flights, there are often no new products and services offered to passengers. In addition, if the passenger has greater demand for services than the airline provides, the passenger will be responsible for the expenses incurred. For ethics and morals, Passengers are demanding equal service without

discrimination, especially for full-service airlines, passengers tend to feel that the airline cares more foreigners than Thai people.

The results of the study of differences in service satisfaction towards aviation human capital for ground services from the perspective of full-service and low-cost airlines found that both types of airline's users have no different in the satisfaction towards ground service officer. The passengers stress on the level of service quality satisfaction, responsiveness to passengers' needs, reliability and assurance, and the service expectation. Certainly, the level of satisfaction will affect the return to use the service and be a loyal customer of the airline.

The results of the study on the approach to develop human capital in aviation affecting to the competencies of full-service and low-cost airlines from the views of the manager, head of department, and deputy head, supervisor of the airline officers. In addition, information from in-depth interviews with top executives of both types of airlines. The approaches for the development of aviation human capital that affect the competency of aviation human capital are: classroom training, job rotation, on-the-job training, coaching, and learning organization. This can be analyzed that being the organization of learning is to expand knowledge at all levels of the organization (Senge, 2006). Usually, when the organization selects new employees to work. This is also for the existing employees that organization will increase employees to have knowledge, skills, and expertise. As well as, the increasing of the competitiveness of organization. Since, the accumulated knowledge of employees can help the organization gain an advantage over its competitors. Like the theory of resource base view by Barney and Clark (2009) outlines the competitive advantage of organizational resources by making them a valuable resource, rare and not easy to replicate. In the employee development, an organization starts with classroom training in the first place to inform the objectives and desired outcomes. As adult trainees, they need to be informed according to the principles of cause-and-outcome of the training. Since, the communication is clearly explained participants will be cooperated well. As IATA (2017) has said: the learning of

adults is to share experiences and bring real problems to discuss and resolve according to different situations, in the meantime the organizational culture will be cultivated for employees as well. In this regard, the objectives and results required by the organization must be informed by logically.

After classroom training, there is a job rotation where the employees will work cross-functionally for further learning, which will increase the skills, knowledge and abilities of multi-skills. What the trainees remember best is, in fact, when the airline has plans to change the jobs function within other departments in organization. Providing employees with real action in different departments or contexts will help them to increase the knowledge, skills that will be embedded in the employee's mind and be ready to apply. The changing of roles and duties in different departments should be taught by coach, mentor, or supervisors with practical actions to minimize errors that may occur. However, the airline has to create a corporate atmosphere as a learning organization to have knowledge expansion, and the increasing the capability of employees continuously. As Agryris (2005) highlighted the doble loop learning is an organizational development and organizational capability empowerment of all levels.

The results of aviation human capital competencies affecting passenger satisfaction in ground service from the users' perspective of full-service and low-cost airlines, as well as the information from in-depth interviews with executives of both airlines. The competencies that affect passenger satisfaction levels are: communication of foreign language, continuous learning for self-improvement, having volunteer attitude, service-minded, communication and interaction skills, teamwork, emotional quotient, cultural diversity management, and ethics and morals.

Due to the aviation industry is considered an international business with variety of customers from plethora nationalities, language and culture. Consequently, the communicating in foreign languages fluently, confidence, clearly and accuracy will be resulting to the passenger's understanding of the information clearly and the impression on the services. Specifically, if the airline personnel are continually developing themselves both in their operations and learning the third language which will be

desired by most airlines. For having volunteer attitude, and service-minded: are skills that affect service quality and passenger satisfaction as well. Employees who are always positive and helping others will affect the good image of the organization and the return of customers. This is consistent with Timm (2011) said that when the customer is satisfied, happy and coming back to use the service, the service providers also felt a sense of success in their career. Psychologists Hoffman and Compton (2020) proposes a positive psychology concept of doing good. The idea is to practice good treatment towards others will affect the happiness of that person in return. And a positive attitude that makes others happy will affect the happiness on the provider, which in turn augment the life potential in all aspects. So, it can be noticing that having a volunteer attitude, service-minded are positive forces in employee performance that will also promote the quality of work performance and quality of life of employees.

Simultaneously, the communication and interaction skills, teamwork, emotional quotient, cultural diversity management were considered a group of skills that must come together for a person performing a service job. It can be explained that to deliver good service, the service providers need to have skill and strategy to greet, making conversation, show friendliness, and empathy. As well as, the tactfulness in interacting with different passengers with an understanding of the culture of each nation. It is inevitably creating a good impression on passengers and creates mutual understanding. As scholars Jamilena, Sabiote, Martín-Santana, and Palacio (2018) say, culturally intelligent people have the ability to think, analyze and recognize cultural differences. It is also able to distinguish cultural differences in the face of different situations effectively. In which Petchyupa Boonsirijarungrat (2015) discusses the communication and interaction skills is the ability to get along well with other people and results in good teamwork and cooperation. This is considered as social skill with compose of an element of empathy, understand the mood, the thoughts and expectations of others. Furthermore, the emotional quotient is also as the ability to deal with a person's emotions, brightening the mind, good mood, and being part of building social skills or interpersonal skills. Since, being in human society people must cooperate on each other

to achieve the goal. Chira Hongladarom (2012) discusses human capital with a different cultural understanding, which is a social capital that helps creating network and it is an integral part of the country's development.

As with Werner and DeSimone (2009), stated the soft skills that employees in the organization must have including: communication skills. building customer relationships, sales and teamwork. And these skills are considered the necessity of the organization to organize interpersonal training, communication and teamwork methods for organization success that is the social skills. The social skills of human capital contain, the science and the arts of communication, both body language and spoken language. along with an attitude towards teamwork, honor and accept the opinions of others. Where, Wirtz and Lovelock (2016) provided an example of Singapore Airlines that focused on team development. The airline promotes teamwork skills for employees to meet, communicate, and learn together. This is to maintain a healthy relationship with teammates, which is essential to teamwork, communication, negotiation, and conflict resolution.

For ethics and morals, it is a feature of human capital that works with the interests of the others in mind. They are willing to service and enthusiastic about helping passengers. Gardner (2008) enlighten that it is the ethical mind of a person who ignores his personal interests, selflessness on the basis of virtue. It is a competence required by human capital in the third round of globalization. For Panya et al. (2018) studied the training model that affected attitude teaching and learning that allows students to participate in community activities. They found that it helps building a moral consciousness and create a bond between students and community. In line with Chira Hongladarom (2012), human capital which has moral and ethical is composed of virtue. And, that person possesses of an accuracy and innovation that will enhance organizational competitiveness through systematic thinking, think outside the box, having imagination, being able to create new services and understand customer needs.

5.3 Recommendations

The researcher divided the recommendations into 3 parts: policy implications, recommendations for implementation, and suggestions from research results.

5.3.1 Policy Implications

From the results of this research, it leads to the knowledge of the relationship between aviation human capital development approaches affecting aviation human capital competencies in ground services. And the knowledge of the relationship between aviation human capital competencies in ground services that affect passenger service satisfaction towards ground service of full-service and low-cost airlines. The results of the research indicate that the aviation human capital development approach for ground services affects the performance of aviation human capital, from the overall perspectives of airline staff and senior management of both types of airlines. There are 5 guidelines for the development of suitable aviation human capital as follows: classroom training, on-the-job training, learning organization, job rotation, and education.

For the policy implementations: the government and regulatory agencies established specifically for the supervision and standards of aviation for the development of aviation personnel, such as Thailand Professional Qualification Institute (Public Organization) or TPQI. There should be a policy on the manpower development process for the ground service. That is the systematic practice start with classroom training, on-the-job training. So that, learners can learn from first-hand experience. Supplementary to promote the organization in the aviation industry as a learning organization. This will enhance airlines continuously developed and expanded knowledge to keep up with the changing of world trend.

For educational policy, the Ministry of Higher Education, Science, Research and Innovation should set a policy learning with real practicing. Thought, divided the learning curriculum into classroom 50 per cent and on-the-job training 50 per cent for

the whole academic curriculum. For the classroom training, should emphasize on the communication in foreign language, cultivate the mind of volunteerism, and social skills set.

5.3.2 Implementation for Practice

The practical recommendations for airlines recruiting new employees, or to develop the potential of existing employees: from the research results indicated that the effective development approaches for aviation human capital begin with classroom training. It is the foundation and a review of the previous knowledge, along with inserting new knowledge to the participants. After completing all the theoretical training in the classroom. The airline should provide the trainees with practical action by rotating the jobs in which they have received from the training to gain expertise in a variety of duties. This will increase the skills and apply the knowledge from the training that has been learned and put into practical training to help the trainees understand and remember better, when they have faced with problems from working. In addition, the organization should encourage employees to study further to increase their qualifications from educational institutions, or professional aviation associations such as the International Air Transport Association. Since, the current knowledge and new technologies are emerging continuously and rapidly. This includes aviation practices that have been modified according to globalization, and the advancement of technology. And lastly, it is the implementation of the policy on the human capital development approach in aviation to be more the concrete and rigorous by creating a learning organization. That allows employees of all levels, from individual levels team level and throughout the organization able to access the useful resources for employees and the organization. This includes various knowledge that employees are interested in learning, even if not directly related to work. Since, it may be beneficial to the organization if knowledge is expanded, created the competence and continual improvement in operational processes. This is considered to promote continuous learning throughout the organization and also to develop employees' competencies. Finally, with the

competencies and knowledge accumulated in employees and the organization, it will help strengthen the management and problem-solving efficiency. If the airline organization has learned and performed correctly according to international standards, Thailand may not have been red-flagged as in the past.

5.3.3 Research Result for Implementation

The findings of the research contain important implication that can be presented to the various institutions offer aviation business programs. The research results point out the issues in the development of aviation human capital. There are elements of development approach, it should start with classroom training for learners to learn about theory, and related industry. Then, allow students an opportunity to practice the actual work in various departments in the aviation organization with appropriate time. Teaching and learning should focus on the blending with operational learning system, that is, in courses related to operations in various departments of the airline. The institutions should cooperate with airlines and undertake learning along with periodic internships. It's not just one or two training sessions before graduation. If the students have the opportunity to practice in various courses along with the theory taught by the university, this is considered to be a job rotation learning and hands-on experience outside of the classroom. By this kind of teaching and learning will directly affect the graduates, university. And the aviation industry that will get the right aviation human capital according to the desired characteristics. The key issues to develop aviation human capital to be competent according to the research results include: communication skills of foreign language for a job, having volunteer attitude, and social skills. The instructor has to continually cultivate the attitude of the students, especially the volunteer attitude, social skills, and communication in English for a service job. As it can be seen, it emphasizes the development of soft skills, which are more demanding qualities than hard skills.

The researcher has created an integrated approach for the development of aviation human capital in ground services. That is hopefully will create human capital

as the intellectual capital of the organization with rare and nonreplicable value, according to the resource base theory as shown in Figure 5.1 as follows:

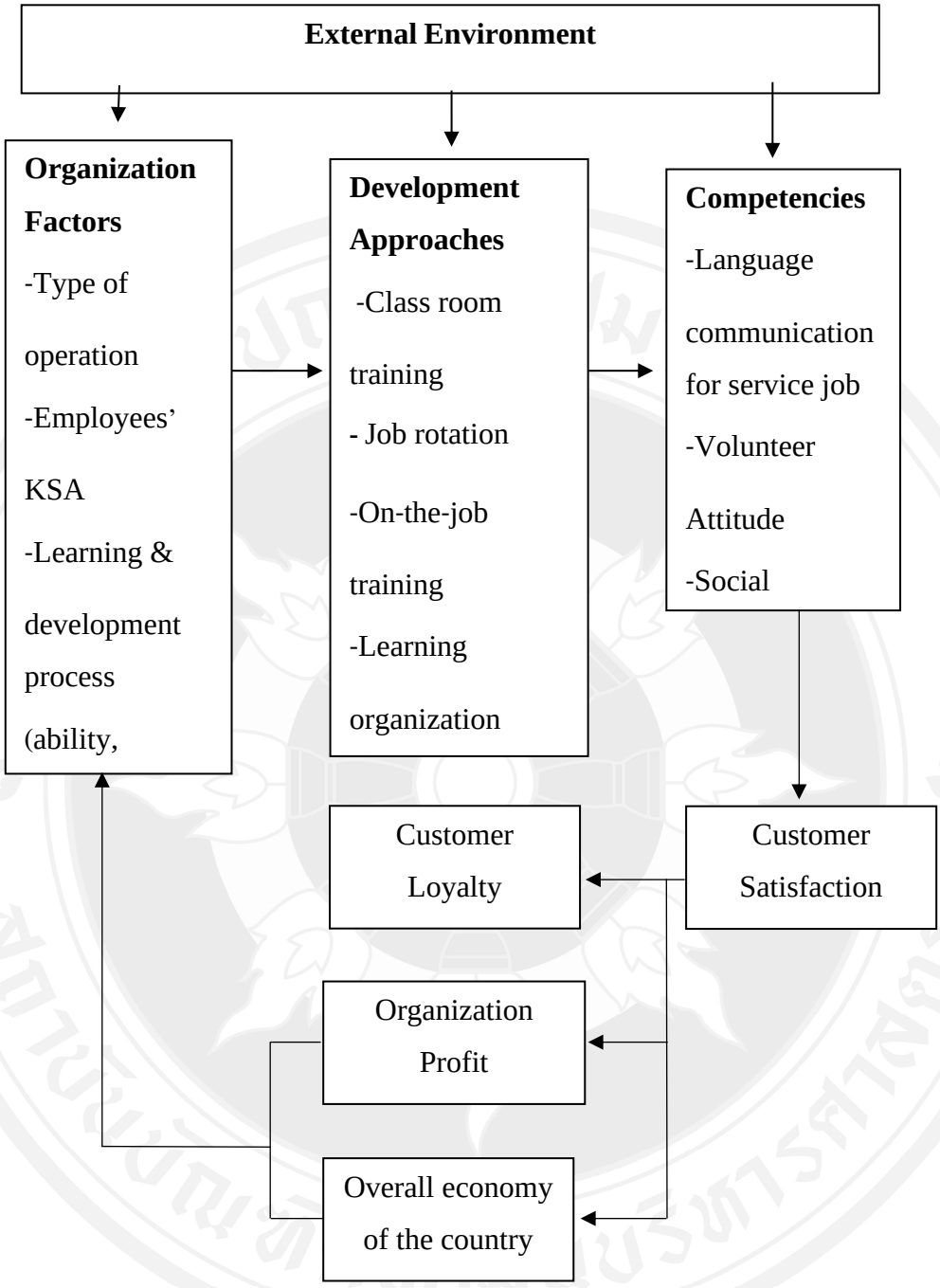


Figure 5.1 The Development Model of Aviation Human Capital in Ground Services

From figure 5.1 it can be explained that in the development of aviation human capital, the organization must take into account external factors affecting the organization. Such as; regulations, safety, technology, social conditions, environment, competitors and user needs by looking from the outside in. Then, analyze the factors

within the organization that the type of flight operations and services of airlines. This is including knowledge, skills, and attitude (KSA) of employees which fit and ready to learn. The existing skills and skills that employees should possess, along with their attitudes towards self-learning and self-improvement as well as, the attitude towards organization, peers and passenger services. These all will lead to the learning design process and further development by considering competence, motivation. The organization shall provide equal opportunities to employees. In this regard, airline development approaches can select the most appropriate approach to the level of competence, skills and manpower of the organization. The training commences with the initiation of classroom training to inform purpose, the organization expectation and employees will receive from the training. It is a communication for employees to open their minds and learning without prejudice. From the research results, the three core competencies that are most suitable for delivering services to satisfy the passengers and return to use the service continuously until they are loyal customers to the organization are: language communication for service job, having volunteer attitude, and social skills.

5.3.4 Recommendation for Future Research

1) Suggestions for the next research should be to study a sample of foreign passengers compared with Thai passengers on the satisfaction factors on ground services.

2) Study other positions in the aviation industry because in Thailand there is little research on aviation compared to abroad. If Thailand wants to enhance the high value service. And promoting the government policy in the Eastern Economic Corridor (EEC) project.

3) In addition to personnel studies, there should be studies on infrastructure related to the aviation industry such as ground transportation, the infrastructure to facilitate tourists. And the improvement on the quality of transportation services throughout the system.

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APPENDICES

Appendix A

Questionnaires and Interview Protocol

Research Questionnaire for Airline's Employees

Aviation Human Capital Development: Ground Service Officer as a Case

The purpose of this questionnaire is to collect data from those who have knowledge and experience working at the airport for a long time. Please assess the most appropriate approaches for developing ground service officer. This is to improve the employees to have behavioral characteristics to meet the highest level of passengers' satisfaction. Which development approach is the best according to your opinion? And kindly indicate that on what features should be included in your ground service officer staff. So that, they can perform the job with quality to satisfy the passengers. The data collection is confidential. Highly appreciated for your kind answer all questions by yourself.

The questionnaire has 4 parts including;

Part 1: Basic information about yourself.

Part 2: The approaches to develop ground service officer to be competence for the most effective service.

Part 3: The competencies in terms of knowledge, skills and expertise should be instilled in ground service officer.

Part 4: Open- ended question about the developing approaches and competencies from your point of view that fit with the position of ground service officer.

Please mark "☑" in front of the data which matches your identity.

Part 1: Basic information about yourself

1. Gender

☐ Male ☐ Female

2. Age

☐ 21-30 ☐ 31-40 ☐ 51-60 ☐ Other (please specify) ……...

3. Level of education

☐ Diploma/Certificate ☐ Bachelor ☐ Master ☐ PhD. ☐ Other (please specify) ……...

4. Working experiences

☐ Less than 5 years ☐ 5 years ☐ 10 years ☐ 15 years ☐ 20 years
☐ Over 20 years

5. Working department

☐ Ground operation ☐ Lost and found ☐ Ticket and reservation ☐ VIP lounge
☐ Human resources ☐ Training and development
☐ Other (please specify) ……...

6. Position in organization

☐ Manager ☐ Station manager ☐ Head of department ☐ Senior officer
☐ Other (please specify) ……...

7. Type of your airline operation

☐ Full-service airline

☐ Low-cost airline

Part 2: The approaches to develop ground service officer to be competence for the most effective service.

Please mark the development approach is most appropriate in accordance to your genuine opinion that would affect the ground service officer's competencies effectively.

5 means at highest appropriate level

4 means at high appropriate level

3 means at medium appropriate level

2 means at low appropriate level

1 means at least appropriate

Please mark √ in the score box according to your opinion.

The development approaches	**(5) Highest**	**(4) high**	**(3) Medium**	**(2) Low**	**(1) lowest**
1. Classroom training 1. Learning from the experts in airlines industry.					
2. Classroom simulation/ role-play.					
3. Group discussion.					
2. Coaching 4. The organization set up coaching system.					
5. Close control by supervisor.					
6. Using peer coaching system.					
3. On-the-job training					

The development approaches	(5) Highest	(4) high	(3) Medium	(2) Low	(1) lowest
7. Learning the job from real practices.					
8. Learning from problem-solving from the job.					
9. Learning and idea sharing analytically from the real working situation.					
4. Learning organization 10. The creation of learning via the intranet.					
11. The creation of learning via the organizational network.					
12. The creation of learning via web-based learning.					
5. Job rotation 13. The job rotation in different service department for expanding service skills.					
14. Job rotation in the same position but different context.					
15. Job rotation in different position for learning to be professional.					
6. Field trip for learning					

The development approaches	**(5) Highest**	**(4) high**	**(3) Medium**	**(2) Low**	**(1) lowest**
16. The field trip in the same alliances which has best practice in service.					
17. Field trip in best practice organization in the country to benchmark and adapt into practices.					
18. Field trip in reputation organization abroad to be more expertise.					
7. Education					
19. Education to get higher degree related to the job from domestic institution.					
20. Education to get certificate from aviation association.					
21. Education relating to the job from both domestic and international institution.					

Part 3: The competencies in terms of knowledge, skills and expertise should be instilled in ground service officer.

Pleas kindly evaluate based on your opinion on what characteristics a ground service officer should have to maximize the satisfaction of passengers.

5 means at highest appropriate level

4 means at high appropriate level

3 means at medium appropriate level

2 means at low appropriate level

1 means at least appropriate

Please mark √ in the score box according to your opinion.

The competencies	**(5) Highest**	**(4) high**	**(3)Medium**	**(2) Low**	**(1) lowest**
1. Having volunteer attitude 1. Enthusiast helping others at all times					
2. Work with the primary interest for others					
3. The willingness to provide service at all times					
2. System Thinking 4. Having the knowledge and skills in analyzing, related to work and the consequences result.					
5. The ability of process thinking critically and reasonably in problem-solving.					

The competencies	(5) Highest	(4) high	(3)Medium	(2) Low	(1) lowest
6. Holistic analysis of working system to determine direct solutions of the problems.					
3. Cultural Diversity Management 7. Having knowledge of diverse cultural set					
8. The ability to handle and manage cultural differences in the workplace.					
9. The ability to adapt the services in line with cultural differences					
4. Emotional Quotient 10. The ability to build relationships and friendliness to clients					
11. The ability to control and manage self-emotions					
12. The ability to adjust themselves in accordance with the environment and the situation positively.					
5. Communication and interaction skills 13. The ability to communicate in both verbal and non-verbal language.					

The competencies	(5) Highest	(4) high	(3)Medium	(2) Low	(1) lowest
14. Having the speaking techniques and being a good listener.					
15. Having the knowledge and skills in two-way communication.					
6. The communication skills of foreign language 16. The ability to communicate, understand English correctly					
17. The ability to communicate third language fluently at least one or two languages					
18. The ability to communicate of foreign language at basic level and advance level for customer services					
7. Teamwork 19. Having good attitude towards teamwork and cooperation					
20.Mutual responsibility in the team					
21. The expression of honor and acceptance of the team's opinions					
8. Technological skills					

The competencies	(5) Highest	(4) high	(3)Medium	(2) Low	(1) lowest
22. Having a technology savvy and skills in technology use.					
23. The ability to apply technology for responsible task.					
24. Able to provide suggestion for passenger using information technology					
9. Creativity and Innovation for the job improvement 25. Having creative idea to improve better service.					
26. The ability to innovate for service delivery according to the situation.					
27. Able to create and change the work process to be in line with on-site problem resolution in a timely manner.					
10. Service-minded 28. Express and provide the service from the within					
29. Provide the service with politeness, courteous and caring for passengers all the time					

The competencies	(5) Highest	(4) high	(3)Medium	(2) Low	(1) lowest
30. Having the awareness of providing valuable services to clients					
11. Continuous learning for self-improvement 31. Always concentrate and willing to learn responsible task.					
32. The sought of learning about job, and duties from electronic media continuously for self-development.					
33. Knowledge sharing in the same and different careers to increase professional skills.					
12. Ethics and Morals 34. To adhere and comply with professional ethics and morals in the workplace.					
35. Provide the service to clients equally.					
36. Being honest and integrity in the profession.					
13. Being expertise in the career 37. Skill development to become an expert in the job.					

The competencies	**(5) Highest**	**(4) high**	**(3)Medium**	**(2) Low**	**(1) lowest**
38. Knowledge development from various channels, both inside and outside the organization.					
39. Performing the assigned task according to the international standards.					
14. Job achievement 40. Having a focus mind for the job completement.					
41. Concentrate on the service goals to strive for success.					
42. Commitment on the job assigned to achieve for success.					

Part 4: Open-ended question about the developing approaches and competencies from your point of view that fit with the position of ground service officer.

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Questionnaire for Passengers:

Aviation Human Capital Development: Ground Service Officer as a Case

The purpose of this questionnaire is to evaluate your attitude towards the performance of ground service officer in Thailand. And the result of your satisfaction will be used to improve the competency of the aviation staff and improve the service quality to serve your satisfaction as much as possible. Therefore, please kindly answer each question that you deem appropriate to be the best staff to provide you with a satisfactory service. And kindly assess your satisfaction with the service provided by staff at the Thai airports, in accordance with your feelings, based on your direct experience. The data collected will be kept confidentially, would you please answer all of the questions yourself, it will be highly appreciated.

The questionnaire consists of 4 parts including;

Part 1. Basic information of respondents

Part 2. The best fit competencies as an airline ground service officer

Part 3. The satisfaction of respondents towards ground service officer

Part 4. Open-ended questions relate to the competencies of ground service officer

Thank you very much for your precious times and kind cooperation.

Please mark ☑ in front of the box according to your status.

1. Basic information of respondents

1. Gender

☐ Male ☐ Female

2. Age

☐ 18- 23 yrs. ☐ 24-29 yrs. ☐ 30-35 yrs. ☐ 36-41 yrs. ☐ 42-47 yrs.

☐ Other (please specify) ……..

3. Education Level

☐ Bachelor degree ☐ Master degree ☐ Doctoral degree

☐ Other (please specify) ……..

4. Reason for travel

☐ Leisure ☐ Holidays ☐ Visiting-friends and relatives ☐ Business

☐ Other (please specify) ……

5. How often you have travel to Thailand?

☐ First time ☐ Once ☐ Twice ☐ Third ☐ Other (please specify) ……

6. Which airports you use when travelling to Thailand?

☐ Bangkok Suvarnabhumi International Airport

☐ Don Meaung International Airport

7. The country where you are from, please specify…….

Part 2. The best fit competencies as an airline ground service officer.

This part concerns with the competencies of ground service officer should possesses including; knowledge, skills, expertise, and attitude. Please specify the competencies which you consider best fit for the position of airline ground service officer. That would serve you the best services.

5 means at highest appropriate level

4 means at high appropriate level

3 means at medium appropriate level

2 means at low appropriate level

1 means at least appropriate

Please mark √ in the score box according to your consideration.

The competencies	**(5) Highest**	**(4) high**	**(3)Medium**	**(2) Low**	**(1) lowest**
1. Having volunteer attitude 1. Enthusiast helping others at all times					
2. Work with the primary interest for others					
3. The willingness to provide service at all times					
2. System Thinking 4. Having the knowledge and skills in analyzing, related to work and the consequences result.					
5. The ability of process thinking critically and reasonably in problem-solving.					

The competencies	(5) Highest	(4) high	(3)Medium	(2) Low	(1) lowest
6. Holistic analysis of working system to determine direct solutions of the problems.					
3. Cultural Diversity Management 7. Having knowledge of diverse cultural set					
8. The ability to handle and manage cultural differences in the workplace.					
9. The ability to adapt the services in line with cultural differences					
4. Emotional Quotient 10. The ability to build relationships and friendliness to clients					
11. The ability to control and manage self-emotions					
12. The ability to adjust themselves in accordance with the environment and the situation positively.					
5. Communication and interaction skills 13. The ability to communicate in both verbal and non-verbal language.					

The competencies	(5) Highest	(4) high	(3)Medium	(2) Low	(1) lowest
14. Having the speaking techniques and being a good listener.					
15. Having the knowledge and skills in two-way communication.					
6. The communication skills of foreign language 16. The ability to communicate, understand English correctly					
17. The ability to communicate third language fluently at least one or two languages					
18. The ability to communicate of foreign language at basic level and advance level for customer services					
7. Teamwork 19. Having good attitude towards teamwork and cooperation					
20.Mutual responsibility in the team					
21. The expression of honor and acceptance of the team's opinions					

The competencies	(5) Highest	(4) high	(3)Medium	(2) Low	(1) lowest
8. Technological skills 22. Having a technology savvy and skills in technology use.					
23. The ability to apply technology for responsible task.					
24. Able to provide suggestion for passenger using information technology					
9. Creativity and Innovation for the job improvement 25. Having creative idea to improve better service.					
26. The ability to innovate for service delivery according to the situation.					
27. Able to create and change the work process to be in line with on-site problem resolution in a timely manner.					
10. Service-minded 28. Express and provide the service from the within					

The competencies	(5) Highest	(4) high	(3)Medium	(2) Low	(1) lowest
29. Provide the service with politeness, courteous and caring for passengers all the time					
30. Having the awareness of providing valuable services to clients					
11. Continuous learning for self-improvement 31. Always concentrate and willing to learn responsible task.					
32. The sought of learning about job, and duties from electronic media continuously for self-development.					
33. Knowledge sharing in the same and different careers to increase professional skills.					
12. Ethics and Morals 34. To adhere and comply with professional ethics and morals in the workplace.					
35. Provide the service to clients equally.					
36. Being honest and integrity in the profession.					

The competencies	(5) Highest	(4) high	(3)Medium	(2) Low	(1) lowest
13. Being expertise in the career					
37. Skill development to become an expert in the job.					
38. Knowledge development from various channels, both inside and outside the organization.					
39. Performing the assigned task according to the international standards.					
14. Job achievement					
40. Having a focus mind for the job completement.					
41. Concentrate on the service goals to strive for success.					
42. Commitment on the job assigned to achieve for success.					

Part 3. The satisfaction of respondents towards ground service officer, from your experience using the airlines that operate to airports in Thailand. Please assess how satisfied you are with the ground service officer at the airport you are using. To what extent are you satisfied? In this regard, please mark √ into the score box that corresponds to your experience of using the service.

If you consider that it is the most satisfied answer 5.
If you consider that it is high satisfied answer 4.
If you consider that it is moderate satisfied answer 3.
If you consider that it is less satisfied answer 2.
If you consider that it is least satisfied answer 1.

The quality of ground services you are most satisfied with.	**(5) Highest Satisfie**	**(4) High Satisfied**	**(3)Moderate Satisfied**	**(2) Less Satisfied**	**(1) Least Satisfied**
1.The Service Quality 1. The accuracy and completeness of the service information.					
2. The speed in problem-solving.					
3. The readiness of tools and equipment for the services.					
2. Responsiveness to passengers' needs 1. Readiness to serve passenger at all times.					
2. Empathy to passengers and detail-oriented.					

The quality of ground services you are most satisfied with.	**(5) Highest Satisfie**	**(4) High Satisfied**	**(3)Moderate Satisfied**	**(2) Less Satisfied**	**(1) Least Satisfied**
3. Providing assistance and feedback the answers and recommendations correctly and responsibly.					
3. Reliability and Assurance 1. Expressing positive communication when deliver the services.					
2. Having knowledge, skills and expertise for providing professional services.					
3. Professional personality and grooming.					
4. The Service expectation 1. The service standard meets your expectation.					
2. The level of satisfaction for the service received.					

Part 4. Open-ended questions relate to the competencies of ground service officer

1. From your opinion, what are the skills, knowledge and expertise suitable for ground passenger services at Thai Airports?

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2. From your opinion, how do you perceive the service of ground service officer in the Thai airport.

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Interview Protocol for Airlines' Executives:

Aviation Human Capital Development: Ground Service Officer as a Case

An interview protocol for questioning the airline's executives about aviation human capital development and aviation human capital competency.

1. The aviation human capital development approaches.

1.1 What do you think the development of aviation human capital should be for the ground service officer to have the competency in responding to the service in order to achieve maximum passenger satisfaction as well as meeting the airline's goals?

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1.2 If you are going to score from lowest to highest or rating (1-5), how would you rate these aviation personnel development approaches?

……..1 Classroom training
……..2. Coaching
……..3. On-the-job training
……..4. Learning organization
……..5. Job rotation
……..6. Field trip for learning
……..7. Education

2. Aviation Human Competency

2. 1 What do you think the aviation human capital competencies characteristics of ground service officer should be?

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2.2 If you are going to score from lowest to highest or the same (1-5), how would you rate these competencies by considering the competencies that is really necessary for the ground service officer?

……..1 Having volunteer attitude
……..2. System thinking
……..3. Cultural diversity management
……..4. Emotional quotient
……..5. Communication and interaction skills
……..6. Communication skills of foreign language
……..7. Teamwork
……..8. Technology skills
…….9. Creativity and innovation for the job improvement
……10. Service-minded
…….11. Continuous learning for self-improvement
…….12. Ethics and morals
…….13. Being expertise in the career
…….14. Job achievement

3. What are your suggestions for the development of aviation human capital and competencies of ground service officer?

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Appendix B

Reliability Pre-Testing of the Questionnaires on the Aviation Human Capital Development Approaches, Competencies and Satisfaction

Table 1 Reliability Pre-Testing of the Questionnaires on the Aviation Human Capital Development Approaches, Competencies and Satisfaction

Aviation Human Capital Development Approaches	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1	266.83	187.109	.452	.901
2	266.90	184.162	.604	.899
3	266.93	183.237	.600	.899
4	266.40	191.421	.167	.904
5	266.63	192.171	.145	.904
6	266.53	186.671	.346	.902
7	266.37	187.826	.393	.902
8	266.43	187.564	.396	.902
9	266.30	187.597	.388	.902
10	266.10	190.990	.260	.903
11	266.07	188.340	.430	.901
12	266.33	186.851	.478	.901
13	265.97	192.861	.167	.904
14	266.10	190.162	.313	.902
15	266.17	188.833	.405	.902
16	266.27	186.892	.455	.901
17	266.37	189.826	.311	.902
18	266.40	189.834	.290	.903
19	266.53	187.361	.416	.901
20	266.47	187.085	.480	.901
21	266.40	187.490	.527	.901

Tabale 2 Reliability Testing of the Questionnaire on the Aviation Human Capital Competencies

Aviation Human Capital Competencies	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1	266.60	192.317	.182	.904
2	266.57	192.116	.162	.904
3	267.07	190.133	.282	.903
4	266.77	188.392	.362	.902
5	266.43	187.978	.409	.901
6	266.13	186.120	.442	.901
7	266.13	185.499	.559	.900
8	266.47	185.568	.641	.899
9	266.27	185.444	.665	.899
10	266.37	188.171	.320	.903
11	266.47	189.430	.337	.902
12	266.10	188.576	.473	.901
13	266.53	192.189	.221	.903
14	266.47	189.706	.320	.902
15	266.53	190.326	.312	.902
16	266.40	187.628	.517	.901
17	266.20	191.821	.214	.903
18	266.20	189.062	.396	.902
19	266.27	193.168	.158	.904
20	266.37	188.999	.361	.902
21	266.00	189.724	.392	.902
22	266.27	187.099	.489	.901
23	266.17	191.316	.280	.903
24	266.00	190.552	.332	.902

Aviation Human Capital Competencies	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
25	266.10	190.921	.303	.903
26	266.13	194.809	.026	.905
27	265.97	188.585	.482	.901
28	266.03	188.930	.447	.901
29	265.97	188.447	.492	.901
30	265.90	192.576	.197	.903
31	265.93	189.651	.410	.902
32	266.00	187.034	.519	.901
33	266.10	190.162	.358	.902
34	265.93	192.202	.220	.903
35	265.83	192.833	.191	.903
36	266.03	190.447	.337	.902
37	266.07	193.926	.074	.905
38	266.03	198.447	.229	.907
39	265.83	191.040	.337	.902
40	265.97	193.689	.107	.904
41	266.00	192.207	.163	.904

Tabel 3 Reliability Testing of the Questionnaire on the Passenger's Satisfaction Towards Aviation Human Capital Services Quality

Aviation Human Capital Service Quality	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1	220.97	486.102	.576	.973
2	221.07	485.857	.569	.973
3	221.03	485.620	.582	.973
4	220.97	480.240	.739	.973
5	221.03	476.033	.708	.973
6	221.00	480.897	.706	.973
7	221.10	484.852	.609	.973
8	221.07	481.789	.664	.973
9	220.90	483.610	.707	.973
10	221.07	479.375	.645	.973
11	220.90	488.093	.593	.973

Appendix C

Reliability Post-Test of the Questionnaires on the Aviation Human Capital Development Approaches, Competencies and Satisfaction

Table 1 Reliability Post-Test of the Questionnaires on the Aviation Human Capital Development Approaches, Competencies and Satisfaction

Human Capital Competencies	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1	180.62	287.906	.623	.969
2	180.66	290.147	.532	.969
3	180.83	287.547	.547	.969
4	180.70	288.570	.561	.969
5	180.45	288.302	.635	.968
6	180.28	289.115	.624	.968
7	180.39	287.406	.656	.968
8	180.40	287.037	.696	.968
9	180.36	289.014	.631	.968
10	180.40	287.858	.647	.968
11	180.53	287.377	.630	.968
12	180.34	288.452	.696	.968
13	180.52	290.278	.608	.969
14	180.55	288.236	.663	.968
15	180.63	287.878	.648	.968
16	180.55	286.250	.731	.968
17	180.45	288.580	.593	.969
18	180.53	288.383	.613	.969

Human Capital Competencies	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
19	180.57	288.870	.616	.969
20	180.60	286.003	.699	.968
21	180.39	287.777	.672	.968
22	180.54	285.575	.724	.968
23	180.43	288.194	.672	.968
24	180.43	288.353	.630	.968
25	180.37	287.122	.725	.968
26	180.36	288.564	.692	.968
27	180.26	288.920	.687	.968
28	180.20	290.706	.660	.968
29	180.28	290.056	.639	.968
30	180.24	290.208	.635	.968
31	180.27	288.887	.647	.968
32	180.28	289.314	.651	.968
33	180.26	288.192	.741	.968
34	180.24	288.808	.666	.968
35	180.17	289.891	.667	.968
36	180.30	288.120	.672	.968
37	180.26	288.086	.652	.968
38	180.26	289.464	.658	.968
39	180.21	290.379	.630	.968
40	180.27	293.006	.506	.969
41	180.24	290.010	.646	.968
42	180.32	288.933	.657	.968

Table 2 Questionnaires Reliability Test on Human Capital Competencies of Low-Cost Airlines

Human Capital Competencies	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1	184.78	160.665	.493	.949
2	184.58	161.228	.439	.950
3	185.10	154.296	.707	.948
4	184.92	152.565	.744	.948
5	184.66	160.719	.437	.950
6	184.22	163.726	.334	.950
7	184.36	158.847	.596	.949
8	184.62	160.485	.503	.949
9	184.42	157.555	.790	.948
10	184.54	156.662	.672	.948
11	184.62	158.526	.569	.949
12	184.42	159.024	.670	.948
13	184.66	158.678	.655	.948
14	184.72	157.185	.597	.949
15	184.80	155.755	.662	.948
16	184.76	155.941	.693	.948
17	184.40	160.367	.564	.949
18	184.40	160.367	.564	.949
19	184.52	158.377	.591	.949
20	184.58	159.759	.544	.949
21	184.46	163.682	.300	.951
22	184.76	157.819	.644	.948
23	184.50	157.316	.660	.948

Human Capital Competencies	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
24	184.36	159.745	.620	.949
25	184.56	160.823	.463	.950
26	184.44	161.966	.435	.950
27	184.28	162.124	.448	.950
28	184.28	159.634	.657	.949
29	184.06	164.343	.399	.950
30	184.14	162.776	.473	.950
31	184.18	165.334	.207	.951
32	184.32	159.732	.633	.949
33	184.18	160.926	.612	.949
34	184.14	164.735	.281	.950
35	184.10	163.724	.417	.950
36	184.18	163.049	.416	.950
37	184.42	158.534	.710	.948
38	184.36	158.358	.734	.948
39	184.14	163.347	.417	.950
40	184.14	164.898	.265	.951
41	184.18	161.171	.485	.950
42	184.28	159.879	.637	.949

Table 3 The Questionnaires Reliability Test of Passengers Using Full-Service Airlines Towards Aviation Human Capital Competencies

Human Capital Competencies	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1	175.77	355.274	.725	.974
2	175.85	353.735	.763	.973
3	175.86	354.215	.701	.974
4	176.58	357.859	.495	.974
5	176.39	356.484	.556	.974
6	176.05	358.095	.549	.974
7	176.16	354.883	.681	.974
8	176.11	354.223	.727	.974
9	175.63	356.243	.729	.974
10	176.30	356.943	.595	.974
11	176.27	357.256	.602	.974
12	176.24	358.078	.536	.974
13	176.03	352.889	.693	.974
14	175.83	354.798	.687	.974
15	176.02	352.203	.770	.973
16	175.96	354.068	.726	.974
17	175.87	355.275	.707	.974
18	175.88	353.438	.764	.973
19	176.06	353.240	.670	.974
20	176.11	351.843	.730	.974

Human Capital Competencies	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
21	176.11	352.713	.721	.974
22	175.68	354.991	.726	.974
23	175.58	359.097	.602	.974
24	175.69	356.171	.708	.974
25	175.67	355.216	.746	.973
26	175.68	354.638	.745	.973
27	175.71	354.845	.737	.973
28	175.55	357.416	.686	.974
29	175.59	357.646	.698	.974
30	175.59	358.283	.651	.974
31	175.70	354.477	.738	.973
32	175.82	354.454	.737	.973
33	175.64	355.589	.736	.974
34	175.66	355.073	.737	.973
35	175.60	357.388	.666	.974
36	175.52	358.421	.642	.974
37	175.81	356.792	.685	.974
38	176.02	358.228	.609	.974
39	176.10	355.697	.662	.974
40	175.93	354.539	.712	.974
41	175.97	355.290	.659	.974
42	176.05	352.937	.700	.974

Table 4 The Questionnaires Reliability Test of Passengers Using Low-Cost Airlines Towards Aviation Human Capital Competencies

Human Capital Competencies	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1	177.29	298.139	.634	.969
2	177.39	295.426	.723	.968
3	177.45	295.972	.666	.969
4	178.17	297.792	.502	.970
5	177.96	295.753	.616	.969
6	177.59	298.013	.580	.969
7	177.68	295.683	.660	.969
8	177.66	296.335	.675	.969
9	177.19	298.507	.659	.969
10	177.81	296.948	.612	.969
11	177.81	297.965	.603	.969
12	177.80	297.747	.559	.969
13	177.55	295.421	.626	.969
14	177.35	297.745	.645	.969
15	177.57	294.120	.729	.968
16	177.49	296.230	.668	.969
17	177.44	298.126	.649	.969
18	177.44	296.597	.720	.968
19	177.59	294.402	.647	.969
20	177.68	293.122	.705	.969
21	177.63	295.101	.693	.969
22	177.20	298.393	.659	.969

Human Capital Competencies	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
23	177.17	299.512	.601	.969
24	177.25	298.390	.666	.969
25	177.17	298.277	.659	.969
26	177.20	298.115	.652	.969
27	177.21	298.814	.646	.969
28	177.10	300.655	.601	.969
29	177.14	300.151	.627	.969
30	177.12	299.576	.659	.969
31	177.28	296.707	.709	.969
32	177.36	297.213	.689	.969
33	177.17	298.643	.656	.969
34	177.15	298.746	.651	.969
35	177.11	299.041	.634	.969
36	177.02	301.140	.585	.969
37	177.35	298.212	.677	.969
38	177.60	298.010	.628	.969
39	177.64	295.455	.686	.969
40	177.47	295.999	.693	.969
41	177.46	295.202	.649	.969
42	177.52	294.782	.716	.968

Table 5 The Questionnaires Reliability Test of Passengers' Towards Service Satisfaction of Aviation Human Capital Ground Services on Full-Service Airlines

Service Satisfaction Towards Ground Service	**Scale Mean if Item Deleted**	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**
1	45.87	22.291	.771	.945
2	45.87	22.279	.780	.945
3	45.93	22.246	.768	.945
4	45.86	21.829	.827	.943
5	45.94	21.683	.788	.944
6	45.82	22.207	.776	.945
7	45.97	22.398	.692	.948
8	45.90	21.948	.760	.945
9	45.83	22.165	.795	.944
10	45.90	21.943	.779	.945
11	45.77	22.602	.779	.945

Teble 6 The Questionnaires Reliability Test of Passengers' Towards Service Satisfaction of Aviation Human Capital Ground Services on Low-Cost Airlines

Service Satisfaction Towards Ground Service	**Scale Mean if Item Deleted**	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**
1	46.08	20.707	.724	.944
2	46.10	20.509	.747	.943
3	46.20	20.009	.773	.942
4	46.09	20.044	.830	.940
5	46.19	19.916	.787	.941
6	46.09	20.343	.764	.942
7	46.21	20.382	.707	.945
8	46.14	20.316	.752	.943
9	46.08	20.512	.768	.942
10	46.16	20.046	.791	.941
11	46.06	20.603	.777	.942

BIOGRAPHY

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