Service, Safety and Security of Air Transportation: Case Study of Indonesia

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The purpose of this research paper is to analyze how to build a culture of service, safety, and security in air transport through human resources and quadruple helix. The method used in this research paper is literature and opinions of experts in the field of air transport with cultural variables of service, safety and security, human resources and quadruple helix. The research concluded that the airplane is the safest means of transport in the world. The culture of service, safety and security in aviation must be supported by highly-skilled labor (workforce) who has competencies, digital sound and high innovation so as to improve Indonesia's competitiveness on a global level. Government, business, community and higher education need to improve the workforce through training programs and competency-based education referring to the market needs.

Keywords: service, safety, security, workforce, air transportation, quadruple helix

1. Introduction

The impact of globalization brings the effects of changes in all aspects of life, including the aspect of transportation. Lloyd Wilson (1990) says that the transport is a very important means to move people or goods from one place to another. In the ASEAN Free Trade Area (AFTA) era and in order to improve economic competitiveness by making ASEAN the world production and create regional markets, it is important to give the top priority to the transportation, especially air transport to support accelerated movement of goods and people.

The airline industry is a global industry with full of high technology in which aviation safety is a top priority. Centre of this industry is the aircraft industry in United States and Western Europe. The United States Federal Aviation Administration (FAA) that guides the US airline industry becomes a reference to the civil aviation authorities of all countries in the world. FAA serves to assure the highest degree of safety in flight. Safety is a state of fulfilment of safety requirements in the airspace, aircraft, airports, air transport, air navigation, as well as supporting facilities and other public facilities. In both civilian and military flights, flight safety is in charge of the government. There are three elements that contribute to the flight safety. First, the airplane itself, including how the plane is designed, manufactured and maintained. Second, the airline condition, airport, air traffic, and air traffic controls. Third, airlines flight operations related to the control and operation of the aircraft in the airlines. The responsibility of a country's aviation regulator is to ensure that aviation safety is at the highest level on these three elements.

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There are only two categories in the global aviation safety standards, pass or fail. If the country's aviation authority is not competent, all airlines in the country are not guaranteed safety. FAA found many repeated violations of safety procedures of flights by Indonesian airlines which were not supervised by Indonesian aviation authority. Indonesia's regulators are also considered too 'generous' to issue a business license and flight operations to unsafe airlines, thus resulted in high levels of plane crash. Following such low security level, FAA and International Civil Aviation Organization (ICAO) reminded that air passenger growth in Indonesia is 20% too high and unnatural. As compared to China whose economic growth is two times higher than Indonesia, it has only 16% passenger growth. This is even still deemed too high by the Chinese government so they brought it down to 14%. China's government had not issued the new operating licenses of airlines until 2010. In fact, China's current air transport is among the most secure in the world. To suppress the flight accident rate which is currently among the highest in the world, Indonesia mush suppress the aircraft passenger growth under China. This is because Indonesia's economic growth is 6.3%, much lower than China (11.4%). Indonesia is urged to revoke the operating license of unsafe airlines.

There are three interrelated factors in the aviation: security, safety and low accident or disaster. The reduced level of security and safety may lead to flight disaster. Thus, safety and security are intertwined. The use of aviation safety formulation is relatively often followed by "security" as well. According to Suherman (2009), there are various factors that eventually combine the existence or absence of aviation safety; aircraft, personnel, infrastructure, flight, flight operations, and regulatory bodies. The most relevant aircraft to safety; design and construction that fulfil the crashworthiness so that during an accident there should be no passengers are severely injured. The Airworthiness is related to the aircraft operation time and the aircraft maintenance. The personnel's education, training, licensing, health and the flight time limit become important factors to optimize the flight readiness.

Infrastructure covers the airports and its supporting facilities, ranging from high-tech navigation tools to a comfortable waiting room for passengers. The criteria of airport facilities will determine the good or bad of airport terminals. In addition to airports, there are also other infrastructures such as air traffic and navigation aids outside airport that need maintenance. The infrastructure is also very much related to the security. Crime prevention efforts should be done through rigorous surveillance systems in airports. In addition to these factors, there are still environmental factors that need serious attentions. Uncertain weather due to climate change also becomes a powerful factor which may cause a flight accident. Diran in Martono (2009) note that "The aviation system is an interactive a typical complex of socio-technical-environmental system ...". Martono (2009) also states that the accident is caused by various factors, namely human (man), aircraft (machine), environment use of aircraft (mission), and management.

The previous studies concluded that the factors influenced passengers on their choice of airline are based on expanded marketing mix elements such as safety (Kankaew 2013). The global transportation safety and security market is expected to grow from US$37.80 billion in 2013 to US$62.96 billion in 2018 at a Compound Annual Growth Rate (CAGR) of 10.7% from 2013 to 2018 (Conventry 2013). According to the International Air Transport Association (IATA), the airline industry potential in Indonesia is very large and by 2034 is expected to be one of six largest air travel, with passenger numbers reaching 270 million from and within the country. Plane crash at Halim Perdanakusuma Airport on 6 April 2016 indicated that there were still problems in airport infrastructure in Indonesia such as

overcapacity and inadequate safety standards. Halim Perdanakusuma Airbase which actually belongs to the Air Force does not meet the standards for civil aviation airport because it only has one runway, doesn't have a taxi way, narrow apron and limited parking capacity. At the airport, there are also several air squadrons and aircraft engineering. (Lestari. 2016).

The above conditions lead to the conclusion that the culture of service, safety and security in air transport through human resources and quadruple helix is necessary. The purpose of this research is to analyse how to build a culture of service, safety and security in air transport through human resources and quadruple helix.

Section 1 of this paper discusses the introduction, while section 2 discusses the theories relevant to the study of the Service, Safety And Security of Air Transportation: The Case of Indonesia, section 3 discusses the methodology, section 4 discusses the findings, and the section 5 discusses the summary and conclusions.

2. Literature Review

2.1 Service Culture

Two of the major pillars in cooperation among ASEAN countries are the services and tourism. As Forsth P., King J., Rodolfo L. C., and Trace K. (2004) mentioned that open sky is a target which has been set for 2015 in "The Roadmap for the Integration of ASEAN: Competitive Air Services Policy." Open sky will be an important component of the overall economic integration of ASEAN, since it aims to bringing down barriers to trade, thus facilitating change. Culture of service in the airline and aviation industry is a global industry and business integral lock, thus making the competition becomes tighter in attracting customers. Building a culture of service can begin by recognizing the needs of customers on the aviation industry and air transport. Such customer needs range from the ease of getting a ticket, convenience in the airport, on-time departure, comfort during the flight, the accuracy of arriving at the destination, as well as safety. According to Kankaew (2013) lliberalization of aviation markets can create direct and indirect benefits and costs. The direct impact are passengers may obtain lower fares and better services, airlines may only incur lower costs and access to new markets, tourism sector will gain from stimulus provided by lower airfares and better services.

Owens (1991) states a culture is seen as the norms that refer to any statement that allowed and what is not done by a member or group. Along with Owens, Schlesinger (1992) also states that culture includes knowledge, belief, art, law, morals, and customs. From that argument, all resources associated with providing services in the aviation transport should be guided by the norms, laws, morals, beliefs, and habits and art that have been used as guidelines for both the national, regional and international levels. Sultan F., Simpson C. M. Jr. (2000) studied international service variants: airline passenger expectations and perceptions of service quality between American and European finds that the services perception is different by nationality.

Therefore, there needs to build & develop culture of service in the profession of flight management such as Airline, Ground Handling, Airport Operator, warehousing (Cargo), the Official Freight Forwarding Airship, Aviation Security and others, which are needed to serve the airline, passengers and goods at airports, in addition to the safety function, security and comfort both in flight and at the airport itself.

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It is time for the Indonesian to make changes in a culture of service, safety and security in the air transportation that can help the government and non-government organizations to adapt to the demands of the changing times and environmental conditions. This effort has enhanced the competitiveness and putting some organizations in a better position. It is not easy since efforts to build the change do not always run smoothly even make employees turn into despair, fear, frustration and even many resources are wasted.

Kotler (2000) states that the transformation in building changes are: 1). When everyone willing to make sacrifices, whereas changes will require committed top leaders. 2). Create a coalition of an active driver. 3). Create the power of vision as an instrumental in directing, carrying, and inspire people to act. 4). Communication to make people willing to transform. 5). Deliver a new vision. 6). Celebrate short-term achievement. 7). Change take in order to really take root and become a culture. 8). Change in the organizational culture.

The essence of transportation services success is the satisfaction of passenger. Over the last four decades the real cost of travel has fallen by around 60% and the number of tourists increased tenfold. Individual consumers and society requires a great value with the right technology, efficient and adequate infrastructure. One of the biggest challenges the industry is to evolve from the financial disaster of a partial deregulation that has created fierce competition among airlines but without giving them the normal commercial freedoms to do business this industry became sick and was free to develop his business. To protect the value of the flight required by customers, companies, nations and the global economy, it needs a shared vision for change in order to move forward.

A significant increase in the quality of services provided to airlines' customers. There are many dimensions of quality of service, including travel time, convenience and reliability of the service, aircraft cabin comfort and the range of on-board facilities. Some of these factors are difficult to measure in an objective manner. However, the increasing speed of the aircraft and the average length of the flight have been achieved, with positive consequences for the travel time and passenger comfort. The average global speed for block-to-block aircraft increased from 360 kilometers per hour in 1960 to 630 kilometers per hour in 1980 and 674 kilometers per hour in 2005 (an increase of approximately 90 percent over 1960).

There has been quite a little change in the speed since 1980. The average distance for flights taken has more than doubled from 470 kilometers in 1960 to 1239 kilometers in 2005. This trend is linked by direct flights and fewer stopover to refuel, and therefore increased level of passenger comfort. The combined effect of an increase in airspeed and reduced stop shortened the total travel time of passengers, especially for multi-leg trip.

In the recent years, the Low Cost Carrier (LCC) has successfully challenged full-service airlines. The common features of LCC business models are, with some variations: point-to-point focus on short routes, high frequencies, simple low-cost structure, high-density single class with no seat arrangement, simple flight service, staff flexibility and minimal cost, and the intensive use of e-commerce for marketing and distribution (including online bookings through the internet and e-tickets). To maintain a low cost structure, airlines usually operate a single aircraft type with high daily aircraft utilization. They also use less congested secondary airports to ensure fast turnaround and punctuality and reduce costs related to the airport. Low operating costs enable LCCs to allocate all their seats to low fares. LCC growth is likely to prompt some airlines to create a subsidiary or a separate unit to compete.

The flight tickets service now could not be controlled by the government, thus illegal travel companies might harm the public. As an example, the Hajj and Umrah fraud which is organizationally under the Ministry of Religious Affairs. The transport access to the airport has not been able to serve customers optimally although there are special transportations available such as special buses, yet it has not been able to reach various locations. Apart from that, the access of transportation from the bus terminal to the airport is not synergized. There is no available mass transportation such as trains that connect each station to the airport, thus the transportation is still dominated by private vehicles and taxis which are not the only cause congestion, but also parking difficulties, especially at Soekarno-Hatta Airport, Jakarta, Indonesia. This makes passengers to spend more time before and after flying when traveling by plane through busy airports.

When the delay occurs, the airline management does not provide information in a transparent manner so that the consumer are abandoned; for example: the Lion Air (one of Indonesian Low Cost Carrier) case in February 2015. Moreover, in accordance with Article 4(c) of Law No.8 of 1999 on Consumer Protection: The rights of the consumers are "to obtain correct, clear end honest information on the condition and warranty of the goods and/or services." In this case, the airline has violated the consumers' rights, and the consumer may sue the airline.

In addition to the above conditions, the air traffic flow density often causes discomfort and anxiety. For example, boarding passengers have to wait in the plane for more than 30 minutes even one hour with no air conditioning turned on. Likewise, the plane landings are often delayed and had to fly around on the airport to wait for their turn to land due to the air traffic density.

In addition to causing discomfort, such issue also impacts the economic aspects such as wasted fuel, and the impact on the image for the Indonesian state in the provision of infrastructure and air traffic control. Likewise, there are only limited facilities and infrastructure available for passenger when getting off of the plane, for example, the lack of trunk connecting the aircraft to the terminal.

The service routes have not been able to reach out to all parts of Indonesia, especially in the remote areas. And the areas that have been reached with the air transportation but purchasing power is still low, but many regions/areas of transportation is more suited to air transport.

2.2 Safety

Sampigethaya et.al. (2011) states civil aviation is subject to a well-established, stringent regulatory environment to assure that aircraft safety and public well-being are protected. Operation of air transport cannot be separated from economic growth in users of air transport services and also the development trend of the global economy. In line with the improving growth of the national economy, the government's role as a provider of original economic activity shifted into the role of being a regulator. As a regulator, the government is only in charge of issuing rules, performing certification and surveillance to ensure the implementation of air transport that meet aviation safety standards. Chang and Yeh (2002) propose passenger focus on the comfort of the environment, service personnel, safety and reliability, and service convenience.

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Sampigethaya et al. (2011) proposes that airworthiness safety is considered and evaluated under the concept of an aircraft being airworthy. The two necessary conditions for airworthiness certificate are: 1) aircraft must conform to its type design, and 2) aircraft must be in safe operating condition. Conformity to type design is attained when the aircraft is consistent with data of the type certificate. Whether an aircraft is in a safe operating condition depends on 1) condition of the aircraft relative to wear and deterioration, e.g., skin corrosion and tire wear issues, and 2) condition of complex digital systems, including software and hardware, related to their ability to properly operate. If one or more of these conditions are not met, the aircraft is not considered airworthy.

Aviation safety is an inherent part to the culture of service in the aviation industry, and the government acts as a regulator of aviation safety supervisor, in which they provide protection to the flight from unlawful conduct through the integration of human resources, facilities and procedures. Safety is a top priority in the aviation, not only in aviation safety and security, but also the entire flight. Law No. 1 of 2009 on Aviation states that flight safety is a state of fulfillment of the safety requirements in the use of airspace, aircraft, airports, air transport, air navigation, as well as supporting facilities and other public facilities. Aviation safety in Indonesia is related to the use of the air sovereignty over its land and waters of Indonesia. The use of aircraft has been arranged that the aircraft may be operated is that every machine or tool that can fly in the atmosphere due to the lifting force of the air, but not because reaction of the air against the earth's surface used for airlines; airports is an area of land and/or water with certain limits being used as aircraft landing and taking off, transporting passengers, goods loading, and the movement of intra and inter transportation, which is equipped with safety and security, as well as basic facilities and other supporting facilities.

Air transport has a strong tradition of giving top priority to safety. This is indicated by a decrease in the number of casualties per 100 million passenger-kilometers from 0.8 in 1960 to 0.08 in 1980 (10%), and from 0.03 to 0.05 ini 1990. In 2005, casualties per 100 million passengers per kilometer decreased from 0.05 to 0.02. (Outlook for Air Transport to the Year 2025) The data has shown an improvement, but has not been able to optimize the Ministry of Transportation roadmap: Safety, security, services, compliance towards zero accident.

The government's response to international aviation safety rules has not been quick enough. This can negatively impact national and international markets which still choose foreign airlines compared with domestic flights. In terms of aviation safety, Indonesia in international level cannot be equated with developed countries, thus lowering the degree of trust in global. All countries in the world which have a civil aviation company will be governed by international aviation regulatory standards that have been adopted by all countries of international civil aviation organizations members that govern the world of aviation. Thus, all member countries will always adhere to the established standards and meet all requirements.

Currently, the relationship between Indonesia and other countries have made some progress with the growing extent of the international flight routes. It should be used as an opportunity for the Indonesian government both in the economic, tourism and cultural recognition. Besides, relations between Indonesia and other countries may support the tourism industry and create jobs that lead to increased economic growth.

2.3 Security

The increase in the number of passenger traffic and freight movement across the globe, increased crime, accidents, anti-social behavior, and continuous terrorist attacks have forced governments to spend a huge amount on transportation safety and security (Presswire 2013). Aviation security becomes one of the variables that make passengers willing to use air transport. Therefore terrorist attacks who crashed planes into the Trade Center twin towers in United States in 2001 had made world realized that the aviation security is vital and involves many parties to achieve it. After the terrorist attacks on September 11, 2001, aviation security had become an integral part of air transport services. The impact of "nine eleven (9/11)" has been imprinted in the minds of air passengers about the importance of air travel security. However, International Air Transport Association vision in 2050 says that the security has been steadily increasing over the last 40 years to the point where security risk less of 'unlawful' conduct only reaches 0.000001%, or one per one million flights. Sampigethaya et al. (2011) Airworthiness security can be defined as the protection of the airworthiness of an aircraft against cyber–physical threats from harmful human action (accidental, casual, or intentional) using access, use, disclosure, disruption, modification, or destruction of data and/or data interfaces of the aircraft.

Jenkins and Brian Michael (2012) find that the total terrorist violence over the world and the casualties it causes, attacks on aviation has been low compared to other terorist attacks. Between 9/11 and the end of 2011, there were 75 terrorist attacks on airliners and airports worldwide, resulting in 157 deaths. It wa well below 2,000 terrorist attacks on trains and buses, resulting in approximately 4,000 casualties during the same period.

In accordance to the International Civil Aviation Organization, aviation security provides protection from unlawful conduct through the integration of the utilization of human resources, facilities, and procedures. In order to ensure the implementation of flights that meet safety and security standards, Law No. 1 of 2009 on aviation organizes the establishment of the national aviation safety, national aviation security, and safety measure cultural program. In line with International Civil Aviation Organization, the national security program contains security regulations, security objectives, security personnel, security responsibilities arrangements, airport protection, aircraft and navigation facilities, the control of person security in the airplane, countermeasures of unlawful conduct, adjustment of security systems to security threat, and flight security surveillance. (Explanation on P.163 no.1 2009). From these national programs, the implementation has not been effective. For instance, airport security whose task is to protect passengers, yet they did crime instead. Airport screeners are under increasing stress. Each terrorist innovation has added another security procedure. Because of the shoe bomber, passengers must take off their shoes. In response to the 2006 terrorist plot involving liquid explosives, restrictions were placed on liquids. The underwear bomb led to the deployment of body scanners. Each added procedure complicates the search, slows down the screening process, and further stretches human resources. At the same time, passenger loads are increasing, while security budgets are likely to decline. (Jenkins & Michael 2012)

Price, Jeffrey, and Jeffrey Forrest (2012) state that aviation is an effective and efficient mode of transportation affecting worldwide social and economic stability. As such, aviation is a target that both terrorists and criminals highly desire. The ability of aviation to move people and property faster than other means of transportation is essential to its economic viability. The Internet and related technologies such as video conferencing and

telecommuting provide additional options to transport information, knowledge, or products and services. The advantage of the aviation over railways, trucking, and watercraft is speed, whereas its advantage over video conferencing is that people still generally prefer face-to-face communication. Sustained criminal or terrorist activity on aviation could cause a shift in passenger demand from airline travel, of which business travel is a significant percentage, to alternate forms of interaction or travel, such as videoconferencing or privately owned or chartered aircraft. These types of changes in demand for transporting people, cargo, or information could give airlines serious economic challenges. If business travellers switch to alternate modes of travel, commercial airlines will have to increase the cost of tickets to passengers (usually leisure travellers) who cannot afford business rates. As costs increase, leisure travellers may not be able to afford air travel, resulting in more "stay cautions," which do not require air travel. Airlines will then have to raise prices to compensate as more leisure flyers switch to ground transportation.

2.4 Human Resources Management

The challenge of globalization doesn't lie on the superiority of technology or capital, but on how capable human resources in using technology and capital owned effectively and efficiently. Human resources are hardly replaceable or replicate-able so that the Human Resources always provide a unique competitive advantage. Human Resources Management is the only way to win the competition and face the globalization. (Shchuler & Jackson. 1997)

Human Resource is an important element in the implementation of a culture of service, safety and security, and is one of the main factors in causing air transport accidents. Four main factors of aviation accidents are: human factors, technical factors, environmental factors and weather factors. Nusraningrum (2012) explaines the aircraft technician is one of the human factors that maintain and repair the aircraft. The results showed that the human resource competency has a positive and significant relationship in order to achieve flight safety.

HRD is expected to play a crucial role in airline industry to cope with the challenges of advancement in technology, changing markets, industry restructuring and more competitive domestic and international business environment. Effective management of delivery process helps to differentiate an ordinary and excellent airline. The importance of Human Resource Development in aviation; Responsible for the employees satisfaction, affect the managing work, helps organization to meet its objectives and strategic goals by effectively managing employees and maintaining them, long working hours, frequent travelling demands for sound Human Resource policies. (Joby & Pakkeerappa, 2007).

Government policy and human resources recruitment has yet to meet the transportation demands of the market and support transportation education from secondary level to the expert level. Flight schools lack of qualified graduates. This showed the lack of government support on the development of aviation in Indonesia. The government has not given commensurate rewards for labor / human resources (workforce) so that when the government requires such workers, no one is interested. For example, employees of Air Traffic Control (ATC) are equivalent to only high school graduates with relatively wages compared with its responsibility for aviation safety.

From the symposium of "Second Next Generation of Aviation Professionals (NGAP)" held in Montréal, on December 3 - 4, 2014, International Civil Aviation Organization launched

the initiative of Next Generation of Aviation Professionals in 2009 to mobilize stakeholders to ensure that the available aviation professionals are competent and capable enough to operate, manage, and maintain the international air transportation system in the future. One of the conclusions on the first NGAP symposium is that the aviation industry has to compete with the other industry sectors to attract the next generation. Millennials - people born in the 80s and 90s - are the next generation that will carry on the sustainability of the aviation industry. They are characterized with having constant access to information and mobility.
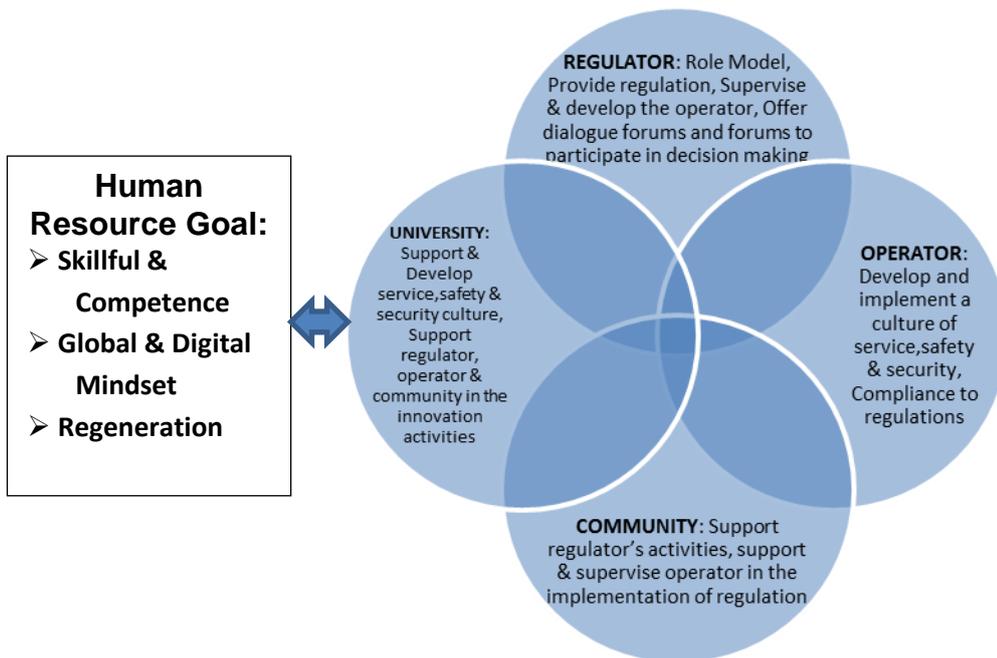
International Civil Aviation Organization has been involved in the development of a competency framework for the various functions of the flight, to encourage the implementation of competency-based training and assessment. Next Generation of Aviation Professionals group of Air Traffic Management (ATM) develop a competency framework for Air Traffic Safety Electronics Personnel Controller and Air Traffic. The Next Generation of Aviation Professionals are millennials and most of them are digital savvy. Millennials learn online, through virtual collaboration, mobile technology, social media, and only occasionally in the classroom. They produce videos, publish electronic books, and blogs. They can do this anywhere and anytime, thus training and education providers must adjust their curriculum. And in this environment, the role of the instructors and teachers of flights education is shifted to facilitator. The airport reflects the working area in providing services to passengers and airlines. In some countries, 40 percent of the airport workforce will retire a few years to come. While in many countries, the next generation is not ready to work at an airport. So, we need the right strategy to address workforce gaps in air transport industry.

2.5 Quadruple Helix (Regulator, Operator, Community, University)

At the national level, there has been a shift in the regulatory approach from detailed regulation of companies to more relying on market forces. Some countries have changed their air transport policy towards increased liberalization of global trends. Some of these policies seek to liberalize air transport services sector, as a whole or in part, on a unilateral basis without requiring comparable rights from bilateral partners in return. Others aim to liberalize the domestic air transport market and also provide more carriers to fly international routes. Nusraningrum et.all (2015) finds that 78% of domestic passengers tend to choose LCC.

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Air Transportation Quadruple Helix Model vs Human Resource

Human Resource Goal:
- Skillful & Competence
- Global & Digital Mindset
- Regeneration

REGULATOR: Role Model, Provide regulation, Supervise & develop the operator, Offer dialogue forums and forums to participate in decision making

UNIVERSITY: Support & Develop service, safety & security culture, Support regulator, operator & community in the innovation activities

OPERATOR: Develop and implement a culture of service, safety & security, Compliance to regulations

COMMUNITY: Support regulator's activities, support & supervise operator in the implementation of regulation

Source: processed by author (2015)

From this air transportation quadruple helix model, it can be seen that the overlapping the spiral regulators, operators, community and university in the context of building a culture of service, safety and security is appropriate to be supported by skilled, competent human resources who are able to use the technology and have global insight. In this case, regulator should be able to serve as a model for all stakeholders, provide regulation in accordance with market demands, supervise and develop the airline in order to compete with other countries, and offer a forum for dialogue and to participate in decision making.

The front line of air transport is a business person (operator) who directly deals with customers, and the customer has the right to choose and buy the products offered by the airlines. Inevitably, the operator must meet or exceed the demands of the customers, thus the culture of service safety and security practices should conform and comply with regulatory standards and applicable regulations in the respective country as well as international rules. This is reinforced by the application of strategic management of human resources to effectively address the challenges associated with the three main services: how to deal with sky-high and ever-increasing customer expectations; how to achieve a balance between the standard and consistency, by maintain privacy; and how to approach a large number of services and support sub-process in earnest to achieve excellence. (Heracleous, et.al., 2009)

Community as one of four spirals acts as a driving force and government representation, and airlines and academics in developing and implementing a culture of service, safety and aviation security.

In terms of education, higher education has been identified as a major source in the supply chain for the training of transport as the majority of professionals are from college graduates. (Haas, Falkner and Tighe 2002). In addition, graduate degree in the university

for transportation education is considered much under-represented in terms of the proportion of charging experts in transportation sector occupations. As a key factor to the supply of skilled workers, the education and training of professional must be considered in policy-making related to the skills and competencies in the transport sector.

Currently, the Government has also set a target of foreign tourists to 20 million for 2019 with the inauguration of the Special Economic Zone (SEZ) covering Tanjung Lesung Banten, Mandalika Lombok, and Morotai in North Maluku (Act no. 39 of 2009). The air transport will become the backbone of the economic development in the field of tourism, especially to transport both domestic and international travelers. This is in line with the development plan and development of a new airport by the 2015 and the special attention to the 72 borders and airports specialized in disaster-prone areas. The optimization of the airport through the development and construction, including expansion and other infrastructure development will bring real benefits, especially for the Soekarno-Hatta International Airport, which is the gateway entry of foreign tourists to the capital city of Indonesia.

3. The Methodology

This paper uses a qualitative research by studying literatures related with service, safety, security, human resource, quadruple helix model and Air Transportation.

4. The Findings

Service, safety and security of transportation in Indonesia is the responsibility of all elements; regulator, operator, university, and community. The airplane is the safest means of transport in the world, only if all rules on aviation safety organized by ICAO are applied by the aviation authorities and operators. Otherwise, if few of these rules are violated, the aircraft will be the most horrible means of transportation. Nowdays, Indonesia will immediately implement the ASEAN Economic Community, meaning that the economy in this region is increasingly integrated with high competitiveness. The culture of service, safety and security in aviation must be supported by skillful and competent human resources who have high innovation. Nusraningrum and Waluyaningsih (2013) studied that the performance of Directorate General of Civil Aviation which is carrying out the function of coaching to airport operators and air transport as well as other stakeholders is almost good. For comparison, the Indonesian Ministry of Administrative Reform gave C point, which is somewhat low.

5. Summary and Conclusions

Air Transportation Quadruple Helix Model: Regulator, Operator, Community And University needs enrich the human resources (workforce) through training and education programs based on competency through curriculum which refers to the market needs, immediately prepare a competent workforce and continue to fill the air transportation business operations in accordance with the demands of time.

There is a limitation in this study. The research on service failure, safety failure, and security failure in Indonesia is still limited. However, the analysis of this study is using the reports and literature. Therefore, it needs further studies on service, safety, and security of transportation in Indonesia.

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