

## Shipper's Perceptions of Aviation Logistics Service Quality (LSQ) of Air Freight Provider

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**Abstract:** This research investigates logistics service quality of the air freight provider from a shipper's perspective in Malaysia. The multiple empirical case studies are used to collect data from the shipper's perspective. Findings suggest there are five main factors that represent air freight service quality of the air freight provider. They are ground handler attitude, fast delivery, communication and information sharing, product reliability and price. These findings contribute to the current theory of Logistics Service Quality (LSQ) with specifically enhance our understanding of air freight service quality. These findings contribute to the current theory of air freight service quality where it is still underdeveloped. This research studies LSQ from shippers perspective only. Findings from this study has developed better our current understanding of logistics service, particularly in air freight sector. Thus, this study is pioneer that offers a study on LSQ in air freight perspective and explore the elements of air freight service quality. Findings from this study not only enhance current knowledge on air freight LSQ but also assist the government to help air freight provider to support themselves as a preparation to become the major player of Aeropolis city in Malaysia.

**Key words:** Air freight provider, logistics service quality, shippers, airfreight service quality

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### INTRODUCTION

#### Introduction and evolution of logistics service quality

**study:** Logistics is a key success to any organization and all supply chain channel member. Without logistics, the supply chain will be flounder and business organization will be failed (Daugherty, 2011; Fuller *et al.* 1993; Gordon, 2003). Most of the organization in the 21st century are outsource their logistics activities to the third party that is known as 3rd Party Logistics Provider (3PL). This external party is an expert in handling logistics activities such as transportation, warehousing and inventory management (Leuschner and Lambert, 2016). Their services not only focus on land transportation but also sea freight and air freight or also known as aviation logistics.

Aviation logistics or air freight plays an important role in a company or manufacturers that require high-speed delivery, especially for luxury, high-end product and time sensitive product. For instance, electronic chips that are extremely sensitive and high value, jewellery, medicine, pets, documents and also customized or personal gift that is transported to the recipient across the globe. Aviation logistics services or

air freight services serves this business entity that requires high-speed delivery services to ensure that they can respond to customer's needs (Rahman *et al.* 2015; Feng *et al.*, 2015).

Even the report has shown a bit slow growth of trade across the globe, however moderate expansion market for air freight is expected to continue. Survey result from Annual Third Party Logistics Study shows a positive growth for logistics service including air freight. It is expected that every country across the world will experience constant and superior growth of contract logistics from year to year. According to International Air Transport Association (IATA) report in 2015, the USA remains the biggest country for movement of air freight volumes due to its size and geography, followed by China and it is expected to continue in several years ahead (IATA, 2015). Business in sectors such as financial, technology, electronics chips, pharmaceutical and jewellery are highly dependent to air freight service provider to ensure that they can respond to customers needs and in turn sustain in the industry (Davis *et al.*, 2009; Meng *et al.*, 2010; Murfield *et al.* 2017, Rahman *et al.* 2015). In another word, air freight is recognized as an enabler for many business organization

successes. Since, manufacturer's or shipper's business success are dependent on air freight service performance, it is crucial to know what measures logistics service quality in aviation sector particularly the air freight service quality.

The previous scholar has started researching on Logistics Service Quality (LSQ) as early as the 1990s. For example, a study by Bienstock, Daugherty, Mentzer Stank; they are among the pioneer that looks into logistics service quality. They found that there is an operational and relational factor that measure logistics service quality in Business to Business (B2B) context. Compared to Business to Consumer (B2C) context, the service quality is mainly measured on operational perspectives such as timeliness, the availability and product condition. They found that logistics service quality significantly affect customer satisfaction and contribute to market share.

In the 2000s, a study on LSQ continues by Mentzer via exploratory study. The study demonstrates reliability and validity for measurement of LSQ and its impact on customer satisfaction. Stank investigate on logistics service performance and emphasize that there are three main component represent logistics service quality namely the relational factor, operational and also the cost performance. This is followed by a study from Xing and Grant in 2006 on LSQ framework. However, their framework on availability, condition, timeliness and return are not empirically tested.

This shows that there is a study that looks into LSQ. However, it is still vague what are the elements that represent LSQ in each sector are still vague. Past studies by Rafiq and Jaafar (2007), Richey *et al.* (2007) and Bienstock *et al.* (2008) were also extending studies on LSQ. The study provides empirical support on the importance of technology in the LSQ. The study found that the customer will be more satisfied with the use of information technology by 3PL as it perceived the usefulness of the Information Technology (IT).

Davis (2009) focus on the order fulfillment service quality via survey and found that there is a significant relationship between order fulfillment service quality and purchase behavior. Results suggest both technical and relational order fulfillment influence on shippers satisfaction and positively affect affective commitment. Rahman (2012) looks into how LSQ affects long terms relationship between shippers and 3PL in the automotive context. She found that both operational and relational factor are vital for a renewal of the contract of 3PL and suggest five factor under operational dimension namely information sharing, price, product quality, delivery time and route. All these five factors are important for the long-term relationship between shippers and 3PL in the

automotive context. This is followed by a study from Soh *et al.* (2015) which also emphasizes on perceived LSQ towards a long term relationship.

A study by Oflac looks at the failure in LSQ namely delay in timeliness of delivery and propose higher expectation may protect the brand and cause higher attribution of delay in delivery to the 3PL provider. Rahman *et al.* (2014, 2015) suggest that logistics branding creation is strongly related to LSQ provided by 3PL. This is along with Juntenen *et al.* (2011).

Even there are significant numbers of LSQ study but there are still inconsistencies in term of the area of investigation, the method used, the context and the findings. This is remaining the needs for further studies to explore further on the issue of LSQ in a specific manner. Different investigation in various angles will produce new findings that will contribute to the theory of knowledge in the logistics field. Knowing the fact that Malaysia is one of the largest economy in the South East Asia and future will be the top of air cargo hub in the world, it is important to study on the air freight service quality in Malaysia. This is line with the industrial plan developed by the Government of Malaysia stated in the Malaysian Aerospace Blueprint 2030 (Fakhruhnizam and Rahman, 2015). According to this blueprint, aerospace industry stakeholder including air freight service provider will experience continued growth of the industry and there is an opportunity for air freight provider in Malaysia to handle increased volume of air freight. It is also expected that Aeropolis City that in the process of development in Malaysia will offer air freight provider greater opportunity to grow bigger in the market not only in the Malaysia but also worldwide (Ascutia, 2016). It is not only in conventional logistics but also for Halal logistics in Malaysia particularly in 4PL halal logistics (Rahim *et al.*, 2016).

As discussed above, there is a strong motivation from the researcher to study on the aviation logistics service quality in Malaysia. Aviation logistics service quality in this study is referred to the transportation service quality provided by air freight provider. In this study, we refer to air freight service quality. Therefore, with regards the above, we posit our research questions as below.

**Research question:** What are the parameters of air freight service quality in Malaysia from shipper's perspective? Shipper here refers to the manufacturer. We craft the study as follows. As discussed above, we began structuring our paper with the introduction in the logistics and logistics service quality, the air freight and Malaysia environment with highlighting the inconsistencies in previous studies, the gaps and the justification why do

we need to look into air freight service quality. On this basis, we build the analytical framework for air freight service quality. Then, we will continue with describing our research methodology and context, followed by empirical findings from our multiple case studies strategies. We then conclude this paper with theoretical and managerial implications, discussed the limitations of the study and propose future research directions for future studies.

## MATERIALS AND METHODS

Data for this study has been obtained from multiple case study approach. Four company which is the main user of air freight provider was selected in this study. Those four companies are coming from different industries such as from electronic and electrical industry, pharmaceutical and chemical product industry, computer and Information Technology (IT) industry; and the personal care and household industry. Theoretical sampling has been used as we already identified the main user of air freight industry in the earlier study.

In qualitative study, numbers of companies involved in the study is not the main issue, as the main purpose of the qualitative study is not to test the hypotheses but to understand the phenomena. The purpose of qualitative is to situate the researcher in the research setting and explore and build the theory from there. It is suggested by Merriam (1992) and Miles and Huberman that confirm a number of interview or case is not an issue as the purpose of the study is to understand the phenomena and explore further and in turn will develop theory from there. This is also agreed by Martinez and Poole (2004). The purpose of qualitative study is not to generalize the data but to explore and adapt. This is supported by Eisenhardt and Graebner (2007) and Rahman *et al.* (2014).

In each case study, we interviewed one person who is taking care the logistics and distribution service in their company. All four interviewee come from managerial level and above. The interview took place around between 25-40 min. It is a challenge to get them involved in the study as they are very tight with their scheduling and concern with confidential and security information of their company. The name of the interviewer and the company is kept anonymous for a confidential and ethical reason. The interview and analysis process took place, since August, 2016 until January, 2017.

After the interview, we immediately transfer the data from the voice recorder to the verbatim format. The transcribing process took about 2 h for each interview record and we do the repetitive task in checking there is nothing left. We repeat twice the process. We also do peer debriefing in order to avoid bias. We then analyze the data via thematical analysis. Thematic analysis is also

known as qualitative content analysis that involves eight steps. We start with preparing the data, define the unit of analysis, we then developed categories and a coding scheme, test a coding scheme on a sample text, we code all the text, access the coding consistently, draw a conclusion from the data and finally, we report the findings.

To ensure the trustworthiness of our qualitative data, we ensure the four criterias of trustworthiness criteria as suggested by Lincoln and Guba (1985). There are credibility, transferability, dependability and confirmability. The credibility is achieved through data triangulation from our multiple case studies. The transferability achieved in this study by providing useful findings explanations as a basis for future studies to continue and apply to other similar study and environment. Dependability is ensured by adopting case study protocol as suggested by Eisenhardt and Graebner (2007) and Eisenhardt (1989). While confirmability is achieved through ensuring the data comes solidly from the interviewee. We do not introduce any word to the interviewee to avoid bias.

Why Malaysia as explained earlier in the introduction section, Malaysia is aimed to be one of the top air freight hubs in the world with the development of Aeropolis City. Therefore, air freight provider must know what are the perception of their shipper/customer (in this study, manufacturer) with regards to their Logistics Service Quality (LSQ). This is significant as it will affect both performance of the company and the sustainability, the shipper and their provider in future. In fact, it is rarely explored on air freight issue especially in Malaysia and this study will contribute to the theoretical development of logistics study. It is acknowledged that successful research project depends on the selection of the research setting. In fact, Malaysia is now ranked as 35th largest logistics industry in the world.

## RESULTS AND DISCUSSION

**Respondent profile:** These findings are based on four empirical case studies in Malaysia. The four interviewees profile that is involved in this study is as follows (Table 1).

Table 1: Overview of respondent profile

Name	Case	Position	Industry	Years with company	Years with air freight provider
Mr. M	A	Director	Electronic and electric	21	9
Mr. N	B	Manager	Computer and IT product	20	11
Mr. Y	C	Manager	Personal care and household	16	16
Mr. D	D	Manager	Pharmaceutical and chemical industry	10	8

**Air freight service quality factors:** Based on the four interviewees response, there are five factors or parameters that represent air freight service quality. All four interviewees agree that the five factors namely ground handler attitude, information sharing and communication, price, product reliability and fast delivery are the most significant parameters that measure air freight service quality. In fact, as mentioned by Mr. Y, in Case C, this five factors not only represent the air freight service quality but these five factors also contribute to the successful partnership between the manufacturer and air freight provider. He mentioned that: “When we sign the agreement, we have Service Level Agreement (SLA) that we refer to, I need the freight provider that can work together to achieve our delivery goal. So, if they are committing to our SLA, they will still get our money, they will get the contract” (Case C, Mr. Y).

This shows that air freight service quality gives high impact to the future business among the shipper and provider. In fact, all the factors or parameters are stated in their SLA. This is agreed by the other three interviewees. Next, we present the five factors that represent air freight service quality.

Figure 1 below shows the code that arises from our findings. There are five factors/parameters namely ground handler attitude, information sharing and communication, pricing, product reliability and also fast delivery that represent air freight service quality.

**Ground handler attitude:** As mentioned by all interviewees, ground handler attitude is the most important factor among other factors/ parameters in air freight service quality. They emphasize that from the attitude, it will affect other factors as the information sharing between shipper and provider. Sometime when delay happened, shipper gets late notification from the provider and of course, it will affect their import-export activity. On of the interviewee says that, with a positive attitude displayed by the ground handler, their (shipper) communication with the customer will be carried out properly, any important or urgent information, would be shared with the customer. This is supported by other interviewees.

Besides, the attitude of ground handler can also affect the branding of the shipper’s company. If they are transparent with the shipper, the shipper will be able to explain to their customer earlier, if there are delays from the provider and their customer complaint index could be reduced. If the delay still happened, Case A will be still under control as mentioned by Mr. M.

**Information sharing and communication:** The second important parameter in air freight service quality is

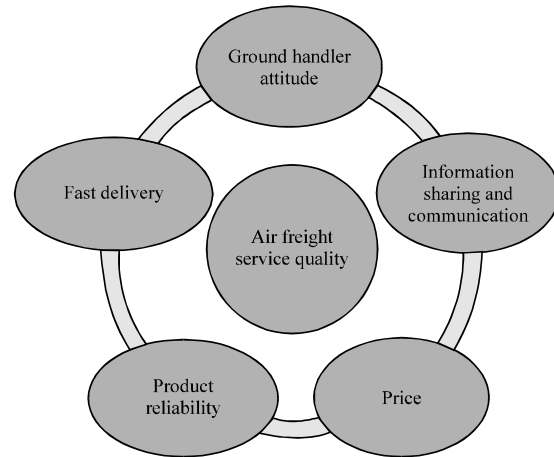


Fig. 1: Air freight service quality

information sharing and communication. As agreed by all interviewees, the use of IT system in the communication help them a lot for better communication. They do communicate via email, phone and face-to-face meetings. In term of information sharing, as mentioned by Mr. M, Case A, they do share some information but not all information is shared with their air freight provider as it is confidential, only information related to the movement of their product is shared with their air freight provider.

“We do want them to share all information related to our products movement status. They have to share everything. However, on our side, we only share some information. We do share limited information, just operational information such as forecast of production for our product” Case A, Mr. M.

Limited information shared by shippers. However, shippers expect air freight provider to share everything with them. This is agreed by Mr. N, Y and D from Case B-D.

In terms of information, we share everything. Even if they damage the car, they will tell us. They share with us. However, our side, we share limited information. Normally, we have nothing much to share. Just operational. So far, how many cars to deliver, something like that normally we share the forecast of the car produced by the provider” (CM-EF).

**Price of the air freight service:** As emphasized by all interviewee, the price of air freight service must be high as they have the asset and air freight is costly. As a shipper, they are fine with the price offered by air freight provider as long as their product are delivered on time, safe and no defect. However, as the key customer to their freight provider, they also wish that their freight provider not up

to the price. Even they understand the freight provider make a huge investment for them. However, they hope it is always reasonable and align with the services quality that they provided. As mentioned by Mr. Y, Case C, “We pay a good rate to our freight provider and we do hope they support us” Mr. Y, Case C.

**Product reliability:** From the findings, we found that product reliability is also the key factor of air freight service quality. In the context of air freight service quality, product reliability refers to safe delivery. Meaning that apart from they safely delivered, the product is there (not missing) and the condition of the product must be the same as before the delivery to the point of destination. In other words, there must be no damage to the product, or no dent or defect. Mr. Y from case C says that: “For me, the most important factor is the transfer of goods. I want my goods to be in the same condition when it reached my customer”, Mr. Y, Case C.

This is also supported by other interviewees. From previous study on LSQ, this factor has been mentioned by the previous scholar and it is so called as product quality. In the air freight industry, it is called product reliability. This enhances the current understanding of air freight study context.

**Fast delivery:** In the context of air freight service quality, fast delivery refers to the ability of the air freight provider to deliver the freight or cargo on time. It has been explained in the previous studies such as (Mentzer *et al.*, Davis *et al.*, 2009; Rafiq and Jaafar, 2007). There is a formula to calculate on delivery time for logistics activities. For instance, in the past studies by Rahman (2012), the product/freight is transported within one or two days via road transportation, depending on the destination.

For instance, in the automotive sector, the calculation for delivery is  $(n+1)$ . The ‘n’ refers to the day when the order is received, the days of initiated delivery by the buyer. However, in this study as mentioned by Mr. D from Case D, the import and export of air freight services depend on customs clearance and the number of days required for delivery which varies. For example, as explained in the standard logistics trade and facilitation masterplan, the completion of export procedures takes eleven days and eight days depends on the customs clearance.

## CONCLUSION

This study is novel and among the pioneer that focusing and emphasizing on LSQ in air freight industry in Malaysia. The findings from this study is useful to the air freight provider in order to improve themselves as a

preparation to perform better in order to achieve government Malaysia’s plan to develop Aeropolis city and becoming one of the top air freight Hub in the world. These findings could become a guide to the air freight provider to do some innovation in their logistics services in supporting Malaysian manufacturers especially in the four industries studied in this study. This would not only help to boost logistics industry in Malaysia but also help to boost Malaysian economy from manufacturing activity and export performance.

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