



A study of the competitiveness of airline cargo services departing from Korea: Focusing on the main export routes



Sung-Hyun Yoon, Jin-Woo Park*

Department of Business Administration, Korea Aerospace University, 200-1, Hwajeon-dong, Deokyang-gu, Goyang-city 421-791, Gyeonggi-do, Republic of Korea

ARTICLE INFO

Article history:

Received 29 July 2014

Received in revised form

20 October 2014

Accepted 15 November 2014

Available online 28 November 2014

Keywords:

Air cargo service

Competitiveness

Forwarder

Analytic Hierarchy Process

ABSTRACT

The purpose of this study was to identify the competitive service factors of airlines by rating the views of forwarders in the export market departing from Korea. An Analytic Hierarchy Process was applied to data collected from the officers of the top 50 forwarders in charge of choosing the airlines. The results showed that price appeared to be the most important factor for all routes. Other attributes showed varying degrees of importance, depending on the route. Based on the results, the most competitive airlines were selected for each route and strategic alternatives were proposed for each airline.

© 2014 Elsevier Ltd. All rights reserved.

1. Introduction

The demand for world air cargo has entered an era of low growth with an annual average growth rate of just 3.7% since 2001 (Boeing, 2012). Moreover, the recession, security threats such as terrorism, and high oil prices, have caused more problems for the airlines with falling prices due to over-capacity. The South Korean market is showing a similar phenomenon as the world cargo market (IATA, 2013). In order to survive in such situations, each airline must identify the needs of their customers and provide the services desired by them.

Forwarders can easily identify the relative strengths and weaknesses of the service factors that influence airline choice. Their perceptions toward airlines' service factors vary, and these differences are the main factors that determine the selection and the competitiveness of specific airlines. Therefore, understanding the relative importance of these factors is crucial for airlines to survive and strengthen their competitiveness. Specifically, this study analyzes the selection factors and competitiveness of airlines using both long and short distance routes, namely Frankfurt, Los Angeles, and Shanghai.

2. Theoretical background

According to Cargo Accounting Settlement System (CASS) data, the air cargo export volume of South Korea reached its peak in 2010 with 730,000 tons. A state of stagnation was observed over the following three years, with cargo volumes fluctuating between 620,000 and 640,000 tons. Korean Air accounts for 35% of the cargo export market share, while Asiana Air accounts for 20%, and others 45%. The main export routes in 2013 were Hong Kong, Shanghai, Hanoi, Tianjin, Los Angeles, Frankfurt, Tokyo, Chicago, Taipei and Vienna. Note that China had three routes; Southeast Asia, the Americas, and Europe had two routes; and Japan had one route. The cumulative volume of the top 10 routes was 310,000 tons which accounted for 48% of the entire volume of 640,000 tons.

In order to transport international export cargo, the shipper must perform not just shipping but other professional and complicated procedures, such as packing, booking, documentation, data processing and customs clearance, so generally it is the task of the forwarder to process the work on behalf of the shipper. The forwarder, according to the request of the shipper, is responsible for selecting which airline is used. The airlines attract the cargo from the forwarders, thus it is important to satisfy the demands and expectations of forwarders.

The research concerning the factors influencing the selection of airlines for cargo transportation has steadily progressed. Lille and Sparks (1992) state that the cost of freight is an important factor

* Corresponding author.

E-mail addresses: dagail@naver.com (S.-H. Yoon), jwpark@kau.ac.kr (J.-W. Park).

in air cargo services, but consistent transportation capability and reliability for minimizing the risk are much more important. Lee (2003) notes that the availability of space for routes to the Americas, as well as freight cost and schedules for routes to Europe and Southeast Asia, are considered to be the most important variables. Moon (2006) claims that the most important service factors provided by the airlines are convenient schedules, frequency of flights, space, convenient use of phones and consistent sales policies, rather than rates. Looking at each route, the airlines that offer cheaper rates for routes to Southeast Asia, sufficient space for routes to the Americas, and convenient schedules for routes to Europe, are the most preferred.

Kim (2008) analyzes the level of importance of selection factors, targeting 14 factors extracted through factor analysis. Based on these results, the freight rate and flight frequencies appear the most important factors when selecting airlines. Moon (2010) identifies the relative importance of the influencing factors of forwarders when selecting airlines with cheap rates, reliable shipping schedules, and fast cargo transportation time ranking the highest. In a study by Bae (2011) on the selection factors of airlines by forwarders with IT products, existing reliability, accuracy and freight costs are major variables. In addition, the weight and size of the items are also important variables. In other research on the selection of eight airlines in Brazil, Lima et al. (2007) conclude that the price, reliability, time and flexibility are important. Park et al. (2009) note that accuracy and speed are more important factors than other factors from the perspective of professionals.

By examining these previous studies, it is seen that research related to service competitiveness and selection factors of airlines for the general air cargo market of South Korea has progressed. However, it is difficult to find a study that proposes alternative suggestions by drawing on the various service factors required by the market. These alternatives would be for each route and consider the service competitiveness through an objective and quantitative assessment of the airlines. Therefore, this research is different from the previous studies because it assesses the relative importance of service factors for each route. Furthermore, it examines the competitiveness of the different airlines with an evaluation of the relative importance of the major airlines that operate each route.

3. Methodology

3.1. The Analytic Hierarchy Process (AHP) hierarchy process

In this study, a model of a layered form was established for AHP analysis. AHP is a multi-criteria decision making method for organizing and analyzing complex decisions. It reflects the experiences and intuition of respondents through pairwise comparisons of the factors forming the hierarchical structure in decision making (Saaty, 1982). It creates a pairwise comparison matrix, utilizes the eigenvalue method from its matrix, and estimates a priority vector per hierarchy.

This research based the survey items on previous studies and in-depth interviews. Five experts who had worked in the airline cargo industry for more than 15 years participated in the in-depth interviews. Using items extracted from previous studies, they were asked to modify the items that were not worthy because of overlapping concepts or changes through time. The specific items not suitable for Korea's air cargo market were also deleted or modified for this study. In addition the experts were asked to add items regarded as significant to the current air cargo market even though these had not been included in previous studies. Through the review of previous studies and the in-depth interviews, service factors considered to be important by forwarders such as price, speed,

reliability, convenience, and sociality were selected, resulting in the completion of the second phase of the layered study. For each configured factor of the second phase, four to six sub-elements were selected and configured. In phase three, for each route each airline was assessed, based on the factors above.

Similar to the study by Saaty (2008), the level of relative importance between the configured factors was evaluated using the Likert 9-point scale. Using this scale, the most similar results can be obtained and compared to the actual value. The top factors and sub-factors, which were finally selected as configuring factors, are shown in Table 1. The study model is also shown in Fig. 1.

The destination region with the highest demand of export air cargo departing from Korea in 2013 was Asia, followed by Europe and the Americas. The three top actual destinations from Korea were Hong Kong, Frankfurt and Los Angeles. In this study, we selected the Shanghai route instead of the Hong Kong route because there is more competition between airlines on the Shanghai route. Therefore, the survey considered Shanghai, Frankfurt and Los Angeles. The survey was conducted targeting the officers of the top 50 forwarders in charge of determining the airlines from the agencies.

For approximately two months between mid-August and mid-October in 2013, the survey method was explained and conducted by visiting the sites. Considering that the AHP analysis method has stronger qualitative characteristics than quantity aspects of

Table 1
Factor definition.

(A) Price	
(A1) Low price	Cheap cargo shipping cost
(A2) Variety rate	A variety of rate schemes according to the service
(A3) Volume incentive	Rate discount according to the performance (Volume incentive)
(A4) Rate increase with lead time	Sufficient lead time prior to rate increase
(B) Promptness	
(B1) Quick arrival time	Quick destination arrival time
(B2) Quick transit by truck or others	Rapid transit time at intermediate point (connecting flight or trucking)
(B3) On time operation	Accuracy of time for departure and arrival
(B4) Global network	Various global networks (many destinations with direct service)
(B5) Frequent schedule	Frequent transport schedule
(C) Reliability	
(C1) Maximum space	Limitations of space for one time
(C2) Guaranteed space for regular cargo	Availability to provide constant space for fixed quantities
(C3) Space during peak season	Possibility of securing space during peak season
(C4) Quick and proper action if any irregularity	Fast processing and notification during emergency situations (delays and offloaded)
(C5) Transportation without error	Transportation as booked
(D) Convenience	
(D1) Easy tracing	Ease and accuracy of cargo tracing
(D2) Easy booking	Ease of booking (staff, systems, telephone)
(D3) Flexible booking	Accepting cargo even when cargo weight or volume increase
(D4) Partnership	Partnership between companies and sharing familiarity
(E) Sociality	
(E1) Image	Company's reputation (image, integrity, industry leadership)
(E2) Green logistics	Promoting green logistics (try to reduce natural resources such as fuel etc.)
(E3) Government certification	Government certification (AEO, ISO 9002, etc.)
(E4) Information	Provide information and propose appropriate guidelines
(E5) Various promotion	A variety of promotions
(E6) Incorruption	Sales, integrity of transportation staff

Download English Version:

<https://daneshyari.com/en/article/1030827>

Download Persian Version:

<https://daneshyari.com/article/1030827>

[Daneshyari.com](https://daneshyari.com)