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Is the fare a competitive advantage for Low-Cost Carriers (LCC)?

In this study, Legacy Carriers's fare is expensive than "low-Cost Carrier" (Dresner, Martin, et al.), how to raise operating performance and reduce the flight cost is a most important target, this study Attempt to analysis Legacy Carriers and low-Cost Carrier Competitive Dynamics relationship with operating performance in Big data analysis technology. this study using 8 Legacy Carriers and Low-Cost Carrier (see **Table 1**) route operating performance data between Taiwan and Japan from 2007 to 2017, The data include the Flight, Passenger capacity, Google trends search score.

Table 1. Airline and IATA code

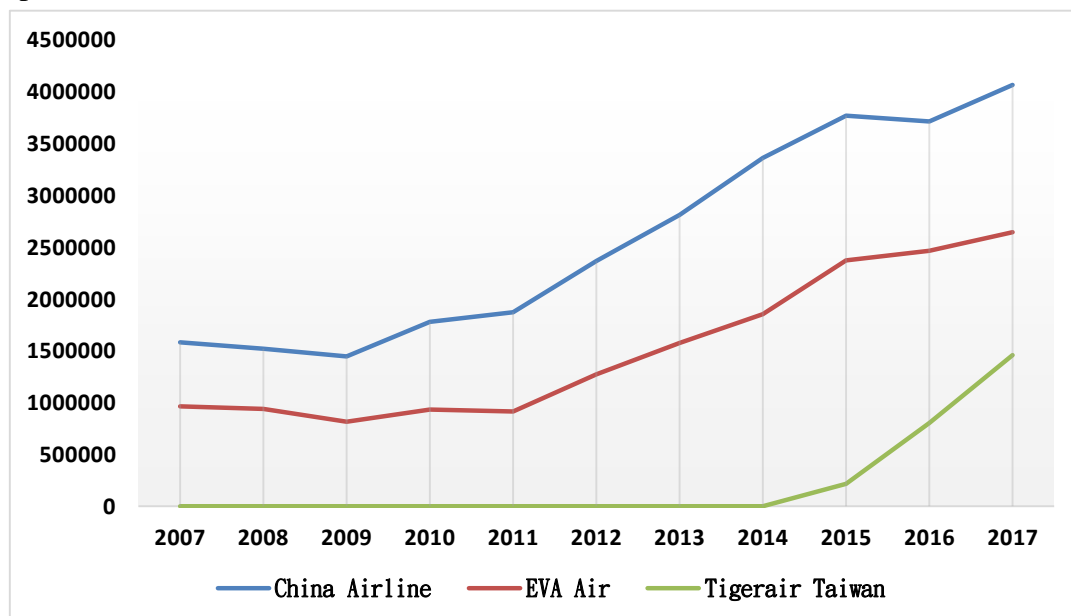
Airline	Code
China Airline	CI
Eva air	BR
Japan airline	JL
ANA	HN
Jetstar Japan	GK
Peach Aviation	MM
Vanilla Air	JW
TaigerAir Taiwan	IT

Open skies policy (U.S. Department Of State) affects aviation industry. The last 30 years have seen great changes in the airline industry that The United States began pursuing open skies agreements in 1979. As of 1982, United States had signed bilateral air service

agreements with 23 countries That were followed signed the bilateral air service agreements with individual European countries in the 1990. Open skies is an international policy concept that for the liberalization of the rules and regulations of the international aviation industry especially commercial aviation for an order to create a free-market environment for the aviation industry. Open skies policy to bring new business model: Low- Cost Carriers.

Low- Cost Carriers is a new business style and growth most Significant in Taiwan and Japan. they signed Open Skies agreement in 2012s, **Figure 1** shows Open Skies agreement after Taiwanese carriers operating performance on between Taiwan and Japan route from 2007 to 2017. From the statistics data shows that Taiwanese Legacy Carriers (China airline, Eva Air) has higher operational performance than Taiwanese carriers (Tigerair Taiwan, V air).

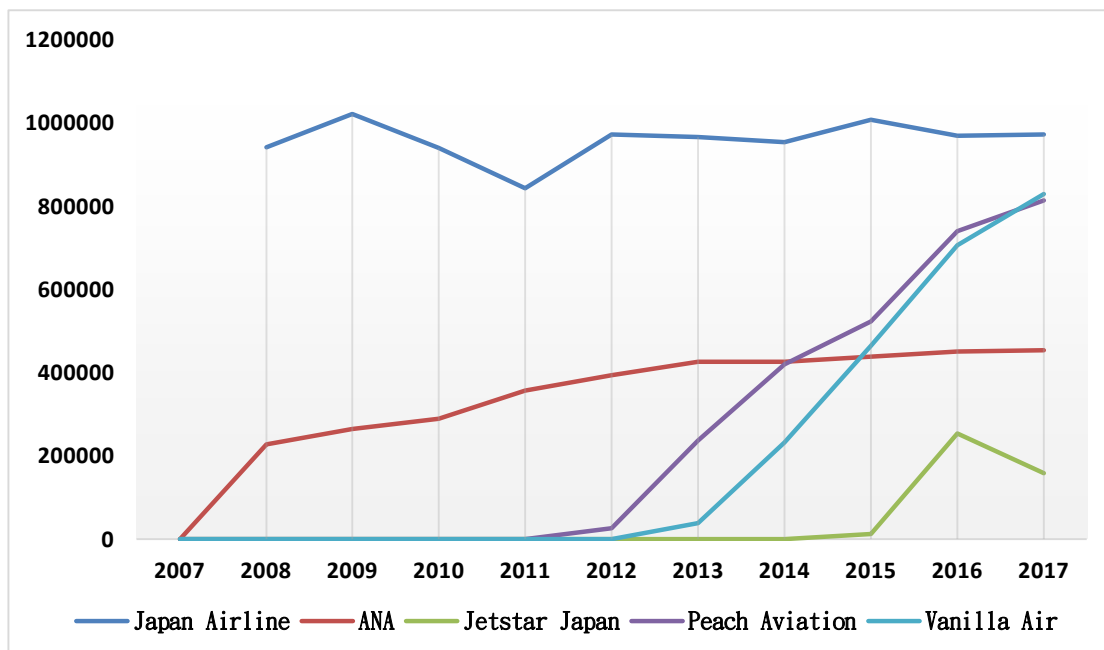
Figure 1. Taiwanese carriers operating performance on between Taiwan and Japan route
Unit: person-time



(Taiwann Civil Aeronautics Administration)

Consumers choose low-cost Carriers with “brand preferences” (Baba Shiv, Julie A. Edell, John W. Payne). **Figure 2** shows operating performance of Japanese carriers present high growth in 2012, and Japanese Low- Cost Carriers (Jetstar Japan, Vanilla Air, Peach Aviation) operating performance growth rate higher than Japanese legacy Carriers(Japan airline, ANA), even legacy Carriers fare expensive, Japanese Low- Cost Carriers is success get into aviation market between Taiwan and Japan, the means rate not influences passenger select Carriers reason, brand is an important decision (Arjun Chaudhuri, Morris B. Holbrook).

Figure 2. Japanese carriers operating performance on between Taiwan and Japan route
Unit: person-time



(Taiwann Civil Aeronautics Administration)

Taiwanese have a “Herd behavior” (Kennedy, 2003) for Japanese culture. it reflects the “Conspicuous consumption psychological” (Minas N.Kastanakis.,GeorgeBalabanis,

2014) of Taiwanese for Japanese goods, They will prioritize Japanese airlines when choosing airlines, Even if these experiences are wrong or negative, They still think Japanese Carriers are better than Taiwanese Carriers. but there are also Taiwanese and Japanese who prefer their own airlines, they may be senior club members of the airline (Gilbert) or to earn miles for redeem free tickets, Low- Cost Carriers do not provide such a reward, this means Low- Cost Carriers Can't replace the Legacy Carriers 's market.

Low- Cost Carriers still can not replace Legacy Carriers. Google trends Follow the instructions for the Google help center:

“Where Trends data comes from :

Google Trends data is an unbiased sample of Google search data. Only a percentage of searches are used to compile Trends data.

- Real time data is a random sample of searches from the last seven days.
- Non-real time data is a random sample of Google search data that can be pulled from as far back as 2004 and up to 36 hours prior to your search.

Once the search data is collected, we categorize it, connect it to a topic, and remove any personal information.

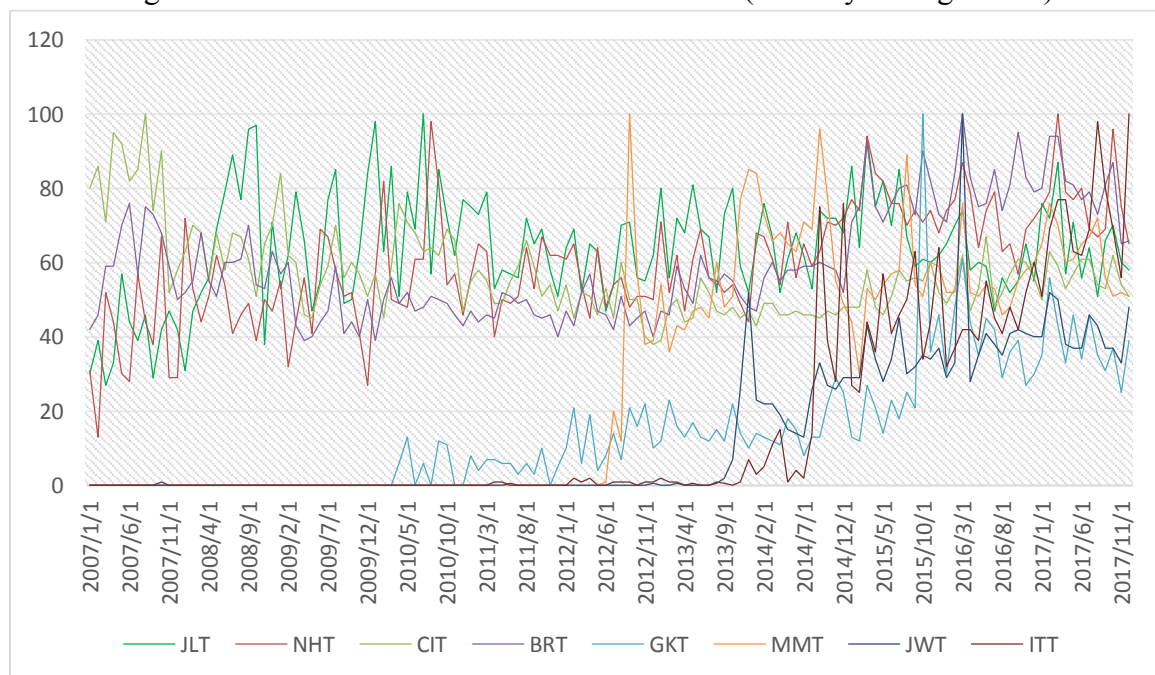
Data that is excluded

Searches made by very few people: Trends only shows data for popular terms, so search terms with low volume appear as 0.

- Duplicate searches: Trends eliminates repeated searches from the same person over a short period of time.
 - Special characters: Trends filters out queries with apostrophes and other special characters”
- (Google, 2018).

Google trends (GT) search scores reflect consumer preferences for airlines. Figure 1 shows Taiwan's GT search scores. It shows that although low-cost Carriers have high search scores, But traditional Carriers are not affected. They still have fixed customers.

Figure 3. Taiwan Carriers word GT search score (monthly average score)



In conclusion, low-cost Carriers are still not a competitor of traditional aviation. Even if its fares are cheap, it cannot compete with traditional aviation in resources, especially the full-service model, which is popular with business travellers and first-class passengers. The data can prove that the low-cost competitiveness of low-cost Carriers is not more competitive than Legacy Carriers, because the market is different and the customer base is different.

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