Two Major Gaps in the Literature of Airline Performance

Economic Modelling

Hashem Salarzadeh Jenatabadi
Department of Science and Technology Studies
University of Malaya, Kuala Lumpur, Malaysia
salarzadeh@um.edu.my
+60178777662

Abstract

This paper is challenging the previous studies in economic modelling related to airline performance studies. This research methodology paper is applicant for researcher and student to better to understand modelling in organizational studies especially in airline industry.

Keywords: Economic Modelling, airline performance modelling, structural equation modelling.

The Major Gaps

There are certain problems in estimating airline performance techniques. In all the studies about performance, after introduction of the indicators, in order to evaluate the model, the researchers consider each of the performance indicators separately and provide different models for each indicator respectively. For instance, the studies by Rajasekar and Fouts [1] [used three indicators include; RPM, passenger load factor, and market share] and Duliba, Kauffman [2] [used four indicators contain operating profit, load factor, RPK, and market share] – to estimate performance, and presented a separate model for each indicator. The main gap in such studies is that these models are not able to introduce a general indicator for the introduction of performance, such as "overall performance", which is, in itself, a combination of other indicators, such as market share, operating profit, load factor, and RPK. However, these measurable indicators are in the same area of airline performance. It is clear that they are related, and, hence, a change in any of them
causes changes in others. As a result, it is reasonable to combine these indicators as one construct and call it “overall performance”. Therefore, instead of concentrating on measurable indicators, this research focuses on the concept of immeasurable overall performance comprehensively. Consequently, it could be one model with an overall performance construct that is a combination of four performance indicators, such as load factor, operating profit, RPK, and market share.

All the research and studies that have assessed the performance according to the economic variables have considered these variables along with other internal variables of companies. In other words, they have taken into consideration indicators, such as GDP or GDP per capita, fuel price, population, and inflation rate with other factors, such as flight number, etc., as independent variables. For example Jenatabadi and Ismail [3] considered inflation rate and number of the departures as independent variables for estimating load factor.

However, it is obvious that if there is any economic change or global turmoil, such as 9/11 or SARS, managers can control the performance of the company through alteration of internal factors, such as number of flights, number of flight hours, and the like. Therefore, the economic situation can affect internal operation. The second gap in the previous research models is that they cannot measure this impact.

The main solution for the first gap is applying latent variables instead of measurement variables. Based on this concept we can integrate the different dimensions of performance indicators in one latent construct as an overall performance. Latent variables are the proxies of measured phenomena reflected in

\[(\text{Operational Capability + Economic Performance}) \rightarrow \text{Airline Performance}\]
observed variables, which cannot be directly measured. For covering the second gap, we offer path analysis with Structural Equation Modelling (SEM), Partial Least Square (PLS), or Bayesian Structural Equation Modelling (BSEM) technique. In recent years, among these three methods, SEM has the most frequent methodology that has been used as the main statistical method in so many research models. This technique has attracted and attention of many researchers and organizations as a commonly adopted method used for tasks like data analysis in various disciplines like airline [4-8], education [9, 10], management [11-16], and computer science [17, 18]. However, SEM has its own limitation include normality and sample size that we can use PLS and BSEM as alternative methodologies.

References