



Effects of internal resources on airline competitiveness



Joyce M.W. Low^a, Byung Kwon Lee^{b,*}

^a Lee Kong Chian Business School, Singapore Management University, 50 Stamford Road, Singapore 178899

^b Centre for Maritime Studies, National University of Singapore, 12 Prince George's Park, Singapore 118411

A B S T R A C T

Keywords:

Resource management
Airline competitiveness
Differentiation strategy
Full legacy carriers
Low cost carriers
Country-specific influences

This article examines the performances of 114 major international airlines between 1987 and 2010 using the resource-based theory. Results show that intangible resource is the most important resource among the human, physical and intangible resources at the aggregate industry level. In addition, successful airlines need to be able to provide an adequate level of service at relatively low cost. Nonetheless, some airlines enjoy higher profits than the others due to the country-specific differences arising from the bilateral open skies agreement between countries, the geographical location of the airline hub etc. There are also evidences suggesting an increasing consumer acceptance of new airlines, which connote that established airlines cannot be complacent. Following the emergence of budget airlines that provide point-to-point service to short distance destinations, full legacy carriers could differentiate themselves by offering direct connections on long-distant flights.

© 2013 Elsevier Ltd. All rights reserved.

1. Introduction

The airlines business is challenged with many events within and beyond the air transport industry such as the unprecedented increase in jet fuel prices in the late 2005, rapid expansion of the low cost carriers (also known as budget airlines) and the Asia financial crisis in 1997. According to Costa et al. (2002), airlines experience more volatile economic fluctuations than many other industries. Kilpi (2007) observed that this cyclical environment has caused profits of airlines to vary from strong positive to extreme negative. Whereas all airlines provide air transport service to their passengers and shippers in a common environment (including similar airports), the profitability of airlines varies sharply even within the airline industry (Driver, 1999). Nonetheless, Atoniou (1992) found that GNP per capita, share of regional traffic and type of ownership did not affect operating profits.

The airlines industry is recognized as a resource-intensive industry. Despite the long gestation period of capital investments, technological advancements have required airlines to constantly upgrade their equipment and facilities to stay competitive. Specialist personnel are required to operate and maintain the physical assets while good management is necessary to ensure profitable returns. It also takes much more than deliberate efforts in marketing for the airlines to build their brand name. For examples, the positioning as a safe airline requires proven safety record; the

positioning of an airline with excellent coverage requires the signing of comprehensive bilateral agreements between the country where the airline is based and other countries. As resources are costly, the importance of efficiency in resource use cannot be understated. Efficiency specifies the ability of the airline to produce the maximum quantity of output (i.e., available passenger-kilometres and tonnes-kilometres) from a specific input bundle. To put resources into their most productive use, a good understanding of the complementarity and substitutability relationship among resources will help managers in airlines to achieve an optimal input-mix bundle that will enhance their effectiveness in generating saleable outputs (i.e., actual passenger-kilometres and tonnes-kilometres). Furthermore, given the dynamic nature of the airline industry, it would also be meaningful to review how the contributions of the various types of resources to airline competitiveness have changed over the years. It is envisaged such understanding will lend invaluable insights on the resource management strategies and help airlines compete effectively with challenges in the contemporary airline industry.

Having the above being said, this research proposes a resource-based view (RBV) model to undertake a longitudinal analysis¹ on the competitiveness of 114 major international passenger airlines using observational data in 1987, 1998 and 2010. Airlines' resources are classified into 3 general categories (i.e., human resource,

* Corresponding author. Tel.: +65 65161639.
E-mail address: tlilbk@nus.edu.sg (B.K. Lee).

¹ As Caves et al. (1981) and Oum and Zhang (1991) have suggested that capacity inputs are 'quasi fixed', we selected time points about 10 years apart to allow for the short-term disequilibrium nature of capital input adjustments in the investigation.

physical resource and intangible resources) and these resources are characterized with important attributes such as the size and type of employment and composition of aircraft fleet, safety and establishment reputation etc. Factor analysis is used to determine the resource orientations of each airline, from which individual and joint impacts on financial performances are identified via cross-sectional regression models and generalized linear model for panel data. The former analyzes the airlines performances as a global industry while the latter controls for country-specific differences arising from the bilateral open skies agreement between countries, the geographical location of the airline hub etc. Subsequently, the resource commitments and performances of 6 low cost carriers (LCCs) are benchmarked against the full legacy carriers to understand the structural differences in the business models of airlines in the two sectors. Specifically, the research attempts to show that resources may vary in their effects on airlines performance due to (1) resource efficiency and resource effectiveness matters in the airline industry; (2) the importance of different resource types that varies over time on airlines competitiveness; (3) the complementarity or substitutability among the three types of resources; and (4) the effect of one type of resource on airlines performance that may be mediated by another type of resource. To the best of our knowledge, this research represents the first study on airline resource management at the strategic business level.

Prior research examining airline competitiveness has approached the issue from several perspectives. Many scholars study total factor productivity (TFP) of airlines on premise that productive airlines are more competitive. Specific to airlines in particular regions, [Caves et al. \(1981\)](#) compared 11 US trunk airlines between 1972 and 1977; [Gillen et al. \(1985, 1990\)](#) studied 7 Canadian air carriers for the 1964–1981 period; [Forsyth \(2001\)](#) considered the airlines in Australia in the 1980 and 1990s; [Siregar and Norworth \(2001\)](#) analyzed US airlines between 1970 and 1992; and [Vasigh and Fleming \(2005\)](#) examined 45 US airlines from 1996 to 2001. Other studies compare airlines across different countries. For examples, [Caves et al. \(1987\)](#) and [Windle and Dresner \(1992\)](#) looked at the US and non-US airlines over the 1970–1983 period; [Encaoua \(1991\)](#) evaluated European carriers during the 1981–1986 period; [Ehrich et al. \(1994\)](#) examined a panel of 23 international airlines during the period of 1973–1983. [Oum and Yu \(1995\)](#) computed the unit cost of the world's 23 major airlines between 1986 and 1993 and compared 'gross' and 'residual' TFP before and after removing effects of the variables beyond managerial control. [Oum et al. \(2005\)](#) measured and compared the performance of 10 major North American airlines in terms of residual TFP, cost competitiveness, and residual average yields during the period 1990–2001.

To overcome the use of subjective weights in TFP, some scholars have employed Data Envelopment Analysis (DEA) to benchmark the operations efficiency performances among airlines. [Fethi \(2000\)](#) studied the performances of 17 European airlines over the period of 1991–1995. [Adler and Golany \(2001\)](#) examined the efficiency of the hub-and-spoke configuration of airlines in the western European markets. Notably, in order to avoid any imprecision in the DEA estimate of efficiencies when there are excessive numbers of inputs and outputs, the authors suggested the use of principal component analysis to cluster and aggregate inputs and outputs. [Bhadra \(2009\)](#) examined inter-temporal self-efficiency and peer group efficiency of each of the 13 US airlines between 1985 and 2006. [Barros and Peypoch \(2009\)](#)² ranked the operational

performance of 29 European airlines from 2000 to 2005 and used a bootstrapped truncated regression to evaluate the drivers of efficiency. To account for the element of randomness, [Good et al. \(1995\)](#) examined the performance of the 8 largest European and the 8 largest American air carriers for the period of 1976–1986 using Stochastic Frontier Analysis (SFA, in short).

Other scholars, including [Windle \(1991\)](#), [Good and Rhodes \(1991\)](#), [Baltagi et al. \(1995\)](#), [Seristo and Vepsdliinen \(1997\)](#) and [Oum and Yu \(1998\)](#), have examined the grounds of cost competitiveness in airlines. Generally, cost competitiveness can be achieved through higher efficiency and/or lower cost inputs such that unit cost is lower on a sustainable basis ([Oum and Yu, 1995](#)). Nonetheless, [Doganis \(2010\)](#) highlighted that cost competitiveness does not necessarily lead to overall competitiveness of an airline. High cost airlines can also be very profitable if they are able to attract a sufficient number of consumers who are willing to pay higher fares for service bundles that address important considerations and preferences (such as aviation safety, flight schedules, frequent flyer programmes etc.). Basing on a conceptual framework in [Fielding et al. \(1978\)](#),³ [Feng and Wang \(2000\)](#) conducted a performance evaluation process in the production, marketing, and management on the Taiwan's five major airlines in 1997. To take into account of subjective or unreliable performance ratings and attribute weights, [Chang and Yeh \(2001\)](#) presented a multi-attribute decision-making model in their competitiveness evaluation of Taiwan's 5 major domestic airlines. [Lee et al. \(2005\)](#) presented a fuzzy multiple criteria decision-making model for the investigation of 5 hypothetical airline competitiveness over a period of 5 years. [Wang \(2008\)](#) applied a fuzzy multi-criteria decision-making method to evaluate the financial performance of 3 domestic Taiwanese airlines from 2001 to 2005, based on clusters of financial ratios obtained from grey relation analysis. Further advancements in methodologies for measuring competitiveness of airlines appear to be rather stagnant recently.

The rest of the paper is organized in the following manner: Section 2 provides the background of the resource-based view theory and proposes a theoretical model for the airline business. Section 3 put forwards an empirical analysis using the proposed model and discusses the results. Section 4 looks at the positioning of the low cost carriers (LCCs) relative to the legacy carriers. Section 5 summarizes the results, highlights the limitations and concludes the study.

2. Methodology

2.1. Resource-based view and perspectives

[Penrose \(1959\)](#) and [Rubin \(1973\)](#) are among the first scholars to recognize the importance of internal resources to a firm's sustainable competitive position. Penrose proclaimed that resources may only contribute to a firm's competitive position to the extent that they are exploited in such a manner that their potentially valuable services are made available to the firm. Similarly, Rubin recognized that the mere possession of resources were sufficient if the firm is unable to turn them into useful products. The resource-based view (RBV) took shape in [Wernerfelt \(1984\)](#) who asserted that while a

³ In Fielding et al. model, three elements of transit operations, namely: resource input (labour; capital; fuel, etc.), service output (vehicle-hour; vehicle-km; capacity-km, etc.), and service consumption (passenger trip; passenger-km; operating revenue, etc.) constitute the three corners of a triangle. The three sides of this triangle represent resource efficiency (measuring service output against resource input), resource effectiveness (measuring service consumed against resource input), and service-effectiveness (measuring service consumed against service output), respectively.

² The authors highlighted that mere examination of efficiency using DEA is insufficient. The fact that differences in resources available to airlines implies the companies are heterogeneous in relation to the resources and capabilities on which they base their strategy.

Download English Version:

<https://daneshyari.com/en/article/7435871>

Download Persian Version:

<https://daneshyari.com/article/7435871>

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