Transportation Research Part E 89 (2016) 1–13

Contents lists available at ScienceDirect

Transportation Research Part E

journal homepage: www.elsevier.com/locate/tre

Mergers and service quality in the airline industry: A silver lining for air travelers?

Adams B. Steven [a,*], Amirhossein Alamdar Yazdi [a], Martin Dresner [b]

[a] Isenberg School of Management, University of Massachusetts, Amherst, MA, United States
[b] Robert H. Smith School of Business, University of Maryland, College Park, MD, United States

ARTICLE INFO

Article history:
Received 24 August 2015
Received in revised form 13 February 2016
Accepted 14 February 2016
Available online 3 March 2016

Keywords:
Mergers
Service quality
Market concentration
On-time performance
Flight cancellations
Mishandled bags
Involuntary boarding denials

ABSTRACT

We examine the relationship between mergers in the US domestic market and service quality, as measured through late flights, mishandled bags, involuntary boarding denials and flight cancellations. We find that in the immediate years following a merger, service quality generally deteriorates, and that the drop in service is due simultaneously to the merger and the increased concentration of the market. Thus, recent mergers in the US, including Delta and Northwest, United and Continental, Southwest and AirTran, have likely resulted in increased market concentration and decreased service levels. From a public policy perspective, our results point to the importance of regulators monitoring airline actions, such as mergers and acquisitions, that serve to increase the concentration of markets, and may also result in decreased service quality.

1. Introduction

The US domestic airline industry has seen considerable consolidation since 2005, beginning with the US Airways and America West merger. Since then, there have been four additional large-scale mergers in the industry: Delta and Northwest in 2009, United and Continental in 2010, Southwest and AirTran in 2011, and most recently, American Airlines and US Airways in 2013. Considerable attention (for example, Borenstein, 1990; Beutel and McBride, 1992; Kim and Singal, 1993; Morrison, 1996; Veldhius, 2005; Peters, 2006; Zhang and Round, 2009) has been given to the effect of airline mergers on fares, both by researchers and policy makers. Most of the studies find that mergers result in higher prices for air travelers, although a minority of these studies find negative to no significant effects (Zhang and Round, 2009).

Even though there have been many studies on the impact of mergers on airfares, the effect of mergers on service quality has received very little attention. In this paper, we examine the effect of mergers on four different measures related to air service provision: late flights, mishandled bags, involuntary boarding denials and flight cancellations. *A priori*, it is not clear what impact mergers may have on service quality. Reduced competition and higher market concentration levels following a merger could lead to complacency among carriers, thus having a negative effect on service quality. A merger may also result in lower service levels, at least during the transition phase after the merger, due to difficulties in consolidating operations between airlines. This phenomena was widely documented in the popular media following the Continental–United merger, with reported consolidation difficulties persisting for a considerable period after the merger.

However, at some point following the merger, service may improve and may even get better than the original level. The consolidation of assets, including labor, following a merger, leading to a larger pool of available assets to conduct operations,

* Corresponding author.
E-mail addresses: asteven@isenberg.umass.edu (A.B. Steven), aalamdaryazd@som.umass.edu (A.A. Yazdi), mdresner@rhsmith.umd.edu (M. Dresner).

http://dx.doi.org/10.1016/j.tre.2016.02.005
1366-5545/

could provide flexibility which, in turn, may improve service provision. For instance additional baggage handlers or check-in posts on overlapping routes or at overlapping airports could improve baggage handling as well as on-time flight arrivals.

Given the potential implications of mergers to the provision of service in the airline industry, it is surprising, therefore, that very little research has been conducted on the merger–service quality relationship. In other industries, limited research has examined this relationship, notably in the healthcare industry. In general, these papers have found mixed results (Vogt and Town, 2006) pointing to the need for further research.

Our paper makes at least three significant contributions: First, from a public policy perspective, the study points to the importance of regulators monitoring airline actions, such as mergers and acquisitions, which may lead to decreased service quality. It may not be sufficient for regulators to monitor the impact of these mergers on fares, alone, since service levels can also be impacted.

Second, our modeling approach allows us to isolate the indirect effect of mergers on service quality through market concentration from the direct merger–service quality relationship. Since mergers vary in the degree of market concentration that results, our approach allows policymakers to make better predictions as to the impact of the mergers on service quality. Mergers that result in significantly higher market concentration may contribute to substantially greater service deterioration compared to mergers where the market overlap is not particularly high.

Third, from a managerial perspective, the study demonstrates how mergers may contribute to the decline in service quality among affected carriers. This service level decline leaves open potential advantages to competitors to gain customers by providing superior service alternatives to the merged carrier.

The rest of the paper is organized as follows: The next section discusses the literature on mergers in the airline industry as well as in other industries. The literature review is followed by a hypotheses section. Section Four discusses the research methodologies and the data used for the analysis, while Section Five presents our findings. In the last section, conclusions are presented, along with research and managerial implications.

2. Literature review

Several researchers have investigated airline mergers, alliances and codeshare agreements and their effects on airline fares and consumer welfare. Two consequences are generally proposed for the effects of mergers on airfares: First, it has been argued that mergers and other forms of consolidation lead to higher fares due to industry concentration (for example, Borenstein, 1990; Morrison, 1996; Peters, 2006). On the other hand, the efficiency argument posits that the consolidation that follows a merger may help the merged firm exploit economies of scale and scope and synergies in order to achieve efficiencies and cost savings. Some of these savings may be passed through to passengers through lower fares. For example, Zhang and Round (2009) found lower fares following the mergers of three Chinese carriers. As such, the impact of mergers on fares work in opposite directions – reduced competition may lead to higher fares while decreased costs following consolidation may result in lower fares. The final outcome of a merger, therefore, depends on which of these two effects is the strongest. Table 1 provides a snapshot of the literature linking mergers and fares in the airline industry.

While the focus of research in the airline industry has been on the impact of mergers on fares and to a lesser extent on flight frequencies, mergers may also affect an airline's service quality. However, this impact has not been examined. The paucity of work on the merger–service quality nexus in the airline industry, coupled with the importance of airline service to the traveling public, contributes to the need to conduct additional research in this area.

3. Conceptual background and research questions

Conceptually, we propose an indirect merger–service quality relationship via market concentration, and a direct relationship through efficiency and market power. Fig. 1 presents the theoretical framework of these relationships.

Mergers and acquisitions may affect service quality directly, through efficiency and/or through market power. Mergers can lead to improvements in service quality through two mechanisms that positively affect the efficient use of resources. First, merging firms combine assets which may provide operational flexibility and hence improved service quality; for example, a larger number of gate agents, ticketing and boarding machines, additional landing slots and gates at airports, and greater numbers and variety of aircraft can provide increased flexibility. This flexibility can be leveraged in improving service quality, such as through minimizing flight cancellations and by reducing the rate of mishandled bags or improving on-time performance. Second, mergers can provide learning opportunities for the merged firm that can positively influence service provision. In a situation where one of the merged carriers has a better service practice, this practice could be replicated throughout the organization post-merger. For example, if an airline with better performance in terms of late arrivals (perhaps due to a superior routing procedure) merges with a carrier with inferior performance, the entire operations may be restructured to mirror the better performing carrier's operations. On the other hand, mergers may also be associated with inefficiencies that reduce service quality. An immediate consequence of a merger is the integration of operations. Challenges associated with process integration post-merger may impact service quality negatively. For instance, it is documented in the popular media that challenges faced by United Airlines post-merger (with Continental) resulted in reservation system failures, shutting down the company's website and disabling airport kiosks. As a result, passengers were stranded as flights were delayed or cancelled (Mouawad, 2012). Further, mergers have been shown to negatively affect employee productivity