Relating Financial Performance to Customer Satisfaction and Operational Performance:
An Integrated Analysis of Cost and Revenue Drivers for the U.S. Airline Industry

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A growing empirical literature in accounting, operations management and marketing has provided evidence of a significant set of relationships between a firm’s overall customer satisfaction and operational and financial measures of performance. Each of these different functional areas approach the study of these relationships from divergent perspectives but all share the goal of understanding what variables are most closely related to firm financial performance.

Research in accounting and operations management has demonstrated a significant linkage between operational measures of performance, customer satisfaction and financial performance (Banker et al. 2000; Behn and Richard A. Riley 1999). However, research conflicts as to whether nonfinancial variables are contemporaneous measures (Behn and Riley 1999) or leading indicators of financial performance (Ittner and Larcker 1998). While marketing theory suggests increased profitability through both increased price premiums and increased repeat business, Banker et al. (2000) found that increased profitability was only related to increased repeat business.

In marketing, a fruitful stream of research has identified and documented a strong positive relationship between customer satisfaction, market share and profitability (Anderson and Fornell 2000; Anderson et al. 1994; Anderson et al. 1997; Anderson and Mittal 2000; Capon et al. 1990). This linkage has been found to be stronger for services than goods (Edvardsson et al. 2000; Johnson and Fornell 1991). Research has also identified a significant relationship between customer satisfaction and customer loyalty (Gronholdt et al. 2000; Oliver 1999)). In turn, customer loyalty has been shown to have a significant impact on future costs and revenues (Reinartz and Kumar 2000).

Nonetheless, although this is a prolific area of research across three domains, substantial gaps in our knowledge remain. Most studies provide evidence on only one set of relationships; often based on a small sample of firms. Moreover, no study to date has brought together in a single analysis the linkage between financial and nonfinancial performance measures and the underlying detailed drivers of performance for a
large sample of firms and time periods. This study proposes to do this for the U.S. domestic airline industry using a unique combination of public and private data for the period 1998-2002.

We have obtained access to a private database from the leading marketing research firm in the airline industry. The database covers domestic flights of all of the major U.S. airlines and includes survey responses from a large sample of customers and flights for every day for the years 1998-2001. Customers were asked to assess their satisfaction with every element of their on-board service experience (e.g., flight attendant service, seating comfort, food quality). They also provide important information on control variables such as the price of the ticket, the time and date of travel, the purpose of their trip, the class (e.g., coach, business) of the ticket, whether they are enrolled in the airlines’ frequent flyer program and whether they are traveling on an award ticket, and personal demographic data. This database will enable us to build a detailed model of the drivers of overall customer satisfaction and to investigate the stability of the model for various types of customers, for airlines that employ different business models (e.g., Southwest Airlines) and for periods of very high and very low industry-level demand (e.g., 1998 versus 2001).

To this data, we will add public data from the airlines on financial and nonfinancial performance. These databases will give us data on operational drivers that are hypothesized to affect both cost and revenue (directly and through customer satisfaction) as well as data on financial performance. Aggregating the customer satisfaction model to the monthly level, we will then be able to use the panel database to simultaneously model relations between satisfaction, operational measures (e.g., load, on time arrival) and financial performance (cost, revenues and profitability).

There are a number of novel contributions this study can make to the literature in marketing, operations management and accounting. First, we are attempting a unique breadth and scope of business modeling: We plan to conduct a comprehensive empirical estimation of a system of marketing, operations and accounting performance measures for virtually all of the US domestic airline industry firms. Secondly, this is the first effort to relate performance metrics (e.g., overall customer satisfaction, cost) to the literature
on performance drivers in a context that allows simultaneous modeling of more complex systemic relations among performance measures (e.g., tradeoffs between satisfaction and cost). Third, we will be able to conduct sensitivity analyses. The extensive panel database will permit us to investigate the sensitivity and stability of our models in different contexts (e.g., by airline, by time period, by customer class).

Although the study is conducted in only one industry, we expect the results to have implications that extend beyond airlines (Banker et al. 2000; Behn and Richard A. Riley 1999). Specifically, we believe that the detailed linkages between customer satisfaction and cost will provide insights that apply to many service environments in both consumer and business buying arenas.

In summary, we have identified the following research objectives:

- To provide evidence on the relation between overall customer satisfaction and firm-level financial performance in the U.S. airline industry
- To explore the stability of these relationships for different firms, time periods, and classes of customers
- To develop a business model relating operational decisions 1) to customer satisfaction and then to revenues, and 2) to costs; and to examine tradeoff relationships for drivers that are positively related to both revenues and costs
- To explore the relative impact of different aspects (drivers) of customer satisfaction (e.g., onboard seat comfort, meals) on operating costs, revenues and carrier profitability, controlling for differences in equipment, passenger volume and mix (e.g., classes of seating)
References


