

IL 6451 Demand and Revenue Management

Case Study: Revenue Management at American Airlines

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Readings:

1. Air Transport Association, *Airline Handbook*, Chapter 4, <<http://www.airlines.org/public/publications/display1.asp?nid=964>>.
2. Cross, R., *Revenue Management*, Chapter 4, pp. 99–130.
3. Cook, T. M., “SABRE Soars”, *OR/MS Today*, volume 25, number 3, pp. 26–31, June 1998, <<http://lionhrtpub.com/orms/ORMS-archive.html>>.
4. Horner, P., “The Sabre Story”, *OR/MS Today*, volume 27, number 3, pp. 46–47, June 2000, <<http://lionhrtpub.com/orms/ORMS-archive.html>>.
5. Jacobs, T.L., Ratliff, R.M., and Smith, B.C., “Soaring with Synchronized Systems”, *OR/MS Today*, volume 27, number 4, pp. 36–44, August 2000, <<http://lionhrtpub.com/orms/ORMS-archive.html>>.
6. Smith, B.C., Günther, D.P., Rao, B.V., and Ratliff, R.M., “E-Commerce and Operations Research in Airline Planning, Marketing, and Distribution”, *Interfaces*, volume 31, number 2, pp. 37–55, 2001, <<http://www.interfaces.smeal.psu.edu/>>.
7. Smith, B.C., Leimkuhler, J.F. and Darrow, R.M., “Yield Management at American Airlines”, *Interfaces*, volume 22, number 1, pp. 8–31, January-February 1992, <<http://www.interfaces.smeal.psu.edu/>>, <<http://www.interfaces.smeal.psu.edu/pdf/v22n1a1.pdf>>.

Questions: Historical development:

1. Which two important aspects of airline service were deregulated in 1978?
2. How did PeopleExpress manage to conquer a large part of each market that they entered?
3. Did PeopleExpress charge different prices for tickets on flights between the same origin and destination?
4. How did PeopleExpress respond to the problem of no-shows?
Which problems resulted?
Why did these problems result?
5. How did American Airlines manage to compete with the cheap charter flights?
How did they prevent their profit from being eroded?

6. What distinguished the “Ultimate Super Saver Fares” introduced by American Airlines in 1985 from other discount fares that have been introduced in the past?
7. Why was it difficult to do revenue management with the “Ultimate Super Saver Fares”?
8. What was the response of the airline industry to revenue management?
9. What was the response of Wall Street to revenue management?

Methods for Forecasting and Optimization:

1. Why do airlines overbook?
2. Which forecasts are needed for the overbooking model?
3. Which techniques were used for this forecasting?
4. Which forecasts are needed for the discount allocation model?
5. Which techniques were used for this forecasting?
6. What are some shortcomings of exponential smoothing and time-series methods?
7. Which factors are taken into account in American’s passenger choice model?
8. In the 1980’s and 1990’s, American used a method called virtual nesting to control the fare classes in which seats are sold. What is the reason for “nesting” the allocation of seats to fare classes?
9. Which method did American use to decide how many seats to allocate to each fare class?
10. Which type of approach was under development at American at the time Smith et al.’s article was written?
11. Which four tools are used to monitor the performance of the revenue management system?
12. How much additional revenue per year is generated by American through the use of revenue management?