Chapter XI
Information Technology and Aviation Industry:
Marriage of Convenience

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ABSTRACT

This chapter pinpoints the affects of information technology on the aviation industry, specifically on the Airline ticket prices. The chapter first introduces the different costs that comprise the airline ticket. Then the chapter introduces the different information technology systems that are used in the aviation industry which in turn reduces the price of the airline ticket.

INTRODUCTION

To fly from London to New York nowadays, it is customary to visit a traveling website such as http://travel.yahoo.com, in order to make the reservation. Surprisingly, there are more than 46 flights to choose from with varying prices ranging from $672 to $1,989. In fact, with an extra $3 the VIP services in coach would be granted, which infers that long gone are the days where many calls had to be made to compare prices then drive to the travel agent to pick up the ticket. The previous leads to two questions: why are the prices are varying? And how did this website come about?

Accordingly, the jest of this chapter is to discuss the elements that affect the travelers' ticket price as well as the role of information technology in affecting the prices of the airline tickets. In retrospect, the chapter will shed light on both sides of this issue: the airline side and the IT side.

TICKET PRICE ANALYSIS

To carry a passenger form origin A to destination B, an airline company takes many factors to mark the price of the ticket. Based on basic economic analysis, there are always cost and revenue, and thereby the airline must take into account all the

cost incurred when pricing the airline ticket, as stipulated in Figure 1, and the justified margin of profit, where the profit is defined as Revenue minus Cost, in terms of pure mathematical calculation, noting that some costs can be recurring while other costs are nonrecurring costs.

In this context, the recurring cost in the air transport arena is comprised of: *airplane related operating costs*, *Payload Related operating costs* and *System related operating cost*. On the other hand the nonrecurring costs are *Spare parts costs* and *Initial crew training*. Next, all cost related factors will be discussed.

Airplane Related Operating Costs

Airplane Related Operating Costs (AROC) can be broken down into two sub categories: Cash Airplane Related Operating Costs (CAROC) and ownership Costs, where both can be segregated into sub-categories, the *CAROC* includes the cost of: *fuel*, *Cockpit Crew*, *Cabin Crew*, *Maintenance*, *Landing*, *Navigation*, *Ground handling*, whereas the *ownership costs* include: *Depreciation*, *Financing*, *operating lease costs*, and *Hull Insurance*.

The fuel according to (IATA, 2008) represents 32 percent of the Operating Costs in 2008; almost triple that in 2003, where it used to stand at 14 percent of the Operating costs. The consumption of fuel is usually affected by the weight, as seen in Figure 3 of the plane, speed, wind, rout, airplane age and maintenance, altitude, ambient temperature, wind speed and direction as can be seen in Figure 2, while it is worth noting that the price of fuel usually varies from country to

Figure 1. Different factors that affect the ticket price