On Positive Passenger Bag Match

Dear Colleagues,

This memo contains our position on Positive Passenger Bag match (PPBM). With positive passenger bag match, if a passenger does not show up for his/her flight, his bag is pulled. Based on industry experience, this occurs in approximately 1 in 70 departures. When it occurs it delays flights by approximately 13 minutes. No additional employees are needed to manage the bag match, so there are no direct costs to us. There will be a slight lengthening of flight times for these 1 in 70 flights. This is troubling for me, as our airline strives to operate on time. However, the day to day costs to our operation are slight compared to the losses if a terrorist were to succeeded. If we look at our block hour cost (even though the doors are not closed by the time PPBM has to be invoked) and an estimate of ground/gate costs the cost is roughly ~$4,000/hour. Therefor the cost of this policy on a delayed flight is approximately:

$$\frac{13}{60}\*\$4,000=\$866 per delayed flight$$

However, remember that this only happens on 1/70 flights. Thus the cost per flight is:

$$\frac{1}{70}\*\frac{13}{60}\*\$4,000=\$12.38 per flight$$

I am not considering the “network effects” of cascading delays. However, 13 minutes is well within our usual take off delays, and we have sufficient padding within our schedule to absorb this cost within the air. If PPBM starts causing delays, we will add a few minutes to the schedule to compensate the next time we review our schedule.

The cost of a successful terrorist attack is simply too great. Even when only considering direct costs, a successful terrorist attack is expensive. The loss of our crew and aircraft hull and engines is significant. I estimate that these cost roughly ~$300 million to replace the aircraft and compensate the crew’s family members. We are not considering the effects that a successful terrorist attack will have on demand in the industry or the economy (total ~$15 billion) because much of that cost will not be borne by us. Our revenue would decrease, however. Past experience with 9/11 has shown that revenue at LCCs was basically flat in 2001 vs 2000. Looking at the LCC industry revenue gains in later years, I roughly estimate that 9/11 prevented ~$200 million of revenue gains for LCCs. In addition, prior experience with 9/11 has shown that passengers do not attribute a terrorist attack to a particular airline and penalize it in the marketplace.

With our 100 flights a day, this policy would cost us approximately $500,000 a year. Therefore, this policy makes sense for us if there is a possibility that a terrorist will attempt to load a bomb in his bag and an explosive machine will not catch it in 1 in 1,000 years.

You might be wondering how Positive Passenger Bag Match helps if terrorists have shown the willingness to die to carry out their missions. We have consulted with Arnold Barnett, the George Eastman Professor of Management Science at the *Massachusetts Institute of Technology* Sloan School of Management. Professor Barnett believes that although terrorists are willing to die for their cause, they are not willing to spend their lives in jail. Without PPBM, a terrorist can drop a bag off at our check in counter, and immediately leave the airport. If we or the TSA discover the bag, we are unlikely to discover the terrorist, who is free to try again. However, if the terrorist knows that he must be present for his bag to get on the plane, he knows that he/she must show up at the check in counter. If a bomb is discovered, the TSA and local police can arrest the individual at the check in counter. It is Prof. Barnett’s belief that this measure significantly reduces the likelihood that bombs will be packed in suitcases.

Once bomb scanning machines are fully implemented, we will reevaluate this policy taking into account the false negative rate of the scanning machines. Early indications show that the false negative rate on these machines is still too great.

-Michael Plasmeier

Director of Operations