



How Airlines Manage Conflicts Between Profits and Safety

Warning: Don't read this just before your next flight.

Commercial air travel is an industry in which relatively small mistakes can result in disproportionately dire consequences. While it is best not to think about this when on the tarmac, it is comforting to know that safety, for airlines, is a major priority. Even so, there are limits to how much an airline can spend, and firms must balance the demands of safety and profitability to avoid running financially aground.

In other words, when it comes to safety, it is not so much a matter of “how safe can we be?” as “how safe can we afford to be?”

The question of safety vs. profitability is an example of the conflicting operational objectives firms face on a regular basis and the focus of our recent research, **“Safe or Profitable? The Pursuit of Conflicting Goals”** (forthcoming in *Organization Science*).

The study examined how airlines balance the dual focus of safety and profits, and the influence these factors have on the costly decision of whether to change the configuration of their fleet of aircraft after an accident.

Updating fleets, replacing older aircraft or those perceived to be less safe, with newer, more reliable models, is an important way that airlines ensure the

safety of their operation. However, fleet replacement can be a costly transaction involving selling at a discount and buying at a premium, and decisions are not made without close scrutiny of an airline's balance sheet.

It may seem intuitive that more profitable airlines are in a better position, and therefore more likely, to replace aircraft perceived as less safe. We found that this was not the case. In fact, while more profitable airlines are generally ahead on the safety front, when it comes to making changes to their fleet after an accident, it was the less profitable carriers that were more likely to sell off aircraft and replace them with models considered more reliable.

Less profitable firms are more reactive

To track aircraft sales and purchases, we used fleet composition data from the website **www.airfleets.net**, which includes full data on passenger aircraft across the industry, as well as accident records of all global airlines. We then narrowed these accident statistics down to those accidents in which an aircraft was deemed permanently unfit to fly (referred to as “hull loss accidents”).

An analysis of these statistics showed that following a hull loss accident, among the group of airlines that

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boast above-average safety records, low-profit carriers increased aircraft sales by 55 percent while high-profit airlines increased aircraft sales by 29 percent.

Profitability played an even more decisive role among airlines with relatively high accident rates. When we assessed airlines with a similar below-average safety record, firms with low profitability were 50 percent more likely to sell aircraft than those with higher profitability.

We also examined the tenor of media coverage for each aircraft model following an accident and found that public relations, while not as influential as accident rates, were a consideration for decision makers. Less profitable airlines were more inclined to sell when the media tenor regarding their fleet was least favourable.

In short, while underperforming airlines were more likely to replace aircraft in a bid to improve safety, prosperous firms were not so reactive, being less at risk and more able to survive a scandal.

Should Boeing be concerned?

These findings are particularly interesting when looking at the industry today, as airlines consider their response to the recent air tragedies involving the Boeing 737 Max. After two fatal crashes and the worldwide grounding of the model, air carriers are faced with the costly decision of what to do next. The Boeing 737 Max is a relatively new model but one that has been widely accepted by airlines, particularly low-cost carriers. As of **February 2019**, 376 aircraft have been delivered and another 4,636 are on order. Already, **Garuda Indonesia**, **Lion Air** and a number of other carriers are reportedly dropping or reviewing their orders with Boeing.

However, given our findings and the fact that budget airlines, which make up the bulk of Boeing 737 Max's top customers, are generally more profitable than full-service carriers, it is unlikely that too many airlines will cancel their orders. Southwest Airlines, the number one customer of the Boeing 737 Max, recently completed its 46th straight year of profitability. Ryanair, another top customer, posted a 2018 net profit of €1.45 billion, a 10 percent increase on the previous financial year. That flydubai, the Boeing 737 Max's second biggest customer, has posted full-year profits since 2012 and came out earlier this month with assurances the aircraft remained **integral** to its future, further supports our findings.

The ultimate objective is the firm's survival

While the results of our study may fly in the face of general expectations, they actually confirm the

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premise that when companies perform below aspirations (i.e. less profitably), managers become more risk averse and take actions aimed at improving their firm's survival.

This is not to suggest that nervous travellers should bypass the more profitable, industry-leading carriers in favour of their less successful competitors. There is already good **evidence** that an airline's safety record will decline when its margins or profitability are low. However, aircraft sales and buys are made at the top level of an organisation, by individuals who are well aware of the safety consequences of their actions and of the consequences that any accident will have on the firm. Senior managers may even suspect that cost-cutting occurring in other areas of the firm's operations has the potential to endanger safety, and therefore attempt to compensate for that possibility when deciding what to do about aircraft replacement.

Ultimately, what our study found was that both safety and financial objectives are taken into consideration when airlines decide whether to replace aircraft models after an accident. The goal that triggers the stronger reaction is the one perceived as being more important for the firm's survival.

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