

INSIGHT: AGIFORS SYMPOSIUM 2018

REVENUE MANAGEMENT MAIN DRIVER OF AIRLINE RESEARCH

The Airline Group of the International Federation of Operational Research Societies (AGIFORS) was founded in 1960. It is a global society consisting of airline operations research people, airline IT experts, and academic researchers. AGIFORS members are interested in solving complex airline optimisation problems, with the ultimate goal of improving the efficiency and profitability of the industry. The Symposium is an annual meeting, where people present ideas on recently solved problems as well as future approaches to solutions.

The most recent annual Symposium took place in Tokyo on 8th-12th October 2018, hosted by All Nippon Airways. The conference attracted some of the top minds in aviation operations research, discussing innovative topics which have the potential to create value for airlines in the future.

T2RL were a sponsor at the symposium and took active part in the discussions using their knowledge and research into the market of current operational systems being sought by airlines and being offered by vendors on the market.

DISCUSSION POINTS

There were a total of 24 technical presentations given during the symposium, which together covered a wide variety of leading-edge topics. The number of presentations in a particular field gives some idea of the value potential of that field, and on that basis, revenue management remains the field with the highest level of interest. Presentation topics were as follows:

- 8 on Revenue Management
 - 3 on Dynamic Pricing
 - 2 on Ancillary Revenues and how to capture more of it
 - 1 on a Price Matching strategy
 - 1 on assembling and pricing tour packages
 - 1 on overbooking

- 6 on Operations
 - 3 on Crew Planning (pairings, rosters)
 - 2 on Movement Control/Tail Assignment
 - 1 on Airport Slot Assignment

- 4 on Maintenance & Engineering
 - 3 on Big Data approaches to finding and resolving mechanical problems before they can cause a delay or out-of-service event
 - 1 on managing hangar space for heavy overhauls

- 2 on Network Planning/Flight Scheduling
 - 1 on increasing connection opportunities at hubs
 - 1 on managing very large Fleet Assignment problems

- 1 on Air Cargo
 - 1 on maximising routing options for cargo

- 3 on Advanced Technologies that are not fully developed or have not been previously applied
 - 1 on Blockchain
 - 1 on Quantum Computing
 - 1 on Air Taxi services using small electrically-powered aircraft

OBSERVATIONS AND CONCLUSIONS

- Revenue Management is still the main driver of airline innovation. It encompassed one-third of all the presentations. With three presentations, Dynamic Pricing is the most popular area for researchers within RM. Although it is not (yet) clear how to dynamically change prices without using RM buckets, attendees did not seem to think this was going to be a serious obstacle.

- All attendees condemned the idea of personalised pricing. While it might be possible to extract some additional revenue from a customer based on their demographic profile, everyone thought there was a high risk that this could easily backfire and infuriate an otherwise loyal customer.

- Predictive maintenance is a growing opportunity. Previously, AGIFORS events typically had one presentation on predictive maintenance (i.e., anticipating the failure of a component and replacing it before it causes a delay or cancellation); this symposium had three presentations on this topic. The difference is that two airlines (AA and BA) have taken on the challenge and gave presentations; previously it was only Boeing and GE Aviation working in this area.
- T2RL believe that initiatives to reduce crew costs in the planning stage are no longer productive. While it may be possible to reduce the planned costs (on paper), the operational costs are much higher and are minimally helped by improvements on the planning side. This is an area where the true costs are difficult to measure and therefore do not attract initiatives to reduce them.
- There were no IROPS presentations this year, which seems strange considering there have been two to four presentations on this subject at the last few annual symposia. Perhaps this is because most of the R&D in this area comes from the vendor community, with startup companies exploring IROPS solutions extensively.

Over the next few years T2RL expect that:

- Revenue Management will continue to be the most productive area, in terms of both revenue gains for airlines and increased R&D investment by system vendors.
- IROPS solutions will make a comeback, but the emphasis will shift towards enhancing communications with operational staff, supplier firms, and disrupted passengers. Enhancing the communications and notifications processes will have a greater impact on customer sentiments than rebuilding the aircraft or crew rotations, which is where most of the previous IROPS presentations have focused.
- There will be other Big Data applications outside of Maintenance and Revenue Management, most likely involving ancillary sales.
- Airline revenue-sharing partnerships will continue to gain traction and become more sophisticated, which will result in a wider variety of Network Planning/Flight Scheduling initiatives and therefore some growth in Network Planning presentations in future AGIFORS symposia.



Travel Technology Research Ltd, trading as T2RL is an independent research and consulting company that specialises in the market place for airline IT systems. Based on data gathered and analysed since the year 2000 it has defined and tracked classifications of airlines and their IT providers. Its research is used by airlines to enable them to make informed choices of systems and vendors and by the vendors to help them develop products that best meet the current and future needs of the airline industry. For further information, visit our website at www.t2rl.com.

