Solving the Right Airline Problem

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The simple fact is that airlines can dramatically improve their operations, product quality and on time performance, while reducing scheduled block/gate time and costs.

Let me first start with a simple question. In what business operational model does it make sense to turn over control of your primary production facility to the government? In fact, not only do airlines unnecessarily abdicate control of their aircraft to the government (ATC, Privatized or not), airlines are actually lobbying the government to take over complete control of the movement of their aircraft (NextGen). This absolutely makes no sense whatsoever, especially since this doesn't have to be.

What we have today is the world's ATC systems diligently trying to apply more control over the airline's largest and most expensive capital asset (the aircraft) to solve an ATC problem caused by the airline's internal production problem - the completely unmanaged, "day of" flow of aircraft.

Conversely, the airlines mistakenly believe that the ATC system (i.e., government or privatized, doesn't matter) will fix its broken internal production process. Not going to happen, as the airline's internal, curb to curb production problem requires a much broader, system focused, "day of" internal airline command, control and management solution incorporating so many other elements besides the ATC system (schedule, aircraft, gates, maintenance, crews, ramp management, galleys, lavs, etc.). And although the movement of the aircraft is the most important airline "day of" production asset/process, it is the internal airline integration and "day of" command and control of the airline's complete curb to curb production process that will mitigate the airline's delay problem and dramatically improve the ATC system, while providing the highest quality airline product and making the most profit.

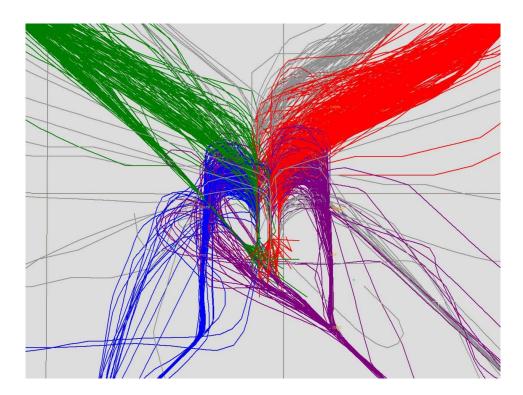
In other words, ATC is only focusing on trying to improve airspace/airport efficiency with more control (think full time Ground Delay Program or CFMU), but airlines need to focus on consistently putting the passenger where they were promised, when they were promised, faster, better and more profitably by executing their system wide, curb to curb, "day of" production process, 24/7-365,

to increase system efficiency, product quality, passenger treatment and profits (i.e., Operational Excellence).

Airline delays are not a given and are not inevitable, but delays are primarily defects and failures of the current internal 1950s airline "day of" operational process, or more accurately, the lack thereof. And, as independently validated by FAA and Embry-Riddle University, delays can be dramatically reduced if airlines focused on their internal "day of" production problem, which provides the side benefit of improving ATC/airport efficiency and reducing airspace complexity.

Also, consider that for the ATC system to tactically manage at the aircraft level in real time requires a very complex and expensive solution, especially across country (FIR), ATC sector and center boundaries. Airlines on the other hand, have a much easier task, as they have already something ATC does not - all of the necessary worldwide data, communications and computational capabilities required to manage their individual aircraft and coordinate with ATC, all done in real time, anywhere in the world, regardless of boundaries.

Pictorially, airlines are constantly telling ATC to fix what they see as the congestion around the airports, which airlines see as an ATC problem (American CEO, Doug Parker's and JetBlue CEO, Robin Hayes' ATC comments). These CEOs are flat out incorrect.



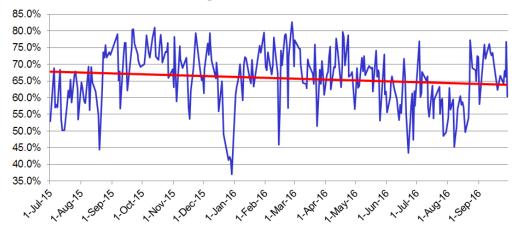
But airlines desperately need to fix the huge daily variance around the "day of" delivery of their customers which varies greatly day to day. One day your 20 minutes early, the next 10 minutes late, the next 3 hours late.

Customers Feel Variation, Not Averages

(Making Six Sigma Last, George Eckes, 2001)

Average Daily Airline A0 Performance - (Jul 1, 2015 through Sep 30, 2016)

Average A0 65.8%, St Dev 8.6%



And while this may seem like 2 separate problems, what airlines and ATC systems have yet to grasp is that both of these slides are symptoms of the exact same problem identified above - the airline's completely unmanaged, "day of" flow of aircraft, something only the airline can solve.

The conclusion - fixing airlines fixes ATC, but fixing ATC does not fix airlines.

Therefore:

- 1. No matter what ATC does (NextGen/Sesar/Privatization), no matter how hard ATC works, no matter how much ATC spends, no matter how much airspace is "redesigned", as proven for the last 40 years, the ATC system will never fix airline delays and airspace/airport congestion/chaos/inefficiency since these problems are not an ATC problem to fix.
- 2. But if airlines internally take up the task (i.e., right part, right place, right time), in real time coordination with ATC, airline delays and airspace/airport congestion/chaos/inefficiency is a relatively easy, "day of" logistics problem to solve.

All that said, the truly hard part of fixing airline delays and airspace/airport congestion/chaos is not actually the doing, but simply getting the airlines to accept "day of" responsibility for their aircraft/customers and understand that it can be done, and that only the airlines make it happen.

And the path forward, the common ATC/airline/airport solution - Business Based Flow Management (BBFM). BBFM is a fully developed, COTS, aircraft centric, airline driven, ATC coordinated, independently validated (Georgia Tech and Embry-Riddle), real time, "day of" solution that uses time sequencing to coordinate flows (i.e., aircraft Required Time of Arrival or RTA). BBFM has been proven in over 8 years of live operations to increase airport capacity/throughput and on time performance, while reducing congestion, complexity, distance flown, chaos, delays, fuel burn, noise, pollution and costs.

Our recent Forbes.com, Fortune.com and Boston Globe articles outline the goal - Operational Excellence (85% A0, < 3% daily A0 Standard Deviation, 8 to 10 minute scheduled block/gate time reduction), driven by BBFM, and the path forward to make airlines dramatically better and more profitable, while simultaneously improving ATC. All it takes is one airline to lead the way to Operational Excellence. Which airline will be first?

- Air Traffic Control Is Not The Real Cause Of Airline Delays (2017-03-23)
- ATC Privatization Good or Bad? (2017-09/10)
- Parked Planes Cost Airlines Billions (2017-08-15)
- Airlines Need to Stop Taking Customers for Granted (2017-05-11)
- <u>Airlines should stop blaming others and fix their problems</u> (2017-06-22)

Finally, nothing will change until airlines stop the blame game and accept responsibility for their "day of" delays, aircraft and customers, look internally for answers, start to track and manage their internal assets, especially their aircraft, and coordinate with ATC, all done in real time, "day of", 24/7-365 (i.e., BBFM).

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