

Creativity during crisis: Strategies for network and fleet planning

Introduction

This article is part of our Sabre Insights series in which we examine the unprecedented impact of COVID-19 across the aviation landscape. Here, Sabre experts give advice on how to infuse creativity into crisis management by offering new ways of thinking about network and fleet planning during the crisis and the path to recovery.

To weather the COVID-19 storm and plan for a new normal, airlines must challenge old ways of thinking, act creatively and be nimble in their network and fleet planning strategies.

Former competitors could be future partners, short-term revenue drivers will undoubtedly shift, and scenario planning will be more important than ever.

The challenges of network and fleet planning during the crisis

Decreased demand, closed borders and negative booking scenarios are forcing airlines to temporarily withdraw from markets and ground their fleets, with capacity on the top 20 largest global O&Ds reduced by 88 percent. As a result, airline planning teams are faced with four main challenges:

1. Strategically reducing capacity:

Airlines must find a balance between reducing capacity and shifting to point-to-point flights, while maintaining a presence in essential markets. Traditional forecasting models based on historical data are less relevant, so airlines will need to look to more real-time and forward-looking data to make capacity decisions.

2. Quickly re-planning and communicating to downline systems: Typically, network planning occurs seasonally – twice a year. Now, planning teams are pressured to develop and implement a schedule in less than two weeks. As part of the re-plan, airlines must also ensure schedule changes are communicated quickly to downline systems so that passengers can be reaccommodated and operations can be scaled accordingly.

3. Streamlining fleet types assigned to flights: There are fixed costs associated with each aircraft type in service. Airlines must plan for adequate staffing and ensure maintenance teams and costly parts are available for each aircraft type. By streamlining fleet assignments – some airlines down to one or two aircraft types – they can operate more efficiently.

4. Managing the storage of grounded fleets: After 9/11, during SARS and the 2008 financial crisis, between 3 to 4.5 percent of fleets were grounded. In comparison, by mid-April of this year, almost 62 percent of the world's passenger jets were grounded as a result of COVID-19. Runways and taxiways have become parking lots as airlines look for new places to store out-of-service fleets, while still having easy access to aircraft once demand returns.

To overcome these challenges, airlines must rethink existing commercial planning processes,

think outside the box in the short term and identify new paths to growth on the road to recovery. Yusuf Mauladad, sales engineer, network planning and scheduling, puts it simply, "Winners will be creative, flexible and quick."

Creative ways to drive revenue in the short term

During the height of the crisis through early recovery, airlines should explore new ways to drive cash flow and save costs by:

- Exploring new short-term partnership models,
- Expanding cargo capacity,
- Accelerating retirement of old aircraft types,
- Utilizing flexible re-fleeting models.

In the short-term, some airlines will pull back from codeshare, interline and alliance partnerships, limiting the availability of seats where revenue is shared across partners. This is simply a shift in focus, not a termination of agreements, since those relationships remain important to maintaining presence from a sales perspective. Thinking more broadly about the transformed ecosystem of providers, airlines should also consider who else they can seek agreements with to move passengers and extend their reach. For example, which airlines could become partners on a short-term basis to gain access to airports, handling agencies and check-in assistance they lack today?

In 2019, cargo represented 12 percent of overall airline revenue. During and post-COVID-19, cargo

will represent a more significant portion of most carriers' overall (reduced) 2020 revenue, potentially as high as 25 percent. Network planning teams need to prepare for cargo demand as airlines should look to increase cargo-only flights, which can maintain cash flow and keep planes in the air. They should work closely with cargo revenue management teams to better understand impacts to cargo capacity forecasts and overbooking levels. American Airlines, for example, launched its first cargo-only flight since 1982 shortly after COVID-19 travel restrictions from the U.S. to Europe were put in place. While this shift will be easier for airlines with cargo-capable aircraft, some airlines such as Lufthansa and Avianca are loading boxes into passenger seats to meet cargo demand.

Accelerating retirement of old aircraft types is a third lever, allowing airlines to avoid high maintenance and fuel costs on older, less fuel efficient fleets. With the current growth in cargo, this might mean choosing to retire passenger-only aircraft and keeping cargo-capable planes in service. Peter Newell, practice leader, planning and scheduling consulting, mentioned the need to also keep a long-term outlook on fleet decisions. "While some airlines will decide to advance retirements, others can benefit from keeping advance aircraft orders, enabling entry into new markets that carriers with weaker balance sheets will be forced to exit."

Finally, when it comes to fleet assignments, traditional methods of forecasting won't be effective historical revenue management and booking data to guide capacity optimization. Airlines will need to take a more flexible approach to re-fleeting, where schedules and capacity are based on real-time demand by each market. Flight

scheduling, crew management and maintenance engineering will need to be ready to scale at short notice, so staying closely aligned with operations will be critical.

Scenario planning for recovery in the mid term

Harvard Business Review stresses the importance of companies across all industries in helping to shape the post-COVID-19 world, saying: "With imagination, we can do better than merely adapting to a new environment – we can thrive by shaping it." To do this, airlines need to proactively plan for multiple recovery scenarios to enable strategic, quick action once demand is better understood. It's unknown what the new normal will look like and to what level demand will return, but Sabre hypothesizes the recovery of networks and fleets could happen in three phases, as shown in the figure below.

	Phase 1	Phase 2	Phase 3
Network Planning	<ul style="list-style-type: none"> • Short-haul leisure starts, primarily traffic from visiting friends and relatives • Point-to-point flights • Cargo and charter services • Unbalanced traffic with high one-way demand 	<ul style="list-style-type: none"> • Domestic business traffic • International traffic starts as borders open • Connecting traffic starts as travel concerns lessen • Codeshare and interline connectivity added • Business traffic growth, including long-haul 	<ul style="list-style-type: none"> • Return to new normal, with unknown levels of demand • Long-haul leisure returns, driven by tourism • Non-essential business travel such as conferences and conventions
Fleet Planning	<ul style="list-style-type: none"> • Narrow-body aircraft flown • Reduced/single aircraft types in service 	<ul style="list-style-type: none"> • Wide-body aircraft flown • Slow introduction of different aircraft types back into service 	<ul style="list-style-type: none"> • All aircraft types flown

Sabre experts believe recovery will happen in phases – first with the return of point-to-point, business traffic.

Ana Maria Escobar, VP and general manager, Travel Solutions, Latin America, noted that networks will come back reduced and changed. In response to this reality, she said, "The muscle airlines need to strengthen the practice of creating scenarios and keeping a pulse on

the market to ensure they make sound decisions during recovery."

Because there is no market precedent for the widespread impacts of COVID-19, airlines can't rely on historical data. They must instead consider new inputs like:

- Advanced booking data,
- Government bailouts and their impact,
- International travel restrictions and social distancing policies,
- Subsegments of business travel, by industry .

As conditions in China and Europe gradually begin to improve, airlines can also look toward these markets as early indicators. A sizeable portion of China's traffic is domestic, so it will likely see quicker rebounds versus a country like the United Kingdom, which is very dependent on international traffic and therefore more impacted by travel restrictions.

Airlines can rely on solutions with intelligent automation to consider multiple variables and demand levels. It's critical, however, that decision support models are re-calibrated to reflect the current market conditions. Consider these scenarios that could be run through a fleet optimization tool:

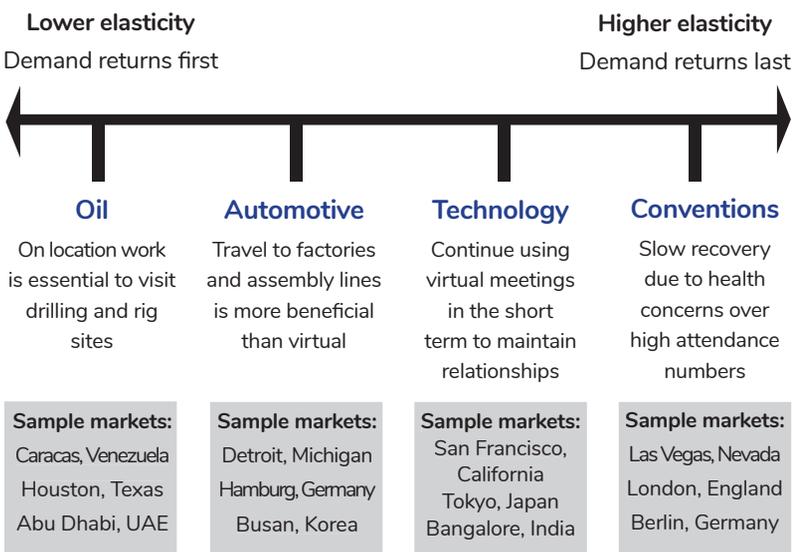
- If oil prices increase by 50 percent, which aircraft will be more efficient to fly with revenue and cost tradeoffs?
- If my aircraft turn time increases by an hour due to new cleaning requirements, how many more aircraft do I need in service to meet demand?
- If passenger load factors remain low, can planes be assigned to longer routes that they couldn't operate before?

From a network planning perspective, segmentation analysis will help airlines prioritize which markets they add service back to first. Given business travel will likely return fastest, the Sabre consulting team is analyzing how sub segments of business travel will recover based on the elasticity of different industries (Figure 2). The oil industry, for example, has a very low elasticity. Airlines can expect demand to increase to cities like Houston, Caracas and Abu Dhabi first and prioritize service back to those business markets accordingly.

Whether airlines run these scenarios themselves, or partner with technology providers like Sabre, airlines need playbooks that consider a range of scenarios – refreshing those analyses weekly.

The future of dynamic scheduling in the long term

Figure 2: Elasticity of business travel



***Note:** This shows a sample of industries to indicate relative elasticity. It is not an exhaustive list. Business travel will rebound at various rates, based on the elasticity of different industries. Network teams should prepare to service markets for less elastic industries first.

COVID-19 is teaching airlines how to navigate and plan for the worst market conditions the travel industry has ever seen. It has only magnified the limitations legacy systems can create. Unnecessary complexities, manual analysis, and limited insight into true market conditions are prohibiting agility. As we move forward and learn from today's challenges, digital transformation will be top of mind to ensure airlines are more agile in their response and more resilient in their recovery.

As airlines look for opportunities to grow and recover, technology investments that support dynamic schedule creation should be prioritized.

Consider solutions that provide:

- **An integrated platform** that serves as a single source of truth for an operationally feasible schedule built to balance revenue, cost and customer needs
- **Modern technology** to encourage collaboration through automated workflows and shared data across commercial, operations and external sources
- **Decision support** and machine learning to enable dynamic decision-making and empower agility across long-, medium- and near-term planning and scheduling.

This is more than simply changing the schedule creation process. It's about equipping analysts with the data insights they need to design profitable and operationally feasible schedules – even during future unknown scenarios.

Conclusion

Creativity is a hard practice to keep alive in a time of crisis, but it can drive significant value. In 2001, during a U.S. recession that caused a 33 percent drop in the company's total revenue, Apple released its first iPod, setting them on a path to long-term accelerated growth.

While there are tough short-term decisions that must be made, airlines that think creatively about their long-term network and fleet strategy will be positioned to win in the post-COVID-19 world. They will forge new partnerships, optimize their networks for growth and unlock new revenue opportunities. 🌐