

# Putting Technology And Data In Sync

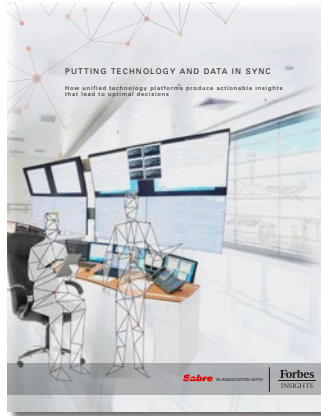
Unified Technology Platforms Produce Actionable Insights That Lead To Optimal Decisions

Each airline has its own unique set of factors governing how it invests in technology, whether it be a high-octane growth plan that requires the latest tools for operational excellence and customer care, or perhaps for airport overcrowding, which requires the implementation of new enterprise systems to help quell the near-chaos of peak hours.



When considering investing in information technology, one question comes to mind: Will it save money? While the answer is often “Yes” in the long run, the notion that better technology can help airlines deliver on their respective brand promises, and even deliver improved financials, can help reframe the capital-expenditures conversation.

The price of inefficient airline operations is measured around the world in the form of higher costs and lost revenue. What airline leaders may not realize, however, is how key operating factors can be measured and controlled by their own systems and processes.



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*Robert Webb, group chief information and technology officer for Etihad Aviation Group*

TOP STRATEGIC PRIORITIES OVER THE NEXT FIVE YEARS

Customer experience

**53%**

# The Connected Airline [article 3 of 4]



In the United States, major airlines lose as much as US\$3.2 billion annually from poor operations, despite controlling 80 percent of the factors that affect whether their flights land on time, according to Michael R. Baiada, a longtime industry consultant for ATH Group. Major carriers land a little more than 60 percent of flights either at their scheduled time or before, likely driving further inefficiencies across the airline. By harnessing data from real-time operations to adjust and optimize flight schedules, airlines can maximize revenue while at the same time rein in major costs such as crew time and fuel burn.

“This truly is the greatest opportunity when it comes to airline operations and quality,” Baiada said. “It’s something that can be easily improved through fresh approaches to operational management.”

This can involve better use of real-time data for decision-making. The data available to airline operations managers today provides a much more expansive, real-time view into operations. For instance, with data, airlines can conclude from only a cursory glance which flights are the most valuable from a revenue perspective. This is critical since finding new ways to cut off minutes from flights can save millions of dollars.

Yet, while the amount of data available to airlines is constantly expanding, finding the right combination of information technology, which gleans the most impactful insights, remains an ongoing challenge.

### Finding Commonality Among Systems And Carriers

When it comes to IT infrastructure, many carriers seek an integrated platform to house data for operations and customer-facing tools to simplify processes for employees, as well as for customers shopping fares and buying ancillary products. Yet, when implementing new infrastructure, airlines often face the challenge not only of upgrading software and hardware, but also upgrading those systems without pause while the carrier is still operating.

Consider Etihad Aviation Group’s challenge. Its flagship carrier, Etihad Airways, plans to nearly double the size of its current fleet of nearly 115 jets in the coming years as it grows around a new airport hub in Abu Dhabi. Etihad doesn’t measure its customer service against other airlines, but rather against five-star luxury experiences, further raising the stakes for making sure customer-facing technology performs flawlessly across common IT platforms.

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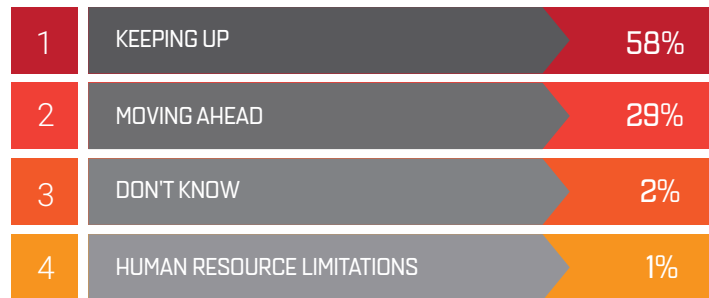
On top of that challenge, the group of eight airlines is moving toward common information-hosting platforms for customer data to leverage their strengths, adding a complex level of execution in addition to keeping Etihad Airways growing efficiently.

With Etihad’s aggressive growth, the stakes for IT integration are even higher. Linking carrier systems along with meeting its five-star customer-experience promise – where elite customers can book a full suite on select flights – provides an advanced degree of difficulty.

Yet the difficulty of managing a fast-growing airline, along with knitting together a larger group of carriers, demands a new way of thinking.

“We are willing to step boldly into areas where we are doing things other airlines haven’t done before,” Webb explained. “That’s smart risk-taking. And so we experiment. We spend a little sometimes, and we learn a lot, and then there are other times where we need to make substantial investments.”

### WHAT ARE THE LARGEST OBSTACLES TO IMPROVING YOUR AIRLINES’ CUSTOMER EXPERIENCE?



### Meeting Customer Expectations With Improved Information Technology

Etihad Aviation Group isn’t alone in recognizing the need to modernize its systems. The relationship among enhanced technology, improved service and more revenue has become clearer for Garuda Indonesia, as well.

“We want to grow the IT at Garuda to improve our customer experience and enhance revenue,” said Iwan Joenianto, director of operations for Garuda Indonesia, which has shifted much of its customer-facing and internal systems to cloud-based solutions to simplify operations, reduce infrastructure and allow for easier updates.

The strongest thread among many carriers looking to improve customer service through technology is the proliferation of mobile

MAIN OBSTACLES TO TECHNOLOGY STRATEGY IN OPERATIONS

	TECHNOLOGY STRATEGY
BUDGETARY CONSTRAINTS	51%
EXISTING PROCESSES OR TECHNOLOGY ADEQUATELY SUPPORT THE BUSINESS	49%
USER BASE RESISTANT TO CHANGE	37%
MANAGEMENT RESISTANT TO CHANGE	31%
INADEQUATE GOVERNANCE	23%

TOP OBSTACLES AND ENABLERS OF ALIGNING CUSTOMER EXPERIENCE AND OPERATIONAL PERFORMANCE

	OBSTACLES	ENABLERS
RESOURCES (BUDGET, SKILLS, BACKLOGS, PRIORITIES)	54%	54%
TECHNOLOGY ADOPTION (LEGACY VS. ADVANCED TECHNOLOGIES)	45%	49%
ABILITY TO COLLABORATE	45%	43%
ABILITY TO ACHIEVE CONSENSUS ON SERVICE QUALITY IMPROVEMENT COSTS AND BENEFITS	40%	32%

technology. Adding devices, applications and software for passengers and frontline employees pays dividends in smoother operational processes, improved customer perception and profits.

“Providing our check-in agents with mobile devices or tablets to perform check-in activities for passengers helped shorten queues in the airports,” said Dr. Jassim Haji, director of information technology for Gulf Air. “This reduced wait times and avoided the space limitations in airports, and we found passengers were very grateful for this.”

**Challenges Of Linking Airline Silos Through Information Technology**

While the benefits of new technology and a strong IT investment strategy are clear

– improved operations, higher customer satisfaction and better margins – there are challenges to implementation, the primary one being budget. More than half of airline executives surveyed cite budgetary constraints as the biggest obstacle to moving technology forward.

Yet, this finding isn’t unexpected since capital spending frequently tends to flow toward projects with the quickest return. While technology change is critical, implementation takes time. It is a process worth following because the latter approach – funding programs with quick returns – often results in a variety of solutions operating in different carrier silos, presenting difficulties when knitting data and results together.

“At Oman Air, establishing a data center and secure processes for standardizing and

accessing data was a key step toward communizing IT functions that touch both the operational and customer sides of a fast-growing carrier,” said Sourav Sinha, senior vice president of information technology for Oman Air.

**The airline’s fleet of 48 jets will grow to 56 by 2020 and 68 by 2023.**

During the past three years, Sinha has laid the foundation for technology improvement and remains focused on applying the carrier’s new core to improve it. Among the biggest challenges for a fast-growing airline is how it manages flying in facilities that weren’t built for rapid expansion. Oman Air operates its largest hub at Muscat International

## TOP OBSTACLES AND ENABLERS OF ALIGNING CUSTOMER EXPERIENCE AND OPERATIONAL PERFORMANCE

	AIRLINE INDUSTRY	YOUR AIRLINE
TECHNOLOGY: UNIFIED AND CONNECTED SYSTEMS (E.G., VIA CLOUD, MOBILE, BEACONS, ETC.)	77%	55%
FLIGHT OPERATIONS: FLIGHT OPTIMIZATION, DISRUPTION MANAGEMENT	65%	78%
SERVICE DELIVERY: CONNECTED AIRCRAFT, OPERATIONS, IN-FLIGHT, GROUND AND CUSTOMERS	62%	75%
DISTRIBUTION: CHANNEL SHIFT, WEBSITE CAPABILITIES, MOBILE	29%	32%
MANAGEMENT: HORIZONTAL VS. VERTICAL ORGANIZATIONAL STRUCTURE	34%	34%
MANAGEMENT: HORIZONTAL VS. VERTICAL ORGANIZATIONAL STRUCTURE	34%	23%

## THE GREATEST FUTURE INTERNAL CHALLENGES FACING THE AIRLINE INDUSTRY

ENTERPRISE-WIDE CONTINUOUS IMPROVEMENT OF PROCESSES	23%
USING INSIGHTS FROM DATA AND ANALYTICS TO DESIGN NEW PRODUCTS AND SERVICES	21%
SUPPORTING GLOBALLY CONNECTED ENTERPRISE	18%
EVOLVING DISTRIBUTION CHANNELS	11%
CONSISTENT FINANCIAL PERFORMANCE TO VALIDATE IT INVESTMENTS	11%
DEVELOPING AND UNDERSTANDING A CONSISTENT APPROACH TO MEASURING PERFORMANCE OF FINANCIAL INVESTMENTS	9%
INFORMED DECISION SUPPORT	5%
FACILITATING SITUATIONAL AWARENESS DURING IRREGULAR OPERATIONS (COSTS, CUSTOMER SERVICE)	2%

Airport, a facility designed for 4 million passengers a year, but which now sees 12 million enplanements a year.

A new facility is on the way, but the carrier's long-term plan to ease growing pains starts with a common platform that makes the different pieces of the airline communicate better, creating actionable intelligence for its leaders.

With Oman Air, customers can select several onboard meals on their smartphone before even getting on the flight. This allows Oman Air to board

only the meals requested instead of guessing which of the six or seven options might prove most popular.

Similarly, for Oman Air's flight crews, the introduction of an electronic-flight-bag program not only freed them of bulky paper materials onboard, but also allowed them to improve flight plans through the mobile-flight-bag application, saving money and further improving customer experience.

At Etihad, where each of the group's carriers is moving toward common IT platforms but faces

unique market circumstances, starting with a holistic plan can guide IT decisions.

"We believe that just as we find cost efficiencies across the wider fleet, so too should we leverage common information systems and technologies across the group," said Etihad's Webb.

When asked about the top obstacles and enablers of aligning customer experience and operational performance, 54 percent of airline executives rate finding the right resources as both an obstacle and an enabler. Adopting new

technology scored high as well – 45 percent see it as an obstacle, while 49 percent see it as an enabler. This reflects the challenges airline leaders face when the need to innovate on IT is clear, but the difficulty lies in incorporating new thinking and abandoning old ways.

## Data Guiding Improvements Through The Enterprise

While changing an airline’s IT systems presents unique difficulties, the benefits of enhanced data collection and analysis creates new opportunities to raise operational performance, improve customer service and enhance profits.

When asked about the initiatives that can best facilitate improved operational performance, 77 percent of survey respondents cite unified technology as key for the industry. Additionally, when questioned about how performance can be improved within their own airline, more than half still cited unified and connected technology, but improved flight operations and service delivery also top the list.

## A Focus On The Future Airline Experience

The performance of an airline’s customer-facing technology is a growing factor in how customers perceive the brand, especially as they interact more through applications on their mobile devices. It’s also an area carriers want to build on as they think about how flying will change in the future.

Twenty-one percent of executives surveyed said new insights from data and analytics will be a top challenge for the industry as a whole, along with overall process improvement. While the internal operational improvements can be realized through enhanced systems, the need to keep customer-facing technology current is equally important to help deliver on the brand promise.

“The frontier that I think has the most promise for us, which we’re really just stepping our toe into now, is with respect to analytics and cognitive,” said Etihad’s Webb. “And we really imagine a cognitive, digital airline in the future. The idea is to be able to, even from your mobile device, have a natural language conversation with a cognitive assistant and say, ‘Look at my calendar. I’d like to go somewhere warm within three hours of Abu Dhabi. And I’d like to leave at 5 p.m.’ and the computer could come back and say, ‘Great, these are your options.’”

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Whereas most of the customer-experience elements of flying are tactile and involve the physical aspect of the flying experience, the technological interface will increasingly shape carrier brand perception.

“These types of opportunities on the five- to 10-year horizon are very much on the cusp of being available,” Webb continued. “Natural language processing, artificial intelligence and cognitive computing, as some like to call it, combined with analytics and guest preferencing, are things that are going to be very, very powerful.”

## The Case For IT Investment

Survey results, and executive opinion, point to the importance of an integrated set of tools and infrastructure that provide real-time data to airline operations managers.

The follow-on effects of better operational metrics include more revenue, improved operating margins and, most importantly, satisfied customers and a positive brand perception. Integrated platforms allow customers a seamless experience from start to finish as they navigate an airline’s external site, check in at the airport, board their flight and travel to their destinations. With satisfied customers comes enhanced loyalty and an opportunity to bond high-value customers to an airline so strongly that they’ll pay more to fly the brand with superior technology. ASCEND

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