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The airline industry is arguably the most competitive it's ever been, and airline executives are continually challenged by how to get ahead. Travelers have more information than ever before, and data is growing at an astronomical rate. To help airlines address these challenges, Sabre has identified four key areas of opportunity that make it a win-win for both travelers and airlines. The solution, the Sabre Commercial Platform designed with flexible, open and intelligent technology, drives revenue maximization and creates unique experiences for travelers.



# Open

Digital Transformation:  
The Technology Evolution

*By Maysen Mapes  
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# open

'ō-pən

adjective

allowing access or passage through an empty space; not closed or blocked up.

synonyms: clear, passable, navigable, unobstructed

Advanced technology during the past five to 10 years has created a significant and apparent opportunity – computing power is faster and cheaper than ever before. Development language and analytics has come a long way. Today's capabilities allow businesses to be strategic competitors focused on technology that fulfills their specific business needs. This has been accelerated by digital transformation, a disruptor that redefines core competencies and focuses on the interconnectivity of technology, people and processes to deliver a superior customer experience. Digital transformation has played, and will continue to play, a major role in the airline industry.

More importantly, consumer behaviors regarding the use of technology in everyday occurrences has increased to a point where it isn't just a want, but an expectation. This puts the airline industry at the forefront of its own digital transformation.

Before the evolution of the mobile phone, consumers would call a travel agent and ask about a flight schedule. The process was time consuming and, therefore, frustrating for both the consumer and the agent. Since the evolution, consumers carry powerful minicomputers (cell phones) in their pockets, eliminating the original problems. People expect to be able to manage their entire life on their phone – forget calling an agent. The connected consumer has completely revolutionized the way business is conducted.

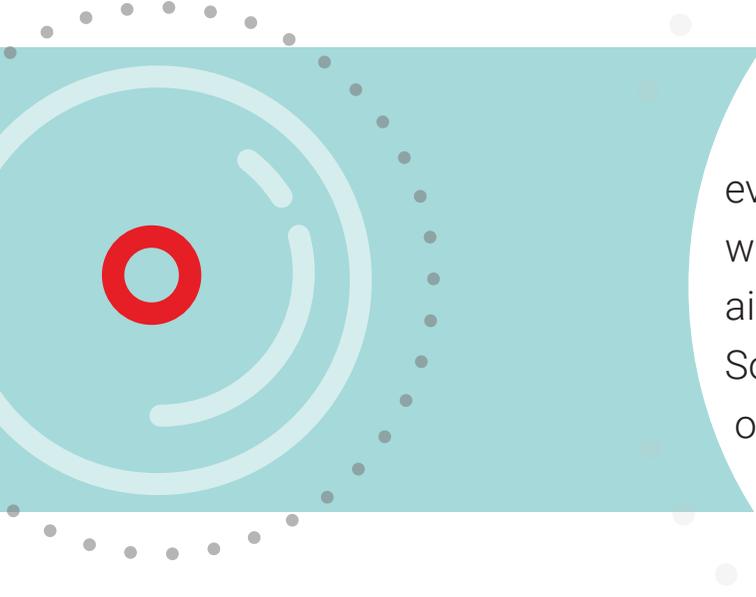
This digital transformation also puts airlines in a great position to differentiate themselves by becoming world-class retailers. Creativity is key in the ability to capture revenue and increase their audience. Fortunately, emerging technologies pave the way for untapped opportunities, leading to new levels of profitable growth while positively impacting customer experience. As an IT vendor and trusted partner, this puts Sabre at an inflection point where we know we must build innovative platforms that help airlines effectively and efficiently deliver their products and services.

## Bringing Commercial Departments Together To Innovate

Today's commercial departments are fragmented, trying to address major changes and dynamics in silos with conflicting objectives. This structure presents many challenges to airlines. For example, planning and scheduling departments have traditionally had limited insight into customers' preferences and how the schedule will evolve from planning to day-of-operations. The department works to create an optimal schedule; however, it often fails to account for customer strategies. Departments have no visibility into key decision-making data, preventing significant opportunities to meet customer needs.

The issues don't stop at commercial planning. Across sales and service functions, airlines must have a consistent flow of real-time, accurate data as well. For example, as a traveler starts, stops and re-engages throughout the journey, synced data is crucial to providing relevant and consistent offers. Whether the customer is receiving the offer via his or her mobile device or talking with an agent, airlines must ensure services

In fact, by 2020, we will see the current era of rigid distribution replaced by what we call active distribution. Active distribution will be focused, purposeful and frictionless. Though passengers, travel agents and travel managers will still have to follow certain processes, active distribution means they will enjoy richer, more flexible flight-shopping experiences and receive more personalized results. Airlines need technology solutions to balance their commercial goals while still creating unique experiences for travelers.



"In terms of openness, I think with our microservices approach and some of the evolution of the API that we're launching, we're creating an open environment so airlines can easily consume our solutions. So, when you think about open architecture or an open environment, that also equals time to market."

Rodrigo Celis, vice president of product management for Sabre

are working together with the help of real-time data to provide an efficient means of serving the customer.

Today, it is estimated that as many as 70 individual systems are required for airlines to operate every day – that's not only a lot of data, but it's a lot of opportunity for data to become out of sync and inaccurate. With industry standards such as NDC becoming more widespread, airlines must create an integrated system where knowledge and data can easily be shared across the business. Only then can airlines create a more personalized experience for their customers.

While distribution has historically operated in isolation, it is becoming more integrated with airlines' sales and marketing departments. Airline distribution professionals realize the need to ensure content is personalized and consistent across all points of sale.

While technology is arguably the most important aspect of digital transformation, culture, collaboration and change management all have a role in achieving success. In R "Ray" Wang's book, "Disrupting Digital Business," Wang discusses five critical factors to achieving a successful digital transformation.

The first factor is to craft a "cultural renaissance." He mentions that, "organizations that have mastered digital transformation build a continuous pipeline of innovation." Wang also states that, "successful organizations drive digital transformation from the board level on down."

To effectively achieve success, airlines must do more than just shift technology. Digital trans-

formation is about transforming the business model and rethinking how brands engage. Ultimately, it takes more than just the right technology to create and succeed in a digital transformation. It is up to the entire organization to foster a culture of innovation.

### **Need For Open Technology: Cloud Enablement**

Traditionally, airlines competed on the price of tickets. There was no need for open platforms that enabled superior service delivery. Now, airlines need technology to put the brand first and put greater emphasis on the customer. Airlines will benefit by finding technology partners that can build open technology, enabling them to think – and act – differently. These partners must be creative in how they deliver options to airlines' customers.

Today, investing in state-of-the-art technology that allows best-in-class front-end solutions to be built on top is key. Solutions built by a technology partner, an airline or a third party can be customized to differentiate and meet a carrier's unique strategies.

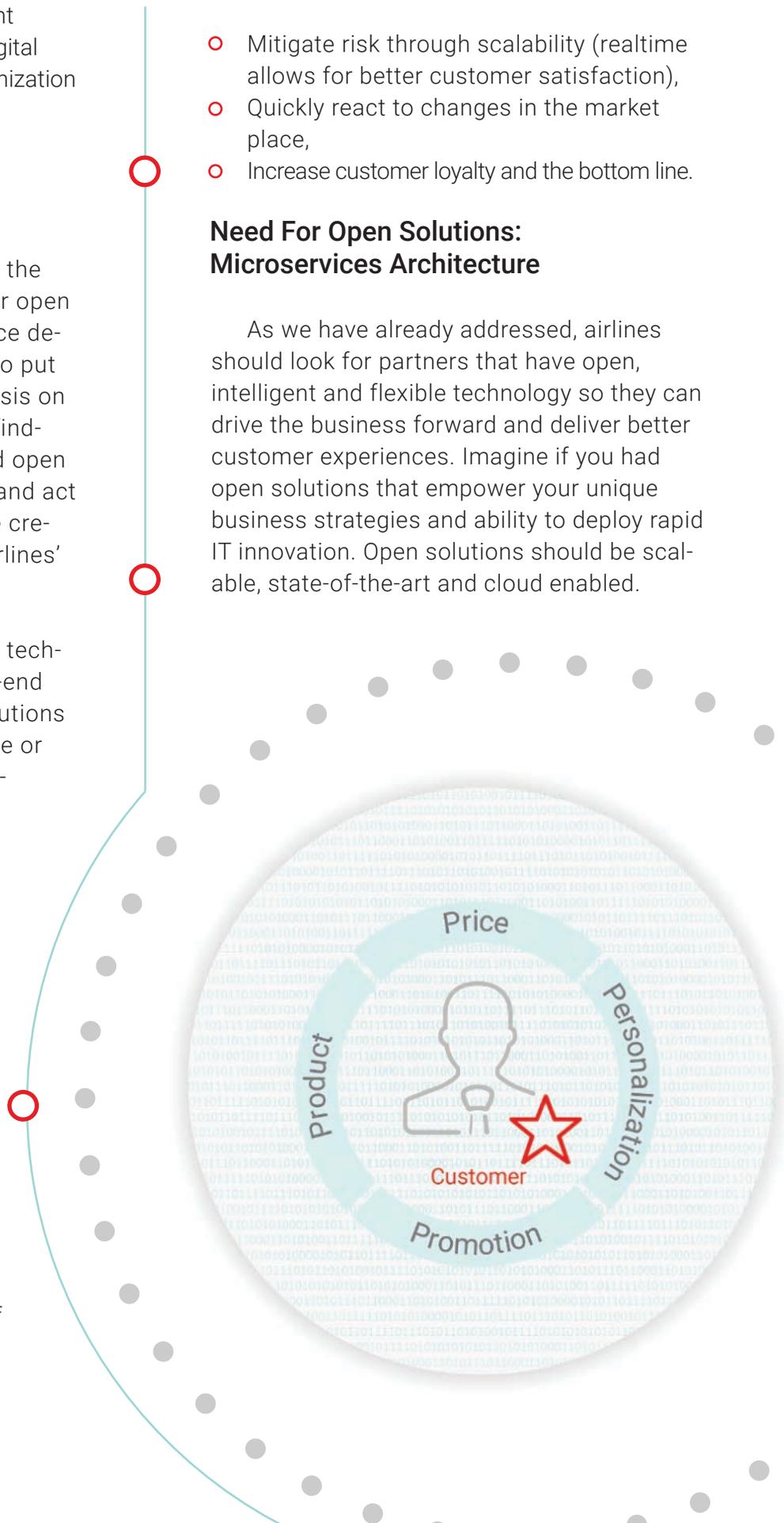
The need for open technology starts with migrating to the cloud. From an architecture and deployment perspective, cloud computing and microservice enablement will be two huge levers for future innovation. Cloud deployment will be significant for airlines, as it allows for global proximity, on-demand scalability and new cost efficiencies. The cloud allows airlines to quickly and rapidly deploy initiatives faster, saving time, costs and resources. In times of

disruption, airlines can act quickly and more efficiently. They will have the ability to:

- Mitigate risk through scalability (realtime allows for better customer satisfaction),
- Quickly react to changes in the market place,
- Increase customer loyalty and the bottom line.

### **Need For Open Solutions: Microservices Architecture**

As we have already addressed, airlines should look for partners that have open, intelligent and flexible technology so they can drive the business forward and deliver better customer experiences. Imagine if you had open solutions that empower your unique business strategies and ability to deploy rapid IT innovation. Open solutions should be scalable, state-of-the-art and cloud enabled.



Broader technology advancements and evolution will influence airline distribution and enable it to be more useful for airlines, third-party retailers and travelers. As artificial intelligence, mobile, augmented reality, virtual reality and conversational commerce become the new norms, airlines will need strategic partners to help them deploy and successfully win with innovative technologies. The future of technology will be:

- Highly scalable with its build-once framework and use of everywhere models,
- Easily integrated into unique business needs and strategies,
- Accessible to an abundance of new robust data,
- Representative of flexible, open and intelligent infrastructures.

Microservices is somewhat a “hot topic” right now in the technology industry. Open solutions allow airlines to enable speed to market and control over distribution across all channels. Companies such as Amazon, Netflix, Uber and eBay are all embracing microservices. As we look to these technology giants, we see a common theme: investment in open, flexible and intelligent IT infrastructures.

For example, Amazon has been investing in and incorporating microservices and cloud enablement into its infrastructure for years. Microservices are an API-driven layer of architecture with clearly defined infrastructure and platform capabilities shared by all products. API-driven architecture is easier to develop and maintain because of its bite-size nature. Microservice’s plug-and-play capabilities is flexible enough to meet current and future business needs.

Originally, businesses used a monolithic approach. This model was slow and time



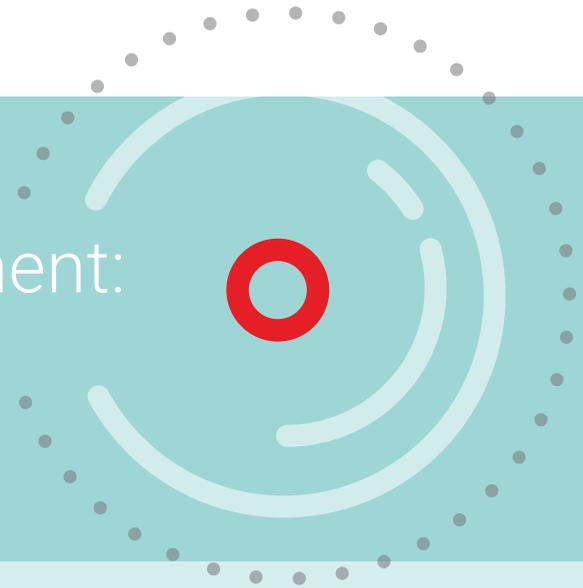
consuming because IT would have to redo and deploy an entirely new system every time there was an update or new feature. The one-solution approach has caused problems with larger and more complex applications being built. Now, with a microservices approach, infrastructure deployment is scalable, simplified and streamlined. Microservices can bring multiple benefits to airlines including improved monitoring and application resiliency. Big technology giants across the globe have adopted microservices. Why? Because it allows businesses flexibility, speed to market and the ability to meet their unique business needs. Open, state-of-the-art technology enables airlines to:

- Accelerate innovation by bringing new products to market faster,
- Drive efficiency through code reuse and modern software practices,
- Enhance flexibility to meet changing market needs.

The benefits of a microservice-enabled architecture are endless.

# Microservice Enablement: Amazon's Approach

Amazon was one of the first  
pioneers of microservices



“If you go back to 2001, the Amazon.com retail website was a large architectural monolith,” said Rob Brigham, senior manager of product management for Amazon Web Services.

Back then, the databases were a shared resource owned by many different teams and processes, making it difficult to scale across the overall business. For Amazon, a monolith approach was quick initially, but as a company grows and the architecture becomes more complex, software will begin to slow, and costs will increase. With the revolutionary concept of decoupling service architectures, Amazon could move to a fully-distributed, decentralized services platform that would serve many different applications. This microservice approach allowed Amazon the scalability to hold more orders, more customers, more items and more sites.

Since then, Amazon has leveraged cloud computing and microservices to build Amazon Web Services (AWS). AWS offers a large

portfolio of managed services that help product teams build microservices architectures and minimize architecture and operational complexity.

With airlines' similar massive amounts of data regarding customer profile and flight schedules, they can gain valuable insights from Amazon's approach. As Sabre, too, looks to expand its microservices capabilities, AWS is its main technology partner for cloud infrastructure and services.

“By working with AWS, we can accelerate the evolution of our next-generation microservices-enabled technology platform, which is at the center of the business of travel,” said Joe DiFonzo, chief information officer for Sabre.

## Digital Transformation Is Now

We've come a long way from booking reservations through phone calls and punch cards. As technology progresses and airlines become less itinerary-centric and more customer-centric, platforms must also become smarter to adapt to changing business needs. While microservices is not a new concept, it is becoming more and more relevant in the airline industry.

During the last decade, there has been a significant shift in the airline market. The low-cost-carrier business model is growing around the world as airlines look to maximize revenue and differentiate through ancillary sales. According to studies by IATA and IdeaWorks, seat revenue per passenger booked has declined by a 2 percent compound annual growth rate (CAGR) during the last seven years. At the same time, ancillary revenue per passenger booked has increased at a 41 percent CAGR.

The strong growth in ancillary revenue has helped; however, it is not enough to offset the

continuous decline in seat revenue. To close the revenue gap and drive more volume, the need for fast and rapid expansion is becoming more necessary through price optimization and revenue management. With open technology, airlines can get ahead of the competition, differentiate their products and services, and provide personalized offers customers are demanding. Airlines that invest in open, intelligent and flexible technology today will be the industry leaders tomorrow.



For additional information about Sabre's open technology, please contact **Joyce Schofield** at [joyce.schofield@sabre.com](mailto:joyce.schofield@sabre.com).

For nearly 20 years, Joyce has led various key product launch initiatives across the telecom, financial services, online retailing and airline retailing industries. As director of product management, Joyce drives the strategy and evolution of Sabre's e-commerce API portfolio used by global airlines to power their omni-channel digital point-of-sale experiences.

