JOURNEY MANAGEMENT
Delivering On The Promise Of Exceptional Customer Service

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Irregular flight operations are unavoidable. The manner in which an airline responds to these disruptions can be the difference between losing money and customers or recovering quickly and getting back on schedule. The latter is essential to the end-to-end customer experience and long-term retention.

Flight Disruptions

Within the U.S. domestic market, on average 77 percent of scheduled flights arrive on time. The remaining 23 percent are subject to a wide variety of disruptions that lead to prolonged travel times for impacted passengers. In most cases, these disruptions are beyond the control of the airline and are a result of severe weather conditions and/or congestion in the national airspace. Nonetheless, the manner in which airlines deal with these external factors often lead to secondary, and some may argue unnecessary, delays because of poor decision making around the original or primary disruptions. Some airlines operate with a “wait-and-see” attitude, which promotes a delayed decision-making procedure that often leads to bad decisions.

A flight delay occurs when it arrives 15 or more minutes after the scheduled time. Delayed minutes are calculated for delayed flights only. When multiple causes are assigned to one delayed flight, each cause is prorated based on delayed minutes for which it is responsible — the displayed numbers are rounded and may not add up to the total.

On the flip side, some airlines have become conservative in their decision-making procedures in light of recent government regulations on prolonged tarmac delays. Since April 2010, airlines are subject to fines of US$27,500 per passenger for flights experiencing ground delays in excess of three hours from the gate. In an effort to avoid these fines, airlines have opted to cancel flights at a higher rate than in the past due to severe fines. In addition, when flights remain on the tarmac for a prolonged time (less than three hours), they are often returned to the gate before the three-hour limit to avoid the penalty. This has led to additional disruptions and delays, as crew duty rules, which don’t apply until the aircraft is at the gate, have led to more crewmembers turning out (becoming illegal to operate the flight before they can be released for departure).

Disrupted passengers are often subjected to prolonged wait times for alternate flights because airlines are operating at relatively lower load factors due to reduced flight schedules. When a major schedule disruption occurs at an airline, it is common for passengers to wait for several days to get to their destination. In the worst case, their trip is canceled altogether.

Airlines who opt to stick it out are subject to long customer-service lines and/or calls. Few airlines have the capability to offer effective passenger-rebooking alternatives in a timely fashion, and passengers are still required to interact with gate agents or contact the reservations center.

Effective Decision Making

Although disruption management has progressed, airlines have been slow to embrace optimization-based decision-support systems to assist with real-time planning. Such resistance stems from a variety of factors such as:

• The complexity of the underlying problem
• The required approach to solve the disruption management problem.
• Associated passenger rebooking.
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• Airlines have historically been divided into functional groups based on prescribed resources —aircraft, crewmembers and passenger services. In the past, decision-support systems handled only one resource, often ignoring auxiliary factors during the decision-making process.

Unfortunately, this has created an environment of mistrust within airline operations control centers toward decision-support systems. The most effective way to handle disruption management is to employ an integrated approach that transcends the existing airline organizational structure.
An airline can be viewed as a collection of working parts: passengers, cargo, passengers and freight cargo — all connected by scheduled flights. Events that occur in one network affect another network. As such, it is important to address each planning problem first in its impact on other planning problems.

Passenger reaccommodation during schedule disruptions can be caused by a wide variety of events for an individual airline as well as a global airline alliance. An airline's system network consists of multiple hub airports that allow individual airlines to offer passengers alternative itineraries on their partner carriers.

“Journey management” includes concepts from passenger reaccommodation processes and procedures. The underlying premise is to assign alternative itineraries to passengers based on a priority list determined by the airline. At some point, alliances may seek to offer alternative passenger choices that deviate from what is most globally beneficial to the airline. A decentralized system used by agents at each airline or reservations center would streamline the lengthy reaccommodation process.

The system would actively monitor the status of each scheduled flight to ensure passengers were not reassigned to alternative flights that were already cancelled. The underlying concept of the solution is to foster centralized planning and decision making while taking into account the benefits of local (decentralized) executions. In effect, the airline operations control center would direct the decisions made at the airport to solve the problem of passenger reaccommodation using a global approach.

Impact Of Alliances/Partnerships

Alliances have focused primarily on the marketing aspect of each partner carrier within the group. In recent years, the focus has shifted to cost reduction and building synergies in their operations. These have included co-existence at key airport terminals, increased access to data through a common data repository and a gradual migration to common IT systems. In addition, alliances have assumed many of the traditional crew coordination among alliance partners. Additional benefits come from greater coordination of airline planning, marketing and operations. At some point, alliances may become more influential than their affiliated airline members. In this environment, there are business processes that should be centralized.

However, given changes in the near future are not anticipated because major alliances will remain contaminated by independent entities, where no one is in charge or responsible for the alliance interests.

The benefit of alliances in terms of market share is based on the customer perception that the service on a alliance is of higher quality and reliability than interline travel. Delivering on this promise requires that alliance partners coordinate their business processes and operations prior to departure to provide high reliability in service throughout the entire carrier operation. Prior to departure, PNR is a required coordination and passenger journeys will require improved communications and greater sharing of data among carriers. From the passenger view, this means seamless handling among alliance partners and transparent reaccommodation during off-schedule operations. This will require a high level of data sharing or common data in terms of flight following, PNR and availability. It also requires an airline to communicate its recovery process to its partners.

The dependability of an alliance network and its underlying ability to recover from disruptions in a minimal amount of time to facilitate the flow of passenger and cargo should be a primary focus. As they have grown, alliances have faced new challenges in the recovery of irregular operations. The main challenge comes from each partner having its own operations control center, with different strategies and methods of functioning. For this reason, it is imperative that perfect communication exists among the various operations control centers to find solutions beneficial to the entire airline system. As the airlines expand their joint operations, the need to develop a more robust system to support these operations is critical to the success of the alliance.

In the long term, benefits in the development of a central global operations control center may exist, which would be responsible for managing the overall recovery and decision making among the alliance. Alternatively, each airline operations control center should be able to handle decisions both related to its own fleet and that of its partners. These may also be substantial benefits from collaboration during the strategic phase of operations, including such issues as joint maintenance planning.

Decision-Support Benefits

It is possible to effectively manage their operations and quickly recover from disruptions. With the recent market downturn, it is important that any proposed business solution incorporate the core components of the carriers' systems. It is critical that these recoveries are coordinated for the benefit of alliances and customers' itineraries. In addition, the system must focus on operational improvements such as planning, air traffic control, weather and other auxiliary information that will drive and influence its operations.

The successful implementation and deployment of an optimization-based decision-support system to assist with disruption management and passenger rebooking necessitates a functional and operational definition of the system. It must possess the necessary processes, such as reassigning crew and aircraft, while considering decisions as well as the timely distribution of recovery solutions.

The introduction of any new technology into an existing environment will potentially necessitate changes in business processes and procedures. Nonetheless, the benefits of the proposed business solution will outweigh any unforeseen process changes.

A primary benefit of an optimization-based disruption-management system is the ability to better predict for potential disruptions (shortly to large scale). It will work in conjunction with all key departments within the operations control center to make comprehensive decisions that are in the best interest of the airline's operations. Another important benefit of an optimization-based decision-support tool within an operations control center is the ability to generate multiple recovery solutions based on varying input parameter sets, and make trade-offs between decision making and its availability. It prioritizes the passenger list based on the overall airline’s strategy, customer needs and contractual obligations while minimizing the overall cost impact to the operations.

Reaccommodation Manager receives the flight delays at the airline's system network interface to assist with disruption management, which is the passenger's itinerary as well as the overall decision horizon for the airline. Reaccommodation Manager generates a complete solution that explicitly considers the costs, from the point of flight cancellation and rebooking through passenger notification and response. In terms of Sabre, AirCentre® Recovery Manager, an automated optimization-based flight operations decision-support system, quickly and proactively resolves schedule disruption problems while honoring the diverse strategies and methods of functioning. The decision-support software works in the open environment to reduce the overall timeframe of departure to work and to the future. Recovery Manager consists of two capabilities — operations recovery (OCR) and crew recovery (Craw). Recovery Manager (OCR) fully integrates with two movement control systems — Sabre® AirCentre® Movement Manager or AirCentre® (Crew). OCR system generates a set of reports with comprehensive information on the solution.

Recovery Manager (OCR) takes the current (disrupted) flight schedule, operational planning, personnel (including crew and weather restrictions) and data on all available aircraft and crew members, to generate an optimized flight schedule. A proposed revised flight schedule, revised flight times and updated flights are scheduled. A flight schedule could consist of proposed delays, cancellations, offsets, diversions and any necessary positioning ferry flights. A flight schedule could be generated as close as possible to the original flight schedule while accounting for scheduled crew assignments and passenger itineraries.

Recovery Manager (Crew) integrates with two crew management systems — Sabre® AirCentre® Crew Manager and Sabre® AirCentre® (Crew). In addition to the crew recovery, a comprehensive decision-support system that allows the airline to reassign the flight based on the revised flight schedule generated by a schedule recovery decision-support tool or manually. It will solve disruptions at the crewmember level and provide solution alternatives with respect to crew availability, crew preference and cost considerations.

Recovery Manager (Crew) determines a crew abdomen recovery plan. A crew abdomen recovery plan is a list of various scenarios (decreases) to a revised flight schedule, taking into account crew availability (including weather restrictions) and data on all available aircraft and crew members. Additionally, it necessitates changes in the schedule that will need to be manually reviewed. The system incorporates both business rules and rules and requirements into the rebooking process. It generates revised crew assignment (if there are any) and will make the necessary adjustments through crew reassignment and the use of move-up crews, standby/crash crew and deadheading.

The system allows airline controllers to specify a wide variety of limitations, including which crews to consider based on. The system allows to avoid crewmembers to a unique subgroup (crew) to reassign them to a unique crew group. The number of reserve and standby crews to utilize in the solution by crew base, which crew base (operations) to handle (in) optimal crewmember reassignments that are feasible by repairing disrupted duties through crew reassignment and the use of move-up crews.

The number of which the user wants to incorporate additional non-disrupted, move-up crewmembers in the solution process. Sabre® AirCentre® Movement Manager and Sabre® AirCentre® (Crew). Sabre® AirCentre® Movement Manager allows airline operations during the most critical times and under the most unique circumstances to customers. Sabre® AirCentre® (Crew) has an extraordinary end-to-end journey. In addition, they help reduce the negative impact of flight disruptions to customers and the overall airline operation.