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Executive Summary

Irregular operations can have a significant impact on airline costs, particularly direct costs. Irregular operations can also cause serious damage to an airline’s image and reputation, especially when amplified through social media, and the cost of negative passenger sentiment is not duly considered. Major carriers have already spent millions on sophisticated systems to automate their responses to delays and cancellations, but what else can be done?

The True Impact of Irregular Operations

Passengers Define Journey Disruptions

The terms “delay” and “cancellation” reflect the state of a given aircraft. From a passenger perspective, a journey disruption simply means any change from the original scheduled itinerary or booked service. Missing an important business meeting or being late to a close friend’s wedding ceremony would be considered a major journey disruption, even if the passenger was seamlessly re-accommodated by the airline.

Hidden Revenue Impact

Passenger journey disruptions carry hidden revenue impacts that are not being adequately assessed and quantified. For example, there may be a significant load factor impact when travellers simply disregard the re-accommodated flight provided by the airline and find alternate transportation. In addition, passengers who turn to social media in response to a trip disruption can influence others, impacting revenues in ways that are not currently measured.

Government Actions

Influenced by consumer groups, governments will continue to introduce consumer protection measures, such as the European Commission’s proposed changes to its air passenger rights legislation and the U.S. Department of Transportation’s tarmac and baggage regulations. Airlines need to be one step ahead of government legislation and proactively provide the always-connected traveller with accurate and timely information about delays and cancellations, empowering passengers to control their options.

Cross-Carrier Re-Accommodation

Moving a passenger to a competitor airline is often viewed as a last resort and represents a significant challenge for airline legacy systems. If finding a passenger a seat on another airline enables the traveller to fulfil the intended travel purpose closer to the original scheduled arrival time, passenger sentiment may actually be improved.

Regional Differences

Three fourths of Chinese travellers (74%) surveyed in February 2013 experienced at least one moderate delay over the last 12 months, while UK travellers had the lowest incidence of journey disruptions (44%). Chinese travellers are less likely to contact an airline representative directly (22%) than other travellers, but are more inclined to complain on social media (35%) when a journey disruption occurs. China also had the highest number of respondents (35%) who stated that they would “avoid booking the airline whenever possible” due to irregular operations. Given the growth and importance of the Chinese market over the next decade, this is a key regional difference to keep in mind.
Strategies for Airlines

The focus of this study is to understand the traveller's perspective on irregular operations, with the goal of providing practical strategies for airlines to better manage customer expectations.

A Standard Service Approach to Irregular Operations Management

Airlines must incorporate a standard service approach to deal with passenger journey disruptions. When severe events occur, airlines with such an approach in place merely extend their processes to a larger number of travellers rather than attempt to implement a new, reactive process.

Robust Scheduling

Airlines need to build a schedule that can accommodate unplanned events, in part by re-allocating existing slack to achieve more robustness. This requires using more accurate historical operational data at a granular level to create schedules that can react to change. The concept of a robust schedule is often at odds with competitive market factors, but ultimately, the lack of sufficient slack can make schedules brittle, causing significant problems when bad weather occurs.

Empowering the Passenger with Intelligent Re-Accommodation

Automated re-accommodation technology may provide efficiencies for operational staff, but it does not always solve the underlying passenger journey disruption. Airlines must implement a passenger-centric solution that empowers passengers to choose alternatives most relevant to their needs. Airlines need to invest in systems to gain a greater understanding of each passenger’s preferences and reasons for travelling, including passengers who book through indirect channels.

Transparent Communication and Compensation

Airline communication must be authoritative and personalised to passengers’ needs, as well as more accurate and timely than other sources, such as third-party apps. Airlines must be completely transparent in their communication and practices, use an integrated multi-department approach to customer service, and invest in systems that allow them to provide customers with insight and assistance via mobile devices as soon as a problem is identified. Passengers expect compensation when a journey disruption occurs, no matter what the cause. Offering soft compensation in the form of club room access, mileage credit or meal vouchers goes a long way toward improving customer sentiment.

Managing the Social Media Impact of Journey Disruptions

Airlines must take a more strategic approach to social network analysis, recognising passengers’ true influence and tracking sentiment through social media behaviour and response. Most airlines currently have only rudimentary social media strategies, and need to leverage social network analysis tools to understand the complex relationships within social media platforms.

Methodology

PhoCusWright combined various research approaches, including interviews with airline executives, academic research experts, government officials and trade associations. We interviewed academics from the Massachusetts Institute of Technology (MIT) and the Georgia Institute of Technology (Georgia Tech) who have conducted and published extensive research on three different disciplines related to airline disruptions: operations research, revenue management and travel demand modelling. The professors frequently provide research for government agencies and consulting advice to major airlines. This qualitative research was augmented by consumer surveys conducted in key markets around the world – Australia, Brazil, China, the US and the UK. This study delivers a comprehensive view of passenger journey disruptions and provides concrete recommendations for airlines to improve their irregular operations processes.
Key findings

- Delays and cancellations are operational measurements that track the aircraft’s status, while journey disruptions occur anytime passengers do not travel on their planned itineraries, with all the elements they originally booked.
- Airlines measure the direct costs of delays and cancellations, but do not fully understand the impact passenger journey disruptions can have on brand loyalty.
- It is the everyday minor and moderate journey disruptions that cause passengers the most pain, rather than the more major journey disruptions caused by natural events.
- Airport capacity exceeding supply causes airline schedules to become brittle, making it difficult for airlines to react effectively to moderate weather events.

Defining Journey Disruptions – A Passenger-Centric Approach

“Your flight’s been cancelled”. The moment a traveller sees this message on an airport departures screen, fear and anxiety set in. And cancellations are only one of the operational issues that influence the passenger’s view of journey disruptions.

The term “irregular operations” describes and measures delays, missed connections and cancellations. Irregular operations may be caused by natural forces (such as weather or environmental events) or by air traffic delays – none of which are within the airline’s control. However, mechanical problems or employee actions (e.g. strikes) are examples of irregular operations that the airline is wholly responsible for. Regardless of the cause, passengers view irregular operations as journey disruptions if they result in any change to a booked element of their original journey.

Airlines often measure the severity of irregular operations from a calculated, statistical viewpoint: the number of delayed flights, missed connections and cancellations. Despite the fact that many airline operation centres use sophisticated irregular operations management tools to automatically re-accommodate passengers, travellers are often left dissatisfied when a delay or cancellation occurs. Part of this frustration stems from the passenger’s lack of choice and control over these changes. Such negative sentiment towards the airline brand can be shared instantly, and the airline is often blamed even if the delay or cancellation was caused by air traffic control or, more commonly, adverse weather conditions.

Over the last five years, the global airline industry has experienced severe service delays and cancellations due to major weather and environmental events. Heavy winter storms, hurricanes and volcanic ash clouds have wreaked havoc on airline schedules, passengers and profits. In these situations, airlines have little control over cancellations, and may struggle to re-accommodate passengers for many days. However, most passenger journey disruptions are caused by everyday delays and cancellations. What is considered a minor delay by the airline from an operational point of view, may constitute a major journey disruption to an executive who misses an important meeting, or a family whose long-awaited holiday is delayed.
The Scope of the Problem

On-Time Performance (OTP)

In 2012, approximately 77% of flights operated by airlines based in North America, Europe and Asia arrived on time (see Figure 1). European airlines had the best overall OTP, followed by North American carriers. Asian airlines ranked below other markets for OTP. During June, July, August, November and December, average OTP dipped below the 77% mark in North America and Asia. Since these months are peak travel periods, poor OTP typically impacts more passengers. OTP figures do not reflect flight cancellations, so the impact on customers is compounded by low “completion rates” against an airline’s published schedule.

However, OTP does not tell the full irregular operations story. Lapses in OTP not only cause passengers to arrive late, but can also be a major factor in missed connections, which along with cancellations, are major contributors to passenger journey disruptions. In the US in 2012, approximately 150 million people were affected by some type of delay. About 11% of these passengers – 17 million people – had their flights cancelled or missed connections. We know that raw statistics on delays, cancellations and missed connections represent just the tip of the iceberg: the full impact of irregular operations can only be defined by the passenger.

Cancellations are driven by flight frequency and load factors. The higher the frequency, the more likely a flight will be cancelled. Lower load factors also make flights more prone to cancellation. While load calculations are practical decisions for the airline, passengers affected by cancellations – particularly those due to load factor issues – often have high negative sentiment. Passengers view such cancellations as placing economic motivations above sensitivity towards customer needs.

Severe Journey Disruptions

Weather is the most common cause of irregular operations. Approximately 55-60% of all significant delays (over 30 minutes) in the US are due to adverse weather. In the US, the Federal Aviation Administration enforces a ground delay programme, to avoid congested airspace over airports that are experiencing higher arrival rates than they can handle.

Over the last few years, the airline industry has suffered devastating losses as a result of major irregular operations of significant scale and duration. For example, Hurricane Sandy and the volcanic ash cloud caused by the eruption of Eyjafjallajökull had dramatic impacts on airline revenue and profits.

Hurricane Sandy

Hurricane Sandy resulted in a total of 20,254 flight cancellations in North America between October 27 and November 1, 2012, as well as a significant loss of revenue and profits for the major US carriers. ¹

<table>
<thead>
<tr>
<th>Airline</th>
<th>Flights cancelled</th>
<th>Lost revenue</th>
<th>Lost profit</th>
<th>Revenue/flight</th>
<th>Profit/flight</th>
</tr>
</thead>
<tbody>
<tr>
<td>American</td>
<td>759</td>
<td>$65M</td>
<td>N/A</td>
<td>$85,000</td>
<td>N/A</td>
</tr>
<tr>
<td>US Airways</td>
<td>1,454</td>
<td>N/A</td>
<td>$20M</td>
<td>N/A</td>
<td>$14,000</td>
</tr>
<tr>
<td>Delta</td>
<td>1,293</td>
<td>$75M</td>
<td>$45M</td>
<td>$58,000</td>
<td>$35,000</td>
</tr>
<tr>
<td>United</td>
<td>2,149</td>
<td>$140M</td>
<td>$35M</td>
<td>$65,000</td>
<td>$16,000</td>
</tr>
</tbody>
</table>

¹ FlightStats Airline and Airport On-Time Performance Reports, 2012
² Ibid.; Bureau of Transportation Statistics; The National Center of Excellence for Aviation Operations Research; MIT Airline Data Project
³ FlightStats 2012
⁴ Ibid.; Dallas Morning News Airline Biz Blog; The Wall Street Journal; Fox Business
The 2010 Volcanic Ash Cloud

The eruption of Eyjafjallajökull in Iceland and the resulting ash cloud, caused the cancellation of 90% of all flights in Northern Europe over a six-day period. The loss in airline revenues from this event is estimated at $1.7 billion.\(^v\)

Many scientists believe that climate change is increasing the frequency of superstorms.\(^viii\) If this is the case, the number of these storms is likely to rise in the coming years. Recently, airlines have been more proactive in cancelling flights prior to a large storm, thereby reducing the number of stranded passengers. Despite these dramatic events, most passengers understand that airlines have limited control over major weather or environmental disasters, and are therefore more tolerant when their journeys are disrupted due to such situations.

Demand Capacity Management

Airport delays often are a direct result of demand (the number of scheduled aircraft) exceeding supply (airport runway capacity). At the world’s most congested airports (JFK, LGA, EWR, LHR, LGW, FRA and HKG), scheduled demand exceeds airport runway capacity during peak periods. This lack of capacity alone contributes to delays, and when bad weather is factored in, airport delays are exacerbated. When demand outstrips supply at certain times of day – especially for short- and medium-range flights during the peak morning and evening hours – airports become heavily congested. Airlines can then face airport slot management penalties and curfews which add to irregular operations costs. The flip-side of this phenomenon is unused capacity during off-peak hours.

Impact on Gross Domestic Product (GDP)

Irregular operations impact not only airlines and passengers, but the economy as well. A 2010 report, sponsored by the U.S. Federal Aviation Administration, estimates that air transportation delays reduced US GDP by $4 billion in 2007.\(^ix\) The report also projected that the dollar increase in real GDP, achievable by reducing flight delays, could translate into approximately $3.8 billion for a 20% reduction, or $10.6 billion for a 90% reduction.

Research from the Experts

Dr Cynthia Barnhart, Associate Dean for Academic Affairs, School of Engineering, MIT

Area of expertise: Operations Research

Dr Barnhart has recommended that airlines develop more robust schedules (i.e. schedules that can react to change) without adding to operational costs. Rather than building a schedule that ignores unplanned events, the MIT research team proposed a model that strategically re-allocates existing slack to achieve more robust schedules, in order to better handle irregular operations.

Tip for the airlines

The concept of a robust schedule conflicts with the reality of today’s hypercompetitive economic environment. In many markets, airlines compete on frequency. Slack is used more to buffer schedules in order to improve on-time performance statistics, rather than to add flexibility to accommodate delays. Without robust scheduling, airlines are often unable to react deftly to weather, air traffic control issues or other unplanned delays. Airlines should consider redesigning schedules to offer more flexibility, as passenger journey disruptions impact brand image and loyalty, the cost of which is almost immeasurable.

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\(^v\) IATA  
\(^vi\) Ibid  
\(^vii\) Eurocontrol  
\(^viii\) ThinkProgress  
\(^ix\) The National Center of Excellence for Aviation Operations Research
Traditional Methods to Measure the Cost of Delays and Cancellations

**Direct Costs**

Governmental organisations, such as the European Commission, and non-governmental organisations, such as Airlines for America, publish statistics on delays and cancellations in an effort to estimate the direct costs to airlines. Fuel is the biggest cost determinant, followed by crew costs and maintenance (see Figure 4). Direct operational costs, per minute, were similar for the US and Europe ($78.17 in the US, €81 in Europe).x

<table>
<thead>
<tr>
<th>Direct cost category</th>
<th>Cost per minute</th>
<th>Total delay cost for US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel</td>
<td>$39.26</td>
<td>$3.6B</td>
</tr>
<tr>
<td>Crew</td>
<td>$16.26</td>
<td>$1.5B</td>
</tr>
<tr>
<td>Maintenance</td>
<td>$12.02</td>
<td>$1.1B</td>
</tr>
<tr>
<td>Aircraft Ownership</td>
<td>$7.92</td>
<td>$0.7B</td>
</tr>
<tr>
<td>Other</td>
<td>$2.71</td>
<td>$0.3B</td>
</tr>
<tr>
<td><strong>Total Direct</strong></td>
<td><strong>$78.17</strong></td>
<td><strong>$7.2B</strong></td>
</tr>
</tbody>
</table>

* Figure 4: US Airline Direct Costs of Delays and Cancellations in 2012 xi

**Indirect Costs**

Existing attempts to measure the indirect costs of delays and cancellations have focused on the literal, monetary cost of passenger re-accommodation borne by both the airline and the passenger. xii But such estimations are inherently flawed, as they fail to include vital parts of the larger, more complex picture. For example, an estimate that considers only an airline’s operational costs during irregular operations, misses the impact that journey disruptions could have on the airline brand image and loyalty. Today’s passengers, constantly connected to their social groups and mobile devices, can influence an ever-expanding network of friends – and potential airline customers – at the push of a button. Likewise, passenger-focused financial estimates reflect out-of-pocket expenses and loss of productivity, but do not take into account the true impact of the journey disruption on the individual traveller. Estimating the real passenger cost requires a deeper analysis of journey disruptions that can only be derived through a more comprehensive understanding of the customer.

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**Research from the Experts**

**Dr Peter Belobaba, Principal Research Scientist, MIT**

**Area of expertise: Revenue Management**

Revenue management uses “historical” booking data to forecast demand and manage revenue/pricing. This data does not distinguish between bookings driven purely by demand and bookings that result from re-accommodation. This lack of distinction skews forecast demand, and skilled analysts must then adjust forecasts based on their knowledge of disruption patterns for their carrier’s flights.

**Tip for the airlines**

While revenue management is disconnected from the operational realities of irregular operations, it is affected nonetheless. When delays and cancellations occur, travellers often find alternative means of transportation (e.g. different airports or modes of travel). As a result, the targeted load factor on the re-accommodated flight may be significantly lower than expected.

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**Research from the Experts**

**Dr Laurie Garrow, Associate Professor, School of Civil Aviation & Environmental Engineering, Georgia Tech**

**Area of expertise: Demand Modelling**

Georgia Tech uses advanced mathematical modelling to improve schedule performance and uncover the true impact of journey disruptions on passengers. According to Dr Garrow’s research, journey disruptions are clearly linked to traveller booking behaviour.

**Tip for the airlines**

In some countries, the percentage of travel bookings made online (as opposed to offline) is approaching 50%. Consumers have taken control over the travel planning process. While airlines spend millions improving their websites, search engine marketing and optimisation, they must recognise the impact journey disruptions can have on passengers’ future travel planning behaviour. Investment in a superior user interface is no substitute for a traveller’s bitter memory of a disrupted trip.
How Airlines Handle Irregular Operations Today

Key findings

- Airlines are using operations research to optimise schedules, implementing re-accommodation technology, pushing more self-service tools, and prioritising passengers based on status and value. Despite these efforts, solving the journey disruption issue from the passenger’s viewpoint still presents a major challenge.
- Passenger communication is not authoritative, proactive and personalised.
- Challenges with cross-carrier re-accommodation, coordinating with internal airline functional silos, collaborating with industry players, and coordinating with airport management continue to be significant obstacles in dealing with passenger journey disruptions.

Operational Trends

In today’s global airline industry, no carrier can afford to mismanage irregular operations. Airlines have invested heavily in systems, applications and personnel to minimise the impact of delays on their passengers.

<table>
<thead>
<tr>
<th>Investment</th>
<th>Impact on Irregular Operations</th>
<th>Limitations of Current Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations Research</td>
<td>Mathematical formulas to optimise schedules and reduce delays.</td>
<td>Does not take into account passengers’ view of journey disruptions.</td>
</tr>
<tr>
<td>Operational Control Centres</td>
<td>Complex computer systems that monitor all flight activity. Dedicated teams to handle specific functions, including teams focused on passenger communication. Specific teams reach out to premium passengers and automatically offer them personally-delivered compensation.</td>
<td>Lacks personalised solutions for the majority of passengers.</td>
</tr>
<tr>
<td>Re-Accommodation Technology</td>
<td>Automatically rebooks passengers.</td>
<td>Often does not provide options to the traveller. Does not take into account the passenger’s desire to control the journey.</td>
</tr>
<tr>
<td>Self-Service Tools</td>
<td>Empower passengers to solve irregular operations problems.</td>
<td>Airline mobile apps and mobile-optimised websites have not yet matured enough to provide customised journey disruption solutions.</td>
</tr>
<tr>
<td>Prioritising Customers</td>
<td>Minimise the impact on high loyalty passengers.</td>
<td>Airline mergers have resulted in a large number of premium customers (especially in hub cities), making this strategy difficult to implement.</td>
</tr>
</tbody>
</table>

Figure 5: Operational Trends
Airlines face a number of challenges in all types of irregular operations:

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Issues</th>
<th>Impact on Irregular Operations</th>
</tr>
</thead>
</table>
| **Cross-Carrier Re-Accommodation** | - Airlines try to re-accommodate passengers on their own airline for economic and loyalty reasons.  
- Legacy system constraints present obstacles to cross-carrier re-accommodation.  
- Individual agreements between airlines do not always adequately compensate the receiving airline for the full value of the seat. | - Offering cross-carrier re-accommodation may need to be reconsidered if it can help resolve the journey disruption for the passenger (e.g. arriving in time for an important business meeting or family event). This may require a change in policies. |
| **Siloed Nature of Airline Systems and Functions** | - Airlines created a variety of functional siloes to provide greater focus on key areas of the business.  
- Key functions for irregular operations such as mobile strategy are driven by marketing.  
- Revenue impact of irregular operations on passenger loyalty is not adequately measured. | - Systems do not integrate a single view of the customer to allow prioritisation based on a complete understanding of the passenger. To execute a comprehensive strategy on irregular operations, multiple airline departments need to coordinate efforts. |
| **Ensuring Information Is Timely and Authoritative** | - Communication is often not timely.  
- Airlines compete with third-party apps that have better information. | - Passenger communication around irregular operations must be more timely, provide greater insight into the nature of the delay, and be personalised to the passenger’s needs. |
| **Collaboration Between Industry Players** | - Passengers booked through distribution channels can be as high as 60-70% of travellers for many airlines. | - Key information, such as the passenger’s mobile number, is often missing, preventing the airline from contacting the passenger. There is a perceived conflict of customer ownership between airlines and distributors – especially travel management companies – about who will provide the solution for the irregular operations. If the distributor re-accommodates the passenger, this often results in a no-show on the re-accommodated flight provided by the airline. |
| **Airline and Airport Coordination** | - Airlines do not coordinate efficiently with airport and ground handlers, due to limitations in information-sharing across systems, or unwillingness to share actual load factors. | - This disconnect can impact the flow of baggage during journey disruptions, and the availability of staff to assist passengers in airports where the agent role has been outsourced to ground handlers. |
The Reality: Passengers’ Experiences and Attitudes in Regard to Irregular Operations

Key findings
- The greatest challenge and opportunity to improve the impact on passengers from irregular operations lies with managing moderately delayed passengers.
- Lack of communication is the top issue for most markets. Airlines have an excellent opportunity to alter customer sentiment by providing proactive, authoritative communication around delays and journey disruptions.
- Passengers believe they should be compensated for airline delays and journey disruptions, and many are happy with soft compensation. Airlines should view soft compensation as an investment in passenger loyalty, regardless of whether the carrier is at fault.
- Chinese travellers have different experiences and expectations with regard to journey disruption management. China is the largest growth market for air travel over the next two decades, so global carriers should understand and be sensitive to the different expectations and behaviour of Chinese travellers.
- Passengers will continue to talk about their journey disruption experience and influence others through social media.
- Airlines must embrace a more analytical approach, including the use of social network analysis, to more fully understand the influence of individuals and identify ways to change passenger sentiment.

The Reality of Passengers’ Needs

In February 2013, PhoCusWright conducted a survey of airline passengers across five major countries, representing different regions of the world: Australia, Brazil, China, UK and USA. On average, respondents took 3-4 flights over a 12-month period, representing a solid sample of travellers.

Moderate Delays

A significant percentage of travellers from every country experienced moderate delays (1-4 hours). China had the largest percentage of respondents reporting moderate delays. Brazil, another emerging market, also had a significant number of travellers experiencing 1-4 hour delays. 

These results reinforce the notion that the greatest opportunity to improve the impact of irregular operations lies in managing moderately-delayed passengers.
Did the Passenger Fulfil the Trip Purpose?

At the heart of journey disruptions is whether the traveller could fulfil the purpose of the trip. The survey clearly showed that travellers from every country expressed frustration that their trip purpose was not achieved due to irregular operations. Chinese travellers had the highest response in this category; 33% stated they were not able to fully achieve their trip purpose (see Figure 8). A potential area of improvement for airlines is to gain greater insight into each customer’s trip purpose so they can prioritise customers who have urgent trips. A passenger who misses a parent’s funeral due to a missed connection may never forgive the airline, even if the carrier was not to blame. Understanding the trip purpose is critical to creating a more customer-centric approach to irregular operations. Rather than simply thinking about aircraft utilisation, airlines must focus their efforts on the reasons why customers travel. Achieving this level of intimacy with customers may prove challenging. Not only does it require gathering a variety of customer information from disparate systems, but privacy laws may prohibit the use of some passenger data.

Figure 8: Purpose of Trip Not Achieved
IATA initiatives

Industry trade groups, such as the International Air Transport Association (IATA), provide a unified voice for airlines. IATA offers standards and drives processes to improve airline efficiency – for example, promoting new operating standards such as electronic tickets, which are now used worldwide. IATA also gives direction to technology providers. As a trade organisation, IATA does not have the power to mandate changes – airlines are free to do what they wish.

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Impacted area</th>
<th>IATA’s goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elimination of Flight Interruption Manifest (FIM)</td>
<td>IATA envisions a day when FIMs will no longer be issued, and electronic re-ticketing will instead be the norm.</td>
<td>IATA’s goal is to have a 100% paperless environment by April 1, 2016, which would significantly assist airlines in re-accommodating passengers onto other carriers.</td>
</tr>
<tr>
<td>Fast Travel Program</td>
<td>The programme would improve the efficiency of the airport/airline experience by implementing self-service capabilities.</td>
<td>Implementing a self-service environment for flight rebooking and baggage recovery has the greatest potential to improve irregular operations. With a conservative estimate of five minutes as the average processing time associated with human-driven re-accommodation, self-service options are designed to reduce these costs significantly. Fast Travel penetration is estimated at 11.9% of IATA member airlines; the goal is to reach 20% by the end of 2013. IATA believes the Fast Travel initiative can provide a measurable improvement in passenger handling for minor to moderate journey disruptions. The initiative projects potential savings for the industry of $455 million. However, IATA readily admits that savings may be much higher, as additional, intangible benefits – such as positive customer sentiment and loyalty – are not included in this projection.</td>
</tr>
</tbody>
</table>

Tip for the airlines

The success of Fast Travel depends on information transparency and giving passengers the feeling of control. The four major pillars to improve communication around journey disruptions are:

- Capturing accurate information about journey disruptions
- Proactively rebooking the passenger
- Communicating with passengers to facilitate transparency and reduce stress
- Providing passengers with new booking options via mobile or kiosk
I was not offered any compensation
There was insufficient communication about what was happening
I was not able to fully achieve the original purpose of my trip due to the flight issue
There was conflicting communication about what was happening
I had to pay additional costs for alternative arrangements
I could not get a refund
I know other airlines handle these circumstances better
My baggage did not arrive with my flight
I could not get airline staff at the airport to help me arrange an alternative
I found another flight but I was not able to get on it
I could not get airline staff on the phone to help me arrange an alternative
Other passengers did not seem to have the same problems or were treated better
My travel agent could not help me arrange an alternative
I could not rebook a flight online
Nothing frustrated me

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My travel agent could not help me arrange an alternative
I could not rebook a flight online
Nothing frustrated me

Frustration with Airline Delays/Disruptions

For each of the markets, we asked passengers what frustrated them most about how the irregular operation was managed by the airline. In general, Chinese travellers had much more negative sentiment around the airline’s response to journey disruptions, with only 7% of respondents indicating that nothing frustrated them (see Figure 9).

Insufficient and conflicting communication combined were the top frustrations overall. This was echoed across the world, where a lack of clear and consistent information fuels passengers’ frustrations with airline responses to journey disruptions. Given that the majority of respondents experienced a moderate delay, airlines have a significant opportunity to change customer attitudes by improving communication about journey disruptions. This revelation reinforces the need for communication to be timely, authoritative and personalised. The responses from most other markets were similar to those found in the US (see Figure 10).
The Regulator’s Perspective

Governments, often prompted by consumer groups, pass laws to protect passengers’ rights. The goal of these laws is to shed light on the irregular operations process and clarify compensation owed to passengers.

European Commission

Legislation: Proposed update to air passenger rights legislation

Impacted areas
- Compensation
- Defines delay times and time limits for extraordinary irregular operations
- Alternative forms of transportation (e.g. air/rail)
- Burden of delay on first flight for connections
- Treats flight diversion as a cancellation
- Reimbursement of tickets within seven days
- Guidelines on providing and using passenger contact details
- Provide services for long delays, but differentiate for passengers with reduced mobility
- Acknowledgement of receipt of complaint within a week and a formal reply within two months

Tip for the airlines

Though the proposed revisions would better define delays and compensation terms, full implementation may still not solve a passenger's frustration with regard to journey disruptions.

The rules will be difficult to implement and measure, as each member state may implement them differently. The rules could prompt carriers to change operating procedures to avoid fines.

Regardless of government regulation, it is in the airlines' best interest to re-accommodate disrupted passengers, as doing so protects their brand and promotes positive passenger sentiment.

US Department of Transportation (DOT)

Legislation: Tarmac delays, baggage compensation and notifications on cancellations, diversions and delays.

Impacted areas
- Tarmac delay procedures and services
- Reimbursement on baggage fees
- Compensation for involuntary bumping
- Disclosure of hidden fees
- Notifications of cancellations and delays within 30 minutes
- Flight status change definition for any cancellation, diversion or delay of more than 30 minutes

Tip for the airlines

The 2009 tarmac rule did cause airlines to adjust their procedures to avoid penalties, but the ultimate impact on passengers is unclear. Sitting on the tarmac for more than three hours is certainly uncomfortable, but if the flight is ultimately cancelled, the impact of the journey disruption is still severe. Being required to notify passengers about the status of journey disruptions should not be driven by DOT rules, but should be part of a standard service approach.
Lack of compensation was another top frustration voiced by travellers. Passengers expect compensation when irregular operations occur. This was expressed across all markets, and Chinese travellers listed it as their top frustration (see Figure 12). Traditional airline policies do not provide compensation when the journey disruption is caused by factors outside the airline’s control (e.g., weather, air traffic control delays). Whether or not the airline is at fault is immaterial; the passenger journey disruption is real and the airline often gets blamed. Compensation could be considered an investment in customer brand loyalty, regardless of what caused the journey disruption.

Rankings of Solutions to Airline Delays/Disruptions

Since a large number of respondents expected compensation, it is critical to understand what type of compensation they would accept. The good news for airlines is that soft compensation, such as free lounge access and free miles, ranked high in all markets. This is illustrated in Australian traveller responses (see Figure 11), which were similar to the other markets surveyed. Another popular form of compensation was cash vouchers for airport shops/restaurants.
Reactions to Flight Delays/Disruptions Across Countries

Figure 12 provides a cross-market analysis of how passengers reacted to their journey disruption. This analysis uncovered strong passenger sentiment, expressed in a variety of ways. The most striking result is that disrupted passengers shared their frustration with friends and family, which means that traditional word-of-mouth still has an impact. Significant numbers of travellers also now express their frustration and anger on social networks, amplifying the influence of the disrupted passenger with the potential to turn that sentiment viral (e.g. “United Breaks Guitars”).

<table>
<thead>
<tr>
<th>Action</th>
<th>US</th>
<th>UK</th>
<th>Australia</th>
<th>Brasil</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>I shared my experience with friends and family</td>
<td>31%</td>
<td>43%</td>
<td>46%</td>
<td>47%</td>
<td>60%</td>
</tr>
<tr>
<td>I spoke to an airline employee/representative at the airport</td>
<td>17%</td>
<td>28%</td>
<td>22%</td>
<td>36%</td>
<td>30%</td>
</tr>
<tr>
<td>I developed negative feelings toward the airline</td>
<td>19%</td>
<td>24%</td>
<td>19%</td>
<td>27%</td>
<td>27%</td>
</tr>
<tr>
<td>I avoid booking the airline whenever possible</td>
<td>12%</td>
<td>18%</td>
<td>19%</td>
<td>29%</td>
<td>35%</td>
</tr>
<tr>
<td>I posted comments about it to my friends using an online social network (Facebook, Twitter, etc.)</td>
<td>14%</td>
<td>16%</td>
<td>19%</td>
<td>23%</td>
<td>35%</td>
</tr>
<tr>
<td>I placed a phone call or sent an email to the airline</td>
<td>14%</td>
<td>13%</td>
<td>18%</td>
<td>24%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Sources: Maxwell, YouTube

Figure 12: Reactions to Flight Delays/Disruptions
Zooming in on the Chinese Market

Airline travel in Asia is growing rapidly. At a 20-year annual traffic growth rate of 5.4%, Asian air travel will represent 32% of the world’s air traffic by 2031, up from 28% in 2011. Within Asia, the Chinese market is growing especially fast, with 9% growth in air traffic in 2011 and a new plane delivery every other day. This growth – fuelled by the expansion of China’s middle class and the country’s rising gross domestic product – is expected to continue for decades, making China the most important originating market for airlines worldwide.

Chinese travellers were most likely to share their journey disruption experience with friends and family and post comments about it on social networks. They were also most likely to develop negative feelings toward the airline. However, Chinese travellers (along with those from the UK and Australia) are not inclined to address the problem with an airline employee/representative at the airport.

Given this market’s remarkable growth rate, global carriers must focus their attention on understanding and anticipating the needs of Chinese travellers. Progressive, global airlines that can respond to passenger journey disruptions with proactive, personalised services, will differentiate themselves from competitors.

The Role of Social Media in Channeling Passenger Frustrations

In the last five years, social media has become a major force impacting all businesses. Airlines continue to be a hot topic on social networks, yet most airlines have only rudimentary processes in place for managing social media. Often, social media acts as a platform for passengers to express their frustration about irregular operations. Broad adoption of mobile technology means travellers can access social media any time and any place. Airlines need to embrace and execute a more strategic approach to social media that goes beyond simply counting followers, and gain a better understanding of the passenger’s true influence.

Airlines’ Social Media Strategy Today

Today, an airline’s typical social media strategy is focused on two activities: promotions and brand management. Many airlines have dedicated teams devoted to social media that monitor Twitter, Facebook and other platforms looking for passengers who mention the brand. As a communication platform, airlines have used social media to get the word out when other systems have failed. For example, Twitter and Facebook became primary forms of communication when American Airlines experienced an outage of their passenger service system earlier this year.

Airlines have successfully used social media for a variety of promotions and notifications, but lack sophisticated analytics to measure brand impact, especially when passengers express their frustration on social media about a journey disruption.

Most airlines admit that they are generally reacting to noise. Put simply, the loudest individual on social media (e.g. the person with the most “expressive” tweet or status update mentioning the brand) often garners the quickest response. Some more progressive carriers evaluate the frequent flier status of the individual before responding, but most just react.

Embracing Social Network Analysis

Airlines need to embrace analytical tools to better understand the impact of social media influence when a passenger posts a comment about a disrupted journey. Social network analysis is an emerging field that looks at a snapshot of social media activity and provides a graphical representation of that social network. The resulting maps offer a visual representation of conversations, and can help airlines identify the level of influence key passengers have as they express frustration about journey disruptions.

There are a variety of tools that can provide a social network map and may be used to drill down to individual tweets from specific passengers.
Negative sentiment is shared

Figure 13: Illustration of Airline Social Network Map xvii

“Social network mapping represents a fundamental shift in the way airlines can manage social media. When journey disruptions occur, social media acts as a megaphone, amplifying negative sentiment. Airlines can use social media not only to identify the passenger expressing negative comments, but to understand that passenger’s social position so as to better manage his or her influence on other customers.”

Figure 13 illustrates social media patterns. Throughout the map, the red circles indicate passengers who expressed negative sentiment about the airline brand. The map shows a passenger’s level of influence, illustrating how one passenger connects to others. Social network analysis allows airlines to identify and implement a strategy to respond to those customers who wield the greatest influence. Social network maps reveal specific characteristics:

- **Isolates** – These passengers tweeted about the airline, but have not been engaged by the brand. Engaging with them provides an opportunity for the airline to address the negative sentiment.

- **Airline’s brand hub** – The map illustrates how airline brand accounts tend to use a broadcast (i.e. one-to-many) social media strategy.

- **Tracking negative sentiment** – This part of the map shows how negative sentiment from one customer can be communicated to others who are inter-connected.

For this study, we utilised a social network analysis application called NodeXL – an open-source mapping tool that can be added as a plug-in to Microsoft Excel. NodeXL created interactive social network maps, based on Twitter traffic, over a two-day period for several major global airlines.

The social network graph produced a different shape per airline, each telling a unique story about that carrier. For example, a major European carrier who is often cited as a leader in social media had a large number of isolates – many with negative sentiment – illustrating that their intensive social media campaigns do not always address negative sentiment. The social network map for one Middle Eastern airline had very little activity from the airline brand hub, indicating a lack of aggressive use of social media.

Social network mapping represents a fundamental shift in the way airlines can manage social media. When journey disruptions occur, social media acts as a megaphone, amplifying negative sentiment. Airlines can use social media not only to identify the passenger expressing negative comments, but to understand that passenger’s social position so as to better manage his or her influence on other customers.

“The social network map for a major South American carrier uncovered an independent hub, that centred around a group of influential travellers who were completely disconnected from the airline Twitter brand hub. Airlines need to use social network analysis tools such as NodeXL to measure key influences and trends over time.”
Towards a Customer-Centric Environment

Delays and cancellations are about aircraft. Journey disruptions are about passengers. Airlines know the impact of irregular operations on profitability and can calculate the direct cost for every minute of a delay. But these measurements do not accurately capture the full cost of passenger journey disruptions. A passenger journey disruption has an impact on brand loyalty and future booking behaviour. The disrupted passenger can also go on to influence the sentiment of massive numbers of existing and potential customers through social media. Airlines need to fundamentally change their view of irregular operations and focus on the impact of delays and cancellations on each passenger’s journey. To achieve this goal, airlines must embrace a customer-centric approach to managing irregular operations. Adopting this approach requires a complete re-evaluation of every aspect of irregular operations management.

Analysing the True Revenue Impact of Irregular Operations

Airlines must improve how they measure the impact of irregular operations on customers, rather than just focusing on the direct costs such as fuel, crew and aircraft maintenance. A customer-centric approach takes into account customer loyalty, lifetime value and customer influence, not just direct costs. There is a reason why stand-up comedians frequently use airlines’ poor customer service as a punch line to their jokes. Travellers rarely feel like airlines respect their revenue contributions as individuals. To change this perception, airlines must have a complete understanding of the individual’s revenue contribution and influence. Just one bad experience can lose a customer for life, even if that journey disruption was only considered as moderate by the airline’s operations management. That same event could cause secondary revenue loss, depending on the passenger’s influence on a social network. To obtain greater insight into the true impact of delays and cancellations, airlines must implement a single view of the customer that integrates traveller data with operational performance, to clearly track how customer behaviour is influenced. Improving these processes can have a direct, positive effect on passenger sentiment. But there is substantial cost in implementing a customer-centric approach to irregular operations management. To justify this expenditure, airlines must be able to balance the relative cost of losing a customer’s life-time revenue against investing in proactive tactics, in order to ascertain the projected return on investment of a more customer-centric approach.

Implementing a Standard Service Approach to Irregular Operations

Use of the term “irregular operations” highlights the inherent problem with the way airlines manage delays and cancellations. Minor and moderate delays represent the biggest opportunity to influence passenger attitudes about journey disruptions. Delays and cancellations are part of daily operations. Implementing a standard service approach to managing irregular operations forces the airline to rethink the process of re-accommodation. The first question that must be asked is not how an airline can shift people from a delayed or cancelled flight to another aircraft, but how the delay impacts each passenger’s planned journey. To address this, every aspect of airline operations needs to refocus on the passenger. This task requires a transformational effort by the carrier. Passenger insight and choice must be integrated into the irregular operations management process. Airline staff need to be empowered to interact with passengers during journey disruptions and deliver solutions that help customers complete the trip, as close as possible to the original itinerary (even if it means putting the customer on a competitor airline). Airlines need to work with airport management to deploy resources efficiently, based on actual load factors resulting from journey disruption changes. Embracing a customer-centric standard service approach to disruption eliminates the concept of “irregular operations” instead, it
incorporates procedures and processes into daily operations that need only to be expanded when the passenger journey disruption becomes more extreme. A crisis management approach to irregular operations should never be needed, as a customer-centric standard service approach fully integrates existing procedures into daily operations.

Provide Complete Transparency Delivered on a Personalised Level

Airlines must be the authoritative source for real-time information regarding journey disruptions. There is absolutely no reason why a third-party flight-tracking app should deliver better information to passengers than the airline itself. While no one has perfect information, committing to full transparency in respect to journey disruptions, requires a change in mindset. For journey disruptions caused by the airlines, sophisticated analytics must be applied to estimate, with the highest level of confidence, when a specific repair will be completed. A single message should deliver an authoritative estimate on repairs, which would avoid “creeping delays”. A similar approach is needed with weather and air traffic control delays. An airline should be able to determine patterns based on airport capacity, time of day and storm severity, and then estimate and communicate a more realistic departure time. This approach is not without risk, but could yield tremendous value to passengers. The same sophisticated mathematical approaches applied to schedule optimisation, should be applied to journey disruptions. Airlines also need to work with third-party providers who have already developed predictive tools around weather delays.

Passenger access to mobile technology means information is instantly available. Airlines must move beyond simply providing gate agents with accurate updates. In addition, they must deliver to each passenger, meaningful information about the impact of a delay on that passenger’s journey. Doing so requires an investment in platforms that can deliver accurate and timely information about delays and are tightly integrated with passenger insight – a radical departure from current thinking. The question should not be, “When will my plane take off?” but rather, “How does the delay impact my journey?” The answer requires an integrated view of the passenger. Every attempt needs to be made to gain insight into the reasons behind a trip. This knowledge can be gleaned from historical passenger information, itinerary stage (e.g. an outbound business trip versus a return), and integration with external sources of information, such as social media and itinerary aggregation tools (e.g. TripIt, TripCase). With large numbers of passengers booking through indirect distribution channels, airlines need to work with industry partners to understand each passenger’s trip purpose.

Robust Scheduling

Academic research demonstrates the value of creating a robust schedule that can react to irregular operations. Airline schedules today are very brittle. In markets that have a history of capacity constraints, airlines need to realistically evaluate the value of schedule frequency against the cost of passenger journey disruptions. Slack time must be managed to minimise journey disruptions, not just to optimise on-time performance. Again, this takes some radical change in thinking. Airlines compete on statistics that measure on-time performance and use these figures as marketing tools. In reality, consumer booking behaviour is influenced more by how the airline manages irregular operations, than by its on-time statistics. Utilising slack to create robust schedules can help minimise passenger journey disruptions. This is at the heart of a customer-centric approach to irregular operations management. Airlines must break down the silos between schedule planning and customer management. A major goal of schedule optimisation in a customer-centric irregular operations model is to create a schedule that is flexible enough to enable the vast majority of passengers to stay on their scheduled itineraries, if delays occur. This should be the key measure of schedule performance, not on-time performance statistics for individual flights.
Passenger Compensation

Airlines must abandon a compensation model that only focuses on fault. The reality of journey disruptions is that passengers’ expectations have been impacted. Communication does not usually alter a person’s opinion about who is to blame. With the exception of massive storms like Sandy, many passengers will still blame the airline for weather or air traffic control delays. In light of passengers’ willingness to accept soft compensation in terms of miles, club passes or upgrades, airlines need to consider compensation as a means to improve the effectiveness of their response to delays and cancellations, even if the airline is not at fault. To be economical, compensation may be based on passenger value. Delivery of this compensation should be electronic and personalised to the individual traveller. Offering a club pass to an existing club member will only irritate the member, not help the irregular operations management process. Again, customer insight is critical to offering the right type of compensation, to the right passenger based on the specific trip.

Changing Passenger Sentiment Through Social Media

Despite all the hype, social media is still at an early stage of maturity. Whether heavyweights like Facebook or Twitter remain relevant in the long term is not the issue. Some form of social media will remain, as humans are inherently social. The wild card in today’s world of social media is the way in which mobile enables the ‘always-connected traveller’ to instantaneously share opinions on a social network. Ignoring social media is not an option, yet responding to every social media comment is impractical. Airlines must take a more analytical approach to social media management. Rather than waiting to respond to a tweet about a cancelled flight, social media analysis needs to be proactive and a key part of measuring customer loyalty. Using social media analytics can help not only identify unhappy passengers, but allow the airline to change passenger sentiment. On a daily basis, airlines must identify valuable customers who have been impacted by journey disruptions, and proactively analyse those customers’ behaviour on social networks. Just as it is current practice to ask for a customer’s email address, collecting a social network ID should also be considered (while at the same time respecting the customer’s privacy). Customers who choose to receive offers via social media may benefit from more personalised offers. At the same time, airlines could use social network IDs to track customer behaviour when journey disruptions occur.

Seeking the Right Balance

There is no simple solution to enable airlines to implement a more customer-centric management process to irregular operations. In order to better understand the needs of every passenger, radical changes are required. Technology must be implemented to incorporate customer insight and choice into irregular operations management practices. As with any radical change, things will not happen overnight. Airlines must balance the costs and benefits of adopting a more customer-centric approach. After safety, irregular operations management is the single most important operational role for the airline. Airlines must stay one step ahead of both passenger and government actions to empower travellers with the tools to manage irregular operations and minimise any long-term negative impact of a journey disruption experience.
Conclusion

Empowering Customers with Intelligent Re-Accommodation and “One-Click” Solutions

Passengers need choice and current re-accommodation techniques are admirable. Airlines want to remove the stress associated with passenger journey disruptions, by seamlessly re-accommodating passengers behind the scenes. The problem with this is that current solutions may contradict the passenger’s underlying requirements. Managing irregular operations to take into account the customer’s journey must incorporate the underlying purpose of the trip, something that only the passenger really knows. The current investment in re-accommodation systems is focused on moving people in general, not specific customers. While automated re-accommodation technology may provide efficiencies for operational staff, it does not always solve the underlying passenger journey disruption. To do this, re-accommodation automation needs to be “intelligent” – fine-tuned to each customer’s real trip requirements. Such intelligence means having insight on customers’ overall preferences and the specific goals of a trip. Integrating this type of intelligence into the re-accommodation process is essential and needs to be simple. Customers and airline staff need a robust, “one-click” solution that offers a tight set of relevant options, and allows the customer to select the new itinerary that best fits that particular trip. Such solutions need to break down system limitations and simplify complex processes. With “one-click,” airlines should have a full view of their customers and be able to offer tailored solutions for their consideration. With “one-click,” customers should be able choose the offer that best meets their objectives, putting them back in control of their own journey.

Customer empowerment goes a long way towards changing passenger sentiment. A customer-centric approach enables airlines to deliver authoritative, trusted information that is personalised to passengers’ needs, as well as being more accurate and timely than other sources. Airlines with such an approach will be completely transparent in their communication and practices, and proactively adopt an integrated, multi-department strategy to customer service. This will allow the airline to provide customers with insight and assistance as soon as a problem is identified. Airlines with intelligent, customer-centric solutions will empower their passengers and staff to focus on the journey experience in a positive light.
About the author

For nearly two decades, Norm has been an analyst and consultant focused on emerging technologies and how they impact business practices in the travel industry. He has an extensive background in airline, online, corporate, hospitality and leisure travel-related technology.

Norm is renowned for his travel technology expertise, particularly his analysis of the impact of emerging trends such as mobile and social media. Norm leads Travel Tech Consulting, Inc., a firm that partners with PhoCusWright to provide technology consulting to travel companies.

Founded in 1995, Travel Tech Consulting specializes in developing e-commerce and procurement strategies for all types of travel-related technology. This includes deep knowledge of technologies used for reservations, distribution, and marketing.

Norm has been an analyst with PhoCusWright since 1999 and is the author of numerous publications and articles including *European Managed Travel Distribution: Market Sizing and Trends* and *Mobile Hits the Mainstream: Technology and Industry Trends*.

About PhoCusWright Inc.

PhoCusWright is the travel industry research authority on how travelers, suppliers and intermediaries connect. Independent, rigorous and unbiased, PhoCusWright fosters smart strategic planning, tactical decision-making and organizational effectiveness.

PhoCusWright delivers qualitative and quantitative research on the evolving dynamics that influence travel, tourism and hospitality distribution. Our marketplace intelligence is the industry standard for segmentation, sizing, forecasting, trends, analysis and consumer travel planning behavior.

Every day around the world, senior executives, marketers, strategists and research professionals from all segments of the industry value chain use PhoCusWright research for competitive advantage.

To complement its primary research in North and Latin America, Europe and Asia, PhoCusWright produces several high-profile conferences in the United States and Germany, and partners with conferences in China and Singapore. Industry leaders and company analysts bring this intelligence to life by debating issues, sharing ideas and defining the ever-evolving reality of travel commerce.

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Amadeus is a leading provider of advanced technology solutions for the global travel industry. Customer groups include travel providers (e.g., airlines, hotels, rail and ferry operators, etc.), travel sellers (travel agencies and websites), and travel buyers (corporations and travel management companies).

The Amadeus group employs around 10,000 people worldwide, across central sites in Madrid (corporate headquarters), Nice (development) and Erding (operations), as well as 73 local Amadeus Commercial Organisations globally.

The group operates a transaction-based business model. For the year ended December 31, 2012 the company reported revenues of €2,910.3 million and EBITDA of €1,107.7 million.

Amadeus is listed on the Spanish Stock Exchange under the symbol “AMS.MC” and is a component of the IBEX 35 index.