Measuring the Causes of Airline Customer Dissatisfaction

by

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S.M., Applied Mathematics
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ABSTRACT

There is significant public attention to the airline industry in the United States. Much of this attention, whether in the form of media coverage, government inquiries or public complaints, focuses on the low level of customer service and high levels of customer dissatisfaction in the industry. In this thesis, we present the results of a customer survey to understand the causes of dissatisfaction, and, based on this understanding, make an assessment of the current government and industry approaches for improving satisfaction. Results indicate that flight delay and cancellation, missing luggage and negative customer-employee interactions most impact customer dissatisfaction. Results also indicate that while current government regulation (airline *Customer First* plans) appropriately addresses customer needs, the problems of system congestion and competition are the underlying drivers of negative customer service upon which regulators need to focus.

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Chapter 1. Introduction

There is currently significant public attention to the airline industry in the United States. Much of this attention, whether it is in the form of media coverage, government inquiries or public complaints, focuses on the low level of customer service and high levels of customer dissatisfaction in the industry. Recognizing that continued customer dissatisfaction can lead to poor financial performance or government regulation, airlines have developed "Customer First" plans. The primary components of these plans are:

- Timely provision of accurate information to customers, especially regarding delays and fares
- Meeting essential customer needs
- Timely response to customer complaints
- On-time baggage delivery

While these plans suggest that airlines know exactly what to do to meet customer expectations and needs, the public's basic understanding of customer expectation and desires is poor. Thus, there is a need for research into the airline customer experience to further understand which aspects are most critical to a positive experience.

In response to this need, we have conducted a customer survey with a convenient customer segment of airline travelers: business school students. The study focuses on understanding the causes of dissatisfaction for this segment and, based on this understanding, assessing the current approaches in the U.S. for improving satisfaction.

The study is organized into four chapters. In the first chapter, the motivations for this research are addressed. Airline customer complaints, media coverage about airline service and government attention to airline customer service are discussed as motivations. In the second chapter, existing studies and data on airline customer service are examined. In the third chapter,

the research objective and approach of this study is discussed. In the fourth chapter, the results of the research are discussed and implications are drawn.

Chapter 2. Motivation for Research on Airline Customer Dissatisfaction

2.1. Customer Complaints

By all measures, the volume of customer complaints about the airline industry has grown over the past five years. The standard industry metric for measuring customer complaints is the number of complaints received by the Department of Transportation (D.O.T.) and published in the Air Travel Consumer Report. Each month, this report tracks the number of complaints received by the D.O.T. for each airline and categorizes each complaint. As shown in the figure below, the D.O.T. received 7.7 complaints per million enplaned passenger in 1997. In 2000, they received 29.8 complaints per million enplaned passengers. This represents a 385% growth in complaints and a compound annual growth rate of 57%.

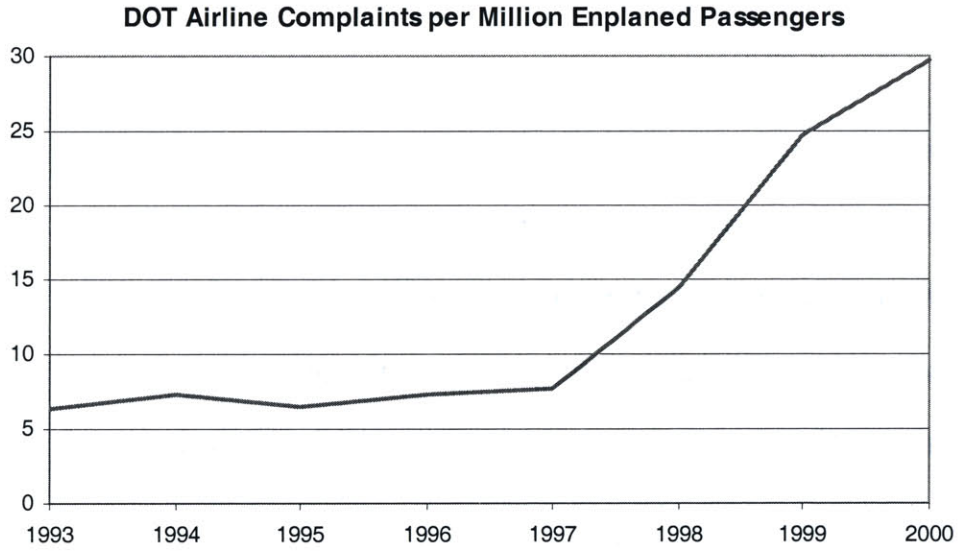

Figure 1. Growth in Complaints to Department of Transportation

It is important to understand what drove this growth in customer complaints. In February 1998, the D.O.T. began accepting customer complaints via e-mail. One can argue that sending a complaint by e-mail is easier than making a phone call or writing and sending a letter. If this is

true, growth in complaints could be higher than the growth in actual customer discontent. In the fourth quarter 2000, the D.O.T. began measuring how many complaints arrived through e-mail, letter and phone. This breakdown is shown in the table below:

Table 1. Distribution of Complaints to Department of Transportation

Complaint Vehicle	Percent Last Quarter 2000	Percent First 5 Months 2001
E-mail	42.0%	32.2%
Letter	51.7%	60.4%
Phone	6.3%	7.4%

Since the last quarter 2000, e-mail has represented between 32% and 42% of complaints. If we reduce the number of complaints between 1998 and 2000 by 42%, then the growth in complaints from 1997 to 2000 is still 230% and the compound annual growth rate is 32%. Thus, growth in complaints in the past three years is still 32% annually even if we completely remove the e-mail factor.

This analysis is conservative because it underestimates the number of complaints customers have about the airlines. The analysis assumes a constant 42% rate of adoption of e-mail complaints since 1998, though the actual adoption rate most likely grew from nothing in early 1998 to its current rate. Also, it assumes that all 42% of e-mail complaints are submitted only because of ease of submission and are not reflective of actual customer discontent.

Another criticism of the Department of Transportation complaint data is the low frequency of complaints. In 2000, for example, there were 30 complaints per million enplaned passengers. On the surface this number appears small. However, additional analysis shows this number may under-represent consumer discontent. The Department of Transportation Inspector General released a report on airline customer service in February, 2001, which suggested for every complaint to the D.O.T., airlines receive between 100 and 400 complaints from

customers.[1] In addition, literature on customer complaints suggests that only 5% of customers with a complaint make the effort to send the complaint to the service provider.[2] Approximately one-third of U.S. airline passengers are connecting passengers,[3] so for every million passengers there are only about 700,000 individual passengers. Combining this data together in the table below, we see that between 8.6% and 34.3% of U.S. airline passengers have a complaint about the airline industry. This figure is much higher than the original 30 per 1,000,000 enplanements.

Table 2. Estimating Percent of Customers with a Complaint to Airlines

Step in Analysis & Data to Begin	Data Manipulation	Result of Step
1) 30 complaints per 1,000,000 enplanements	Multiply complaints by 100-400 complaints to airlines per complaint to DOT	3,000-12,000 complaints per 1,000,000 enplanements to airlines per complaint to DOT
2) 3,000-12,000 complaints per 1,000,000 enplanements to airlines per complaint to DOT	Multiply complaints by 20 (since 5% of customers with a complaint actually voice it)	60,000-240,000 complaints per 1,000,000 enplanements to airlines per complaint to DOT
3) 60,000-240,000 complaints per 1,000,000 enplanements to airlines per complaint to DOT	Weight enplanements down by 1/3 since this many passengers are connecting	60,000-240,000 complaints per 700,000 airlines passengers (8.6% - 34.3%)

Other sources of customer complaints beyond the Department of Transportation are various consumer complaint websites. Similar to D.O.T. complaint data, data from these sites suggest high consumer discontent with the airlines. Sites like www.eComplaints.com, www.epinions.com, and www.planetfeedback.com offer consumers an online destination to issue complaints or opinions about any company they wish. Data from eComplaints below suggests

[1] See Aviation Customer Service Improvement Act (S.319), p. 3
[2] Data drawn from proprietary report "Customer Dissatisfaction and Defection" from www.eComplaints.com
[3] Data cited in Nero and Black (1998) was analyzed to determine 40% of passengers at the U.S.'s top 30 airports connected. In hubs, this was 55% and 19% in non-hubs. The top 30 airports represented 2/3 of enplanements. Assuming 19% of passengers connected in the airports outside of the top 30 (since they are not hubs), we estimate 33% of passengers connect on average.

that consumers complain more about the airline industry than any other industry by a factor of more than three.

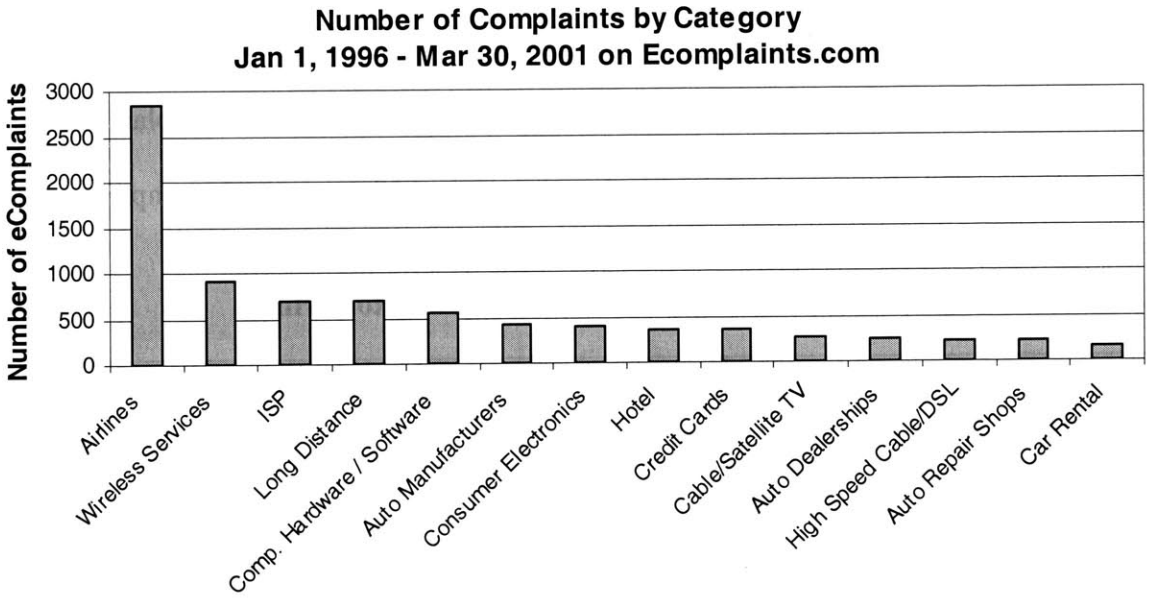

Figure 2. Complaints to www.eComplaints.com by industry

2.2. Measurement of Airline Customer Satisfaction

The American Customer Satisfaction Index (ACSI), a publicly available academic study conducted by the University of Michigan Business school, is a "national economic indicator of customer satisfaction with the quality of goods and services available to household consumers in the United States."[4] Satisfaction scores for firms and industries are updated periodically and distributed.

Scores in the American Customer Satisfaction Index are on a 100-point scale. The ACSI is a series of simultaneous equations that tie customers' evaluations of quality and value to satisfaction. It then explains the effects of satisfaction on customer complaints and customer

[4] For more information, see http://www.bus.umich.edu/research/nqrc/acsi.html

loyalty. The model ultimately estimates the percent of customers who will use each company again on the next purchase occasion. The research in ACSI demonstrates that customer satisfaction is significantly related to financial returns. For example, in the most recent year of analysis, firms with the top 50% of ACSI scores generated an average $24 billion in shareholder wealth while firms with the bottom 50% of scores created only $14 billion.

ACSI measures satisfaction with 164 companies and 30 government agencies. The U.S.-owned companies produce about 40% of the Gross Domestic Product (GDP). Additionally, ACSI includes customer evaluations of foreign-owned companies with large market shares in a number of the industries, and an aggregate satisfaction index for smaller and emerging companies in each industry.

Figure 3. American Customer Satisfaction Index for Airline Industry over Time

ACSI data on the airline sector measures seven carriers: Southwest, Continental, American, Delta, USAir, United and Northwest. The data in the figure above shows that the airline customer satisfaction index has declined over the past five years since the study began.

Additionally, the airlines are the lowest rated industry among the thirty sectors that the ACSI examines.

2.3. Media Coverage

One may argue that the media coverage an issue receives serves as an indication of the level of public interest into the topic. If that is the case, then the fact that media attention to issues of airline customers has grown 13% annually in the past decade is indicative of a steady and significant rise in public interest. To gauge the level of media interest in the airline industry, we measured the percentage of days that USA Today and the New York Times, two nationally read newspapers, published stories on the airline industry. This data was compiled by searching within these publications in Lexis-Nexis for articles that discuss airline customers. The data is shown in the charts below.

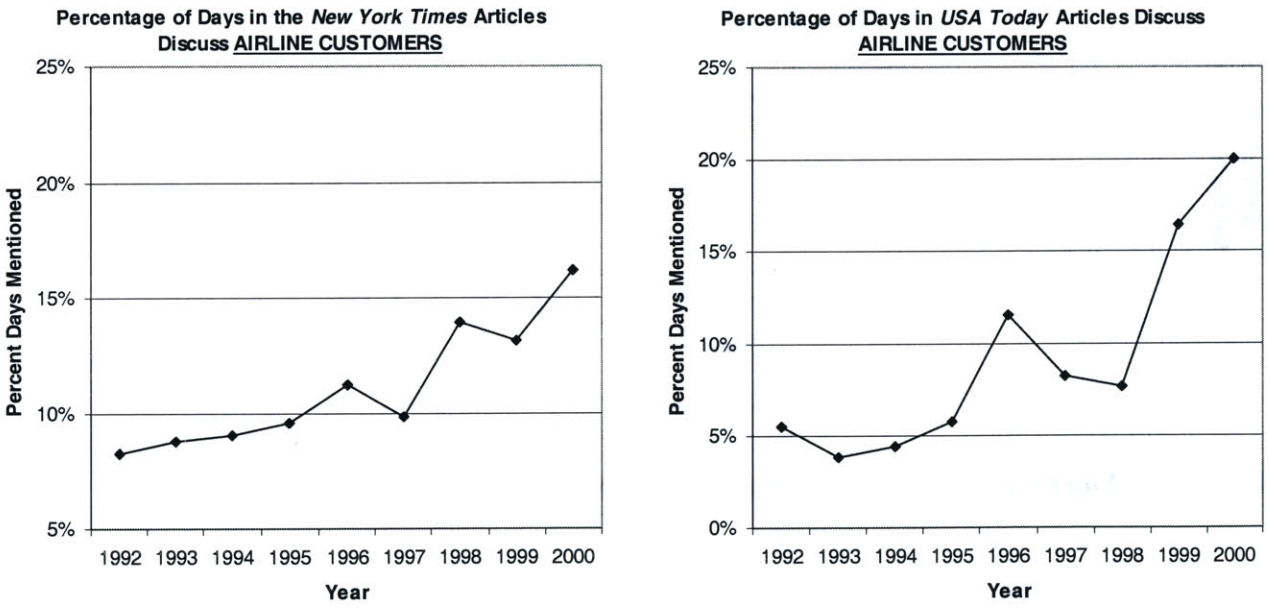

Figure 4. Percent of Days *New York Times* and *USA Today* cover airline customer issues

USA Today was selected as a publication for analysis because it is the most widely read publication by business travelers. It is also the news publication with the largest circulation. The New York Times was selected because of its reputation as one of the most trusted and respected news sources in the United States.

2.4. Government Attention

It is not surprising that with the recent growth of customer complaints and media coverage of airline customer dissatisfaction, government regulators have focused attention on the issue of airline service quality. Government focus on this problem was stimulated in January 1999 after the now infamous "Detroit Snowstorm." During this event, thousands of customers were trapped on Northwest Airlines aircraft inbound to Detroit for up to eight hours.

As a result of the attention motivated by the Detroit Snowstorm, Congress threatened the airlines with a "Passenger Bill of Rights" legislation. The major airlines responded with a form of self-regulation by introducing Customer First plans. Fourteen major U.S. airline worked with the Air Transport Association (ATA)[5] to develop these twelve-step customer service plans. ATA worked with the carriers to build the basic steps of the plans and then each carrier individually designed their own specific plans. Since the development of these plans, the Department of Transportation has assessed the airlines' implementation and is proposing further legislation to improve customer service.

[5] The Air Transport Association (ATA) is the trade association for America's leading air carriers. Its members transport over 95 percent of all the passenger and cargo traffic in the United States.

2.4.1. The Detroit Snowstorm of January 1999

In the first few days of 1999, a major snowstorm overtook the Midwest, and Detroit's Metro Wayne County Airport was significantly impacted. With all gates occupied with aircraft or taxiways not clear, a number of Northwest Airlines aircraft landed in Detroit and remained on the tarmac for up to eight hours waiting for gate space to open up. The situation received extensive media attention and became the "poster-child" for airline service improvements.

Both Northwest Airlines and the FAA have studied the event thoroughly since that time. Northwest's then Vice President for Customer Service and Operations, Robert Ball, describes the events in the following way:

> "Detroit was bombarded by the worst storm in 25 years, with schools closed for 2 weeks. The airport could not clear runways fast enough to keep up with the arriving aircraft, and additional crews could not reach the airport because Detroit did not plow its side streets. Also, travel on Interstate 94 near the airport slowed to the point where it required ninety minutes to move just a few miles. In Systems Operations Control (SOC) for Northwest in Minneapolis, personnel did not fully realize the magnitude of the ground situation in Detroit, and it was too aggressive in allowing flights to arrive into Detroit. In addition, the storm was large enough that it prevented diversion of aircraft to other Midwestern airports.
>
> Most gates at Detroit Metro Airport already had aircraft, and a wave of Northwest aircraft landed and had nowhere to go. These aircraft waited on taxiways and holding areas for gate space to open up. Severe weather conditions hampered efforts to return aircraft to available gates or get passengers to terminal areas. In some cases, aircraft were even frozen to the ground or parked on snow-lined taxiways that were unreachable." (Ott 1999)

In the following days, Northwest mailed letters to passengers who were trapped for two hours or more and offered to cover expenses and to reimburse for losses on a case-by-case basis. Northwest assigned one its senior executives, Ray Vecci, former Alaska Airlines president, to a newly created management post at Detroit. About 7,000 of the trapped passengers sued Northwest Airlines. Lawsuits alleged false imprisonment, negligent and intentional infliction of emotional distress and breach of contract. Earlier this year, Northwest Airlines settled with the passengers in the lawsuit for just over $7 million.

As a result of this event, government attention to airline customer service increased dramatically. For a number of months, Congress discussed introducing a Passenger Bill of

Rights for air travelers. A number of congressional airline-reform bills were put forward. In March 1999, Vice President Gore unveiled an Airline Passenger Bill of Rights trying to tie together the various bills already proposed. Eventually two key bills rose to the forefront: a Senate bill, sponsored by Senators John McCain and Ron Wyden and a House bill, put forward by Representative Bud Shuster, chairman of the House Aviation Committee. Both required companies to compensate passengers if an airline error forces them to wait more than two hours on the runway.

The issue of airline customer service quickly turned into a major lobbying and political game. The larger question between airlines and FAA over who is to blame for issues of air traffic congestion and ultimately traveler dissatisfaction was brought forward by the airlines. The airlines successfully turned the question of airline customer service into a question of why the FAA has been unable to modernize the air traffic control system.[6]

Surprisingly, some customer advocacy groups aligned with the airlines and the Air Transport Association against regulation. They cited the complexity of the airline industry and the danger that fares could increase if there was too much government intervention in the details of the industry. The American Society of Travel Agents, upset over decreases in the past few years of travel agent commissions, portrayed themselves as defenders of consumer rights and aligned with the regulators (McKenna 1999).

Ultimately the airlines effectively lobbied Congress to allow them to develop a voluntary customer service improvement plan. Proponents of the Congressional bills denounced the airline service plans as the airlines promising what they are supposed to delivery anyway. Consumer advocacy groups pointed to the $3 million lobbying effort and $1.3 million in political donations

[6] Assertion made during lecture at MIT by James McKenna, former editor of *Aviation Week and Space Technology* and current President of the Aviation Safety Alliance

by the airline industry. Northwest Airlines, for example, spent $1.3 million on lobbying during the first half of 1999.

2.4.2. Wendell H. Ford Aviation Investment and Reform Act for the 21st Century

On April 5, 2000, Congress enacted the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century, also known as AIR-21. The act addressed a multitude of issues in aviation:

- Airport and airway improvements
- Airline service improvements
- FAA management reform
- Family assistance in air disasters
- Safety
- Transfer of aeronautical charting activity
- National parks air tour management
- Federal aviation research, engineering and development
- Extension of airport and airway trust fund expenditure authority

One section of the act specifically addressed issues of immediate relevance to airline customers. There were three sections in this area: airline service to small communities, airline customer service and airline competition. The contents of the *Airline Customer Service* section included the following:

- Consumer notification of E-ticket expiration dates.
- Increased penalty for violation of aviation consumer protection laws.
- Funding of over $2 million annually until 2006 for the enforcement of airline consumer protections.
- Airline customer service reports.
    - Member airlines of the Air Transport Association (ATA) shall provide an individual customer service plan by September 15, 1999, based on the ATA plan put forward on June 17, 1999
    - The Department of Transportation Inspector General shall monitor the success of the airlines in implementing their plans. The report shall include a status report on completion, publication, and implementation of the Airline Customer Service Commitment and the individual air carrier's plans to carry it out. The report shall also include a review of whether each air carrier

described in subsection (a) has modified its contract of carriage or conditions of contract to reflect each item of the Airline Customer Service Commitment.

- Increased financial responsibility for lost baggage.
- Comptroller General investigation on the potential effects on aviation consumers, including the impact on fares and service to small communities, of a requirement that air carriers permit a ticketed passenger to use any portion of a multiple-stop or round-trip air fare for transportation independent of any other portion without penalty.
- Airline service quality performance reports to disclose more fully to the public the nature and source of delays and cancellations experienced by air travelers.
- National commission to ensure consumer information and choice in the airline industry to study travel agent industry and assess status.

2.4.3. Airline Customer First Plans

The airline *Customer First* plans were developed after the airline industry lobbied Congress against a Passenger Bill of Rights. As Carol Hallett, President and Chief Executive Officer of the Air Transport Association of America, said, the plans were the "direct result of [the Senate Transportation] Committee's concerns about the level of customer service in the airline industry. [The airlines] appreciate the fact that the Committee has given us an opportunity to address this issue without the intervention of federal rules and inflexible regulations." (Hallett 2001) The threat of regulation prompted airline executives to address issues the government finds important, but those executives much preferred to address the issues themselves than be told by the government how to address them. The *Customer First* plans were the airline self-regulation response to the government's concerns of passenger service.

The *Customer First* plans promise to:

1) Offer the lowest fare available
2) Notify customers of known delays, cancellations and diversions: establish and implement policies for accommodating passengers delayed overnight. Make clear and concise statement of airlines' policies in these respects available to customers.

3) On-time baggage delivery: make every reasonable effort to return checked bags within 24 hours and attempt to contact any customer whose unclaimed, checked luggage contains a name and address or telephone number.
4) Support an increase in the baggage liability limit: the airlines have successfully petitioned the Department of Transportation for this.
5) Allow reservations to be held or canceled: allow the customer either to hold a telephone reservation without payment for 24 hours or (at the election of the carrier) to cancel a reservation without penalty for up to 24 hours, in order to give customers an opportunity to check for lower fares through other distribution systems.
6) Provide prompt ticket refunds: issue refunds for eligible tickets within 7 days for credit card purchases and 20 days for cash purchases.
7) Properly accommodate disabled and special needs passengers: disclose policies and procedures.
8) Meet customers' essential needs during long on-aircraft delays: make every reasonable effort to provide food, water, restroom facilities and access to medical treatment for passengers aboard an aircraft that is on the ground for an extended period of time without access to the terminal. Prepare contingency plans to address such circumstances and work with other carriers and the airport to share facilities and make gates available in an emergency.
9) Handle "bumped" passengers with fairness and consistency: disclose to a passenger, upon request, whether the flight on which the passenger is ticketed is overbooked. Establish and disclose to the customer policies and procedures for managing the inability to board all passengers with confirmed reservations.

10) Disclose travel itinerary, cancellation policies, frequent flyer rules and aircraft configuration to the customer: (i) any change of aircraft on a single flight with the same flight number; (ii) cancellation policies involving failures to use each flight segment coupon; (iii) rules, restrictions and an annual report on frequent flyer program redemptions; and (iv) upon request, information regarding aircraft configuration, including seat size and pitch

11) Ensure good customer service from code-share partners.

12) Be more responsive to customer complaints: assign a Customer Service Representative responsible for handling passenger complaints and ensuring that all written complaints are responded to within 60 days. Publish and make available their Customer Service Plans: (i) on airline Internet Web sites; (ii) at airports and ticket offices (upon request); and, (iii) to travel and reservation agents.

2.4.4. Airline Initiatives in Customer Service

Beyond the *Customer First* plans, individual airlines have undertaken a number of initiatives to improve upon customer service. The greatest effort put forth by the airlines has been with technology solutions to deal with customer processing. Numerous airlines have introduced self check-in facilities for customers. With these machines, customers swipe a credit card to identify themselves. The machine communicates with the reservation system, identifies the passenger and ultimately prints the customer a boarding pass. The machines are most prevalent in a carrier's hub airports. The leaders on this front have been Northwest Airlines and Continental Airlines. The two airlines work together on a number of issues, and they have tied their self check-in facilities together. So, in Continental Airlines' Cleveland hub, a Northwest Airlines passenger can use the many Continental self check-in machines. Similarly, in

Northwest's Detroit hub, a Continental passenger can use the many Northwest self check-in machines.

Other technology solutions include use of voice recognition technology to reduce wait times for passenger calling on the phone. Some carriers have introduced portable rebooking hotlines. This is a portable cart with a bank of phones that can be wheeled out to a gate that has a flight experiencing a long delay or cancellation. The passengers calling on the Rebooking hotline are automatically given priority status to the reservation operators.

Some carriers have taken a management approach to improving customer service. Northwest Airlines, America West Airlines and US Airways have introduced a new vice president level management position to their management structure focusing on customer service. By having a senior manager within the company focus specifically on issues of customer service, these carriers believe that they will always maintain the appropriate level of attention on customer service. In addition, a number of airlines have offered extensive customer service training to its personnel that interact with the customer, like ground operations and flight attendants.

Some carriers have actively addressed the physical comfort for the customer. Notably, American Airlines removed two rows of seats on every one of its aircraft to increase the legroom and ultimately improve the on-board comfort of all passengers. American's move might be considered a reaction to United Airlines' decision to introduce an additional class of service, called Economy Plus. This class is generally among the first few rows of the economy cabin and offers improved legroom to the passenger. In addition to legroom, carriers have improved the amenities offered to customers, especially during irregular operations. Most carriers have developed standard kits that can be handed out during extensive delays. These often include a

phone card of a few minutes to make a call home and a snack to tide over the passenger's hunger.

Airlines have actively dealt with managing luggage needs of customers. Continental Airlines, for example, has installed new overhead luggage bins in its aircraft that are significantly larger their previous bins. This offers a competitive advantage over other carriers and decreases the chances of a customer having to gate-check a carry-on bag. In addition, Northwest Airlines was the first airline to offer discount vouchers for future air travel in response to lost luggage situations.

2.4.5. D.O.T. Inspector General Report on Airline Customer Service

As discussed above, the AIR-21 legislation of April 2000 included provisions on airline customer service. Congress accepted the airlines' self-regulation as a first step towards improvement in airline customer service, but in AIR-21, the Department of Transportation Inspector General was tasked with assessing the success of implementation of the plans within one year. In February 2001, the Inspector General issued a full report on the implementation of the customer service plans. In a hearing in front of the Senate Subcommittee on Commerce, D.O.T. Inspector General Kenneth Mead discussed the results of the investigation. His comments and the report are summarized below.

The investigation was conducted between November 1, 1999 and January 17, 2001. In that time, the Inspector General's office examined operations of 14 ATA airlines and 3 non-ATA airlines (AirTran Airways, Frontier Airlines and National Airlines). The study looked at 39 airports, 550 delayed flights, 160 canceled flights, 4,100 claims for mishandled baggage and over 2,000 telephone calls to reservation centers.

The report found that in a number of areas, the airlines met the appropriate level of service. Specifically, they discovered that airlines met their promises in the following areas:

- Quoting lowest fare
- Holding nonrefundable reservations
- Timely response to complaints
- Higher pay-outs for lost baggage
- Provisions for disabled and special needs passengers
- Providing prompt ticket refunds

With regards to flight delays and cancellations, the Inspector General found the greatest need for improvement. They discovered that in over 20 percent of observed flights, the flight information display system showed the flight on time when it was actually delayed more than 20 minutes. In meeting customers' essential needs during long delays, airlines differed in what qualified as an "extended" delay. For some it was 45 minutes, for others it was 3 hours. The first recommendation of the Inspector General was for airlines to develop targets for reducing the number of chronically delayed flights.[7] They also suggested a system be put in place that contacts passengers early when a known, lengthy flight delay exists. They said the airlines should ensure delay information is updated on monitors and that airline employees make timely announcements about the status of the delay. Finally, in this regards, they felt the airlines should clarify the customers' rights when put into an overnight situation due to delays.

The Inspector General noted that the issue of delay and cancellation raises the topic of airport and air traffic control infrastructure. The report reiterates three recommendations made to the Secretary of Transportation in the past year on this topic. The first recommendation was to implement a uniform system for tracking delays, cancellations and their causes. The second was to develop capacity benchmarks at the nation's top 30 airports to understand implications of scheduling practices. Finally, the third recommendation was to develop a strategic plan for

addressing capacity shortfalls in the immediate (2 year), intermediate (5 year) and long term (10 years).

For luggage, airlines committed to make every reasonable effort to return mishandled checked bags within 24 hours. The DOT currently reports the number of baggage claim reports per 1000 enplaned passengers on domestic flights. The report suggests altering this metric to report the number of *actual* bags lost per 1000 *checked* bags. The Inspector General recommends that airlines set performance goals for reducing the number of mishandled bags and track the amount of time it takes to deliver lost bags. He suggests that all airlines provide a toll-free telephone number for passengers to check on the status of their lost bags.

On the subject of denied boardings in the case of overbooked flights, the Inspector General also found a need for improvement. He suggests that airlines establish a uniform check-in deadline and that all carriers disclose their policies on check-in deadlines in both their contracts of carriage and on ticket jackets. The airlines need to ensure all volunteers on the same flight are compensated equally and that the compensation to involuntarily bumped passengers be increased. Overall, the Inspector General wanted to ensure that airlines conduct bumping practices in a manner that is fair and consistent.

The report recommends airlines disclose the flight's on-time performance in the previous month without the customer asking. Currently the airlines only disclose on-time performance when the customer requests the information. The report believes airlines should notify the passenger of this information without being asked. He suggests that a report of chronically delayed flights be included in the monthly Air Travel Consumer Report.

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[7] The Inspector General's report defined chronically delayed flights as those that are late 30 minutes over 40% of the time

Though the airlines promise improvements in customer service, these provisions are not always legally enforceable by customers unless they are incorporated into the airline's contract of carriage. Three of the 14 airlines in the study incorporated the entire text of their plans into their contracts of carriage. The other eleven incorporated parts, but not all, of the plans into their contracts of carriage. The report recommended making the entire airline customer service commitment enforceable under the contract of carriage.

The report suggested that airlines improve the information they provide to customers on frequent flyer programs. The Inspector General suggests providing the percentage of successful redemptions and frequent flyer seats available in the airline's top origin and destination markets in the airline's annual report.

The Department of Transportation is responsible for oversight and enforcement of consumer protection and unfair competition in the airline industry. The Inspector General found that the resources available to the D.O.T. are seriously inadequate to deal with the problem. They recommended a significant increase in the resources allocated to the Department of Transportation division responsible for consumer protection and a corresponding increase in examination of the laws protecting air travelers.

The Inspector General report recommended adding a commitment under which the airlines would establish quality assurance and performance measurement systems. They suggested the airlines conduct periodic internal audits of these metrics and provide access to the data to the Department of Transportation for review.

2.4.6. Airline Customer Service Improvement Act (S.319)

As of March, 2001, the Senate Subcommittee on Commerce is developing the Airline Customer Service Improvement Act, also known as S.319. The content of this act follow directly from the Inspector General's report of February, 2001. The components of S.319 are summarized in the table on the next page.

Table 3. Summary of S.319

- Ensure airlines incorporate customer service commitment into their contracts of carriage
- Customer Information
  - Provide lowest fare available and inform lower fares may be available elsewhere
  - Inform on cause of delays along with best estimate of departure time
  - Provide on-time performance information on airline website
  - Disclose on-time performance during purchase process
  - Provide information on plan for overnight passengers
  - Inform of compensation for passengers involuntarily denied boarding
- Bumping Practices
  - Uniform check-in deadline across carriers
  - Standardize compensation
  - Ensure fairness and consistency in who gets bumped
- Other service issues
  - Ensure flight information displays are up-to-date
  - Establish targets for chronically delayed flights
  - Establish system for passengers to find out if long delay exists ahead of flight
  - Define what constitute an "extended" delay or "emergency" situation
  - Monitor service to disabled and special needs passengers
  - Ensure airline development of passenger service contingency plans
  - Performance targets for mishandled baggage
  - System for tracking time to get mishandled baggage to passenger
  - Provide toll free number for tracking mishandled baggage
  - Annual audit of service provided by code-share partners
  - Report of frequent flyer point redemption data in annual report
- Improving Statistics for Service Measurement
  - Improved mishandled baggage metric
  - Include chronic delayed flights in Air Travel Consumer Report
- Increase resources to the D.O.T. airline passenger consumer protection division
- Ensuring Airline Compliance
  - Establish customer service quality assurance and performance measurement system
  - Airlines conduct internal audit
  - Airlines permit DOT to audit this information periodically
  - Secretary of DOT responsible for ensuring compliance

2.4.7. Airline Response to DOT Inspector General's Report & S.319

Since Congress reviewed the DOT Inspector General's report and proposed the S.319 regulation, the airlines and ATA announced a second round of self-regulatory actions. The actions are discussed below and follow directly from the report and S.319.

First, the airlines announced they are in the process of placing the twelve components of the *Customer First* plans into their contracts of carriage. They are establishing internal performance measurement systems and audit procedures to comply with their respective plans. These internal systems will be open to scrutiny and review by the Department of Transportation. Systems will be developed so that passengers can determine if their flights are on time, delayed or cancelled prior to departing for the airport. Airlines made a commitment to ensure passengers with special needs and disabilities receive the necessary attention and focus. They also ensured customers that they will always be informed of the lowest fare displayed on their airline telephone reservation systems.

Regarding chronically delayed flights, Carol Hallett said, "As we hope the public will understand, airlines simply do not have control over all of the multiple causes that lead to delays and cancellations. However, we are doing what we can to be part of the solution." (Hallett 2001) The airlines accepted the challenge of reducing chronically delayed or cancelled flights for factors within its control.

On a couple issues, the airlines said they will petition the Department of Transportation to initiate rulemaking. Regarding involuntary denied boarding compensation, the airlines will ask the DOT to issue a rule in this matter. To better understand the number of mishandled bags, the airlines will petition the DOT to review the issue as well.

Finally, the airlines announced a two-part, coordinated effort to improve customer service. First, they will form a task force between the airlines, airport and FAA to review and make recommendations that will help ensure airport display monitors and other information customers receive are accurate and timely. Second, they said they would work closely with airport management to plan for passengers remaining overnight due to delays or cancellations.

2.4.8. Other issues under government scrutiny: congestion and competition

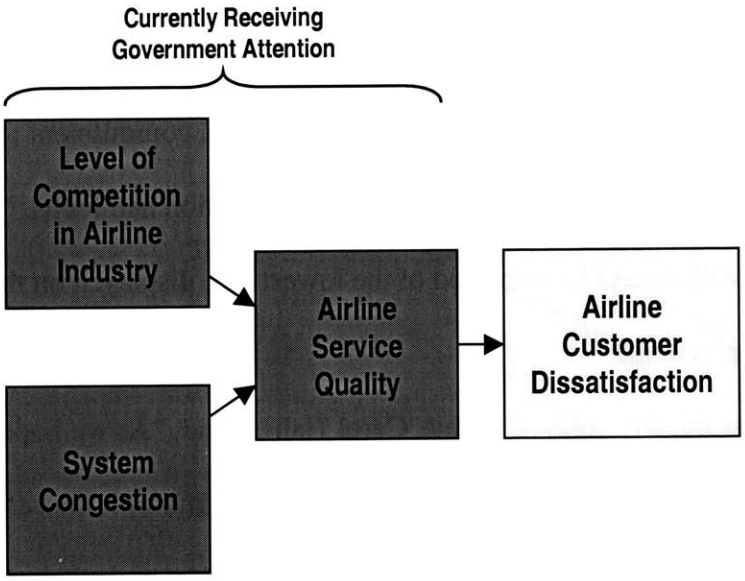

Figure 5. Relationship between Multiple Issues of Government Focus in Airline Industry

In addition to airline customer service, two other major issues in the airline industry are receiving extensive government attention. These are airline competition and system congestion. As the framework above shows, airline service quality is one of a number of potential causes of airline customer dissatisfaction. Both competition and congestion could be underlying factors that actually impact the level of customer dissatisfaction. For example, lack of competition, especially in a major network carrier's hub, may allow the carrier to be less concerned about

service quality. After all, the customer may not have many options to turn to instead of the network hub carrier. Also, because of congestion, customers may experience extensive delays that are not the carrier's fault but heavily impact the level of dissatisfaction with the experience. It is important for Congress to understand the relationship between competition, congestion and service quality, and their impacts on customer dissatisfaction before passing extensive regulation. Tweaking the airlines' service delivery may even be unnecessary with increases in competition and improvements in congestion.

In March of 2001, a bill entitled the *Aviation Competition Restoration Act* (S.415) was proposed in the Senate Committee on Commerce, Science and Transportation. Motivation for the bill lies in the fact that the airline system is dominated by a few large air carriers and that it potentially may become even more concentrated. Many believe that continued consolidation will have negative impacts on customer service and result in higher fares. The bill S.415 is designed to allow competitive access to gates, facilities and other assets at airports. Currently start-up low-cost carriers have difficulty gaining access to the nation's busiest airports. The barriers lie either in access to gates or access to slots. S.415 will ensure the Secretary of Transportation monitors use of gate space at the busiest airports and that low-cost carriers have access to available resources.

The issue of congestion receives the most attention by the government relative to all other issues of aviation. Most recently the Senate Committee on Commerce, Science & Transportation held a hearing in May, 2001, regarding delays due to air traffic control. Testimony was offered by Federal Aviation Administration Administrator Jane Garvey along with leaders from industry. The FAA has undertaken a number of near-term steps to reduce congestion, such as opening

additional sectors or developing new air traffic routes through the most congested East coast points in the system.

In addition to the short-term solutions, the FAA is working with the airline industry to develop a ten year National Airspace System Operational Evolution Plan (OEP). This involved a coordinated effort within the FAA and systematic collaboration with the airlines, airports, and other members of the aviation community. It is the first time the FAA is conducting such work so closely with the industry and represents a new shift in the group's approach. Specifically, the OEP calls for 1) Expanding implementation of area navigation (RNAV) procedures; 2) Completing the Wide Area Augmentation System (WAAS) of satellite-based navigation; 3) Introducing datalink to reduce voice communications between pilots and controllers, and 4) Reducing vertical separation of aircraft at high altitudes from 2,000 feet to 1,000 feet. The plan lays out specific tasks to be accomplished in the near-term (2001 and 2002), mid-term (2002 to 2004) and long term (2005 to 2010).

2.5. Airline Interest in Customer Satisfaction

2.5.1. Threat of government regulation

The airline industry has its own motivations for understanding and maintaining good customer service. Ironically, the threat of government regulation may be the greatest motivation for paying attention to this issue. Airline managers have frequently stated their desire for Congress to not get involved in details of operating the airline industry. Their belief lies in the fact that the airlines are an extremely complex business to run, and what may appear to be small

changes on the surface to Congress could have dramatic impacts on managing an airline with a large network.[8]

Airline managers point to the recent experience with Congress and LaGuardia airport to further make their point. As part of the AIR-21 legislation, Congress made slot control at LaGuardia airport more lenient. Specifically, an exemption was granted to any airline using Stage 3 aircraft with less than 71 seats that proposed nonstop service between LaGuardia and an airport that was designated a small hub or nonhub in 1997. The exemption was granted if either the airline was not providing such nonstop service during the week of November 1, 1999, if proposed service exceeded the number of flights provided during that week in 1999 or if the transportation provided a regional jet as a replacement of turboprop service.

There was a significant growth in the number of exempted operations: 53 in August 2000 and 192 in September 2000. There were 9,000 flight delays at LaGuardia in September 2000, up from 3,108 in September, 1999. In September 2000, 25% of flight delays in the U.S. were at LaGuardia. In September 1999, it was 12%. Average delays for many afternoon flights at LaGuardia in September 2000 exceeded 48 minutes. The average delays for all flights that month was 43 minutes. LaGuardia experienced as many as 600 delayed flights on days when there was good weather and no other significant problems existed in the ATC system. After AIR-21 was enacted on April 5, 2000, carriers filed exemption requests for more than 600 new flights a day at LaGuardia. As of November 1, almost 300 new flights were operating under AIR-21. At that time, 28 more were scheduled for December and 23 more for January. In April 2000, the number of scheduled operations at LaGuardia was 1064, and in November it was 1344.

[8] Result drawn from speakers at M.I.T. and visits made by MIT Global Airline Industry study participants to major airlines around the world

Thus, what appeared to a body like Congress as a small tweak to the system had a completely unanticipated ripple effects in a system as complex as the national airspace system. Airline managers believe that regulation from Congress will only serve to disrupt the industry and decrease the quality of operations performance.

2.5.2. Relationship between customer satisfaction and financial performance

There is extensive marketing literature that studies the relationship between customer satisfaction and a firm's financial performance. Studies show customer satisfaction positively impacts a firm's financial performance. Major airlines are publicly held, and management is responsible for generating shareholder value. One would expect airline managers to be concerned about satisfaction since it could impact financial performance. Of course, customer satisfaction and profitability are not necessarily positively correlated. Improving customer satisfaction has costs, and it is conceivable that these may not be covered by increased revenue from more satisfied customers.

Some of the standard results in this field are the following:

- Customer satisfaction shown to relate positively to repurchase intentions (Bearden & Teal, 1983; Oliver 1988)
- Perceived service encounter satisfaction and perceived service quality positively related to behavioral intentions (Cronin & Taylor, 1992)
- Customer satisfaction positively related to purchase intention and behavior (LaBarbera & Mazursky, 1983)

In the airline industry, two studies have attempted to examine the relationship between customer satisfaction and airline financial performance. Dresner and Xu (1995) examined the following research questions:

- What effects do three customer service variables – on-time performance, mishandled baggage and ticket oversales – have on the level of customer satisfaction, as measured by the number of customer complaints to the U.S. DOT?
- What effect do customer service and customer satisfaction have on corporate profitability in the airline industry?

They studied thirteen major U.S. airlines from 1Q 1998 to 4Q 1990 – a total of 150 observations. They modeled profitability as a function of complaints, on-time performance, oversales, mishandled baggage and a number of control variables (carrier, time).

The results demonstrated that reduced on-time performance, increased oversales and increased baggage mishandling were all significantly correlated to an increase in customer complaints. It was shown that the volume of customer complaints had a negative impact on profitability ratios. In other words, the greater the number of complaints, the lower the financial performance. If one assumes the number of complaints is a proxy for the level of customer dissatisfaction, one can conclude a relationship exists between improved customer satisfaction and improved financial performance in the airline industry.

There are a number of limitations to this study. First, it does not factor hub premiums among its control variables. One also needs to assume DOT customer complaint data is a relevant model of customer satisfaction in the U.S. airline industry. In addition, the level of congestion is not considered as a control on the level of satisfaction. While the study

demonstrates the positive relationship between airline customer service and financial performance might exist, it is by no means given.

More recently, Behn and Riley (1999) conducted a similar study with a similar set of data. The questions involved in their study were the following:

- What is the association between nonfinancial information and financial performance in the U.S. domestic airline industry?
- Can nonfinancial data be useful in predicting future financial performance?

They studied six major U.S. airlines between 1988 and 1996 (Alaska, American, America West, Delta, Southwest and United) for a total of 213 quarterly observations. They developed models of financial variables (operating revenue, operating profit and operating costs) as a function of complaints and a number of controlling factors (load factor, market share, ASMs, time and carrier).

The results of Behn and Riley's are similar to those of Dresner and Xu. They find for the operating income model that increased complaints is correlated to decreased income. They find that increased complaints correlates to decreased revenue. Finally, increased complaints is related to increased costs. The authors state a key limitation to their study is the incorporation of all relevant controlling factors. Those they suggest should be included in future work include geographic coverage, hub concentration, haul length and frequent flyer membership.
Some observers of the airlines suggest dominant hub carriers do not have incentive to focus on airline customer service because of little competition in their hubs. Numerous studies have demonstrated the market power airlines have in hubs via a competitive advantage with frequencies, bureaucratic control with airport authorities, travel agent commissions and captive frequent flyers [see Borenstein (1989) and Berry (1990)]. This is why it is important that any

analysis of the customer satisfaction-financial performance relationship should factor in the role hubs play in airline financial performance.

In fact one noted expert on customer satisfaction, Claes Fornell of the University of Michigan, expresses a strong viewpoint in this regards. He states:

> "[T]he reason that customer satisfaction might not be a primary concern for many of the airlines is that there are limited financial penalties that passengers can impose on an unresponsive company. In any buyer-seller relationship, the power of the former hinges on the availability of alternatives. Airline choice is restricted because many airports are dominated by one of the carriers. Whenever competition is limited, customer satisfaction typically suffers, since dissatisfied customers cannot stop buying or take their business elsewhere. In other words, except for airlines that face genuine competition on a majority of their routes, profits and customer satisfaction do not necessarily go hand in hand." (Fornell 2000)

If Fornell's hypothesis is correct, public policy makers may be more inclined to examine the determinants of service quality in the airline industry. It is important to note that Fornell makes this statement from more of a theoretical and anecdotal perspective as opposed to from the perspective of detailed analysis.

The airline industry would be well served to examine the issue of the dynamic between customer satisfaction and financial performance in great detail. This topic is prevalent in the public examination of the industry and has not been studied fully to date.

2.5.3. Changing Airline Industry Structure

The airline industry worldwide is currently in the midst of an evolution in industry structure. Large airlines understand that the size of one's network is a critical competitive advantage as a network carrier. The result of this has been increased consolidation of U.S. carriers domestically and partnership among major airlines worldwide. While the proposed merger between United Airlines and U.S. Airways fell through, the attempted consolidation is indicative of the importance of network size. American Airlines and TWA merged recently, and

there may be new wave of mergers in the next few years with a more business friendly government in power.

Internationally we have seen the emergence of global alliances in the past three years. There are four major alliance groups to speak of: the Star Alliance led by United Airlines and Lufthansa German Airlines, **one**world led by British Airways and American Airlines, Wings led by Northwest Airlines and KLM Dutch Airways and SkyTeam led by Air France and Delta Airlines. While these airlines are the leaders, three of the four global alliances include a number of other carriers to fill in the global network. For example, the Star Alliance is the largest alliance and has 14 carriers in total.

With so many airlines cooperating together, airline managers must understand customer needs along the "seams of coordination" between cooperating airlines. A *seam* is defined as a component of customer service delivery that involves active participation from both cooperating airlines. For example, if a customer is traveling across multiple alliance partners on a trip, transfer of their checked luggage is one seam of coordination. For the passenger's luggage to arrive to his or her destination on time, both airlines must work together to transfer luggage onto their own aircraft and then transfer luggage between each other.

Chapter 3. Existing Knowledge on Airline Customer Service

Within academic literature, there are relatively few studies that focus on airline customer issues. Typically, papers that study airline customers address customers in the context of a separate issue with airlines selected as an industry for empirical analysis. No studies to date have focused on airline customers for the purpose of studying airline customers. The airlines have extensive public data and is an industry that is easy to understand.[9] That is why academics often utilize the airlines as an industry of application for empirical analysis.

Typically academics have examined a subset of the airline customer experience. Specific components, such as the on-board experience or passenger perception of delays, have been studied. However, there have been no studies holistically examining the complete airline experience. In this chapter, a review of what is known from previous research about the airline customer experience is presented.

3.1. Key Studies on Components of the Airline Customer Experience

A study by Ostrowski, O'Brien and Gordon (1993) examined the relationship between service quality and customer loyalty in the airline industry. The authors felt that a number of service quality studies to that point in time focused on generalized findings across service industries but spent less effort on examining the role of service quality in specific industry settings. They decided to study service quality in the airline industry.

Ostrowski et al surveyed passengers on fifteen specific individual issues associated with a flight. Respondents also provided two global evaluations, one on quality and one on value. The results of this study suggested that even in the early 1990's the quality of airline service was low in the eyes of customers. The respondents were surveyed about two specific carriers considered

to be benchmark carriers in the industry. For three of the fifteen items, over half the sample assigned ratings of not very good or poor: personal space, arm and shoulder room and legroom. For nine of the items, over 20% assigned ratings of not very good or poor: seating comfort, food quality, amount of food, baggage delivery promptness, craft interior attractiveness and on-time performance.

The authors used regression analysis to determine the relationship between self-expressed customer loyalty and the quality of service on the fifteen dimensions studied. They found that for one of the carriers, helpful check-in personnel, seating comfort, baggage delivery, craft interior and value were significant variables. For the other carrier, they found that flight attendants, food quality, on-time performance and overall value were significant. Unfortunately, these results are only somewhat helpful to our study. The purpose of our research is to understand what motivates customer dissatisfaction across the entire airline industry. We are not as interested in knowing differences in drivers of dissatisfaction for specific airlines.

A paper by Soderlund and Gunnarsson (2000) examined the role of customer familiarity with satisfaction and dissatisfaction and used the airlines as its industry for empirical analysis. The research found that customers with a high level of familiarity with the provider and service will have a lower level of satisfaction than low familiarity customers, given a high level of performance. Individuals with a lower level of experience with air travel will often assess the experience in a more polarized manner than those with more experience.

This result poses an interesting quandary to government and management leaders of the airline industry. The airlines clearly want to maximize their share of the business traveler segment. This customer segment travels frequently and pays the highest average fares. According to Soderlund and Gunnarsson, one would expect business travelers to be harder to

[9] DOT Customer Complaint data and Form 41 operating cost data are two excellent sources of historical airline data

satisfy but also have lower expectations from the airline. Hence, airline management may keep service levels to the minimum levels that meet the low expectations of high-fare business travelers. Ironically for the airlines, their greatest service delivery challenge may be with meeting the expectations of infrequent, low-fare leisure passengers. Anecdotal evidence from airline executives suggest this segment makes up over half of the traffic, so it represents a majority of the traveling population. Since this segment is expected to have more polarized reactions to service, they may more actively drive public impression of customer dissatisfaction. The airlines cater their service delivery to meet the needs and expectations of the high-fare business traveler segment, but public impression of customer discontent may be more driven by the low-fare infrequent leisure travelers.

A third key study was conducted by Taylor (1994) on the relationship between delays in service and evaluation of the service experience. Taylor discusses how service delays can be mitigated through operations management or perceptions management. Since no service provider can ever deliver a perfect service, it is critical to understand the variables that influence the perception of delay. The research conducted a survey on passengers on delayed airline flights out of a large Western city. The results showed that delay significantly increased a passenger's feeling of anger and uncertainty. The degree to which the airline was perceived to have control over the delay increased customer anger. Also, the degree to which time was filled during the delay mitigated uncertainty and anger.

The results demonstrate the importance of information to the airline customer. Service evaluations were affected directly by the evaluation of uncertainty caused by the delay. Interestingly, the customers' evaluation of punctuality was influenced more by the anger passengers felt by the delay than by the delay duration itself. The punctuality evaluation is not

necessarily a calculation for a specific time period but a more subjective evaluation of lateness. This makes customer interactions with airline personnel even more critical to the ultimate valuation of the service experience. If airline employees resist effectively answering questions from customers regarding delays, this would be expected to negatively compound the customers' perception of the delay. The service provider's perceived control of the delay can also negatively impact the customer's anger over the delay. So, if the airline employees demonstrate an uncaring attitude regarding the delay, this would result in a worse impression of the service experience.

Taylor concludes that service providers should acknowledge the importance of addressing uncertainty associated with delay. Taking actions to reduce these uncertainties should affect the customer's ultimate evaluation of the service experience. Thus, providing information to customers is critical to managing service disruptions.

3.2. Measuring Quality Factors Among Airline Customers, Managers and Government

Gourdin and Kloppenborg (1991) examined what various constituents in the airline industry (passengers, management, government) felt constituted a quality service experience. They sought to understand whether the interests of each of these three groups were in agreement or in conflict.

At the time of their study, research on service industries was extensive. Proponents of research on service industry pointed to three key distinctions about services relative to hard goods. First, services are intangible. This makes testing them for quality a subjective as opposed to objective exercise. Second, they are heterogeneous. In other words, the same product can take on various manifestations over multiple service deliveries. Finally, production

and consumption occur at the same time, so the consumer is an integral part of the process of service delivery.

Gourdin and Kloppenborg focused on identifying the factors that must be accomplished for quality air travel from three different viewpoints: passengers, airline managers and government officials. Their results demonstrate significant differences in responses among the three groups. In this research, focus is given to the results for the passenger group, since this is the area of focus of this study. Unfortunately, Gourdin and Kloppenborg do not provide great detail on the results of their study. However, the table below highlights what the passengers found important. Clearly, the list is extensive and in some ways a complete depiction of the airline customer experience.

Table 4. Important Issues for Passengers According to Gourdin and Kloppenborg (1991)

Information
- Delayed flight status promptly provided
- Meaningful flight information promptly displayed

Comfort & Amenities
- Comfortable seat
- Enough knee and leg room
- Beverage service on long flights
- Aircraft clean inside

Baggage
- Prompt baggage delivery
- Careful baggage handling
- Lost bag procedure

Timing
- Convenient departure times
- Convenient arrival times
- Airline assumes responsibility for delayed passengers
- Take-off on time
- On-board comfort during delays
- Non-stop flights

Safety
- Preflight security screening

Price
- Lower fares for non-peak travel

Convenience
- Preassigned seating
- Convenient check-in
- Convenient connections

Be Heard
- Aircraft complaint mechanism

3.3. Measuring Total Service Quality in the Airline Industry

An important study on airline industry service was conducted by Young, Cunningham and Lee in 1994. This study is perhaps the most complete in terms of examining a full airline customer experience. The study utilized the SERVQUAL methodology in understanding service quality as a management tool for the airline industry.

SERVQUAL is a customer survey methodology developed by Parasuraman, Zeithaml and Berry (1985, 1988, 1991). This trio of authors developed SERVQUAL through a series of publications and publication debates starting in 1985. The theory of SERVQUAL rests on the fact that customers' assessment of overall service quality is determined by the degree and direction of the gap between their expectations and perceptions of actual performance level. This is known as the expectation disconfirmation paradigm. The authors proposed this theory for measuring service quality in their first publication in 1985 and followed up with publications in 1988 and the early 1990's to operationalize this theory.

The SERVQUAL scale classifies service delivery attributes into five categories: tangibles, reliability, responsiveness, assurance and empathy. A detailed description of these categories and the measures SERVQUAL uses for each are included in the table below. The survey asks the respondent to define what they expect for each service measure and follow with a separate question about how well a certain service provider delivered the service. The gap between expectation and actual service delivery is the SERVQUAL measure.

Table 5. Measures in SERVQUAL

Tangibles
1) Up-to-date equipment
2) Physical facilities are visually appealing
3) Employees are well dressed and appear neat
4) The appearance of physical facilities is in keeping with the type of services provided

Reliability
5) When the company promises to do something by a certain time, it does so
6) When you have problems, the company is sympathetic and reassuring
7) The company is dependable
8) The company provides its services at the time it promises to do so.
9) The company keeps its records accurately

Responsiveness
10) The company does not tell customers exactly when services will be performed
11) You do not receive prompt service from the company
12) Employees of the company are not always willing to help customers
13) Employees of the company are too busy to respond to customer requests promptly

Assurance
14) You can trust employees of the company
15) You feel safe in your transactions with the company's employees
16) Employees are polite
17) Employees get adequate support to do their jobs well

Empathy
18) The company does not give you individual attention
19) Employees do not give you personal attention
20) Employees do not know what your needs are
21) The company does not have your best interest at heart
22) The company does not have operating hours convenient to all their customers

SERVQUAL has fostered extensive debate in the service quality literature. One concern has been whether one needs to calculate a difference between expectation and delivery to understand the level of service quality from a service provider. A study by Cronin and Taylor (1992) compared SERVQUAL to the information derived from directly asking respondents how

well a service provider deliver service relative to expectations.[10] Cronin and Taylor found that the two methodologies provided similar information and results. However, the direct method requires half as many questions as SERVQUAL. They suggested asking the questions directly and not utilize the two-step approach.

Another issue with SERVQUAL is the lack of information about the importance of each attribute. There may be a large gap between expectation and delivery of an attribute, but a service provider may not need be concerned if the attribute is not important to the customers' satisfaction or choice process. Simply examining the gaps from SERVQUAL may provide an incomplete picture.

Young et al applied SERVQUAL to the domestic airline industry hoping to develop accurate measures of service quality in response to the evolving importance of service competition in the United States. The study tested the effectiveness of SERVQUAL measures along with metrics from the Air Travel Consumer Report (ATCR). The ATCR was pushed through by Congress in the late 1980's in response to decreasing airline service levels resulting from problems with merger integration. The intent was to provide a report to the traveling public on negative service experiences to inform airline choice. Young et al believe it is an ineffective tool due to its lack of dissemination and no testing of the accuracy of the data. The DOT claims that corporate travel managers use the information and that the media effectively communicates the information to the traveling public.

Young et al point out other key problems with the ATCR. On-time performance, for example, is based on the time at which the aircraft pushes back from its gate. A flight may sit on the tarmac for two hours but still have an on-time departure if it pushed back in a timely fashion.

[10] For example, the respondent may be asked directly in one question to rate how well a service provider delivered against their expectations

Carriers have the opportunity to game the system and improve their statistics. Also, data quality is questioned at times in the FAA's report on system delays and the ATCR on-time performance measures have been inconsistent.

Among consumer complaints, the DOT does not judge the validity of each complaint. No analysis of the bias of the complaining population has been done. Additionally, the negative publicity of the industry may have an effect on the volume of complaints, creating a potentially positive feedback loop. Young et al conclude that while the DOT developed this report in response to Congressional pressure, they have made no efforts to update or revise the report.

Young et al suggest that after the ATCR was developed (early 1990's), service competition became a key competitive element in the industry. Frequent flyer programs and growing internationalization, they argue, increased the relevance of service competition. However, in the airline industry the only measures of service quality were production measures: flight frequency, load factors, transit time and type of aircraft (Jordan 1970, Douglas and Miller 1974). Customer perception had not yet received any attention.

Young et al sought to examine the following research questions:

- How well did SERVQUAL and industry-based measures predict customer satisfaction and intention to re-patronize?
- How much consumer awareness and use is there of the ATCR or the information contained therein?

They conducted a survey consisting of three sections: a series of evaluations of the quality of services provided by the last airline they flew (including both SERVQUAL dimensions and general industry-based items), consumer use and importance of the ATCR and

personal and demographic characteristics. The sample was a group of 105 business school students, so the results cannot be generalized to the entire airline traveling population.

From the first section of the survey, there were five factor groupings of the industry-based dimensions. These are shown in the table below.

Table 6. Airline Industry Measures in Young et al Study

Baggage Handling
1) Airline baggage handling is prompt and efficient
2) Airline interline agreements work well for the consumer
3) Airline check-in is efficient

Bumping Procedures
4) Airline bumping procedures are unfair/inconvenient
5) Airline bumping procedures provide inadequate compensation for the trouble caused
6) Information provided by airline at airport is inadequate

Operations and Safety
7) Ticket and reservations procedures prior to arrival at the airport are adequate
8) Airline is safe
9) Airline selects the right equipment for trips
10) Amenities provided by airline is important to the comfort of passengers
11) Airline distinguishes between each class through service

Inflight Comfort
12) Airline seats have good pitch
13) Airline seats are wide enough
14) There is enough room in the aisles of the airline you usually fly
15) The layout of seats in aircraft is just right
16) Airline food and beverage service is good

Connections
17) Airline offers sufficient flight frequency
18) Airline offers flights at right times of the day and night
19) Airline correctly coordinates connections
20) Airline offers sufficient non-stop flights
21) Airline offers sufficient connecting flights.

Two overall measures of quality were included: satisfaction with the most recent trip and intention to continue to fly on the same airline. They ran regressions on these two overall

measures using the indices of the SERVQUAL dimensions and then the factor groups of the industry-based dimensions.

Because the current study seeks to understand what causes customer dissatisfaction, only the regression of SERVQUAL indices on Satisfaction will be discussed. Two dimensions were significant: Reliability (coefficient 0.42, $p<0.01$) and Assurance (coefficient 0.26, $p<0.10$). The attributes of these dimensions are reviewed in the table below:

Table 7. Detailed Measures of Reliability and Assurance in SERVQUAL

Reliability ▪ Promise to do something in timely fashion ▪ Sympathetic and reassuring to problems ▪ Dependable ▪ Provides services at times it promises to ▪ Keeps records accurately Assurance ▪ Can trust employees ▪ Feel safe in your transactions with employees ▪ Polite employees ▪ Employees get support in their jobs

Clearly, timeliness and dependability are two key issues for customers in generating airline customer satisfaction. In addition, the human interactions – with reservations agents, gate agents, flight attendants, pilots and baggage personnel – are all relevant in the customers' ultimate satisfaction with the entire experience.

Young et al also conducted a regression of the industry-based factors on satisfaction. They found three significant variables: Connections (coefficient 0.41, $p<0.01$), Comfort (coefficient 0.22, $p<0.05$) and Bumping (coefficient 0.15, $p<0.10$). Again, the specific attributes are reviewed below.

Table 8. Detailed Measures of Connections, Comfort and Bumping in Airline Industry Measures in Young et al Study

Connections
- Sufficient flight frequency
- Flights at right times of day and night
- Correctly coordinates connections
- Sufficient non-stop flights
- Sufficient connecting flights

Comfort
- Good seat pitch
- Seats wide enough
- Enough room in aisles
- Layout of seats just right
- Food and beverage service is good

Bumping
- Bumping procedures are fair
- Adequate compensation for bumping
- Information is adequate

This result suggests that flight frequency and timing along with on-board comfort are additional significant determinants of satisfaction. The limitation of the results of all these studies is the lack of tradeoff between the reliability/assurance attributes and the connections/comfort/bumping attributes. One does not know whether all five of these issues are significant determinants of satisfaction since the two analyses were conducted separately. The study demonstrates the importance to examining flight timing, flight frequency, on-board comfort, information dissemination and bumping practices in studying customer satisfaction. However, the study fails to inform us which of these issues is most important to customer dissatisfaction. Hence, it is important for us to study these issues further in our research.

3.4. Airline Quality Report

One of the most publicly disseminated studies of airline service quality is the Airline Quality Report (AQR) conducted annually by the W. Frank Barton School of Business at Wichita State University and the University of Nebraska at Omaha Aviation Institute. This report receives significant press each year when it is published in early April. The authors of the AQR consider it to be an industry standard because it provides consumers and industry watchers with a means to compare quality among airlines using objective performance-based data. AQR is a weighted average of multiple elements: on-time performance, denied boardings, mishandled baggage and customer complaints. The weights are established by surveying 65 airline industry experts regarding their opinion as to what consumers would rate as important (on a scale of 0 to 10) in judging airline quality. In the April 2001 report, the input factors and weights were: On-Time Performance (weight 8.63), Denied Boardings (8.03), Mishandled Baggage (7.92) and Customer Complaints (7.17). When all criteria, weights and impacts are combined for an airline and averaged over the year, a single interval scaled value is obtained. This value is comparable across airlines and across time periods. The AQR for 2001 is calculated as: AQR = [(+8.63 x OT) + (-8.03 x DB) + (-7.92 x MB) + (-7.17 x CC)]/ (8.63 + 8.03 + 7.92 + 7.17).

A key limitation to the AQR process is that the development of these weights is undocumented. It is unclear whether the 65 experts interviewed necessarily understand the determinants of customer satisfaction. Headley and Brown have left this portion of their analysis undiscussed, and it makes the academic observer wonder how much to believe the results. The problem with all of this is that in the airline industry, the AQR receives extensive coverage and attention from the media. Should the results be inaccurate, this kind of a study could be

extremely dangerous to the well being of the industry. The success of the AQR is more fodder for the need for a quality understanding of customer satisfaction with the airlines.

3.5. Industry Studies of Airlines

The bulk of information available about airline customer needs comes from the many surveys industry participants conduct on airline customers. For example, OAG and Frequent Flyer Magazine conduct an annual survey of travelers. In 2001, Money Magazine, AAA and Zagats all published results from their own airline surveys. These studies are all helpful for insight into the industry and its customers, but they cannot be relied on as authoritative studies of the industry. Their methodologies are undocumented, both in terms of data collection and analysis, so one cannot understand the limitations and ultimately how to interpret the results.

One customer satisfaction study worth noting is conducted by the firm J.D. Power along with *Frequent Flyer* Magazine. J.D. Power has a strong reputation in the world of customer satisfaction. The study suggests that of all travel segments, satisfaction with the airlines is lowest. The most common reported air travel problems were with on-time performance, seating issues, carry-on luggage space, food service and post-flight baggage delivery. It is important to note that while there is some consistency with this survey and the results of Young et al (on-board comfort issues), the majority of issues causing customer dissatisfaction are different between the two studies. This is more indication that further study on the subject is needed.

3.6. Department of Transportation Customer Complaint Data

The most extensive source of customer data in the airline industry is D.O.T. complaint data. Currently they accept complaints via phone, e-mail or regular mail. Each month the

D.O.T. publishes data on the number of complaints and category for each carrier. Categories of complaints are listed in the table below:

Table 9. Categories of Complaints in Department of Transportation Complaint Data

- **Flight Problems**: Cancellations, delays, or any other deviations from schedule, whether planned or unplanned.
- **Oversales**: All bumping problems, whether or not the airline complied with DOT oversale regulations.
- **Reservations, Ticketing, and Boarding**: Airline or travel agent mistakes in reservations and ticketing; problems in making reservations and obtaining tickets due to busy telephone lines or waiting in line, or delays in mailing tickets. Problems boarding the aircraft (except oversales).
- **Fares**: Incorrect or incomplete information about fares, discount fare conditions and availability, overcharges, fare increases and level of fares in general.
- **Refunds**: Problems in obtaining refunds for unused or lost tickets, fare adjustments, or bankruptcies.
- **Baggage**: Claims for lost, damaged or delayed baggage, charges for excess baggage, carry-on problems, and difficulties with airline claim procedure.
- **Customer Service**: Rude or unhelpful employees, inadequate meals or cabin service, treatment of delayed passengers.
- **Disability**: Civil rights complaints by air travelers with disabilities.
- **Advertising**: Advertising that is unfair, misleading or offensive to consumers.
- **Tours**: Problems with scheduled or charter tour packages.
- **Animals**: Loss, injury or death of an animal during air transport provided by an air carrier.
- **Other**: Frequent flyer, smoking, credit, cargo problems, security, airport facilities, claims for bodily injury, and other not classified above.

The data in the charts below shows how large each complaint category is now and how this has changed over time. As the chart shows, flight problems, customer service and baggage

are clearly the largest complaint categories. As Young et al mention in their work, no examination has been conducted as to the accuracy of this report. Specifically, there is no way to determine if self-reported complaints are naturally biased to specific categories. The D.O.T. would suggest that airline customer dissatisfaction is most motivated by delay and cancellation, rude and unhelpful employees and baggage transfer problems. It is also interesting to note that the relative weight of customer service and baggage problems have remained essentially constant over time while that of delay and cancellation has grown over the past three years.

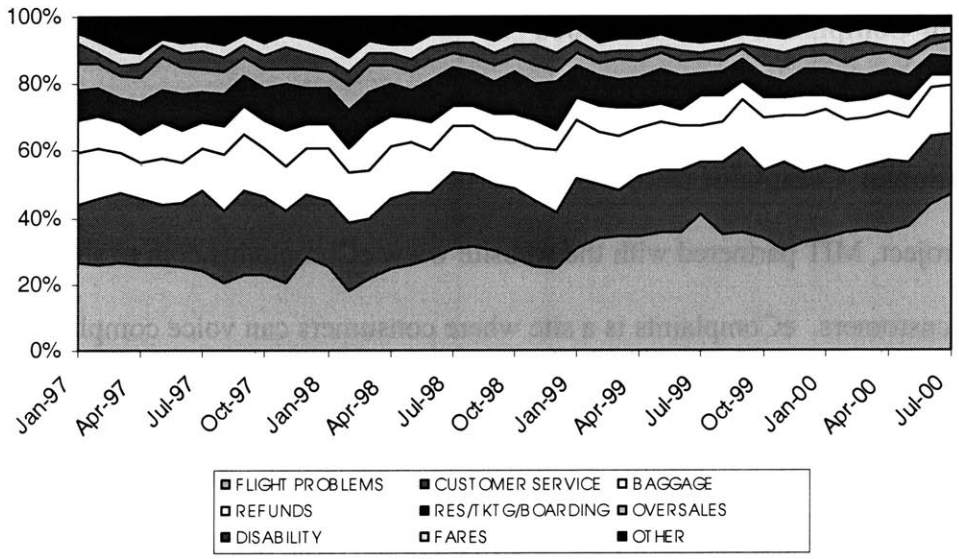

Figure 6. Distribution of Complaints to DOT by Category Over Time

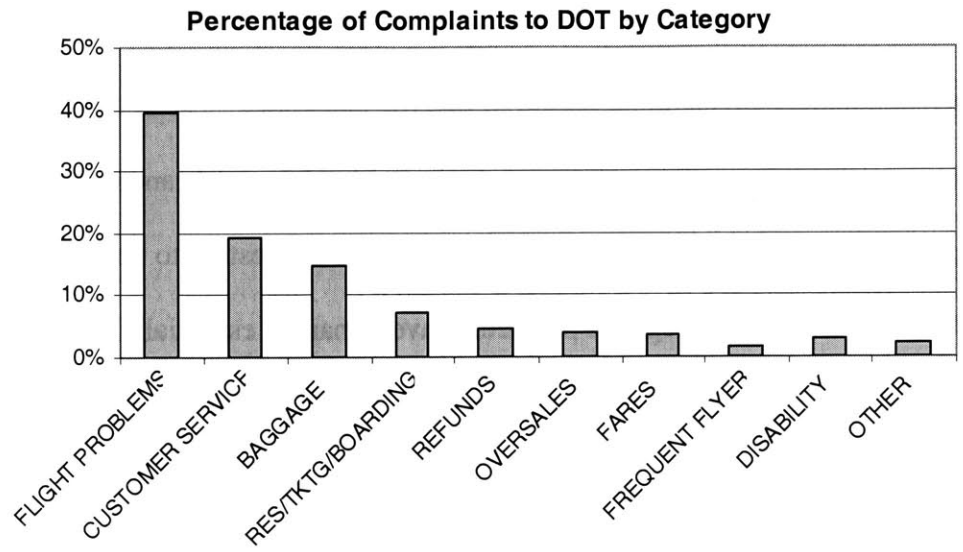

Figure 7. Distribution of Complaints to DOT in 2000

3.7. eComplaints Customer Complaint Data

In this research project, MIT partnered with the website www.eComplaints.com to share knowledge about airline customers. eComplaints is a site where consumers can voice complaints about any company or any industry. The management of eComplaints allowed our research team access to confidential reports and analysis of their complaint data. The complaints are registered by the customer and self-classified. The categories are described in the table below:

Table 10. Categories of Complaints in eComplaints

- Schedule
  - Delays
  - Cancellations
- Service
  - Rude service
  - Limited Assistance
- Luggage Handling
  - Lost/Damaged/Stolen
  - No compensation
- Poor Coordination
  - With other airlines
  - No info about flight changes
  - Flight overbooked
- Airfare Problems
  - Overcharging
  - Frequent flyer credit
- Creature Comforts

As the table shows, there is similarity between the D.O.T. categories and the eComplaints categories. The eComplaints category *Schedule* corresponds to the DOT category *Flight Problems*. *Service* corresponds to *Customer Service*, and *Luggage* corresponds to *Baggage*. The data in the figure below suggests that issues of schedule, service and luggage attributes were complained about most frequently. These results are consistent with D.O.T. data in which delay and cancellation, rude and unhelpful employees and baggage transfer problems received the most complaints.

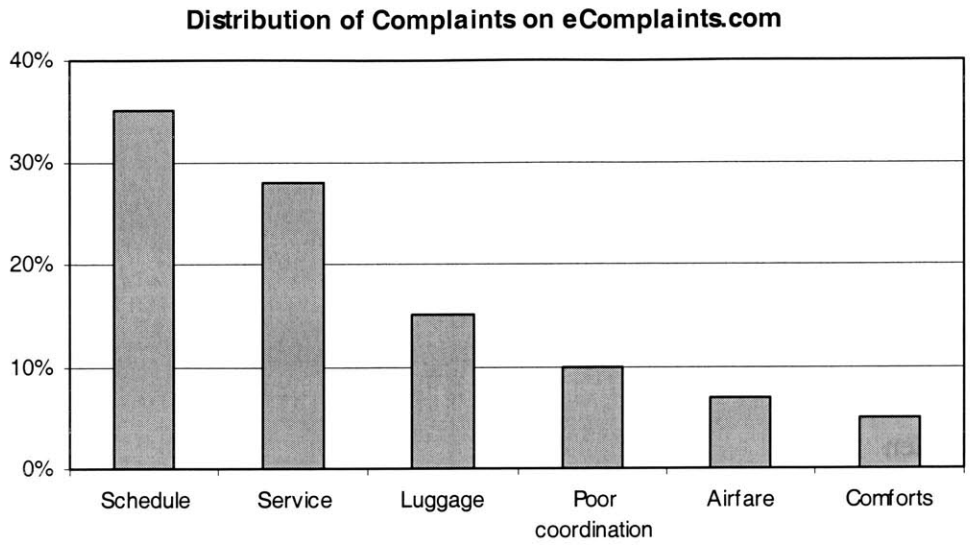

Figure 8. Complaints by Category on eComplaints.com

While there appears to be some consistency in DOT and eComplaints data on issues of customer dissatisfaction (mishandled luggage, on-time performance, personal interactions), there are a number of reasons further study is necessary on airline customer satisfaction. First, a number of studies presented earlier do not necessarily state that luggage, on-time performance and interactions with employees are the three most important categories in airline customer satisfaction or dissatisfaction. Other issues raised include on-board comfort, quality of food, flight frequency and bumping procedures. Since neither eComplaints nor DOT complaints is regarded as an authority on customer dissatisfaction, it is important to further study the issue.

Another reason further study is warranted is to go a layer deeper into understanding the causes of dissatisfaction. For example, even if on-time performance is an important cause of dissatisfaction, there are many reasons for flight delays. One may wonder whether all causes of delay are equally dissatisfying to the customer. Similarly, customer service interactions occur with check-in agents, gate agents and flight attendants. There are multiple manifestations of the customer service interaction dimension, and not all will necessarily create the same level of

dissatisfaction. Before government takes any regulatory actions, they should understand the problem at this level of complexity.

Chapter 4. Research Objective and Methodology

We conducted a customer survey to understand the causes of airline customer dissatisfaction. We first conceptualized a framework of the airline customer experience. Then we conducted a customer survey to assess which components of this framework cause dissatisfaction.

4.1. Development of the Framework of the Airline Customer

The framework of the customer experience was conceptualized based on industry knowledge and experience. The framework was validated using customer complaint data from www.eComplaints.com. Anecdotes from eComplaints were reviewed to ensure that the most frequent negative customer experiences were captured in this framework. Finally, feedback was received on the framework from both the faculty in the MIT Global Airline Industry study and

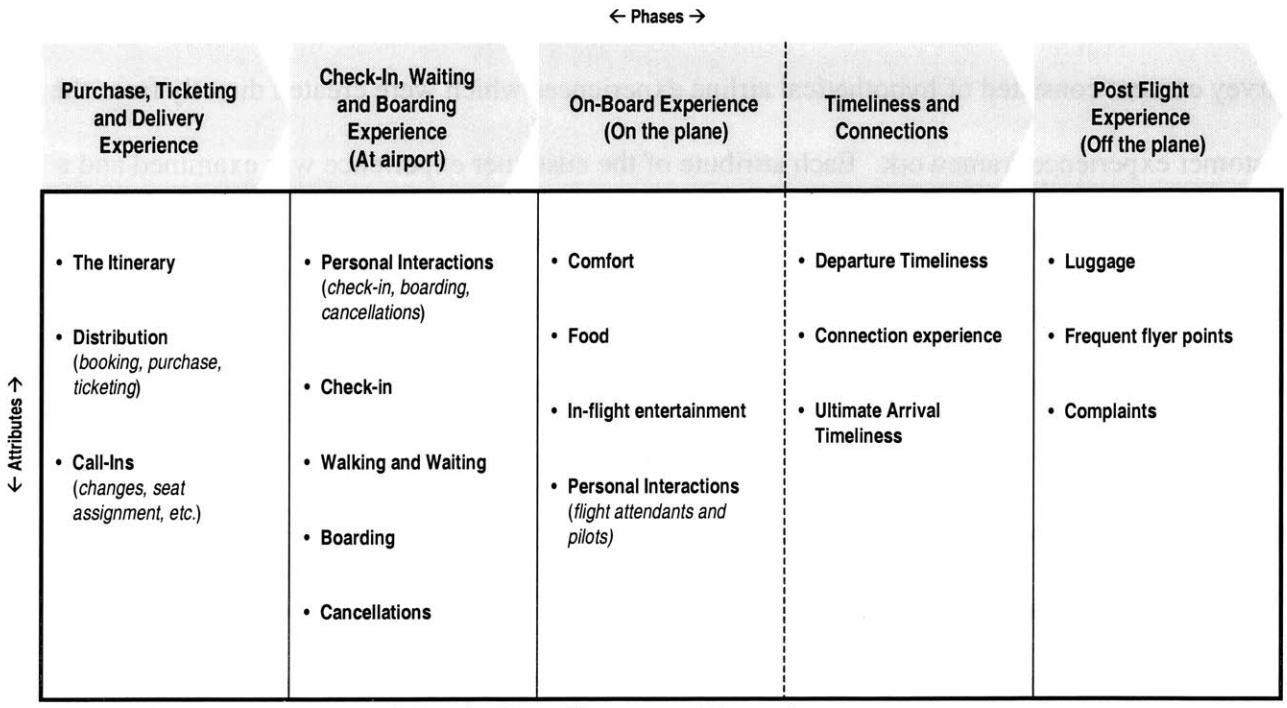

Figure 9. Framework of the Airline Customer Experience

managers at Northwest Airlines.

The framework is shown in the picture above. The customer experience is conceptualized in five phases:

1. Purchase, Ticketing and Delivery
2. Check-In, Waiting and Boarding
3. On-Board
4. Timeliness and Connections
5. Post-Flight

Within each of the five phases are individual attributes of that component of the experience. For example, in the *On-Board* phase of the customer experience, specific attributes include comfort, food, entertainment and personal interactions.

4.2. Survey Content

The goal of the survey was to understand the causes of airline customer dissatisfaction. The customer framework was developed through the study of customer complaint data. The survey content consisted of hypothetical airline experiences which were created directly from the customer experience framework. Each attribute of the customer experience was examined and a list of potential negative experiences associated with this attribute was developed. For example, consider the attribute *Personal Interactions* within the *On-Board* phase. Two potential negative experiences were brainstormed for this attribute: 1) The flight attendants are rude and 2) The flight attendants are incompetent. In this way, negative experiences were developed for each attribute of the customer experience framework.

Initially, a list of 84 hypothetical airline experience attributes were developed from the customer experience framework. All such phrases were worded negatively since the goal of this research is to understand customer dissatisfaction and since the experience was based on

customer complaint data. A pilot survey was conducted on members of the MIT faculty to test the list of airline experiences and the survey methodology (*discussed below*). From the survey pre-testing, redundancy was discovered within the list of negative experiences, and were eliminated. The final condensed list of negative experiences consisted of 48 items.

4.3. Survey Sample

The survey was conducted on students at Harvard Business School in Boston, Massachusetts. This sample was chosen because it is a group with extensive travel experience and easily targetable. Most students at Harvard Business School come from work experiences that involved frequent business travel. The group of students can be contacted easily on e-mail lists. It is important to note that while the Harvard Business School student sample has provided tremendous insight into the causes of customer dissatisfaction, this sample has limitations. The Harvard Business School student community is not necessarily representative of all airline travelers. Results of the survey will provide insight into why Harvard Business School students are dissatisfied with air travel but not why the public at large is dissatisfied. This study should be regarded as a pilot study to begin learning about causes of dissatisfaction. It will also help us understand the success of this research approach. It should be followed by much broader work to study various segments of airline travelers.

4.4. Demographics of Respondents

A brief review of demographics of the 49 respondents in this survey is presented here. All respondents were 34 years of age or under, with all but 2 falling into the range 25-34 years old. Sixty-five percent of respondents were male, and the remaining thirty-five percent were

female. The sample of respondents have extensive airline travel experience. They averaged over 16.2 domestic business trips per year (before business school) and 7.1 domestic leisure trips per year. Internationally, they averaged 5.3 business trips per year (before business school) and 2.6 leisure trips per year. The full set of travel data is presented in the tables below.

Table 11. Travel Experience of Respondent Sample

Domestic Business Trips Per Year	
0-3	11%
4-6	9%
7-10	11%
11-15	17%
16-20	13%
20+	40%

Domestic Leisure Trips Per Year	
0-3	31%
4-6	29%
7-10	20%
11-15	10%
16-20	6%
20+	4%

International Business Trips Per Year	
0-1	26%
2-3	22%
4-6	14%
7-10	12%
More than 10	24%

International Leisure Trips Per Year	
0-1	43%
2-3	43%
4-6	8%
7-10	2%
More than 10	4%

4.5. Survey Methodology

The goal of the survey was to measure the importance of the various negative airline experiences in causing airline customer dissatisfaction. One should note the goal was not to develop one overall dissatisfaction metric. To accomplish our goal, a seven-point dissatisfaction scale was used anchored by *Extremely* Dissatisfied and *Not at All* Dissatisfied. In pre-testing, other methodologies were tested, such as pairwise comparisons, but it was found that the simplest approach was to use an absolute rating scale. A seven-point scale was selected over a five-point scale to offer more points on the scale for each respondent. Because the respondent is

given a set of negative experiences, responses are expected to be weighted more heavily towards the *Extremely* dissatisfied end as opposed to the *Not at All* dissatisfied end of the scale. By offering two additional points on the scale, the respondent should have more room for response variability.

The survey was operationalized using an on-line survey website: www.zoomerang.com. The survey announcement was sent by a member of the Harvard Business school class to his fellow classmates with an additional reminder after ten days. The potential respondents were offered an incentive of admission into a drawing for gift certificates by filling out the survey. In addition, we targeted the respondents by telling them their response data would be shared with senior management of airlines. The results of this survey will be shared with the advisory board of the MIT Global Airline Industry study (the sponsor of this research) at a future advisory board meeting. A number of airline senior executives are members of this board.

4.6. Sections of Survey

Respondents were presented with eight sections in the customer survey:

1) Ticket Purchase
2) Check-In, Waiting & Boarding
3) Cancellations
4) On-Board
5) Timeliness
6) Connections
7) Luggage
8) Other

The specific hypothetical negative experiences for each section are detailed below:

Ticket Purchase

1) You spend an hour on the phone trying to book your ticket
2) The reservation agent on the phone is incompetent when you book or change your ticket
3) The reservation agent on the phone is rude when you book or change your ticket
4) You try to buy a ticket online but the website is confusing and hard to use
5) You cannot get a seat assignment even though you call the airline well in advance of the flight
6) You pay seven times as much as the person sitting next to you
7) You cannot change your itinerary without paying a $100 penalty

Check-In, Waiting & Boarding

8) You stand in line for an hour trying to check-in
9) The check-in agent is rude
10) The check-in agent is incompetent
11) It's a 25 minute walk to gate
12) The departure lounge (or gate) is packed and there's nowhere to sit
13) Flight is overbooked & you get bumped off (but receive some compensation)
14) You are forced to gate-check your carry-on bags
15) You overhear that a passenger didn't get on board but his/her checked bags are not being removed from the plane

Cancellations

16) Flight gets cancelled and you get to your destination hours after you expected
17) Flight gets cancelled due to mechanical problem
18) Flight gets cancelled due to missing crewmember
19) Flight gets cancelled due to weather
20) Flight gets cancelled and you wait in line over an hour to rebook

On-Board

21) Seats are cramped
22) You are in a middle seat with people on both sides
23) Your seat is in the last row of the airplane
24) The meal on board is cold & small
25) There are not enough flight attendants to handle the flight
26) The flight attendants are incompetent
27) The flight attendants are rude

Timeliness

28) You depart 2 hours late because of a mechanical problem
29) You depart 2 hours late because of weather
30) You depart 2 hours late and the airline provides no explanation why
31) You depart 2 hours late in good weather because so many planes are scheduled at the same time
32) You depart 2 hours late but the airline keeps you updated about the cause and length of the delay
33) You depart 2 hours late waiting for a crew member to show up

34) You pull back from the gate on time but then wait for 2 hours on the tarmac
35) You are told there is a short delay but it keeps increasing and you end up departing 2 hours late

Connections
36) When making a connection, the walk between gates is extremely long
37) When making a connection, you have to change terminals
38) When making a connection, you have to claim and recheck luggage
39) When making a connection, you have to gate-check carry-ons due to space limits on the 2nd flight
40) When making a connection, you can't seem to find the connection gate anywhere

Luggage
41) The airline loses your checked luggage
42) You wait 45 minutes to claim your luggage
43) Your bags are lost or damaged & and you wait in line 45 minutes to report this
44) It takes the airlines 5 days to find your missing bags
45) The airline does not compensate you for bags that are lost or damaged

Other
46) You try to book a vacation with frequent flyer points but no seats are available anywhere you'd like to go
47) Your frequent flyer points are not recorded even though you gave your number at check-in
48) You complain to the airline and never hear back

4.7. Customer Dissatisfaction vs. Customer Choice

The goal of this research is to understand why customers are dissatisfied with air travel, not to determine models that understand customer choice. Ultimately this information should be interesting to public policymakers to understand how to keep the traveling public satisfied. And it should be interesting to airlines to understand what issues are most important to keep public lawmakers satisfied that the airlines are working with the public interest in mind. One should not expect the results of this study to necessarily match one's intuitive feeling about what motivates purchase.

Airline customer choice is well understood through intuition and academic studies (Proussaloglou & Koppelman, 1999). Travelers segment into two key groups: leisure travelers

and business travelers. Typically, business travelers purchase on the basis of schedule. They are less sensitive to price because their company usually pays the airfare. Since these are frequent travelers, their choice is also often influenced by their frequent flyer membership. Leisure travelers, on the other hand, are most driven by price in their purchase decision. Whether considering a business or leisure traveler, however, the drivers of purchase are typically intangible. They are not linked directly to the experience itself.

4.8. Limitations of Methodology

While this study sheds light on the problem of airline customer dissatisfaction, it has its limitations. No list of service dimensions can ever be complete, and this is especially true with the airline customer experience. Simply put, there are many things which can go wrong, and not everything is necessarily captured. Given our methodology discussed above, we believe that all critical negative experiences are captured, but the list cannot be regarded as exhaustive.

To keep the survey to a reasonable length, for a number of negative experiences, a point estimate was used to describe a spectrum of experiences. For example, within all of the delay experiences, a delay of two hours was utilized and the reasons for delay were varied. Ideally, both the reasons and length of delay would have varied, but there was not enough time with the respondent to do this. Also the respondent set was not large enough to vary the length of delay across respondents. In addition to the delay experiences, the luggage wait experiences utilized a point estimate of 45 minutes and waits in line were estimated by one hour in length.

The sample of business school students should not be considered representative of the entire air travel population. This sample is heavily weighted towards business travel. It is also highly educated and skewed younger than the typical airline traveler. Before results of this kind

of study can be generalized, more data analysis would be necessary to address the needs of other air travel segments.

The respondents in this survey are presented with a series of hypothetical scenarios. This was done for simplicity and to keep the survey short. If the respondent had discussed an actual scenario, there would have been extensive data to collect regarding the trip. This was not done for limits on time with the respondent. Because of this, the survey gained in simplicity but lost in reality. All responses are self-stated, which is less desirable than behavioral data.

Since the respondent examined and rated each negative experience independently, one cannot utilize the data from this study to understand the tradeoffs respondents make between different negative experiences. This would have required a separate methodology, such as conjoint analysis or discrete choice analysis. This methodology was considered but not chosen, again due to limits on the number of respondents and the amount of time each respondent was expected to spend filling out the survey. The data from the survey allows for a direct comparison between the importance of various negative experiences, but not the tradeoffs inherent between them.

Chapter 5. Survey Results

5.1. Research Hypotheses

Examination of previous research and data sources discussed in Chapter 2 of this study suggests that the following experiences may influence customer satisfaction:

- Personal comfort on-board
- Personal interactions (check-in, flight attendants)
- On-time luggage delivery
- On-time performance
- Information
- Being heard
- Fair bumping procedures
- Price
- Safety
- Sufficient frequency

This long list demonstrates the lack of consensus about why consumers are dissatisfied with air travel. Given the variety of issues that may impact customer dissatisfaction, we analyzed the survey data without any pre-conceived notions of the causes of customer dissatisfaction. The results of the survey analysis are discussed in the remainder of this chapter.

5.2. General Results of Customer Survey

The average rating for each negative airline experience is shown in rank order from worst to best in the figure on the next page. As the data suggests, the issues of luggage transfer, customer experience during delay and cancellation and customer-employee relations are critical issues for the industry to manage. In the next three sub-sections, we address customer dissatisfaction issues with irregular operations, luggage and labor. We look at the nature of the dissatisfaction and discuss current industry dynamics affecting the issues. For each, we discuss how this issue might affect the industry in the future.

5.2.1. Irregular Operations in the Airline Operations

Customer impact from irregular operations – delays and cancellations – occupy eight of the top twenty most important experiences causing customer dissatisfaction. This data is consistent with that of the D.O.T. Air Travel Consumer Report and eComplaints, where the Delay and Cancellation category receives the highest number of complaints. Industry operations have been hampered in recent years as the air transportation system has been unable to meet the growth in air travel demand. The situation is expected to get worse in the future as enplanements are expected to grow from 650 million in 2000 to nearly 1 billion by the year 2010.[11] In the analysis in this section, we attempt to gain a more visceral understanding of customer feeling about delay and cancellation. Specifically, we address the following questions:

- How important is information to customers during irregular operations?
- Is there a difference in dissatisfaction between delay and cancellation?
- Do customers react differently to different causes of delay or cancellation?

[11] See FAA National Airspace Operational Evolution Plan (OEP)

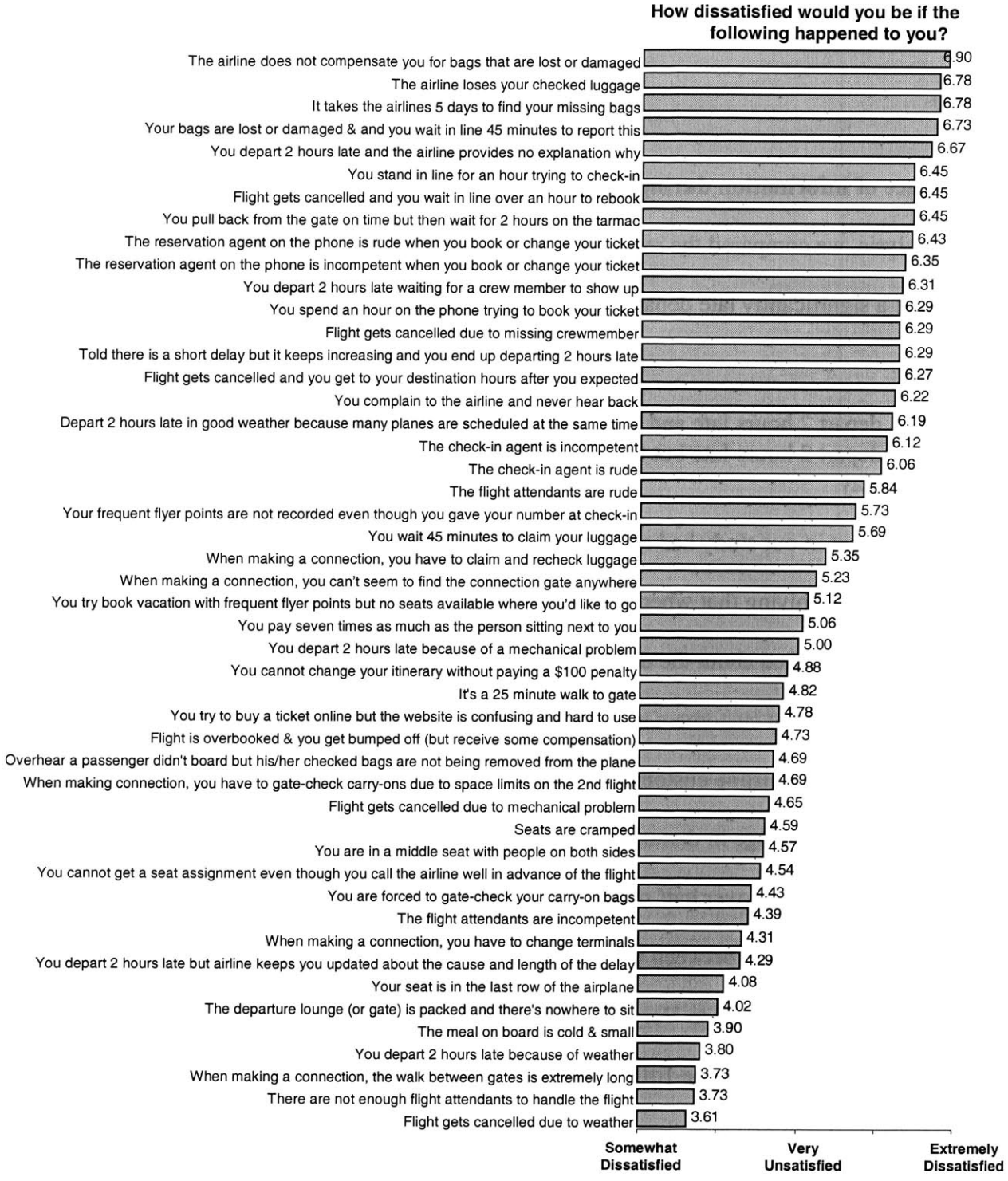

Figure 10. Complete Results of Airline Customer Survey

We conclude with a discussion of what is being done to improve system capacity and the volume of delay.

Importance of information during irregular operations

In this analysis, we compared the responses for each respondent to two questions that addressed the issue of a significantly late departure and examined the difference in dissatisfaction for each respondent:

- You depart 2 hours late and the airline provides no explanation why
- You depart 2 hours late but the airline keeps you updated about the cause and length of the delay

Every respondent in our study had an equal or greater level of dissatisfaction in the first situation than the second, implying that when travelers have information about the nature of the delay, they are less dissatisfied about the delay. This result is consistent with the work of Taylor (1994) in which she found that customers with higher levels of uncertainty (less information) were more dissatisfied with their airline customer experience. In fact, in our research only 10% of respondents felt no change in dissatisfaction when given information about the delay.

The responses of over half of respondents (52%) increased by 2 or 3 points on the seven point dissatisfaction scale between the two questions analyzed. All respondents either moved from Somewhat Dissatisfied to Very Dissatisfied or from Very Dissatisfied to Extremely Dissatisfied. An additional one-fifth of respondents (21%) had an even more extreme shift in dissatisfaction, moving from Somewhat Dissatisfied to Extremely Dissatisfied.

The results, summarized in the table below, suggest that airline management of information to the customer is a critical component of customer satisfaction. In fact, on an absolute basis, the attribute "You depart 2 hours late but the airline keeps you updated about the cause and length of the delay" was rated 41st out of 48 attributes in the survey. Relative to other

negative experiences, a delay with consistent updates and information falls to the bottom 15% of negative experiences.

Table 12. Shift in Customer Dissatisfaction when Given No Information Regarding Delay vs. When Given Information

0%	Less dissatisfaction
10%	No change in dissatisfaction
11%	Shift 1 point up on scale
52%	Shift 2 or 3 points up on scale, moving from *Somewhat Dissatisfied* to *Very Dissatisfied* or from *Very Dissatisfied* to *Extremely Dissatisfied*
21%	Shift 4 points up on scale, moving from *Somewhat Dissatisfied* to *Extremely Dissatisfied*

Dissatisfaction between delay and a cancellation

In this analysis, we selected three pairs of statements from our survey and examined the difference in dissatisfaction ratings between each pair of statements:

- Flight gets cancelled due to missing crewmember
- You depart 2 hours late waiting for a crewmember to show up

- Flight gets cancelled due to weather
- You depart 2 hours late because of weather

- Flight gets cancelled due to mechanical problem
- You depart 2 hours late because of a mechanical problem

Differences were calculated between the cancellation and delay ratings for each of the three reasons: mechanical problem, missing crewmember and weather. For the first two (missing crewmember and weather), it was found that almost no difference exists in the dissatisfaction

ratings for cancellation and delay. Paired t-tests also indicate that neither of these are significant differences. This implies that we cannot reject a hypothesis that no difference exists between dissatisfaction from cancellation and dissatisfaction from delay due to missing crewmember or weather.

The question becomes even more intriguing when we look at the results for irregular operations due to mechanical problems. The difference in dissatisfaction (cancellation rating minus delay rating) is –0.35. A two-tailed paired t-test indicates that at a 90% confidence level a significant difference exists between the dissatisfaction rating for cancellation due to mechanical problem and cancellation due to a mechanical problem. The data is summarized in the table below.

Table 13. Difference in Dissatisfaction Between Cancellation and Delay by Cause

Reason for Irregular Operation	Difference in Dissatisfaction Ratings (Cancellation minus Delay)
Missing crew member	-0.02
Weather	-0.18
Mechanical problem	-0.35

The result is intriguing because a 2-hour delay due to a mechanical problem is more dissatisfying than a cancellation due to a mechanical problem. On the surface, one might hypothesize that a cancellation would be worse than a delay. At least in a delay, a passenger is likely to arrive at his or her destination on the correct day. With a cancellation, the uncertainty of when one reaches his or her destination increases.

Given this, we can formulate an informed hypothesis regarding airline customers' views of mechanical problems. With a mechanical problem, a customer may feel more comfortable with a cancellation than a delay. Customers that know their aircraft is having mechanical problems and undergoing repairs for the two hours leading up to the flight may be more nervous about the flight. A cancellation, while likely resulting in increased delay and uncertainty, offers the comfort that one will not have to fly on the aircraft with the mechanical problem.

The larger question remains whether customers have a difference in satisfaction with respect to delay and cancellation. Another test was done by averaging dissatisfaction with all reasons for cancellation and averaging dissatisfaction with all reasons for delay. A paired t-test of the differences in dissatisfaction from cancellation and dissatisfaction from delay was done. On average, dissatisfaction from cancellations minus dissatisfaction from delays was -0.18. The t-test resulted in a t value of -1.9795 and a p-value of 0.0535. This means at the 90% confidence level, we can state that a significant difference exists between dissatisfaction with delay and dissatisfaction with cancellation.

However, the same analysis was conducted for all causes of cancellation and delay excluding mechanical problems. The result was a difference in dissatisfaction of –0.07. The t-test resulted in a t-value of –0.7698 and a p-value of 0.4452, indicating no significant differences at the 90% confidence level. It can therefore be concluded that customers retain no difference in dissatisfaction from cancellation and from delay, except in the case of a mechanical problem. In that situation, customers are more comfortable to deal with a cancellation because of safety reasons. These results are different than what was expected, as one might have thought that cancellations would result in greater dissatisfaction than delay. However, it is safe to think about cancellation and delay as evoking similar levels of dissatisfaction.

Customer reaction to different causes of delay or cancellation

As discussed in Chapter 1, the airline industry has received extensive media attention and governmental scrutiny because of the growth in delay and cancellation in the late 1990's and 2000. The subject is typically addressed at a high level, with all delays grouped into one category. However, irregular operations occur for different reasons, and not all reasons necessarily elicit the same customer reaction.

We address cancellations first, and three reasons are examined:

- Missing crewmember
- Mechanical problem
- Weather

The results clearly demonstrate that a missing crewmember cancellation is significantly worse than a mechanical problem cancellation, which is significantly worse than a weather cancellation. The results of paired t-tests within respondents show that significant differences exist between these three reasons for flight cancellation.

Table 14. Comparison of Dissatisfaction Ratings Between Different Causes of Flight Cancellation

Attributes Under Comparison	Difference in Dissatisfaction Rating	Paired T-test between Dissatisfaction Ratings (t-statistic; p-value)
Missing Crewmember vs. Mechanical	1.63	t=6.6822; p=0.0000
Missing Crewmember vs. Weather	2.67	t=11.1436; p=0.0000
Mechanical vs. Weather	1.04	t=4.4754; p=0.0000

The results are consistent with those of Taylor (1994). A reason for cancellation that is in the airline's control (such as a missing crewmember) results in the greatest level of dissatisfaction. The reason that is most out of their control (weather delays) causes the least level of dissatisfaction. In fact, among all the 48 negative experiences proposed to customers in the entire survey, a flight cancellation due to weather had the lowest level of dissatisfaction.

A similar analysis was done for flight delays. For delays we had four causes:

- Missing crewmember
- Mechanical problem
- Weather
- Overscheduling

Table 15. Comparison of Dissatisfaction Rating Between Different Causes of Flight Delay

Attributes Under Comparison	Difference in Dissatisfaction Rating	Paired T-test between Dissatisfaction Ratings (t-statistic; p-value)
Mechanical vs. Weather	1.20	t=7.1058; p=0.0000
Mechanical vs. Overscheduling	-1.21	t=6.0747; p=0.0000
Mechanical vs. Missing Crewmember	-1.31	t=6.7731; p=0.0000
Weather vs. Overscheduling	2.38	t=11.9486; p=0.0000
Weather vs. Missing Crewmember	2.51	t=12.1607; p=0.0000
Overscheduling vs. Missing Crewmember	0.10	t=0.6186; p=0.5391

Dissatisfaction with various causes of delays follow the same pattern as dissatisfaction with various causes of cancellations. A missing crewmember results in the highest level of

dissatisfaction, followed by mechanical problems which is significantly lower. The least dissatisfaction is with a delay due to weather.

An additional reason for delay is included beyond those for cancellations. This is the problem of *Overscheduling*. Overscheduling occurs when too many planes are scheduled at the same time beyond the capacity of the airport. As seen in the data above, delays due to Overscheduling cause the same level of dissatisfaction as a delay to a missing crewmember (the highest level of dissatisfaction among the causes of delay). This result is significant for a number of reasons. About 2/3 of scheduled airline traffic in the industry is organized within hub and spoke networks, and approximately 90% of delay is experienced at these airports.[12] The major network airlines operate multiple "banks" of flights each day in which a number of aircraft from different cities arrive and depart. This way passengers can transfer across multiple flights and the airline can serve many city pairs with one stop in a hub. The problem of Overscheduling has arisen because air travel is growing in the U.S. More passengers are flying and demand is greater than ever before. To meet the demand, airlines need to schedule more flights during their banks than in the past. As more flights are scheduled during each bank at an airport, the number of aircraft in the system sometimes exceeds capacity. From the survey data, customers clearly believe overscheduling delay is within the airlines' control and should be managed effectively by the airlines. The U.S. economy may be in a downswing at the moment, but air travel will once again grow, and scheduling practices and air traffic control infrastructure will need to be effectively managed to meet the demand with the capacity available.

Despite the dissatisfaction, there are some positive signs for airline congestion. The government has identified capacity as one of the top priorities for this country. In June 2001, the Federal Aviation Administration released its National Airspace Operational Evolution Plan

(NAS OEP) which addresses the imbalance between air travel demand and capacity. The FAA intends to integrate its existing and future activities with those of the industry.

The NAS OEP is layed out in three phases:

Near Term Plan (2001)
- Resolve choke points
- Spring 2002, collaboration and information sharing

Mid-Term Plan (2002-2004)
- Optimize airspace design
- Widespread use of free flight tools
- Reduced vertical separation
- Enhanced navigation procedures

Long-Term Plan (2005-2010)
- Data communication
- Satellite navigation
- Enhanced surveillance

In addition to the FAA, the Boeing Company announced plans in November 2000 of the establishment of the Air Traffic Management business unit. The group's goal is to improve safety, reduce delays and open the skies to add more flights. The ATM group at Boeing believes it can work in a complementary fashion with the FAA to develop a new air traffic management system quickly. The ATM group has stated three pillars upon which it intends to develop its system:

- Trajectory-based air traffic management: national and regional flow planning system with dynamic replanning
- Common information network: utilizing GPS and satellite based communication technology
- Airspace redesign: building off of the FAA redesign

Boeing officials believe this system would reduce delays by nearly 50% and allow for air traffic growth for the next 15 to 17 years.

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[12] See FAA Operational Evolution Plan, Version 3.0, June 5, 2001, p. 1

5.2.2. Luggage Transfer in the Airline Industry

Customer complaint data from the Department of Transportation and eComplaints suggests that luggage transfer is an important determinant of customer dissatisfaction. This belief is confirmed in the data from this survey (detailed below). In the domestic airline industry there were approximately 750 million pieces of checked baggage moved in 2000.[13] According to the Department of Transportation Air Travel Consumer Report, 2,738,463 pieces of luggage were reported missing on the ten major airlines in 2000. Major airlines represent just over 80% of enplanements in the United States, so we estimate that about 3.3 million bags were lost in 2000. This amounts to 0.4% of bags being lost. This analysis is consistent with the Air Transport Association website which states that 99.5% of bags arrive correctly to their destination.

The statistics above mean that mistakes with baggage transfer happen rarely. However, when mistakes with luggage happen, customer outrage is high. The following anecdote from the website eComplaints summarizes the kind of problems that customers have regarding lost luggage:

> "On arrival [to our destination] we discovered that our case was missing and we were only left with our garment bag. The following morning, a message was left on our mobile saying that our case still hadn't been located. I called back early that afternoon and was told once again that they were looking for it but still could not locate our case.
>
> This case contained all of our toiletries, casual clothes and running shoes, prescribed medicine, phone chargers and other essentials. When we asked the Virgin representative what we were supposed to do until our case was found, we could not be given a solution as "the man in charge was not in until tomorrow". Other airlines, in situations like this, would simply say to buy the essentials. I suggested this and [we were told] we could buy what we needed.
>
> Each day we had to spend time replacing things, as we needed them. The apartment we were staying in did not have a telephone and we had to rely on public telephones until we could replace the charger for one of our phones. We also had to arrange for an out of hours doctor's visit so that we could have our prescribed medicines replaced. This whole experience was incredibly annoying and in essence ruined our holiday.

[13] Approximately 700 million bags were transferred in 1998 (Sharkey 1999). Growth in enplanements between 1998 and 2000 was approximately 3.5% per year. Applying this growth level to baggage, we estimate 750 million bags were transferred in 2000.

We were not able to enjoy our holiday as it is very inconvenient without our own belongings, especially casual clothes, shoes, beach accessories, toiletries, medicine kit, medicines etc.

To add insult to injury, no one from your company bothered to contact us. I had to ring regularly to see if anything had happened.

To date we still have not received any reimbursement for the money we spent replacing our essential items in Queensland, phone calls, petrol & airport parking picking up our luggage. Let alone any compensation for the inconvenience and our invaluable time. This experience has cost me dearly in terms of both time and money. I would appreciate an immediate response to my claim.

The most disappointing aspect of our experience with Virgin Blue is to find out how little value was placed on good customer relations. Telephone calls were rarely returned and your staff seemed almost reluctant to assist us in our plight, and those we did get to speak to acted rather put out that we would expect them to do something for us – the customer."

This passenger experienced the following typical problems with lost luggage:

- Missing essentials: toiletries, clothes, medications, etc.
- Stress during a vacation or business trip
- Uncertainty about where the bags are or when they will be returned
- Lack of responsiveness or concern from service provider
- No reimbursement for lost time and expenses

The data in our survey suggest that passengers are most fearful of luggage problems. In fact, the first four luggage related items in the chart below were the worst rated attributes of the entire list of attributes in the customer survey. Thus, when luggage problems occur, customers are the angriest.

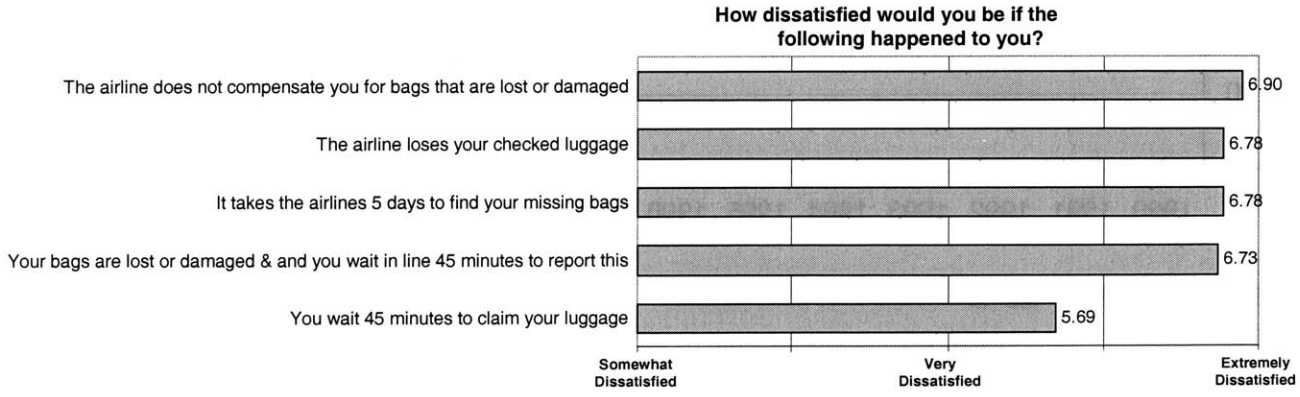


Figure 11. Dissatisfaction Rating with Luggage Transfer in Customer Survey

The data above raises the question of what the future is for luggage transfer. Since it is such a sensitive issue for customer dissatisfaction, airlines are constantly mindful of the issue. One might conclude that conditions are improving. Looking at the data in the figure below, one can see that lost baggage per enplaned passenger has been trending downwards since 1992. This might imply that airlines are paying more attention and/or becoming more skilled at the process of baggage transfer. However, this may or may not be the case. Passengers may be checking in less luggage. Continental Airlines, for example, has installed larger overhead storage bins in response to increased customer demand for bringing additional or larger hand bags onto aircraft. It is possible that baggage handling is not improving and the decrease in lost bags per enplanements is a result of a decrease in the volume of checked luggage.

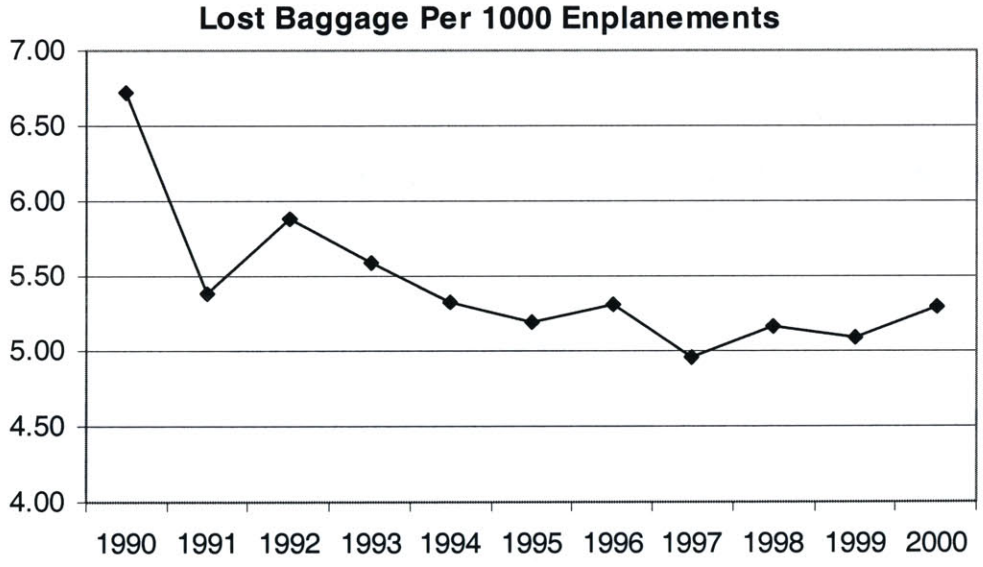


Figure 12. Lost Baggage Statistics, 1990-2000

The government has correctly identified this weakness in current measurement of baggage handling statistics. The Inspector General report of February 2001 requested the FAA and DOT to adjust its baggage transfer metric. It has asked to report how many bags are lost per

bag checked. This data would be useful for understanding how well the operations of luggage transfer work. The question remains as to when the DOT will implement this metric and whether the airlines will lobby against it.

There are research developments that could positively impact the success of luggage transfer in the future. British Airways has conducted experiments with radio frequency identification (RFID) luggage tags. Results of tests done by British Airways indicate that luggage was transferred with 99.99% accuracy (Nelms 1999). Such a system could have the challenge of getting airlines to agree globally on a common frequency for the tags. Such efforts and development costs could be worthwhile since currently the airlines pay billions of dollars in reconciling and reconnecting lost bags with their owners.

Automation has potential for improving the luggage transfer process. Bar codes, scanners and automated moving systems can be utilized in tandem to move luggage effectively. However, Goetz and Szyliowicz (1997) discuss a number of problems with implementing automation in an airport luggage transfer system. They form their discussion in the context of their case study of the new Denver airport. In Denver, the baggage system was designed to automatically deliver bags from check-in to the gate. Bags with bar-coded tags were placed into individual carts, scanned and sent through a series of tracks, scanners and switchers directly to the gate. They point out two key challenges to this kind of system. First, the mechanical components must be precise, since there is high potential for carts falling off track or crashing into other carts or objects. Secondly, millions of lines of software code are required to make the system work effectively. Any error could cause severe ripple effects in a luggage transfer system. Goetz and Szyliowicz point out that these issues caused the greatest difficulty in Denver because the airport authority decided late in construction to develop the automated system for the

entire airport (and not just one concourse as originally planned). Ultimately they had to pull the system back to one concourse only because of extensive technical difficulties.

The problem of lost luggage will never disappear completely. One cannot design a system that would work perfectly during irregular operations. When passengers make extremely tight connections after a flight delay, there is an increased probability that the luggage will not make it onto the flight. A passenger can run through the terminal and make a very close connection, but the same would probably not happen with checked luggage. Given irregular operations occur as a result of weather or mechanical issues, with even the most advanced air traffic control system, passengers will always need to remain prepared that luggage transfer problems might occur. A recent study by Barnett et al (2001) states that in one test irregular operations were present at six major hub airports in 1992 about 5% of the time.[14] This data is almost a decade old, well in advance of recent congestion problems, so one might expect this figure to be even higher today.

5.2.3. Labor Relations in the Airline Industry

Throughout 2001, the airline industry faced a series of rifts in labor-management relations. Northwest Airlines, United Airlines, American Airlines and Delta Airlines all faced major contract negotiation hurdles with large unions. Comair, a regional Delta subsidiary, endured a three month-long pilot's strike. Newly inaugurated President Bush publicly stated his desire to avoid any strikes at a major airline. He said, if necessary, the federal government would get involved in preventing major airline strikes.

[14] An hourly period is *irregular* if at least 1/3 of carrier's departures were canceled or 30+ minutes late. Hubs include Atlanta, Chicago O'Hare, Dallas-Ft. Worth, Houston Intercontinental, Minneapolis-St. Paul and Pittsburgh

Contract negotiations at the airlines mentioned above have been resolved, but relations between labor and management still have much room for improvement. Von Nordenflycht (2001) discusses three dimensions along which the industry's labor relations dynamic create "suboptimal results." First, bargaining efficiency, or discussions between labor and management are "long and often contentious." Second, while strikes are rare, operational disruptions, such as sickouts, are more frequent. Finally, operating efficiency is not optimized. Labor contracts contain extensive work rules that decrease the airline's ability to effectively and efficiently utilize its employees.

All three of these problems can directly impact a customer's experience. For example, long and contentious labor discussions could create bitterness or anger on the part of front-line employees. Such bitterness could be imparted to the customer intentionally or unintentionally during an employee-customer interaction. Operational disruptions, naturally, have a direct and negative impact on the customer experience. Finally, it is conceivable that increased flexibility on the part of management to utilize its workforce could improve the efficiency with which it delivers its product (scheduled airline service) to its customers.

Results of this survey suggest that employee-customer interactions are important factors in customer dissatisfaction. However, these interactions sit on a second tier of the causes of dissatisfaction, a step below factors like delays, cancellations and lost luggage. The chart below shows that there are high levels of dissatisfaction with negative airline employee-customer. The first two attributes on the list are among the ten most important causes of dissatisfaction. All five of these are within the top twenty causes of dissatisfaction.

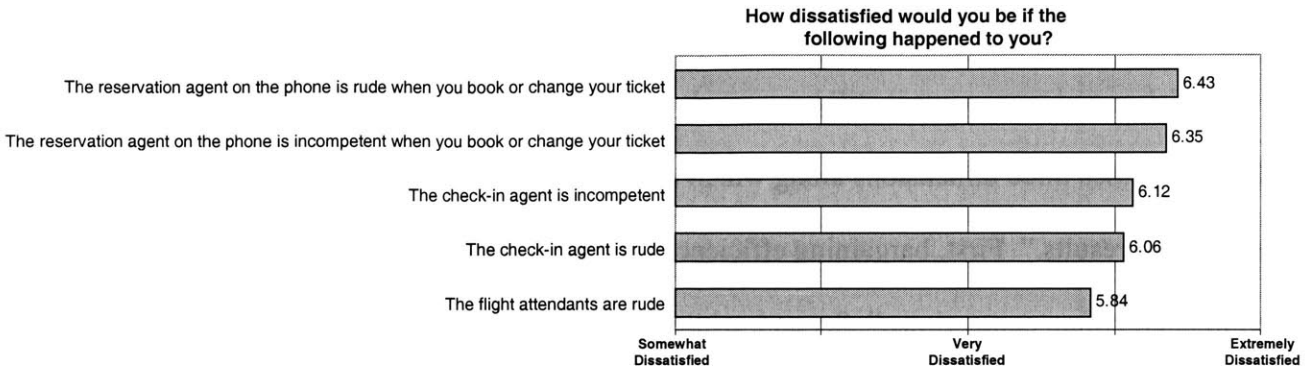


Figure 13. Dissatisfaction Rating with Employee Interactions in Customer Survey

Although employee behavior is not among the top five reasons for customer dissatisfaction, it can have a compounding effect on customer dissatisfaction. When first-tier causes of customer dissatisfaction (irregular operations and luggage transfer problems) occur, it is the job of front-line employees to deliver the bad news to customers. The manner in which this communication is handled can have a profound impact on how the customer feels about the experience. Employees who are dissatisfied with their treatment on the job from management may have little or no desire to have a positive interaction with the customer. As mentioned earlier, customers are most dissatisfied in a delay or cancellation when they are given no reason or explanation why the delay or cancellation has occurred. In the context of irregular operations or luggage problems, negative interactions only compound the negative customer experience. Giving front-line employees a reason to trust management and care about the airline and customer is therefore the key challenge for management-labor relations.

It is also worth noting that a relationship likely exists between airline operations and the customer-airline employee relationship. When airline operations run smoothly, airline employees have less responsibility to communicate delays, cancellations, lost baggage and other negative customer experiences. This engenders a low stress, positive environment for airline employees to do their jobs. It minimizes passenger and employee stress and avoids passenger

and employee conflict. In an environment of smooth airline operations, we would expect higher employee satisfaction and, ultimately, decreased customer dissatisfaction.

5.3. Application to Airline Alliances

In the past decade, global alliances have become an increasingly important component of the airline customer service mantra. Some stated goals of alliances include expanded network coverage and consistent customer service. On www.staralliance.com, the international traveler is told that "[Star] offer[s]...a seamless experience and convenient global access." Similarly, on www.oneworldalliance.com, the reader is told "oneworld will offer superior, seamless service." What this "seamless service" means to the customer, however, is not well defined. In fact, many customers, especially those in the United States that have experienced increased delays in recent years, claim that individual airlines have trouble providing a seamless experience. Thus, delivering seamlessness across multiple international carriers may appear far-fetched at first glance.

This motivates the need to understand what an international traveler perceives as a seamless customer experience. Alliance partners have many seams along which they need to coordinate. Some examples include check-in procedures, baggage handling and frequent flier point redemption. Alliances do not have the resources to perfectly coordinate on all seams and must understand what seams are most critical to passenger satisfaction. A brief background on airline alliances and the challenges they face is presented below, followed by a discussion of the results as they pertain to this growing domain.

5.3.1. Background on Alliances

An alliance is defined as "relatively enduring inter-firm cooperative arrangements that involve flows and linkages that utilize resources and/or governance structures from autonomous organizations, for the joint accomplishment of individual goals linked to the corporate mission of each sponsoring firm" (Parkhe, 1991). Alliances are developed by multiple firms in a win-win framework. Each partner shares its specific strengths in the relationship, lending power to the entire enterprise. The arrangements fit in between traditional sourcing on one end and acquisition on the other end. Alliances are formed primarily when partnering firms have strategic gaps in critical differential capabilities, and these capabilities are too expensive or impossible to acquire (through formal acquisition or development). In layman's terms, both partners in an alliance have something each other wants but cannot get without each other.

Alliances have been growing dramatically in many industries around the world since the mid 1980's. Between 1980 and 1987, 5,100 new alliances formed. Between 1987 and 1992, 20,000 new alliances formed and between 1994 and 1996, another 20,000 formed. In 1996, nearly 15% of revenue for the top 1000 US firms came from alliances, representing a four fold increase since 1987 (Booz, Allen & Hamilton 1993). Corporations have increasingly seen alliances as attractive vehicles through which they can grow and expand their scope, and the rate at which interfirm alliances have been formed in the last two decades has been unprecedented (Harrigan, 1986).

One driver of alliance growth is market globalization. Trade routes are opening up and deregulation of businesses is increasing, resulting in more competition across borders. The result of this is that industry boundaries are blurring. For example, Ford no longer worries only about GM and Chrysler in Detroit. Competition from Japan and Europe are now as critical as the other

two major manufacturers in the U.S. Also, businesses are always operating with scarce resources. With increased competition in the global marketplace, they have to consider new and creative solutions to running their business. Alliances have been one such solution to deal with global markets and increased competition.

Some might question why so many alliances have formed instead of many more cross-border mergers and acquisitions. First, companies have found it extremely difficult to run another business from overseas. Not having the leadership on the ground in the country, time zone differences that restrict communication and language barriers all factor into the challenges to merge a foreign firm into your own. Often times when a company is acquired by a foreign parent the best managers leave, deciding not to deal with the new environment.

Another reason that alliances outweigh mergers and acquisitions is because it simply may not be legal, especially in the airline industry. Swissair and Sabena formed the Airline Management Partnership (AMP)[15] because they were not allowed to merge. If the firms merged and were owned by a Swiss parent company, the Belgian operation would lose its international rights to fly from Brussels to various international destinations, except those in Switzerland. By becoming a Swiss company, the company would be forced to operate according to Swiss rules permitted in Swiss bilateral agreements.

There are a number of common reasons for which airlines seek out alliances:

- Expansion of seamless service networks
- Traffic feed between partners
- Cost efficiency
- Improvement of service quality (schedule, online connections)
- Marketing advantages: frequent flier programs

[15] The AMP is a management structure in which operations management for Swissair and Sabena remain separate for legal reasons but all other functional (finance, human resources, etc.) are merged into one entity

5.3.2. Challenges in Alliance Management

Airline managers have a number of pitfalls to deal with in airline alliances. Competitively, alliances are often a reactive measure than a proactive one. When a key competitor announces an alliance, pressure arises both internally and externally (investors) to remain competitive and enter an alliance. When American and Lufthansa were unable to strike a deal during US-Germany Open Skies discussions in 1993, United formed an alliance with the German carrier. American was essentially left only to partner with British Airways to match the size and scope of the United-Lufthansa alliance. British Airways was likely not American's first choice, and their alliance has had problems agreeing on sharing transatlantic traffic and in seeking antitrust immunity.

It is extremely difficult to negotiate the terms of an alliance because often times the scenario is more vague than an acquisition. The benefits are hypothesized and uncertain, like an acquisition, but the action plan to implement the deal is more unclear than a merger. Trust between alliance partners becomes critical to develop the alliance. The discussions can degenerate into discussions among lawyers and corporate staff, resulting in stagnation. Often times, partners will focus more on their contribution and knowledge to ensure it is not being undercut in the deal. Some suggest having line managers work on operating details of alliances and keeping lawyers removed until later in the discussions (Booz, Allen & Hamilton 1993).

Communication is another challenge for alliance managers to deal with. There needs to be clear, open and periodic communications because there are cultural challenges and organizational forces resistant to change. Alliance partners need to explicitly specify objectives and goals at the initiation of the alliance. With language barriers, time differences and cultural

sensitivities, objectives may not be set well, and, further, day-to-day alliance managers may have challenges moving initiatives forward.

Internally firms find difficulty attracting their best individuals to work on alliance issues. Many perceive it as a high risk career move since individuals who are cast off from the "mothership" to work on alliances are often left stranded. Procedures need to be in place to put the best people in alliance projects and rescue them if the alliance turns sour are required to attract the best talent.

There is also a challenge of one or a few parents being significantly more dominant than the others. There is danger the smaller partners will disengage with the coordination process. For example, the Star Alliance, under the implicit leadership of United and Lufthansa, faces this challenge. The alliance is always in danger of becoming a UA-LH partnership with peripheral carriers, and this could affect the motivation of the other partners and stability of the alliance as a whole if these two are not careful.

5.3.3. Customer Complaints About Alliances

As we begin considering customer needs in an alliance context, we will draw upon a specific customer complaint received at www.eComplaints.com. This complaint is selected because it serves as an excellent example of many of the things that can go wrong for a customer in an alliance context. This complaint is paraphrased below from one provided by a customer who was scheduled to fly from Vancouver, Canada, to Guadalajara, Mexico on a series of Star Alliance flights in August, 2000. Specifically the itinerary was the following in business/first class:

Table 16. Itinerary for Alliance Customer Complaint Drawn from eComplaints

Leave Vancouver Arrive San Francisco	0655 Flight 5110 0913	Air Canada (operated by United)
Leave San Francisco Arrive Guadalajara	1010 Flight 9740 1555	Air Canada (operated by Mexicana)
Leave Guadalajara Arrive Los Angeles	0745 Flight 9739 0850	Air Canada (operated by Mexicana)
Leave Los Angeles Arrive Vancouver	1250 Flight 537 1530	Air Canada (operated by Air Canada)

The travelers' story is as follows:

"Upon arrival at the Vancouver airport the morning of departure (we arrived about 2 hours prior departure) the ticket agent attempted to book our onward flight from San Francisco to Guadalajara but was unable to do so as the computer system (Star Alliance) was not compatible. Upon arrival at the Air Canada lounge, we checked with both Air Canada and United representatives and were advised that we would not encounter problems.

During our flight, it became apparent that our arrival would be delayed but, by no more than 15 minutes. As we approached the gate in San Francisco, we had the stewardess ask the pilot to contact Mexicana (the Star Alliance onward carrier) and were assured that Mexicana was expecting us. Unfortunately no one could direct us to the right place. Keep in perspective that United/Mexicana/Air Canada are all partners in Star Alliance ... why would the United Airlines representatives have no idea where Mexicana was located? You call this a partnership?

In any event, upon arrival at the Mexicana counter just 30 minutes prior departure for Guadalajara, we were rudely informed that the gate was closed one hour prior to departure in compliance with international departure rules and were not boarded. After much ado by Mexicana staff, they finally put us on board UA 2025 San Francisco to Los Angeles. We were assured that we would be met by their representative at L.A. airport to assist on meeting our next flight. We were not met by anyone.

We finally boarded Mexicana 917 (from Los Angeles). Needless to say, our friends who had arranged to meet us at our destination, had long departed and were unable to contact them as we had failed to note their new telephone number. After an extended frustrating discussion with a Mexicana supervisor we finally obtained a voucher for an overnight stay at the airport hotel. It was interesting to note that Mexicana was able to ticket us for the second leg of our journey...

Our return flight ex Guadalajara to L.A. was uneventful until we arrived at L.A. which airport is difficult at best of times but, being directed to the wrong terminal two times is incomprehensible. Remember, these airlines are all partners in Star Alliance ... or are they? After about 45 minutes waiting at the carousel for our baggage, we were advised that our luggage would not be arriving as it had been shipped elsewhere. It was another hour before we arrived at the counter to formalize the issue.

Two $50.00 travel vouchers does not even begin to compensate us for the aggravation!"

5.3.4. Seams of Coordination Alliances Must Manage

We examined the customer experience framework introduced in Chapter 1 to identify seams along which alliances need to work together. An attribute of the customer experience was classified as a seam of coordination if alliance carriers needed to work together to deliver this piece of the customer experience. Two major categories of seams were identified: strategic seams and tactical seams.

Strategic seams are those which involve alliance managers developing similar *policies* and *procedures*. For example, partner airlines must decide on which frequent flier points can be used towards free tickets. In the **one**world alliance, British Airways and American Airlines have found this issue on transatlantic flights to be a major strategic barrier to coordination. Transatlantic flights are important and highly profitable for both carriers, and neither wants to relinquish any of this traffic to the other carrier. The carriers have solved the coordination problem by not coordinating. Frequent flier points earned transatlantic on BA flights cannot be counted as AA frequent flier points, and vice versa. This type of coordination requires management personnel from headquarters to work together in setting policies. Three strategic seams of coordination were identified: ticketing, frequent flier points and response to complaints.

Tactical seams are those in which alliances deal with passengers during the days of flight. These are a combination of information related coordination (check-in, responding to missed connections) and physical coordination (gate location, luggage transfer). This coordination involves planning by management personnel at headquarters, but on a day-to-day basis involves employees, systems and physical assets at all of the even most remote locations of the airlines. Four operational seams were identified: check-in, connection experience, response to cancellations and luggage transfer.

Table 17. Seams of Coordination in an Alliance

Strategic	Operational
• *Ticketing*: can all ticketing or changes for entire itinerary be made with each carrier? • *Frequent flyer points*: are points quickly and correctly recorded for all segments? Can points be easily redeemed across the alliance carriers for upgrades or free tickets? • *Response to complaints*: does alliance quickly respond to complaints in a satisfactory and coordinated manner?	• *Check-in*: can all boarding passes and baggage checking be done at departure city? • *Connection experience* – How long is walk between connection gates? – Do you have to change terminals to get between connection gates? – Is connection time short and rushed or long? • *Response to cancellations / misconnects*: are you easily transferred to alternative alliance flights? • *Luggage transfer*: are bags lost? If so, are they quickly found?

We selected a subset of attributes from the customer survey that correspond to the set of negative experiences along the seams of airline alliance coordination. For each seam, the relevant attributes from our survey are listed below:

Ticketing
- You spend an hour on the phone trying to book your ticket
- The reservation agent on the phone is incompetent when you book or change your ticket
- You cannot get a seat assignment even though you call the airline well in advance of the flight

Check-In
- You stand in line for an hour trying to check-in
- The check-in agent is incompetent
- The departure lounge (or gate) is packed and there's nowhere to sit

Response to Irregular Operations
- Flight gets cancelled and you get to your destination hours after you expected
- Flight gets cancelled and you wait in line over an hour to rebook

Connection Experience

- When making a connection, you have to claim and recheck luggage
- When making a connection, you can't seem to find the connection gate anywhere
- When making a connection, you have to gate-check carry-ons due to space limits on the 2nd flight
- When making a connection, you have to change terminals
- When making a connection, the walk between gates is extremely long

Luggage Transfer

- The airline loses your checked luggage
- It takes the airlines 5 days to find your missing bags

Response to Complaints

- You complain to the airline and never hear back

Frequent Flyer Points

- Your frequent flyer points are not recorded even though you gave your number at check-in
- You try to book a vacation with frequent flyer points but no seats are available anywhere you'd like to go

The results from the survey are shown in the figure below:

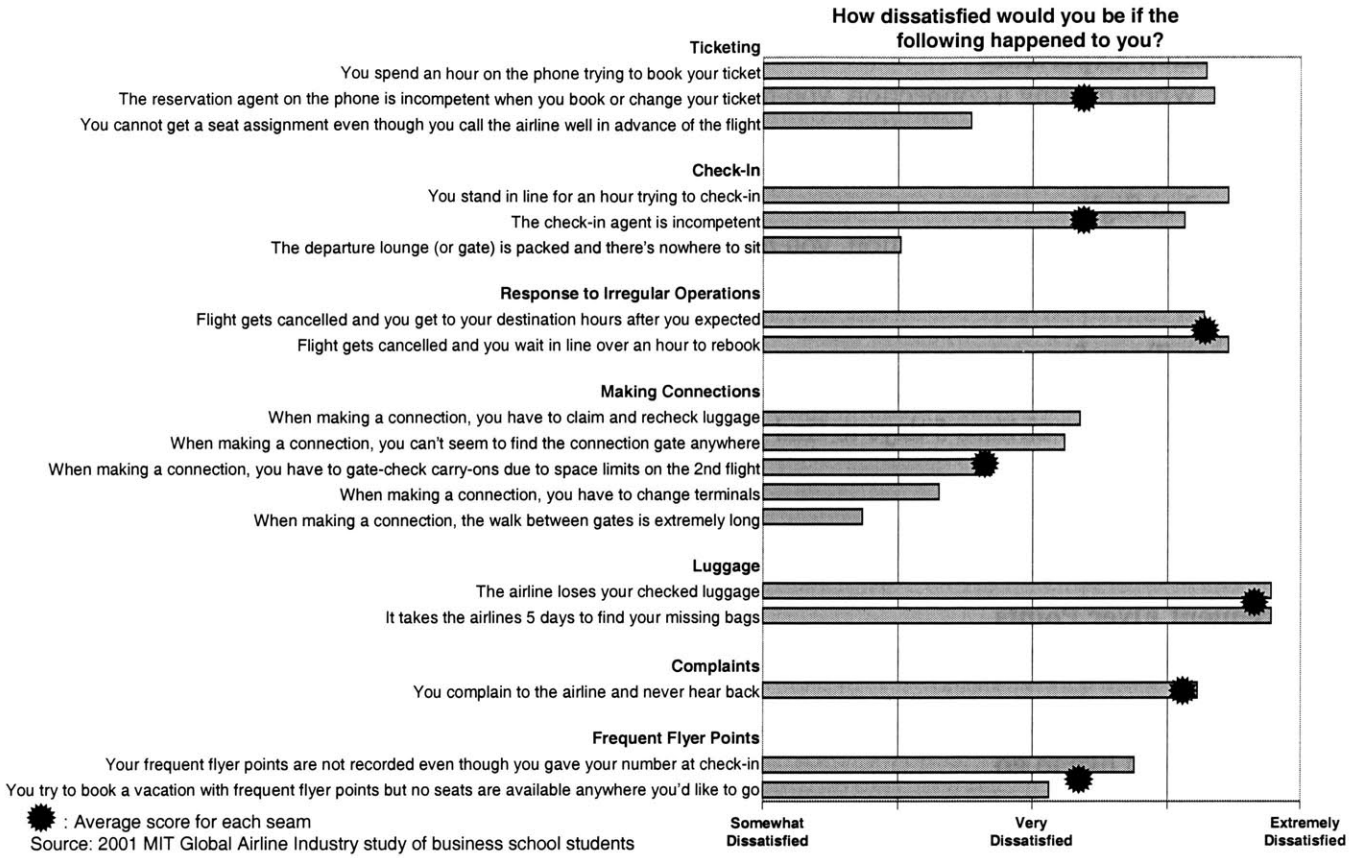


Figure 14. Attribute Ratings for Airline Alliance Seams

5.3.5. Implications to Alliances

The results suggest moving passengers during irregular operations has most impact on passenger satisfaction in an alliance context. A key question to alliance partners is: who owns the passenger? In the example above, did Mexicana own the passenger? United? Air Canada? Employees of each airline need to have proper incentive to ensure appropriate rerouting of alliance partner passengers. There is a danger on the hand-off of a passenger between partner carriers during an irregular operation that the first airline may try to get rid of the passenger to the second carrier, and the second carrier may send the passenger back to the first carrier to have them fix the problem.

A second key issue for alliance partners to manage is coordination of luggage transfer. In the summer of 2000, luggage transfer in Amsterdam had many problems, especially between Northwest and KLM flights, due to capacity limitations and the physical structure of the luggage transfer system. The problems cost Northwest Airlines millions of dollars in compensation to passengers whose luggage did not arrive into the U.S. on time on flights from Amsterdam. Northwest responded by sending fifty baggage handlers from the U.S. for nearly three months to provide manpower during the busy summer travel months. This resulted in dramatic improvements in baggage transfer in Amsterdam. The problems, though, created tension between the two carriers because Northwest felt KLM should have better managed luggage transfer in Amsterdam. It is important to ensure that baggage handling employees at both carriers have the proper incentives in place to work for each other. KLM employees in Amsterdam must have the incentive to get bags onto Northwest aircraft out of Amsterdam as much as they have incentive to get bags onto KLM aircraft. The challenge to alliance management is to create the incentive structure to work for the prosperity of the alliance and have this incentive translate down to all levels of employees.

Surprisingly, the physical connection structure (gate locations, same terminal) was less important for satisfaction. This is surprising because alliances are publicly speaking about the importance of proximity in terminal areas. For example, the Star Alliance has openly stated their desire to become the number one alliance at London's Heathrow. However, Star laments their inability to co-locate all of their carriers in the same terminal. The customer response in this survey indicates that, so long as connection times are reasonable, a walk from one terminal to another is understandable. International alliances imply international connections, which always

have connection times of at least 1.5 to 2 hours. Assuming the airline is in regular operations status, the passenger should have no problem making a connection.

It is important to mention that the respondents in our survey are typically single, business travelers without children. It is likely the issue of proximity could be more important to families, especially those with small children. However, such a result would not be particularly compelling to alliance managers since global alliances are in place for the benefit of international business travelers.

5.4. Conclusions on the Future of Airline Customer Service

It is clear that the major domestic airlines have a good understanding of what causes dissatisfaction for their customers. The focus of the *Customer First* plans are consistent with many of the results from the survey in this study. Issues in our survey like baggage delivery, on-time performance, customer information and responsiveness to complaints are all included in their twelve point programs. Other management actions outside of the *Customer First* plans are also consistent with our results. Airlines have been installing larger overhead bins, offering vouchers for lost luggage and utilizing technology solutions to reduce customer waiting in lines. Airlines conduct their own internal customer satisfaction studies and have an understanding of the customer that is similar to the results obtained in our research.

The regulatory threat from the government has and will benefit customers. Airline managers deal with different drivers of airline choice and drivers of customer satisfaction. Choice is primarily price or schedule driven while satisfaction is driven by operations. Airline managers hope to avoid regulation, so even the threat of regulation will ensure that airlines remain sensitive to customer satisfaction issues. Cynics argue that the airline *Customer First*

plans are no more than what airlines should be doing anyway, but one should note that the airlines giving a stated promise of the *Customer First* program and including it in their contract of carriage is an improvement from previous airline customer service. In other words, the airlines are headed in the right direction. The fear of government regulation should continue to motivate the airlines to pay attention to this issue. Airlines have agreed to ensure compliance with *Customer First* plans by establishing performance measures and opening the data to the Department of Transportation for review. This constant monitoring from the D.O.T. is likely to be benefit to customer service.

It is important to note that all customer service actions have been self-regulation and enacted by the airlines themselves. Given that airlines know their customers best, it only makes sense for them to develop the service plans. However, all corporations constantly need motivation to cater to the needs of their customers. As David Neeleman, founder of JetBlue, stated during his testimony before the Senate Subcommittee on Science, Commerce & Transportation, "I submit that the answer to many of the problems plaguing today's industry is not a re-regulation of the industry or laws governing how big an employee's smile ought to be, but rather the only thing that has ever altered industry behavior in America: the capitalistic cure known as competition." (Neeleman 2001) In recent years, a number of low-cost airlines have gone out of business, like Legend in Dallas-Fort Worth and ProAir in Detroit. While it cannot be proven as such, many would argue that dominant hub carriers American in Dallas and Northwest in Detroit drove these small carriers to their demise. Leaders of small airlines, like Neeleman, are pushing the government to ensure that fair competitive practices are in place for start-up airlines. They specifically request access to slots and gate spaces at some of the busiest airports, especially those on the east coast. As Neeleman suggests, no government regulation can create

the incentive for meeting customer needs that a viable competitor can create. Ensuring low-cost carriers have grounds upon which to compete with the major carriers, particularly in their hubs, should have a positive impact on the delivery of a high quality customer experience.

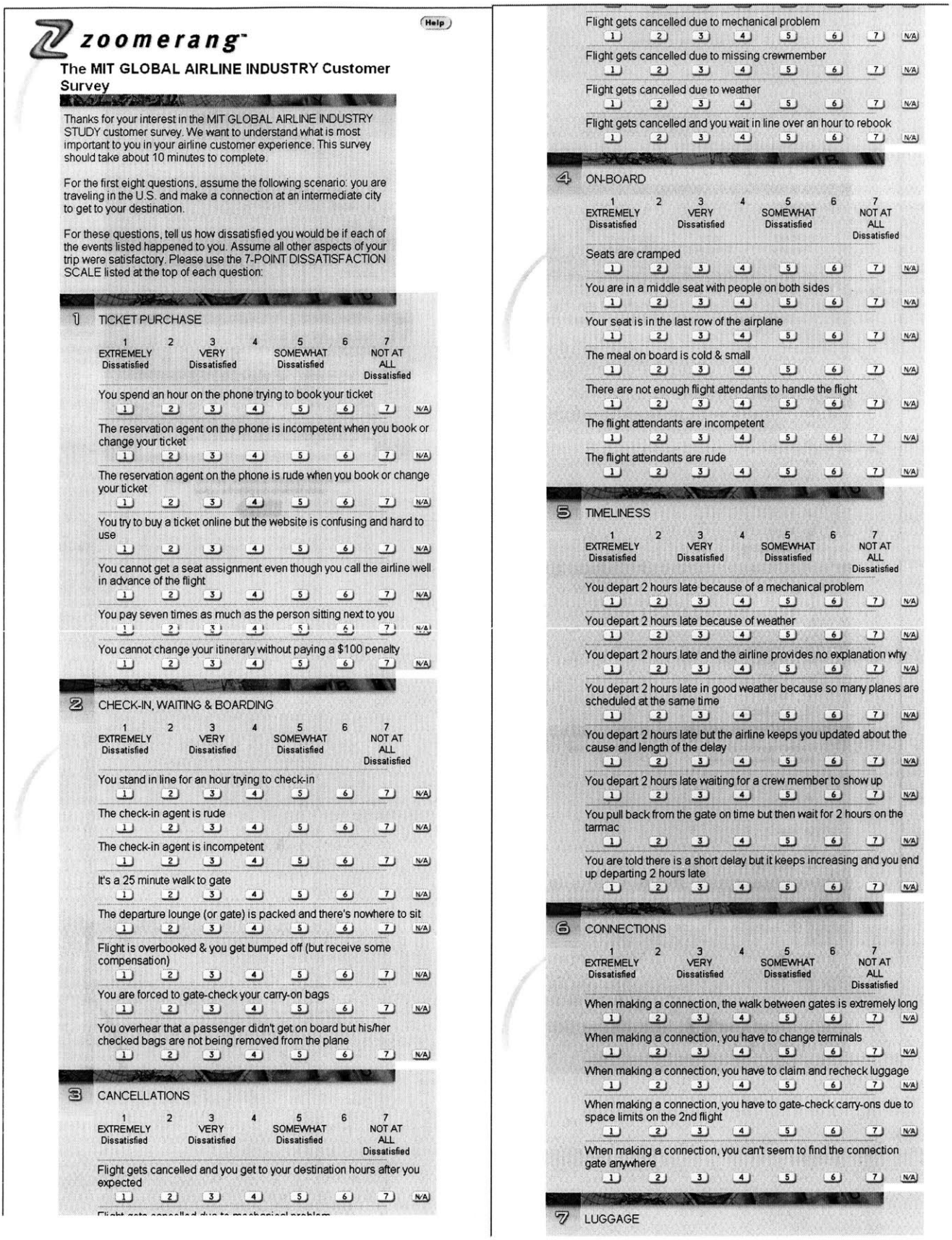
While the airlines themselves do not address the importance of labor-management relations in the customer experience, the government has recognized the issue as important. In an April 25th hearing on the state of airline labor relations, Senator John McCain referred to negotiations between management and labor as "acrimonious." Research from Gittell, Von Nordenflycht and Kochan (2001) suggests that airline labor conflict is negatively associated with service quality. The issue of airline labor relations is only starting to receive extensive public attention, after the challenges United Airlines faced with their pilots in summer 2000 and the numerous labor contracts that were bargained in the spring and summer of 2001. Airline managers and government officials should recognize that among the negative outcomes of continued strife between labor and management will be depressed levels of customer service and increased customer dissatisfaction.

We have noted a number of times in this study the importance of on-time airline operations. On-time performance keeps customers arriving to their destination when they expect. It reduces stress levels of employees and should minimize customer-employee conflict. It makes moving baggage accurately to its destination a simpler task for airlines. On-time airline operations is the heartbeat of running a successful airline. One of the many benefits to airline managers of good on-time performance is satisfied customers. Airline managers argue that the antiquated air traffic control system in the U.S. is to blame for excessive delays in recent years. While the airlines might also be guilty of overscheduling, the improvement of air traffic management in the U.S. should be the highest priority for improving airline customer service.

No formal regulation of customer service would be worthwhile until the country has an air traffic system which can comfortably handle the demand.

An air traffic management system with effective capacity in combination with a competitive environment that allows start-up low-cost carriers to compete with major carriers is required for the effective delivery of airline customer service. Airlines need a system which can effectively move the traffic from point A to point B. This would improve the operations of the industry, especially improving on-time performance and baggage handling. Effective competition offers customer an alternative to turn to if an airline does not manage its operations well, if an airline does not offer competitive fares, if an airline does not provide its customers with timely information or if an airline's labor relations create a negative culture and operations disruptions. As discussed above, the threat of service regulation keeps the airlines honest, but government attention should be dedicated to fostering competition and improving capacity to ensure the future satisfaction of air travelers.

Appendix: Customer Survey



zoomerang

Help

The MIT GLOBAL AIRLINE INDUSTRY Customer Survey

Thanks for your interest in the MIT GLOBAL AIRLINE INDUSTRY STUDY customer survey. We want to understand what is most important to you in your airline customer experience. This survey should take about 10 minutes to complete.

For the first eight questions, assume the following scenario: you are traveling in the U.S. and make a connection at an intermediate city to get to your destination.

For these questions, tell us how dissatisfied you would be if each of the events listed happened to you. Assume all other aspects of your trip were satisfactory. Please use the 7-POINT DISSATISFACTION SCALE listed at the top of each question:

1 TICKET PURCHASE

1 EXTREMELY Dissatisfied — 2 — 3 VERY Dissatisfied — 4 — 5 SOMEWHAT Dissatisfied — 6 — 7 NOT AT ALL Dissatisfied

You spend an hour on the phone trying to book your ticket
1 2 3 4 5 6 7 N/A

The reservation agent on the phone is incompetent when you book or change your ticket
1 2 3 4 5 6 7 N/A

The reservation agent on the phone is rude when you book or change your ticket
1 2 3 4 5 6 7 N/A

You try to buy a ticket online but the website is confusing and hard to use
1 2 3 4 5 6 7 N/A

You cannot get a seat assignment even though you call the airline well in advance of the flight
1 2 3 4 5 6 7 N/A

You pay seven times as much as the person sitting next to you
1 2 3 4 5 6 7 N/A

You cannot change your itinerary without paying a $100 penalty
1 2 3 4 5 6 7 N/A

2 CHECK-IN, WAITING & BOARDING

1 EXTREMELY Dissatisfied — 2 — 3 VERY Dissatisfied — 4 — 5 SOMEWHAT Dissatisfied — 6 — 7 NOT AT ALL Dissatisfied

You stand in line for an hour trying to check-in
1 2 3 4 5 6 7 N/A

The check-in agent is rude
1 2 3 4 5 6 7 N/A

The check-in agent is incompetent
1 2 3 4 5 6 7 N/A

It's a 25 minute walk to gate
1 2 3 4 5 6 7 N/A

The departure lounge (or gate) is packed and there's nowhere to sit
1 2 3 4 5 6 7 N/A

Flight is overbooked & you get bumped off (but receive some compensation)
1 2 3 4 5 6 7 N/A

You are forced to gate-check your carry-on bags
1 2 3 4 5 6 7 N/A

You overhear that a passenger didn't get on board but his/her checked bags are not being removed from the plane
1 2 3 4 5 6 7 N/A

3 CANCELLATIONS

1 EXTREMELY Dissatisfied — 2 — 3 VERY Dissatisfied — 4 — 5 SOMEWHAT Dissatisfied — 6 — 7 NOT AT ALL Dissatisfied

Flight gets cancelled and you get to your destination hours after you expected
1 2 3 4 5 6 7 N/A

Flight gets cancelled due to mechanical problem
1 2 3 4 5 6 7 N/A

Flight gets cancelled due to missing crewmember
1 2 3 4 5 6 7 N/A

Flight gets cancelled due to weather
1 2 3 4 5 6 7 N/A

Flight gets cancelled and you wait in line over an hour to rebook
1 2 3 4 5 6 7 N/A

4 ON-BOARD

1 EXTREMELY Dissatisfied — 2 — 3 VERY Dissatisfied — 4 — 5 SOMEWHAT Dissatisfied — 6 — 7 NOT AT ALL Dissatisfied

Seats are cramped
1 2 3 4 5 6 7 N/A

You are in a middle seat with people on both sides
1 2 3 4 5 6 7 N/A

Your seat is in the last row of the airplane
1 2 3 4 5 6 7 N/A

The meal on board is cold & small
1 2 3 4 5 6 7 N/A

There are not enough flight attendants to handle the flight
1 2 3 4 5 6 7 N/A

The flight attendants are incompetent
1 2 3 4 5 6 7 N/A

The flight attendants are rude
1 2 3 4 5 6 7 N/A

5 TIMELINESS

1 EXTREMELY Dissatisfied — 2 — 3 VERY Dissatisfied — 4 — 5 SOMEWHAT Dissatisfied — 6 — 7 NOT AT ALL Dissatisfied

You depart 2 hours late because of a mechanical problem
1 2 3 4 5 6 7 N/A

You depart 2 hours late because of weather
1 2 3 4 5 6 7 N/A

You depart 2 hours late and the airline provides no explanation why
1 2 3 4 5 6 7 N/A

You depart 2 hours late in good weather because so many planes are scheduled at the same time
1 2 3 4 5 6 7 N/A

You depart 2 hours late but the airline keeps you updated about the cause and length of the delay
1 2 3 4 5 6 7 N/A

You depart 2 hours late waiting for a crew member to show up
1 2 3 4 5 6 7 N/A

You pull back from the gate on time but then wait for 2 hours on the tarmac
1 2 3 4 5 6 7 N/A

You are told there is a short delay but it keeps increasing and you end up departing 2 hours late
1 2 3 4 5 6 7 N/A

6 CONNECTIONS

1 EXTREMELY Dissatisfied — 2 — 3 VERY Dissatisfied — 4 — 5 SOMEWHAT Dissatisfied — 6 — 7 NOT AT ALL Dissatisfied

When making a connection, the walk between gates is extremely long
1 2 3 4 5 6 7 N/A

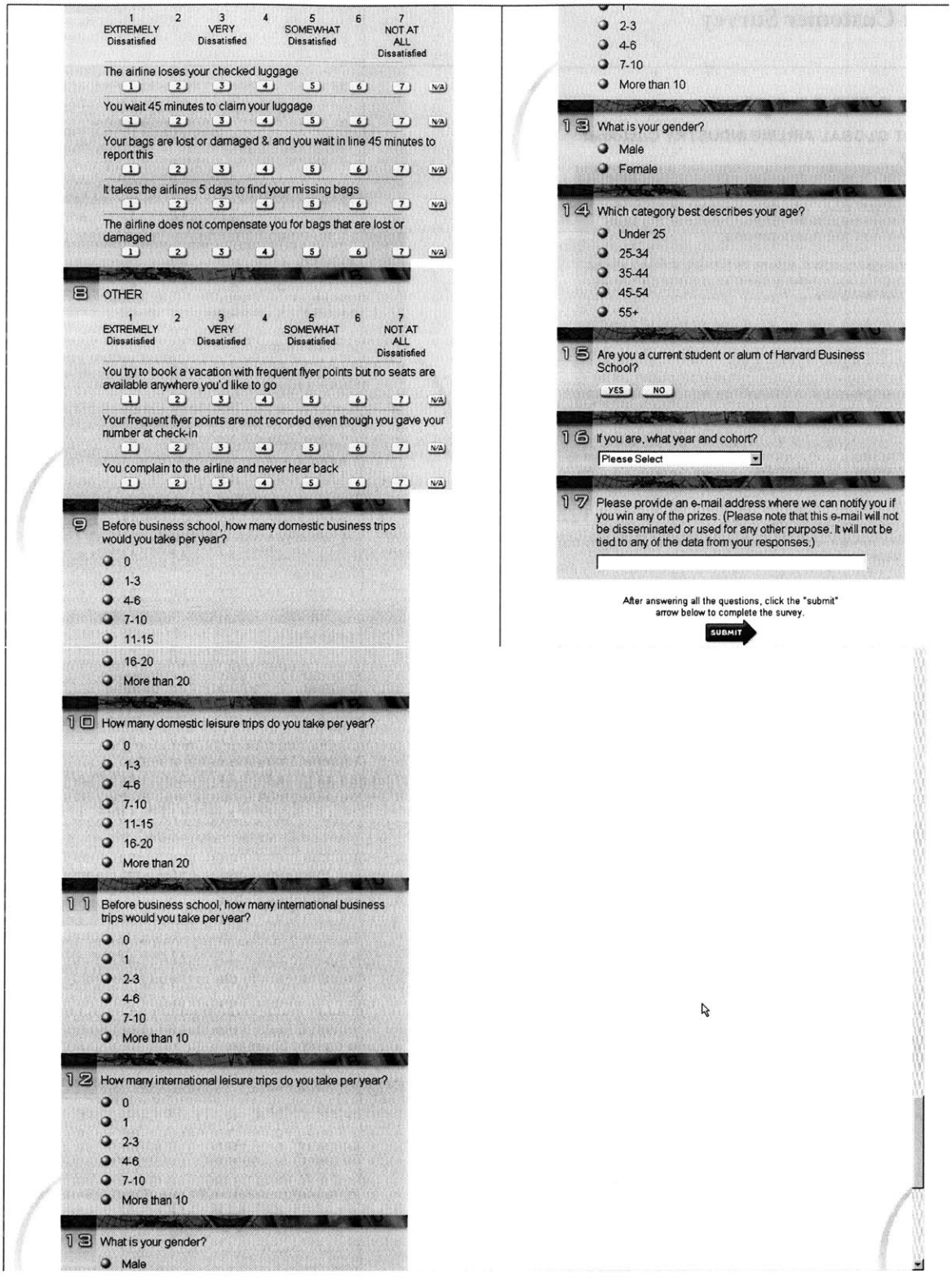
When making a connection, you have to change terminals
1 2 3 4 5 6 7 N/A

When making a connection, you have to claim and recheck luggage
1 2 3 4 5 6 7 N/A

When making a connection, you have to gate-check carry-ons due to space limits on the 2nd flight
1 2 3 4 5 6 7 N/A

When making a connection, you can't seem to find the connection gate anywhere
1 2 3 4 5 6 7 N/A

7 LUGGAGE


1 EXTREMELY Dissatisfied
2
3 VERY Dissatisfied
4
5 SOMEWHAT Dissatisfied
6
7 NOT AT ALL Dissatisfied
The airline loses your checked luggage
1 2 3 4 5 6 7 N/A
You wait 45 minutes to claim your luggage
1 2 3 4 5 6 7 N/A
Your bags are lost or damaged & and you wait in line 45 minutes to report this
1 2 3 4 5 6 7 N/A
It takes the airlines 5 days to find your missing bags
1 2 3 4 5 6 7 N/A
The airline does not compensate you for bags that are lost or damaged
1 2 3 4 5 6 7 N/A
8 OTHER
1 EXTREMELY Dissatisfied
2
3 VERY Dissatisfied
4
5 SOMEWHAT Dissatisfied
6
7 NOT AT ALL Dissatisfied
You try to book a vacation with frequent flyer points but no seats are available anywhere you'd like to go
1 2 3 4 5 6 7 N/A
Your frequent flyer points are not recorded even though you gave your number at check-in
1 2 3 4 5 6 7 N/A
You complain to the airline and never hear back
1 2 3 4 5 6 7 N/A
9 Before business school, how many domestic business trips would you take per year?
0
1-3
4-6
7-10
11-15
16-20
More than 20
10 How many domestic leisure trips do you take per year?
0
1-3
4-6
7-10
11-15
16-20
More than 20
11 Before business school, how many international business trips would you take per year?
0
1
2-3
4-6
7-10
More than 10
12 How many international leisure trips do you take per year?
0
1
2-3
4-6
7-10
More than 10
13 What is your gender?
Male
2-3
4-6
7-10
More than 10
13 What is your gender?
Male
Female
14 Which category best describes your age?
Under 25
25-34
35-44
45-54
55+
15 Are you a current student or alum of Harvard Business School?
YES
NO
16 If you are, what year and cohort?
Please Select
17 Please provide an e-mail address where we can notify you if you win any of the prizes. (Please note that this e-mail will not be disseminated or used for any other purpose. It will not be tied to any of the data from your responses.)
After answering all the questions, click the "submit" arrow below to complete the survey.
SUBMIT

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