Understanding the U.S. Airline Industry

Wednesday, January 29, 2014

Bill Volk attended this seminar in Washington, DC that focused on:

- Scope of the U.S. Airline Industry
- Introducing Fundamental Economic Drivers
- Overview of Key Commercial Activities
- Operational Overview
- The Ongoing Role of Government
- Current Trends

Attached is the bio of the presenter, Robert Britton, and a copy of slides used in the presentation.

Feel welcome to Contact Bill if you have any questions about the material.
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Rob Britton is a senior advisor at the Eno Center for Transportation, and the principal of AirLearn, a consultancy that helps suppliers, partners, newcomers, and students understand the complexities of the airline industry, and provides marketing and leadership advice to a range of organizations. In 2006, he retired as Managing Director, Advertising at American Airlines, where he was part of the team that helped rebuild the AA brand after the September 11 attacks. He has spent 45 years in and near the travel and tourism industry, in a variety of roles.

Rob earned a Ph.D. in economic geography from the University of Minnesota, and completed postdoctoral work at The Wharton School, University of Pennsylvania. He held staff and field positions with Republic Airlines and Northwest Airlines. Rob joined American in 1987, and worked across the enterprise, in marketing, international affairs, corporate communications, and operations. He has published over 70 articles in major newspapers and magazines, in travel-trade publications, and in academic journals.

Originally a geography professor, he is now an adjunct professor at Georgetown University’s McDonough School of Business, and lectures annually at more than 25 other business schools worldwide, including Kellogg, Wharton, McGill, and London Business School; he serves on advisory boards at the Global Business School Network (Washington, D.C.), and the business schools at McGill University, Montreal, and Umeå University, Sweden.

Rob is married to Linda, an attorney, and has two adult children and two grandchildren. They live in suburban Washington.
Understanding the U.S. Airline Industry: A 360° View

Dr. Rob Britton
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Principal, AirLearn
Washington, D.C., January 29, 2014

Today’s Agenda

1. Introductions (9:00-9:20)
2. Scope of the U.S. airline industry, including contribution to other sectors (9:20-9:50)
3. Fundamental economic and financial drivers (9:50-11:00)
4. Introduction to key commercial activities (11:15-12:30)
5. Operational overview (1:30-2:30)
6. The ongoing role of government (2:30-3:30)
7. Current trends (3:45-4:15)
8. Summary and conclusions (4:15-4:45)

Introductions

- About you
- A little about me and my airline perspective
- What do you want to learn today?
Scope of the U.S. Airline Industry

What Airlines Do

A Catalyst to Economic Development

- Airline services precede or facilitate the flow of investment, information, and human capital—what we commonly call “business travel”
- Enable global logistics, the fast movement of high-value, perishable, or time-sensitive goods
  - Widening markets, especially for exports
- Provide the indispensable foundation for tourism, by some measures the world’s largest single industry
  - About 40% of international tourists travel by air
  - Indispensable to how we interact with friends and family
- In short, an industry that adds enormous value to other economic sectors
**Contribution to U.S. GDP, 2010**

- Direct contribution, $206 billion (output of airlines, airports, and ground services)
- Indirect contribution, $169 billion, from the sector's supply chain — everything from a new Boeing to a can of Coke served onboard
- Induced contribution of $127 billion, through spending from employees in the above two categories
- Tourism-related catalytic benefits of $166 billion

Total = $669 billion, or 4.9% of total GDP

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**Other Economic Benefit in the U.S.**

- Airlines support 9.3 million jobs (corresponding to the categories above, for example, 2.8 million direct jobs)
- Significant contribution to public finance
  - $57.4 billion in income tax, social security, and taxes on profits
  - $16.6 billion in levies on travelers (taxes and fees)
  - $49.6 billion from the aviation supply chain
  - $37.3 billion from follow-on impacts

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**It's Another Grid!**
Fundamental Economics and Finance: Why Is It So Hard to Make Money?

The Reality

- Airlines for America reported that in 2012, its ten member airlines earned $152 million on revenues of $143.4 billion.
- That works out to 21¢ per passenger, or a margin of 0.1%.
- Who did better in 2012?
  - Apple, $41.8 billion, margin = 25.4%
  - Starbucks, $1.4 billion, margin = 10.5%
  - Ford, $5.7 billion, margin = 4.2%

Problem 1: Old Airlines and New Ones

- Fifty years of invasive government regulation created these two types:
  - During this era, all (older) airlines had similar costs, thus there was little incentive to control them.
  - When costs went up, airlines asked regulators for price increases.
- Established airlines have structural and other disadvantages compared to newer carriers (LCCs).
- Management decisions also added complexity and increased expense.
  - Airlines did this because there once was revenue to justify the added expense — but no longer.

Cargolution → 1978
Apples-to-Apples Unit Cost Comparison

<table>
<thead>
<tr>
<th>Airline</th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>American</td>
<td>17.01</td>
<td>17.18</td>
</tr>
<tr>
<td>Delta</td>
<td>17.24</td>
<td>16.68</td>
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<tr>
<td>United</td>
<td>20.30</td>
<td>20.00</td>
</tr>
<tr>
<td>US Airways</td>
<td>15.49</td>
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<td>Frontier</td>
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<tr>
<td>JetBlue</td>
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<tr>
<td>Southwest</td>
<td>9.80</td>
<td>9.43</td>
</tr>
<tr>
<td>Virgin America</td>
<td>12.49</td>
<td>12.51</td>
</tr>
</tbody>
</table>

Source: U.S. Department of Transportation; stage-length adjusted, from the MIT Airline Data Project

Problem 2: Little Supplier Competition

- Almost everywhere in the world, airlines now compete vigorously in open domestic markets
- But supplier markets tend to be imperfect, with few firms or entities
  - Labor unions: monopoly providers at many airlines
  - Monopoly infrastructure providers, usually government
  - Airframe, engine, and component manufacturers
  - Large oil companies
  - Others: caterers, GDS providers
- Some think this is the largest structural problem, more important than age

Problem 3: High Fixed Costs

- Fixed expenses are typically 70-80% of total
  - These include aircraft leases or payments, airport rents, and much of labor
- This drives a classic law of microeconomics
  - A firm will pursue any activity that covers all variable expense and makes even a small contribution to fixed costs
- Each of these decisions is economically rational by itself, but not at the company or industry level
- Every airline, new or old, wants to fly the asset, because a plane earns no revenue on the ground
Problem 4: Calibrating Supply and Demand

- Demand varies temporally (by time of day, day of week, season)
- The product is perishable, like bananas at supermarkets
- You cannot shrink to survive
  - Airlines cannot reduce costs quickly or commensurate with revenue decreases
  - Labor costs “average up” in a seniority system
- Has market entry, once impossible, now become too easy? And why is market exit so rare?
- Is another basic problem aircraft production?

Problem 5: Huge Capital Needs

- Aircraft – the basic productive assets – are expensive
  - One Boeing 777 costs US$160 million, a 737 is $70 million
  - Large airlines have large fleets!
- The industry is simultaneously capital intensive, labor intensive, and energy intensive
  - In contrast to manufacturing industries, traditional tradeoffs among these are costly, and take a long time
  - The 737-800 example: from three pilots to two, and three engines to two, but over a 30-year time horizon
- In an industry that cannot generate profits, who will supply all the capital?
  - Since inception, the industry worldwide has produced a cumulative loss

Problem 6: Government Influence

- No other industry has been – and remains – subject to as much government influence over key aspects of the business
  - The legacy of domestic economic regulation
  - A double standard in many markets between old and new firms
  - Infrastructure on the ground (runways and airports, which are a shared responsibility) and in the air (ATC)
  - Excesses in tax burdens, which you pay in ticket prices
  - Excessive operational regulations
  - Outmoded restrictions on foreign ownership
  - Continued regulation of international aviation
- We will return to this topic later today
Problem 7: Little Brand Preference

- Fifty years of government regulation helped commoditize the industry in consumers’ minds
- And there’s little genuine product differentiation in competitive markets
  - The essential flying experience has been the same for decades
  - New companies with differentiated products have typically failed
- Three recent factors perpetuate this commodity aspect
  - Transparent pricing on the Internet, and the rise of metasearch providers
  - The rise of low-cost carriers like Southwest and Ryanair, with their very simple customer propositions
  - Alliances that sell each other’s services as their own (codesharing)
- Frequent-flyer programs have been the best way to address this commodity problem

Key Commercial Activities

Key Airline Commercial Functions

- Network planning and scheduling
  - How to decide where to fly – where to put productive assets
  - How to transform a network plan into a working schedule
- Pricing and revenue management
  - Selling the right seat at the right time at the right price
  - Hint: airlines don’t use a dart board or a Ouija game!
- Sales and distribution
  - Channel strategy
- Promotion
  - Frequent flyer programs, advertising, P.R.
Network Planning and Scheduling

A Simple Model to Predict Demand

- All transportation planning uses a concept borrowed from Newton and the physical world, gravity.
- The amount of people (or goods) that flow between two points is a function of the population of the two places and the distance that separates them — directly to size and inversely to distance.

Deploying Airline Assets — Where to Fly?

- Every business — whether Ford, Nordstrom, McDonald's, or Delta Airlines — must plan how and where to use its assets.
- Airlines have the extreme opposite of fixed assets — they are highly mobile.
  - As you have learned, during the first 50 plus years of the industry most parts of the world, government economic regulation reduced this remarkable flexibility.
  - Today, airlines have enormous freedom to meet customer needs and grow the business by flying anywhere domestically, and in increasing numbers of overseas markets.
Three Ways Airlines Expand Their Networks

- With their own aircraft
- With a regional partner, like Delta Connection, United Express, or Lufthansa CityLine
  - These airlines' smaller planes are well-suited to smaller markets, or for connecting larger markets at off-peak times of day
- Through an alliance with another airline, usually for international routes
  - This method requires far less capital and entails much less risk than launching a new route with one's own aircraft
  - Example: American and Qantas between the U.S. and Australia and New Zealand

The Route Planning Process

- Airlines constantly assess new opportunities
  - The financial challenges of recent years have caused carriers to be even more vigilant in this process, because starting new routes is expensive and carries risk
- To be practical, the typical planning team uses an annual work calendar, but can interrupt the flow if circumstances arise that offer opportunity
- Modeling and simulation play a big part
- Lots of data are publicly and readily available
  - Rare in most other industries, these plentiful data are an artifact of the regulated era

Why Hub Networks Are So Powerful

Routes = 1  Cities = 2  Markets = 1
Why Hub Networks Are So Powerful

Routes = 2  Cities = 3  Markets = 3

Routes = 3  Cities = 4  Markets = 6

Routes = 4  Cities = 5  Markets = 10
Why Hub Networks Are So Powerful

Routes = 5  Cities = 6  Markets = 15

The Synergy of Hub Networks

From the Customer's Perspective

- The transformation of most airline networks from point-to-point to hub and spoke has obviously been good for airlines, but what about customers?
- True, the traveler now makes a connection, but choice has greatly expanded, and competition has driven prices down
  - Adjusted for inflation, flying is roughly 50% cheaper
- For example, before hubs and spokes, only one airline flew Omaha-Boston, with 1 or 2 daily flights that stopped once or twice; today, five airlines compete via their hubs, with more than 40 daily flight choices
Making Hubs Work Better

- Because airlines want to offer customers as many connecting choices as possible, hubs tend to create crowds and congestion – lots of activity during peak periods, then relative quiet until the next peak.
- American and some – but not all – other airlines found that reducing each peak and offering more (but smaller) peaks throughout the day was win-win.
  - Customers had more time to make their connections.
  - Airlines could use their airport labor resources and aircraft more productively.
- The "New American" plans to reverse this change.

Why Not More Point-to-Point Flying?

- Airline planners are often asked why they don’t offer more point-to-point service.
- The U.S. scheduled-airline network includes about 650 airports, 75% of which are only served by regionals.
  - This creates a theoretical potential of about 420,000 O&Ds.
- But only about 1050 U.S. O&Ds are large enough to profitably support two nonstops a day with 100-seat aircraft.
- Of those 1050, 1000 already have daily nonstop service.
- Deploying smaller jets has not significantly changed this reality.

Schedule is Fundamental

- A flight schedule is an airline’s basic product, fundamental to the customer and to the enterprise.
- Scheduling decisions are especially complex, because there are lots of variables that interact with each other – lots of "moving parts”.
- At first glance, schedules seem easily changeable, but as we will see, many factors encourage stability.
### Basics Are Similar to Other Businesses

- Scheduling an airline is similar to planning in other industries
- Airline schedulers must:
  - Forecast current and future demand
  - Understand the effects of planned changes on demand — how will a change in schedule affect revenues?
  - Predict how competitors will respond to choices and changes
  - Analyze alternatives — where else should an airline use its assets?

### But There Is More Complexity

- Consider these factors specific to an airline:
  - In a network, the route "products" are linked, because people must often use more than one flight to get from origin to destination
  - An appliance manufacturer’s products are generally not closely linked, nor are restaurant offerings
  - Especially in busy, competitive markets, customers are sensitive to small changes in flight times
  - Customers are not the only ones affected by a change in schedule; flight crews, airport personnel, and mechanics’ work schedules must also adjust
  - International aviation is still regulated by country-to-country agreements (discussed later today)
  - Even time zones play a part!

### Pricing and Revenue Management
Price and Volume Basics

• The classic tradeoff between price and volume exists to a large degree in the airline business
  - We call these terms yield and load factor
  - Yield is the amount of revenue per mile
    • If you pay US$200 for a 2,000 mi. trip, the yield is $0.10/mi.
  - Load factor is percentage of capacity sold
    • If an airline sells 180 of 200 seats, the load factor is 90%
  - These two measures vary inversely
    • Selling a round-trip New York-Los Angeles for $50 will fill 100% of seats
    • Selling the round-trip for $20,000 will fill 0% of seats

The Revenue-Management Objective

• To maximize the revenue received for each unit of capacity offered
  - The best measure is Revenue per Available Seat Mile, or RASM, which is yield multiplied by load factor
  - In 2013, United’s system load factor was 83.8%, yield (per mi.) was US$0.146 (14.6¢), so RASM was US$0.122 (12.2¢)
    • This calculation can be disaggregated to the flight level — using the example on the previous slide, RASM is 90% * $0.10, or US$0.09
    • This calculation typically does not include cargo revenue
  • RASM is the best measure, because it accounts for the tradeoff between yield and load factor

Time-variable Demand, and Perishability

• Airlines also have the challenge of managing demand that varies temporally:
  - By time of day, day of week, and season
  • Like electric utilities, airlines use pricing to “shave the peaks” in a business with high fixed costs
    • As a general statement, fixed costs are 70-80% of total expense
    • The classic microeconomic rule applies: it is rational to operate a flight that covers all variable costs and makes even a small contribution to fixed expense
  • And the product is perishable, like bananas at the supermarket
**Why Is Airline Pricing Confusing?**

- We are all accustomed to a linear relationship between cost and distance, especially when we re-fuel our cars.
- But in open aviation markets, two factors prevent the price-distance relationship:
  - With fixed costs 70-80% of total, distance means little (fuel is the largest variable expense).
  - As we just learned, competitors with lower costs set the price points.
- Airlines are often criticized for their pricing, but they are hardly alone. How much does Coca-Cola cost?

**The Answer, or More Questions...**

- At the cinema?
- At Costco?

**Why So Many Fares?**

- Chronic overcapacity – this is an industry that cannot easily calibrate demand and supply.
- Intensely competitive industry, with different types of companies:
  - Varying financial condition of airlines
  - Point-to-point systems vs. hub networks
  - Low-cost carrier (LCC) competition on almost all U.S. routes
- Nearly perfect information – and capable I.T.
Managing Inventory: The Basic Idea

- Price is meaningless without quantity: how many seats to sell at what price?
- Remember: the inventory is perishable!
- There are three main risks:
  - Oversales: at departure, customers exceed seats
  - Spoilage: refusing bookings, then seats go empty
  - Dilution: selling a seat lower than the price a subsequent customer was willing to pay
- But controls are based on the assumption that a flight is likely to be full

The Three Types of Inventory Control

- Overbooking, or selling seats above the aircraft capacity
- Managing discount-fare availability
  - Said another way: never saying "No" to the full-fare customer
- Managing "competing itineraries" on a single leg
  - Unique to carriers that operate hub-and-spoke networks

Overbooking

- Why?
  - It takes two to three reservations to produce one sale
  - On average, only about 90% of customers with bookings the day before actually board a flight — and reservations canceled too late usually cannot be resold
  - Most airlines continue to allow people to "no-show" with either no or small penalty — we'd really like to run ticket sales like rock concerts or football matches!
Overbooking is Good for Everyone

• Though criticized by the media and others, overbooking is "win-win":
  – It allows airlines to say "yes" to customers more often, to give them their first choice and a deeper discount
  – It helps them maximize revenue
  – Thus, in the long run it keeps fares lower
• Airlines manage oversales effectively
  – By aggressively seeking volunteers at the gate
  – Last year, the 15 largest U.S. airlines denied a seat ("bumped") about 1 customer per 10,000. that’s 99.99% reliability

Managing Discount-Fare Allocation

• This process essentially works in reverse: the objective is never to say "no" to a late-booking, full-fare customer
• But the positive view is to make available as many discount seats as possible
• Allocations change dynamically as departure approaches, and as demand changes
• Typically, 50% of all flights remain open in all inventories up to departure time!
• Let’s look at a simple flight example . . .

A Sample Flight, 160-seat Aircraft
Managing an Extensive Network

- The objective of traffic management is to ensure that airlines accommodate passengers with the greatest revenue contribution.
- Operating a hub-and-spoke network means many different kinds of demand exist, mainly:
  - Geographical - local vs. flow (connecting passengers)
  - Full fare vs. discounted fare
  - Competitive set (LCCs are nearly ubiquitous)

Managing an Extensive Network

to Tokyo

Ottawa

Chicago

Los Angeles

DFW

Houston

Sales and Distribution
Airlines’ Distribution Objectives

- Efficiency and reduced costs, in a business with few other controllable expenses, and with greatly reduced managerial latitude
- To maximize revenue
  - Attract different business segments: “managed” business travelers, the price-conscious leisure travelers, and others
  - Provide a platform for unbundling the product and selling related services
  - Monetize advances in inventory management
  - Take full advantage of increasingly capable systems
  - More opportunities to sell “distressed inventory”
- To be responsive to changing customer wants and needs

A Brief History of Airline Distribution to 1990

- Initially via proprietary channels: telephone sales, city ticket offices, airport counters
- The rise of travel agencies, for reasons of cost and ubiquity
- The emergence of Global Distribution Systems (like Sabre and Amadeus) in the 1970s was seen as win-win
  - Travel agents could not manage all the complexity and rising volume with a system based on paper and telephones
  - Airlines invented this idea and perfected it, then later sold these systems
- Consolidation and the rise of incentivized “dealers” in the 1980s

The Drive to Disintermediate, since 1990

- Distribution expense – GDS fees and agency commissions – rose markedly in the ‘80s and ‘90s
- The first Gulf War provided a wake-up call
- Faced with limited options in the agency channel, airlines begin to look at alternatives
  - Websites with transaction capability (mid-1990s)
  - OTA, including Orbitz, which was initially airline-owned
  - “Opaque” sites like Priceline and Hotwire
  - Keyword search linked to booking sites
  - Kayak and other metasearch providers linked to airline websites
  - Improved websites: faster booking, less iterative searching
**Airlines Begin to Assert Control**

- With alternatives, airlines begin to lower agency base commissions
  - 10% > 8% (1997) > 5% (1999)
  - Fixed dollar caps (2000)
  - Zero base commission (2002)
- The balance of power began to tilt back toward producers
  - Larger airlines negotiate new, cheaper GDS contracts
  - Carriers assert ownership of inventory and "content"

**Promotion**

**A Commodity Business**

- Undifferentiated brands are one legacy of five decades of government control of key economic parameters – entry, routes, price, and even amenities
- For most travelers, the flight experience is essentially the same – and has been for decades
- The product is produced and consumed in real time, with many factors outside airline control, notably weather and infrastructure – and thus prone to inconsistency and failure
- These factors have created product uniformity, and the belief that "a seat is a seat"
  - Late-night comedians, and maybe you, say "the airlines"
A Commodity Business

- Flight schedules, historically a major driver of choice, have also caused "commoditization"
  - Companies with big networks and lots of flights have always enjoyed this benefit
  - Conversely, smaller firms with differentiated products have been disadvantaged
  - Example: Eos, Maxjet, and Silverjet in the New York-London market
  - The tiered hotel-industry model of amenity-based differentiation did not take hold

A Commodity Business

- The commodity problem continues to the present day
  - Transparent pricing, the result of online distribution and "metasearch" sites like Kayak, drive consumer choice
  - Global codesharing alliances, like Star Alliance, Sky Team, and oneworld tend to create a generic, flattened experience
  - Lufthansa and United, for example, have converged their economy-class offering
  - The rise of low-cost carriers (LCCs) like Southwest, JetBlue, Ryanair, and Air Asia, all offering a simple product focused on low price, are perpetuating the commodity perception

Differentiation in the New Order

- Deregulation and the emergence of low-cost carriers (LCCs) in North America, Europe, Asia, and Australia fundamentally altered the competitive landscape
- As network carriers like Delta and United adjusted to new realities, their robust loyalty programs have become powerful differentiators
The Birth of the Frequent Flyer Program

- In the early 1980s, marketing was essentially a new part of the airline business — during regulated times, there was little need
- Business conditions thus required a "big idea", and American, the loyalty pioneer, recognized that a program to reward frequent flyers would:
  - Encourage repeat purchase
  - Enable a customer database
  - Provide an opportunity to sell "currency" to others

The Economics

- These programs are based on — and cost accounting built around — a fundamental reality: a free-ticket user does not displace a revenue customer
  - Achieved through capacity controls on free-travel bookings
  - Award users were 8.5-10% of total passengers in 2013
- Airlines typically carry the liability as a marginal expense
  - According to its 2012 annual report, American carried about 609 billion outstanding award miles for 72 million members, at a value of US$1.7 billion, 14.4% of current liabilities
  - The variable cost of an incremental passenger is very small

Selling Frequent Flyer Miles

- Several precedents existed, dating back more than 100 years:
  - Selling miles to third parties presented a great opportunity
    - Accounting infrastructure was in place
    - The early programs were creating marketplace "buzz"
    - Travel had become a growth area for U.S. discretionary spending
- This practice propelled the loyalty programs forward, and created a profitable business line for big airlines
Some Basics of Airline Advertising

- A complex, multifaceted product—but that often appears simple to consumers
- Air travel is what economists call a "credence good": it is impossible to assess quality at time of purchase
- Varied purpose of travel adds complexity
  - Business, pure leisure, "VFR," and combinations
- Product differentiation has long been problematic
- Competitive advantage is fleeting
- Intermediaries influence choice
  - Travel agents, corporate buyers, and other players

Some Principles of Airline Advertising

- The sector tends to be creatively cautious
  - Humor is appropriate, but typically restrained
- Editorial coverage will always complicate the task
  - How to promote in the same media as disasters and other bad news
- Budgets are always constrained
  - Getting the right mix of tactical and strategic
- Airlines carry a lot of historical baggage, especially for older and infrequent travelers

Advertising Types

- Tactical
  - New service: new routes or new flights
  - Price (fare sales, vacation packages)
  - Scope and network
  - Channel shift
  - Taking aim at competitors
- Strategic
  - Onboard product, including people as product
  - Frequent-flyer, or loyalty, programs
  - Emotive brand-building
Direct Marketing and Social Media

- Less visible is the significant amount of one-to-one communications that many airlines do
  - E-mail and a declining amount of paper mail to existing customers, using a well-established CRM system based on loyalty programs like American's AAdvantage (65 million members)
  - Customer acquisition, using a range of databases and customer lists
- Astute airlines are recognizing the potential of these targeted communications, especially online
- Social media is still in the trial stage, for targeted marketing, and increasingly for customer-service issues

P.R. and Media Relations

- "Earned media" is an important element in marketing communications
- Airlines are increasingly shifting PR emphasis from reaction toward proactivity
  - Development of strong relations with key writers and national media
  - "Good news" subjects include onboard product improvements, enhancements to websites, airport amenities, and more
  - Helps offset negative news and controversies

Operational Overview
Safety: A Remarkable Achievement

- "Airplanes don’t crash anymore": no U.S.-registered airliner has had a fatal accident for nearly five years
- How to express how safe?
  - If you flew one flight a day every day, 365 flights a year, it would be more than 43,000 years before you had a 50-50 probability of dying in a plane crash
- This record was the result of enormous commitment, principally from manufacturers, pilots, and mechanics
  - Continuous improvement driven by technology and learning from mistakes (accident investigation and voluntary safety reporting)
- Government regulation has played a secondary role

Flight Operations

- Despite better technology and automation, piloting remains a demanding profession, requiring careful recruitment and sophisticated training, both incoming and recurrent
- Success simultaneously requires a rule-bounded environment and the flexibility and judgment to respond to the extraordinary
- Demographics, cost pressures, changing Federal regulations, and other factors have focused attention on the future supply of flight crews

Onboard Operations

- Although mandated for safety reasons, cabin crew are typically viewed as service providers
- Stable for decades, onboard service delivery has changed remarkably during the past three decades
  - The rise of simple product offering
  - Cost pressures on legacy carriers
  - Unbundling and the rise of a la carte offerings
  - Rise of inflight entertainment systems (IFE)
  - Competition for high-value travelers
- The high visibility and seemingly changed role of flight attendants has brought them into sharp popular focus
Airport Operations

- Airlines typically organize their airport operations by inside and outside functions
- Inside functions include check-in, gate functions, baggage claim, and amenity functions like lounges
  - Check-in has become increasingly streamlined thanks to e-tickets and boarding passes; focus is on throughput
  - Gates can be thought of as scarce real estate, thus airlines focus on productive utilization (Southwest is expert at this)
  - Gate functions are changing more slowly, but innovation in seating/work areas and boarding control are well underway
  - Airline clubs and lounges are an increasing focus for legacies
  - Airport foodservice and retail (under airport, not airline control) has expanded markedly

Airport Operations, 2

- Airline outside functions
  - Power and cabin air conditioning
  - Baggage loading, transfer, and unloading
  - Fueling
  - Aircraft cabin cleaning, including lavatory service
  - Catering
  - Ramp movement (towing, pushback, etc.)
  - Ramp and jetbridge cleaning and maintenance
  - De-icing
- Whether inside or outside, airlines have outsourced many functions in airport operations

Maintenance and Engineering

- Modern aircraft are significantly more reliable than they were even 30 years ago
  - Digital technology has played a part here, just like in your car
  - Real-time diagnostics and reporting
  - For example: a CFM56 engine on a TUIfly (German) 737 flew more than 50,000 hours without going to the shop for repair
- Continuous inspection and preventative maintenance have long been the norm
- Airlines organize maintenance by locale: line and base
**Maintenance and Engineering, 2**

- Governments mandate periodic maintenance; the FAA, for example, specifies the intervals
  - A Checks, every 500-600 hours or 200-400 cycles (a takeoff and landing is one cycle), these are typically performed overnight at an airport gate or hangar; requires 20-50 person-hours
  - B Checks, every 4-6 months, about 150 person-hours; takes 1 to 3 days, and can be incorporated into successive A checks
  - C Checks, every 15-21 months or by flight time, at a base visit; takes 1 to 2 weeks and may require up to 6000 person-hours; varies significantly by aircraft type (737, $125,000; 747, $225,000)
  - D Check, the biggest, about every 5 years, 50,000 person-hours, basically taking the plane apart, refurbishing, and reassembling; plane is out of service 1 to 2 months – a big deal!

**The Ongoing Role of Government**

**Continued Economic Regulation**

- Although the 1978 Airline Deregulation Act seems to suggest the end of economic regulation, the U.S. Department of Transportation, DoT, has continued to impose a range of rules, covering a range of areas
  - Sales and distribution
  - Price and other advertising
  - Approval of alliances and joint ventures
  - Consumer "protections" not found in other sectors
- Some legacy carriers believe that DoT has a double standard, different interpretation of rules for new airlines and old ones
International Regulation and Restrictions

- International flights, such as between the U.S. and Germany, were unaffected by domestic deregulation
- The international regulatory framework dates to the Chicago Convention of 1944
  - Participating nations rejected the U.S. proposal for an open, multilateral regime
- Instead, what emerged was a complex web of country-to-country, or bilateral, agreements, completely separate from other world trade rules
- The basic rule: everything is banned, unless expressly permitted

International Regulation, 2

- Although the global trend in these bilateral agreements has been toward liberalization, often called “open skies,” many important markets are still restrictive, preventing true competition and driving up prices
- Moreover, separate rules in most countries, including the U.S., restrict foreign investment
  - Irrelevant today, these were a vestige of security concerns in the 1920s and ’30s
- These constraints prevent cross-border consolidation the emergence of true global players
  - Compared to other sectors, the worldwide industry is hugely fragmented

Infrastructure Provision

- In the U.S., the Federal government is solely responsible for funding airport and airway improvements
- A global trend toward privatization of airports and air traffic control has not touched this country
  - The U.K. sold its large airports and its ATC system
  - Canada, Australia, New Zealand, Germany, and many other places have partially privatized aviation infrastructure
- Growth in U.S. runway, terminal, and ATC capacity has not kept pace with the growth of air travel since 1978, notwithstanding a separate funding mechanism called the Airport and Airway Trust Fund, created decades ago
**Operational Regulations**

- Although many basic rules are sensible, the trend in the past decades has been promulgation of regulations that are not based on cost-benefit analysis
  - Recent statutory requirements for pilot qualifications are a good example, and many have warned of unintended consequences
- Airlines have little recourse in administrative regs
- FAA enforcement decisions are often seen as political
  - The grounding of American's MD80 fleet in 2008 as case

**Tax Issues**

- Herb Kelleher, one of the founders of Southwest Airlines, famously complained that a U.S. airplane ticket is taxed at rates higher than his Wild Turkey and Marlboros!
- Federal taxes and fees total about 20% -- on a $300 domestic ticket, that's $61
  - Since 1990, total airline taxes have increased from $3.7 billion to $19 billion, far exceeding either the rate of inflation or growth in revenue
  - The December 2013 budget agreement in Congress raised TSA fees to a maximum of $11.20 round trip
- Foreign governments impose similar taxes and fees
- U.S. tax policy seems out of step with airlines' enormous contribution to all sectors of the economy

**Noteworthy Trends**
Consolidation

- Since the early years of U.S. deregulation in the late 1970s and early to mid-1980s, airlines have merged and merged again
  - The latest wave, since 2008, has produced three legacy carriers, American, Delta, and United
  - "The New American" has its roots in no fewer than 13 airlines!
- Revenue synergy, not cost reduction, is the driving force
- Mergers are problematic for labor integration, because of the need to combine seniority lists
  - "Seniority is everything": pay, work schedule, advancement

Consolidation, 2

- Mergers also present other large challenges
  - Route-network integration
  - I.T. systems, especially real-time passenger systems (PSS)
  - Processes
  - Product alignment
  - Airport real estate
  - Management focus
  - Organizational culture
- It will be interesting to watch the scene unfold in the domestic market

Unbundling the Service Offering

- In "the old days," the airline ticket included an array of services, including checked bags, onboard food and drink, etc.
- Beginning about a decade ago, U.S. carriers began to unbundle this offering, charging separately only for those services the customer required
  - The original drivers were the success of European LCCs like Ryanair, and being able to match fares of U.S. LCCs — in order to offer a $79 ticket, legacy airlines needed other revenue
- Ancillary services have become huge, easily generating more than 10% of passenger revenue
  - Exercise caution when reading big numbers here!
Evolution of eCommerce

- As noted earlier, capable websites have enabled a renaissance in direct selling
- More recently, airlines have broadened the array of products for sale on their sites
  - The unbundled offerings just described
  - Services from related travel suppliers, such as cars, hotels, cruises, insurance, and visitor attractions
- In the future, we are likely to see targeted offerings, both to existing customers (by linking CRM/loyalty databases) and to new passengers
- Interestingly, much of business travel, especially for large firms remains in the travel agency channel

Summary and Conclusions

What did you learn? What really stood out?

- A vital business
- Enormously complex
- A highly changeable business, striving for stability after decades of artificial economic conditions
- A "different set of rules" compared to other sectors
- Lots of external influences: weather, government, geopolitics
Going forward

- If you have a question or comment – tonight, next week, or at the end of the year – please email me
  rob.britton@airlearn.net

- Tell your colleagues and friends about the class – we’re offering it next on Tuesday, March 18
- Let us know about other airline and aviation topics you’re interested in learning more about
2013-14 Airline-business Reading List


Contemporary Sources

**e-Newsletters**

- *Airlines for America, SmartBrief* (daily)
- *Air Transport World, ATW Daily News* (daily)
- Flightglobal.com/news (the news portion of a useful website)
- Skift.com (daily)

**Magazines**

- *Air Transport World*
- *Airline Business*