Institute of Air & Space Law

The Airline Business

by
Paul Stephen Dempsey
Tomlinson Professor of Law
Director, Institute of Air & Space Law
McGill University


sun roof
flying 101
co-captain
(the other pilot on the PA system)
front door
(our door is always open...
unless we're at 41,000 feet)
nose cone
(radar, antenna
and a
really big dish inside)
wing #2
fuel tanks
cargo door


rudder
tail
galley
overhead cabins
a.p.u
OK-PIK
secret agent code
seats
boot space
landing gear

The Curse and Blessing of Commercial Aviation

The airline business is a tough business.

Profit margins are thin, fixed costs are high, capital expenditures are large, government regulation has been unstable, and taxation can be unmerciful.

Demand can be chilled by an outbreak of disease, recession, war or terrorism.

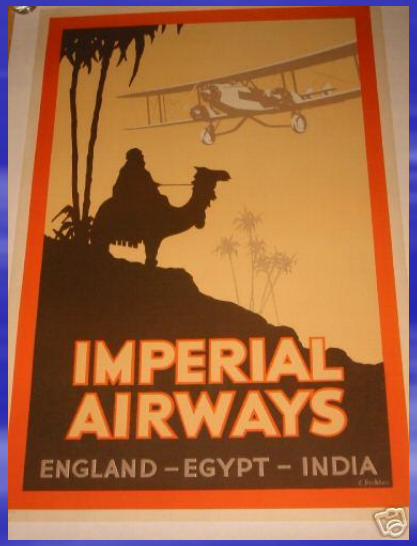
The airline business also is a glamorous business. Its technology is breathtaking. The defiance of gravity, the allure of exotic destinations or primordial geographic domination has drawn investment and managerial talent into the industry at a level surpassing what dispassionate financial analysis seemingly would warrant.

THE IMPORTANCE OF AIR TRANSPORT

- By shrinking the planet, aviation is a principal means of intermingling and integrating disparate economies and cultures, stimulating social and cultural cross-fertilization, economic growth and diversity in an increasingly interdependent global environment.
- Trade and tourism are heavily reliant on this most modern means of transportation. Whole economic sectors (e.g., hotels, automobile rental firms, convention business, and tourist destinations) depend on safe, secure, dependable, efficient and reasonably priced commercial air transportation.
- “Just-in-time” [JIT] inventory has moved to a global scale with the expeditious movement of cargo by air. The economic ripple effect throughout industrial and commercial sectors and geographic regions is profound.

GOVERNMENT AND THE AIRLINE INDUSTRY

- As a fundamental component of the infrastructure upon which economic growth is built—the veins and arteries of commerce, communications and national defense—a healthy transportation system offering reasonable prices and ubiquitous service to the public is vitally important to the health of the nation it serves.
- No nation can aspire to participate in the global economy without safe and dependable airline service. For that reason, throughout history, governments the world over have promoted and encouraged its development by providing infrastructure, research and development, protective regulation, subsidies, and outright ownership of airlines.
- "If it moves, tax it. If it keeps moving, regulate it. If it stops moving, subsidize it." President Ronald Reagan.



$61.49

20%

FEDERAL GOVERNMENT TAXES

$63.47

21%

FUEL COSTS

$51.52

17%

LABOR EXPENSES

$123.11

41%

NON-LABOR/FUEL OPERATING AND OTHER EXPENSES

41¢

0.1%

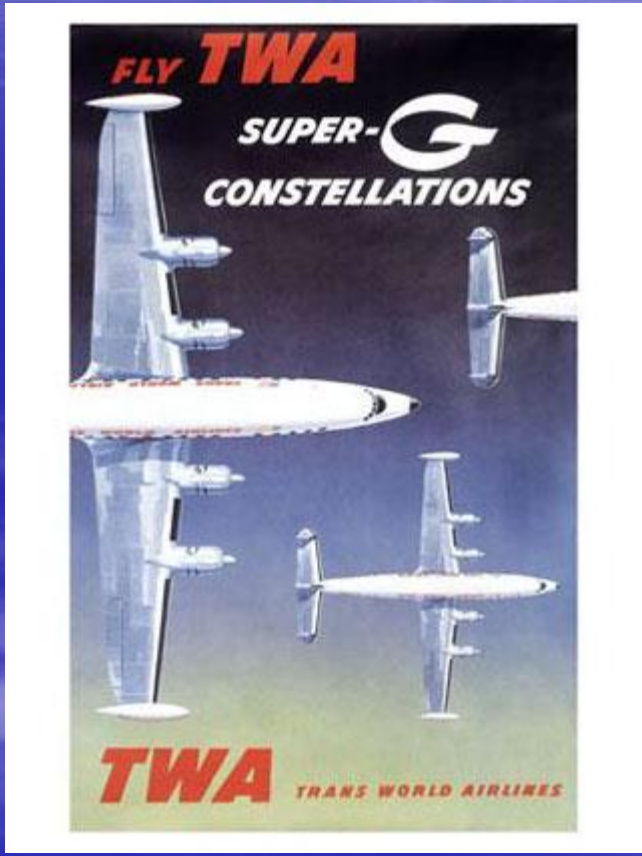
AIRLINE PROFITS

THE SIZE AND SCOPE OF AIR TRANSPORTATION

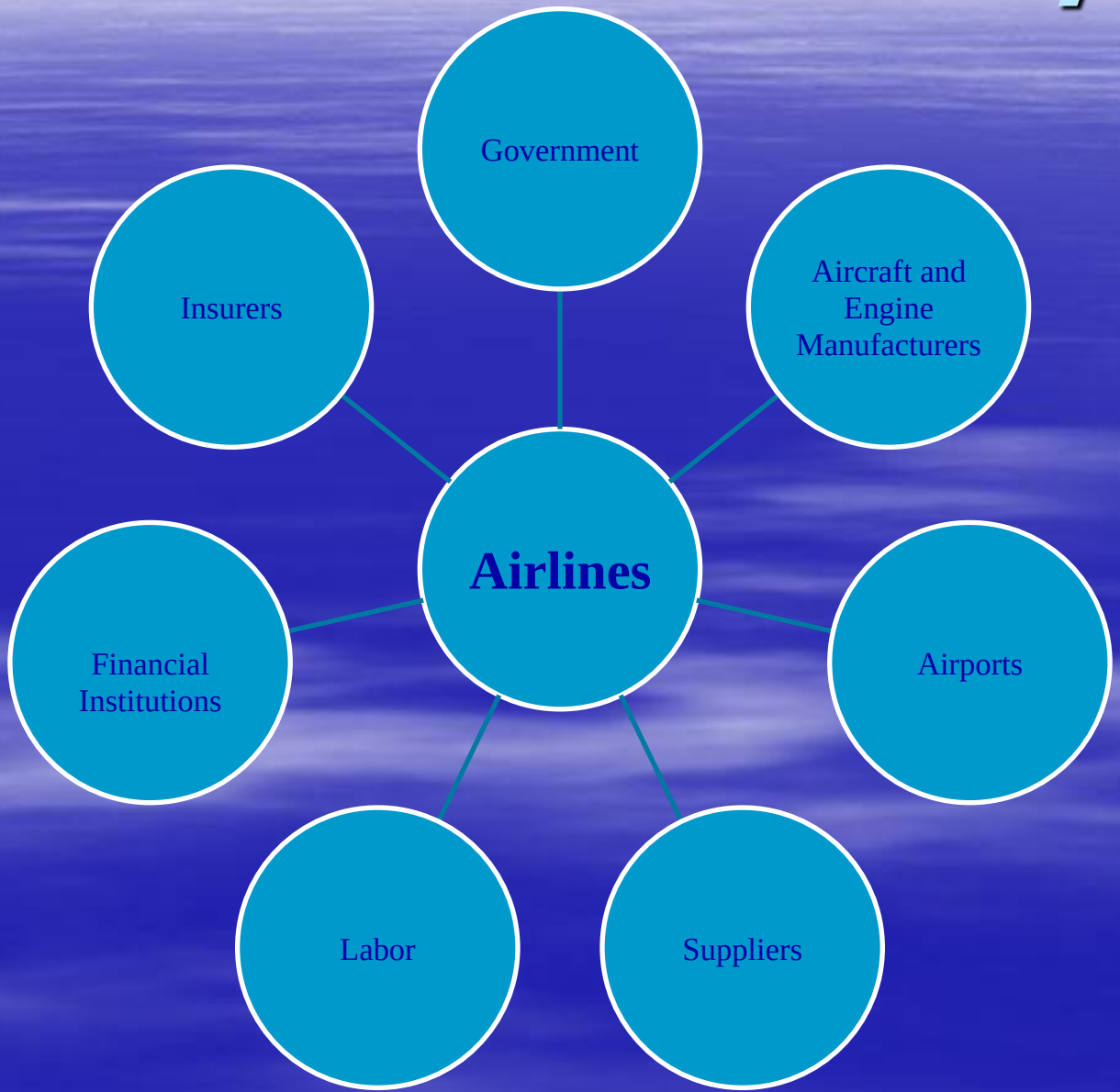
- At the dawn of the 21st century, more than 1,000 scheduled airlines operate more than 15,000 aircraft. The commercial airline industry carried 1.6 billion passengers and 22 million tons of cargo annually, about 40% of the world's manufacturing exports based upon value.
- Today, airlines carry 2.3 billion passengers on more than 26 million flights worldwide.
- Worldwide, civil aviation employs 28 million people, directly, indirectly or induced.
- By 2000, the commercial airline industry accounted for more than a trillion dollars a year in economic activity, directly, indirectly, and induced.
- If the industry were a nation, it would rank seventh in the world in economic production, just ahead of Canada.
- Air transportation is an integral part of the tourism and travel industry, arguably the world's largest single industry.
- The tour and travel industry employs one out of every 15 workers. It accounts for 12.9% of consumer spending and provides 7.2% of worldwide capital investment."

INTERNAL ORGANIZATION

- Marketing,
- Planning,
- Revenue Management,
- Flight Operations,
- Maintenance & Engineering,
- Legal and General Counsel,
- Financial Planning & Analysis,
- Human Resources/Employee Relations,
- Customer Service and Reservations,
- Advertising and Promotions,
- Corporate Communications/Public Relations,
- Properties and Facilities/Airport Affairs,
- Purchasing,
- In-Flight Services,
- Government Affairs,
- International,
- Catering,
- Flight Standards and Training,
- Safety and Security,
- Regional/Area Management,
- Cargo,
- Controller and Treasurer, and
- Secretarial.



External Relationships



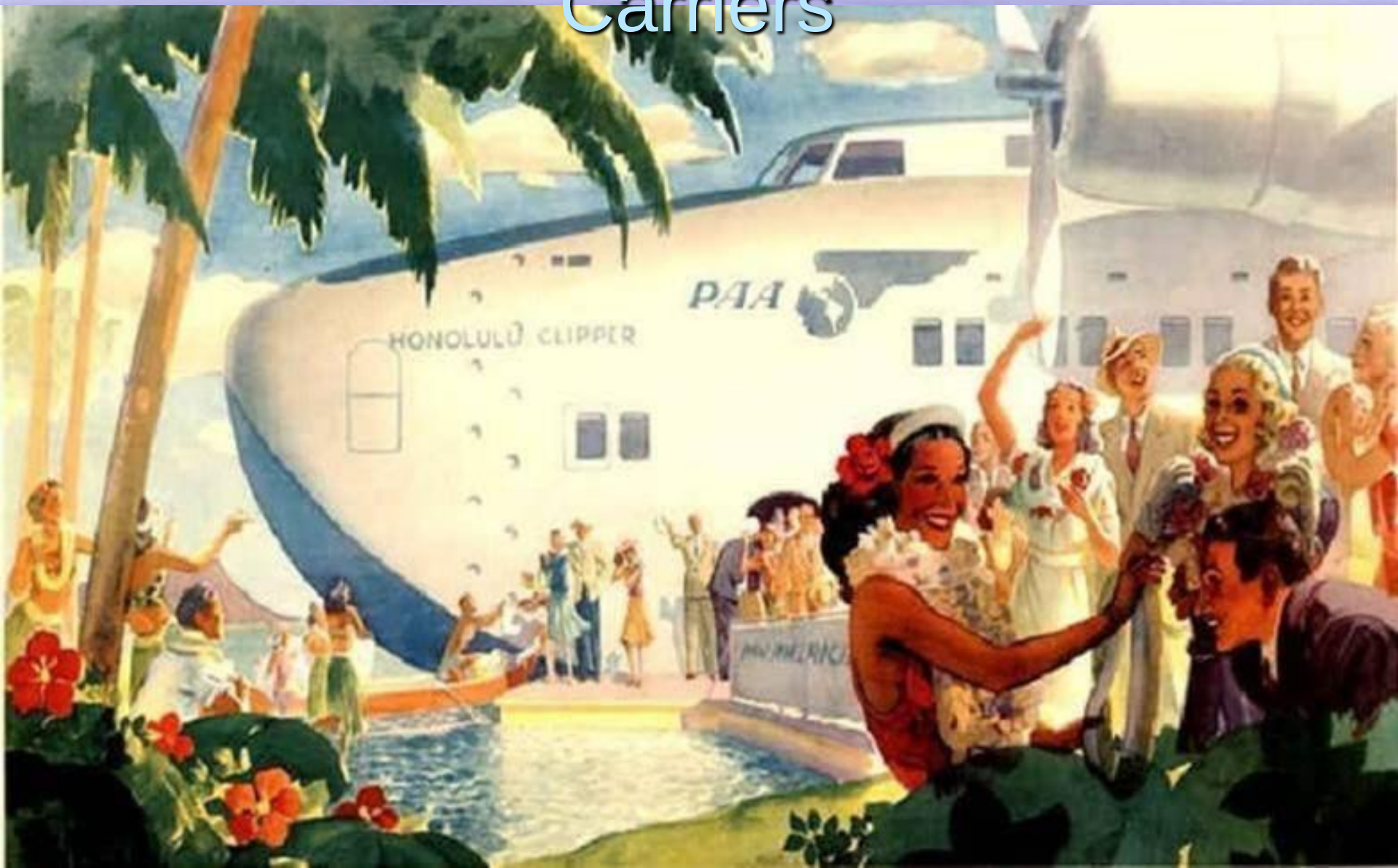
THE PLANNING PROCESS

- Define corporate objectives;
- Perform a situation analysis of the strengths and weaknesses of the airline and its competitors, and environmental opportunities and threats;
- Forecast future events;
- Evaluate various alternatives, and their risk/reward probabilities;
- Establish broad strategies to satisfy corporate objectives;
- Formulate specific tactical plans to implement strategies and integrating plans through all departments;
- Execute plans effectively;
- Appraise results; and
- Modify plans as experience dictates

PRODUCT DESIGN

- Customers (business and discretionary passengers, corporations, the government, travel agents, tour operators, consolidators, shippers and freight forwarders);
- Market identity (high or low service, high or low price);
- Route structure (connecting or point-to-point, dense or thin city-pairs, domestic/international);
- Schedule (stage length, flight frequency, aircraft and gate utilization, load factors, fuel consumption);
- Fleet (e.g., age, composition, noise stage, heterogeneous or homogenous, maintenance, reliability);
- Marketing (market share, yield management, distribution network, product lines);
- Finance (return on investment, cash flow, debt/equity ratio, interest coverage, fleet age and percentage leased, working capital, credit availability);
- Cost structure (labor, fuel, distribution);
- Personnel (salary levels, unionization, turnover, training, morale); and
- Environment (demographic, social, economic, regulatory).

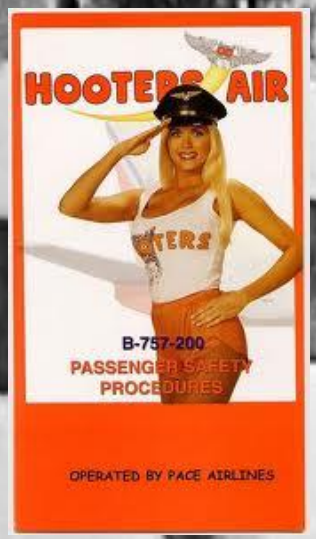
High Cost/High Revenue Network Carriers




INTER-ISLAND AIRWAYS LTD
HONOLULU · HAWAII


Fly the Finest...
FLY TWA
TRANS WORLD AIRLINES

Service has evolve over time



Versus Low Cost/Low Revenue Point-to-Point Carriers


WELCOME ABOARD
WHOCARES AIR
Now with more of less!
FOR OUR BEVERAGE SERVICE, WE'RE PASSING AROUND THE CAPTAIN'S BOTTLE OF BOURBON.
NO MOVIES, FOLKS. INSTEAD, LET ME ENTERTAIN YOU! A GUY WALKS INTO A BAR WITH A PARROT...
MY MOM'S LEFTOVER POT ROAST. ENJOY!
THIS IS OUR NEW LAP CLASS.
HOO GIVES A HOOT!

RYANAIR
THE LOW FARES AIRLINE

Boeing 737-800

Yours to read for just £2.50

In case of pressure loss, insert £1 into slot to release oxygen mask. Secure your own mask, but do not help others. They must pay for it themselves.

If the plane has to land in an emergency, insert your card into the chip and pin device. When the transaction is complete, exit the aircraft. A member of crew will be on hand to collect your £25 emergency disembarkation fee.


SOUTH PACIFIC AIRLINES
Safety Instructions
HERE ARE SOME SAFETY TIPS IN THE EVENT OF SNAKES ON A PLANE.
YOUR SNACK TRAY MAY BE USED TO TRAP AND CONFUSE SNAKES.
PLEASE BE CAUTIOUS WITH SMALL PETS, AS THEY MAY ATTRACT HUNGRY SNAKES.
REMOVABLE SEAT CUSHION CAN DOUBLE AS A SNAKE DETERRENT DEVICE.
PLEASE PROCEED CAUTIOUSLY WHEN STEPPING OVER DEAD BODIES.
FIRE EXTINGUISHERS LOCATED AT EXITS CAN ALSO WARD OFF AGGRESSIVE SNAKES.
IF YOU SUFFER FROM A SNAKE BITE, PLEASE NOTIFY THE NEAREST FLIGHT ATTENDANT.
OXYGEN MASKS CAN BE USED IN THE EVENT OF PANIC ATTACKS.
IN THE EVENT OF A SNAKE EVACUATION, THE EMERGENCY SLIDE WILL BE DEPLOYED FOR SAFE EXIT.
FIRE
SMOKE
DEBRIS
EXIT
SNAKE
www.SnakesOnAPlane.com
SNAKES ON A PLANE

event
mobile
confused
models
baggage
advertised
stairway
cheaper
dynamic
alternative
charge
charges
cost
flights
regardless
without
usually
discounts
quickly
low-cost
programs
seat
carrier
time
fares
operate
i.e
typically
generally
budget
one-way
buy
ticket
tickets
etc
aircraft
late
early
aggressive
allocating
originated
allocated


TIME
TERRORISM
Targeting the Mass Murderers
FARE GAMES
Flying Has Never Been Cheaper
People Express Chairman Donald Burr

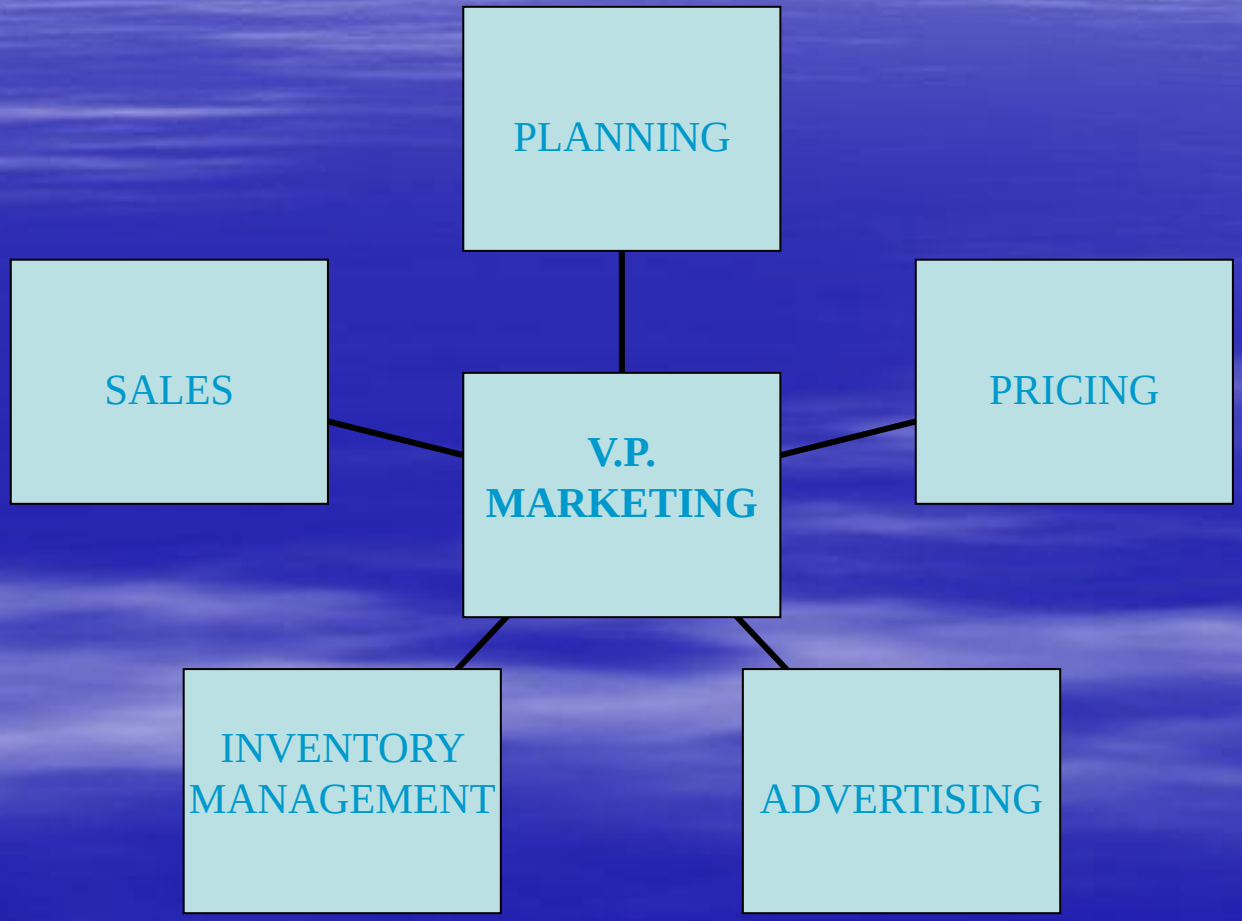

AUGUST 14, 1978
$1.00
TIME
Israel's Secret Arab Contacts
New Era in the Air
Cheap Fares, Crowded Flights

Coordination of Marketing and Operations

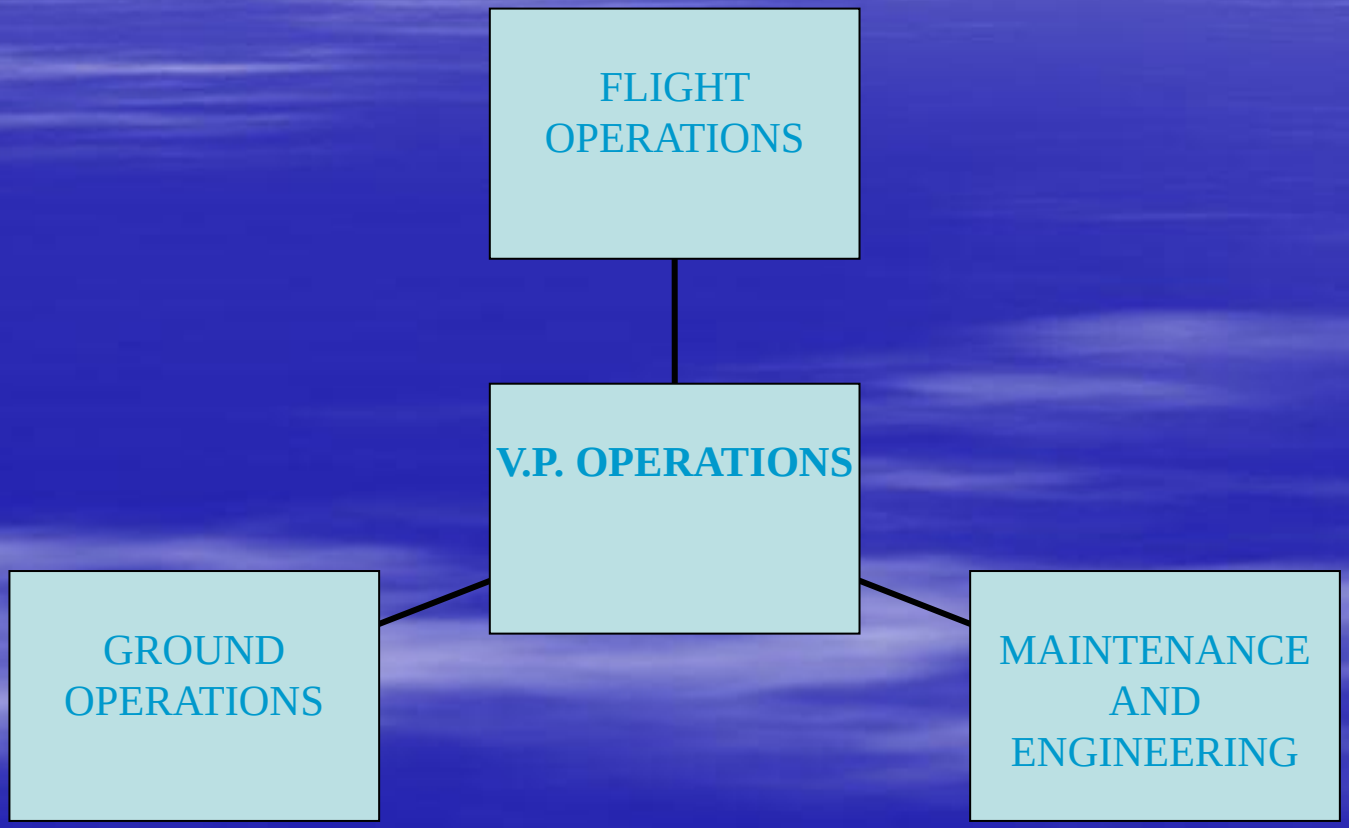
- The functional areas of planning—forecasting, scheduling, fleet acquisition, and operations—require coordination between two of the central supply and demand organizational areas of an airline—operations and marketing, respectively.
- One source emphasizes the danger in allowing either to become dominant: “If the operations structure is dominant, an increased integrity of supply results but only with added costs and decreased revenue. If marketing is dominant, capacity and revenues increase, but operating costs rise measurably.”

Marketing

"The process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual and organizational objectives."



Operations


FLIGHT OPERATIONS
V.P. OPERATIONS
GROUND OPERATIONS
MAINTENANCE AND ENGINEERING

Product Differentiation

- Between which city-pairs will the carrier operate?
- How frequently, and at what times, will it provide service between these points?
- Will it serve connecting traffic, or instead focus on origin-and-destination passengers?
- Which aircraft types will it fly, and in what interior configuration?
- Will it offer multiple classes of service (for example, dividing the cabin into first, business, and economy classes), and what will be its seat pitch? What will it offer in terms of in-flight amenities (e.g., beverages, reserved seating, meals, and movies)?
- At what price will it offer its product, and with what restrictions?
- How will it distribute its product?

Edmund Greenslet describes the problem of the intermediate and fungible nature of air transportation this way:

- *Unlike almost every other consumer service air transportation is not an end product but is an intermediate step used only when it is necessary for someone to satisfy another personal or business need. . . .*
- *The intermediate nature of air transportation is the reason that it is considered, in economic terms, a commodity. An analogy can be made to a bushel of wheat which is a commodity for two reasons. First, nobody wants a bushel of wheat, what they want is a loaf of bread or a cake and so, like air transportation, wheat is an intermediate material needed to achieve the desired end product. Second, every bushel of wheat is just like every other bushel so no producer can make his different from any other. In the same manner every airplane seat is just like every other seat. There are, of course, different grades of wheat and there are first class and business class seats, but for the mass market a seat is a seat.*

▪ *ESG Aviation Services*, 9 Airline Monitor 1 (Oct. 1996).

Amenities – Efforts to Achieve Product Differentiation

- Aircraft
- Routes
- Schedule, Frequency, Punctuality
- Seat Pitch
- Business/First/Premium Economy Class
- Meals (hot or cold), Drinks
- Video
- Newspapers, Magazines
- Assigned Seating
- Boarding
- Priority baggage delivery
- Frequent Flyer Program
- More and better-trained flight attendants
- Airport lounge access
- Or, and airline can charge for these amenities with a la carte pricing.

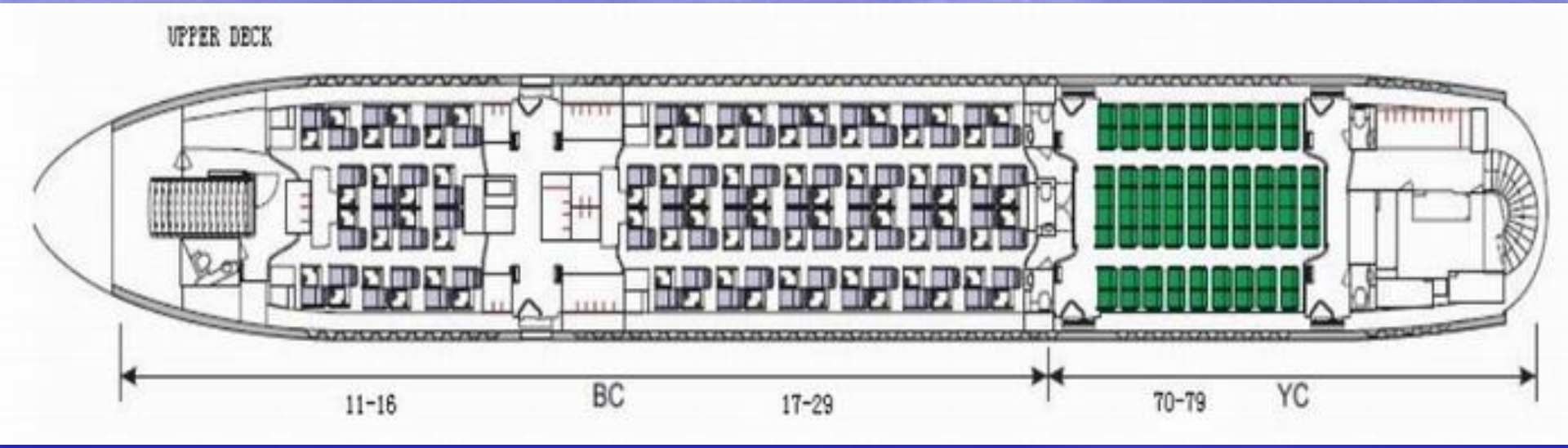
DOUGLAS DC-3

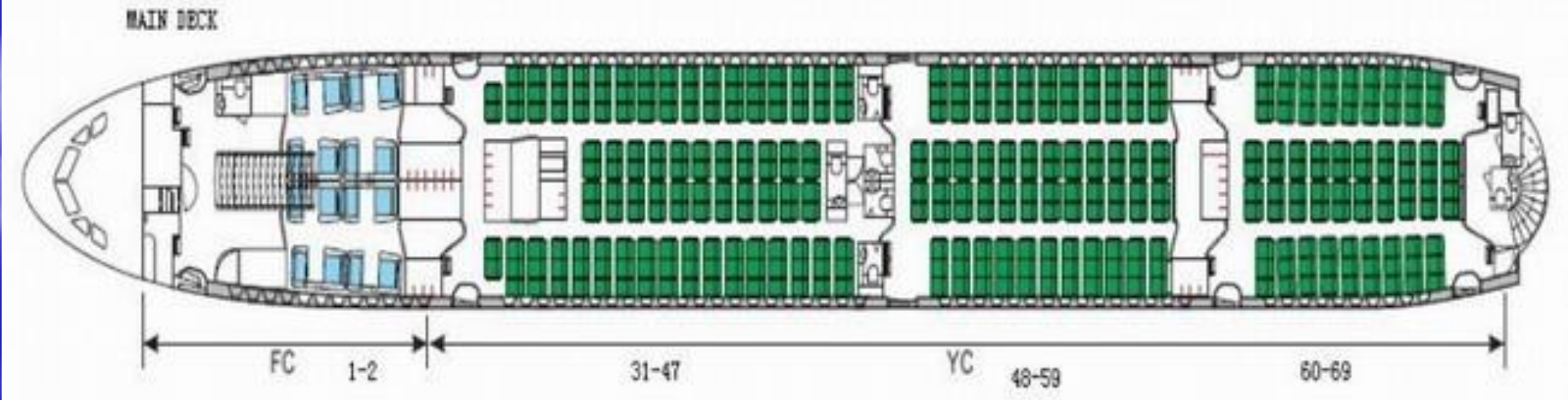
K. L. M.

KONINKLIJKE LUCHTVAART MAATSCHAPPIJ VOOR NEDERLAND EN KOLONIËN N.V.

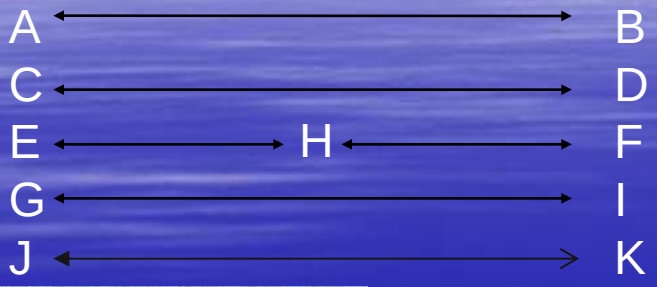
Cabin Configuration: American Airlines' DC-10

China Southern's A380

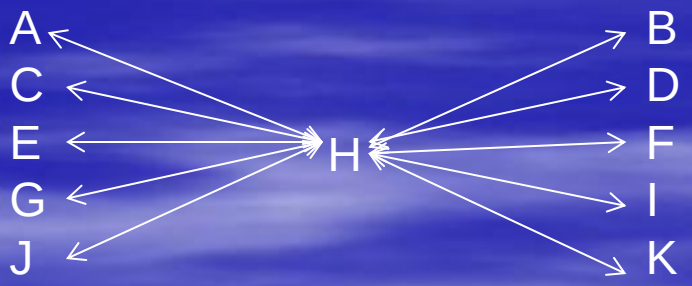




Linear Route System (6 City-Pairs) offers a cost advantage



Hub-And-Spoke Network (48 City-Pairs) offers a revenue advantage

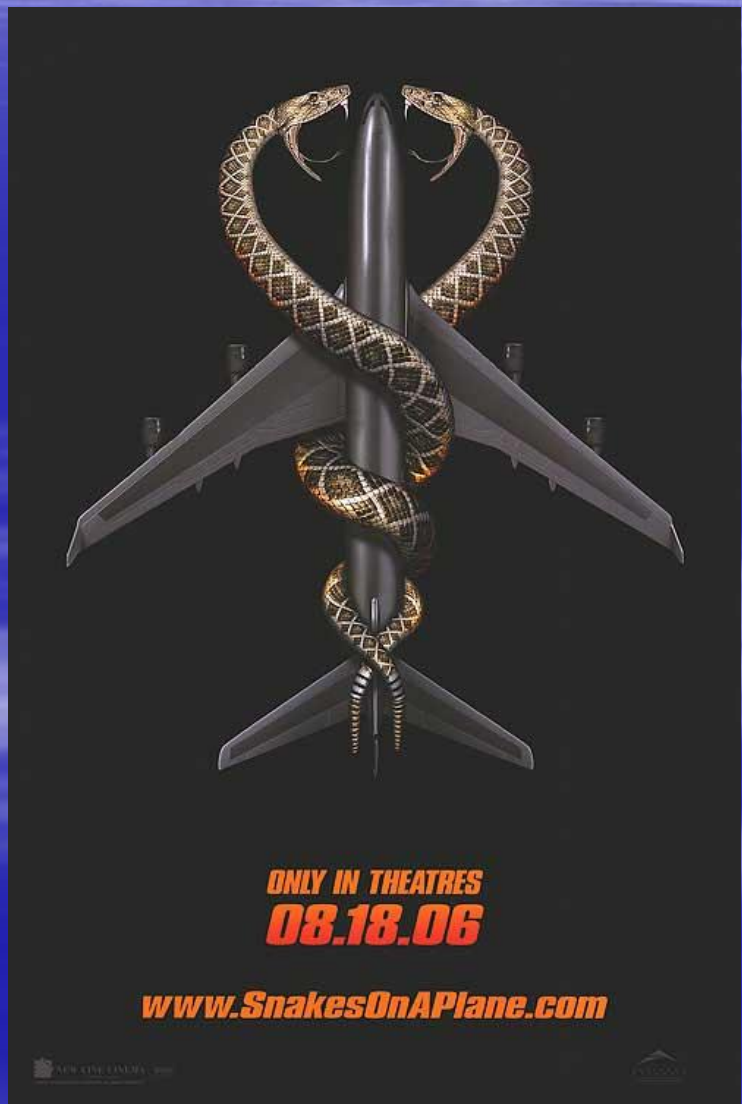


Alternative Models

- *High Fare, Full Service Network Carriers*—These are carriers which offer ubiquitous national and international connecting service distributed through computer reservations systems [CRS] pre-dominantly by travel agents. Examples are the big four U.S. airlines—United, American, Delta and Northwest.
- *Low Fare, High Service Network Carriers*—These carriers which offer widespread connecting service distributed via CRS. An example is Continental, which under Frank Lorenzo had degenerated into a low fare, low service network carrier, but post-Lorenzo, has much improved its service. *Low Fare, Low Service Network Carriers*—These are carriers which offer widespread connecting service generally distributed outside CRS and travel agents. Examples include JetBlue.
- *High Fare, High Service Point-to-Point Carriers*—Midwest Express embraced a formula of spacious seating, and gourmet meals, at relatively high prices.
- *Low Fare, High Service Point-to-Point Carriers*—These are carriers which offer good service (ample leg room, meals) in city-pairs, distributed by CRS and travel agents. If high frequencies and low consumer complaints were added to the service analysis, one might add Southwest Airlines to this list, though its seat configuration is tight, and its inflight amenities are nil.
- *Low Fare, Low Service Point-to-Point Carriers*—These are carriers which offer bare bones in-flight amenities with direct product distribution. Examples include the Europe's easyjet, or Asia's Tiger Airways. Though Southwest ranks high in customer satisfaction, it provides its clientele "bare bones" in-flight service.

Performance Monitoring and Evaluation

- Benchmarking – financial performance, cash, return on assets, labor costs, productivity, asset utilization vis-à-vis a peer group of airlines
- Flight Profitability Analysis – market profit/loss, passengers, load factor, break-even load factor, average fare, yield, RASM, CASM, average seats per departure, average pax per departure.



Revenue and Inventory Management

"I think when airlines want to set new fares, they put their people into a room without food or water. And when they start to hallucinate, then they make the fares."

Virginia Dean - President, Dean Travel Services

Price Elasticity of Demand

- The concept of *price elasticity of demand* describes the enhanced price sensitivity of a leisure traveler vis-à-vis a business traveler.
- The law of demand suggests consumers will respond to a price decline by buying more of a given product.
- Consumer sensitivity to price change is referred to as *elasticity*.
- When price change gives rise to considerable change in consumption, demand is said to be *elastic*.
- Conversely, if consumers are relatively unresponsive to price change, demand is *inelastic*.

Market Segmentation

- By recognizing that the market is segmented among various classes of travelers with differing demand elasiticites, a carrier can tailor a combination of price and service offerings (in this context, travel restrictions) designed both to increase load factors (filling seats which otherwise would fly empty with discretionary travelers) and maximizing yields (charging less price sensitive, or *demand inelastic,* travelers more).
- For example, business travelers are less demand elastic than vacation travelers, because the cost of business travel is borne by their employer rather than themselves, is paid with pre-tax dollars, and the company realizes potential business opportunities if such travel is made.
- In contrast, vacation travel is paid for with post-tax dollars by an individual, or family.


Passenger Market Segmentation
Business Traveler
VFR
Leisure Traveler
Large Corporation
Small Business
Emergency Visit
Leisure Visit
The Wealthy
The Not So Wealthy

Some rules of thumb

+1% in disposable income = +2.7% traffic

-10% in fares = +3% traffic

+10% in fares = -3% traffic

+7% revenue

20% of pax = 80% of profit

5% of pax = 40% of revenue

>10 trips a year = 45% of trips flown = 8% of pax

Demand for Air Freight Transport

For cargo, air freight caters to high-value, time-sensitive shipments, because the cost of moving freight by air is high, and many goods can be routed via another mode of transport.

If it is of high-value, the goods can absorb the high cost of air freight in its purchase price.

If it is time-sensitive (such as perishable fish or flowers), it often must move by air or not at all.

The Relationship Between Price and Cost

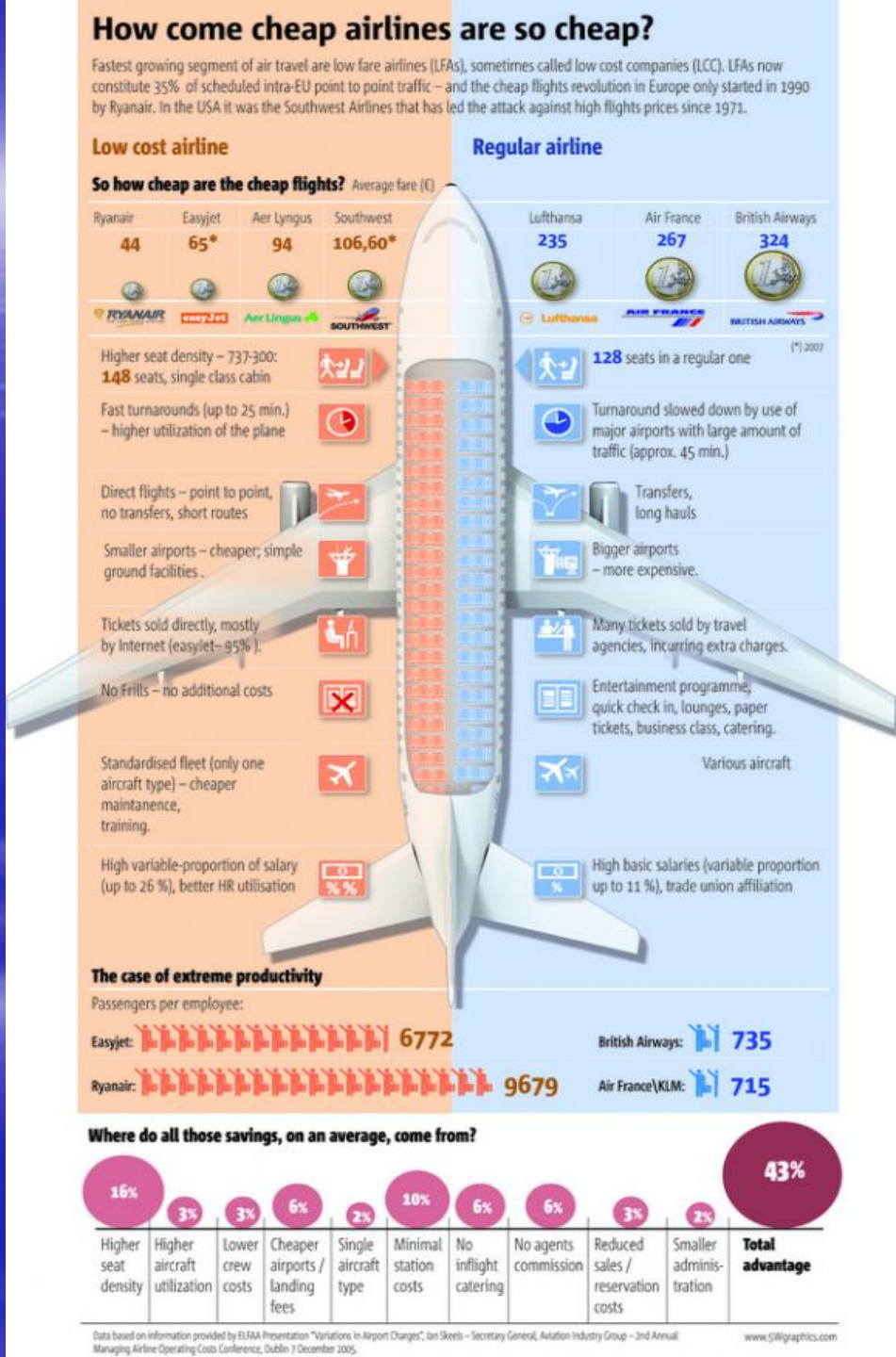
Since deregulation . . . the pricing structure has become much more complex. The linkage between costs and prices has been broken. The price of an airline seat has no relationship to the cost of producing it, but rather reflects the degree and nature of competition. Costs and prices have gone their separate ways. In fact, the relationship has been reversed. Airline managements are seeking to lower costs in order to match prices . . . . "

- Dr. Julius Maldutis

The Airline Industry

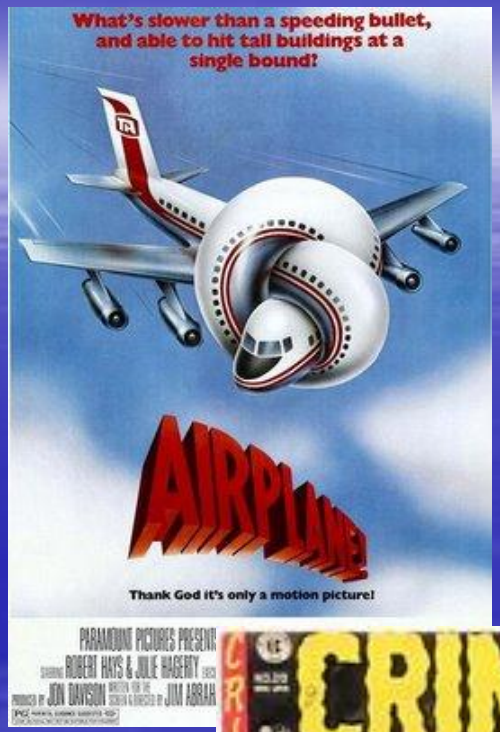
Cost-based pricing has become price-based costing.

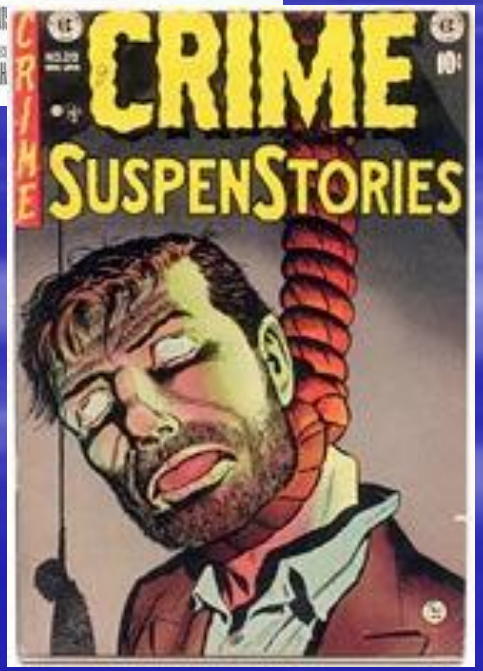
Why are low-cost carriers low-cost?



Competitive Response

- Predatory responses to new entry (depending upon the new entrant's balance sheet and pain threshold):
- Add frequency
- Reschedule so as to sandwich competitor's flights
- Lower prices
- Increase advertising

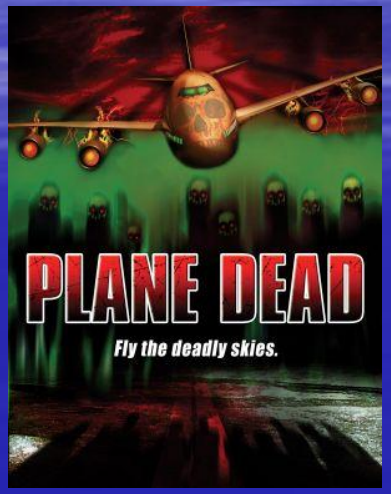




The Competition's Influence on Price

- Competition, or the economic cycle, often dictates the price.
- A competing carrier with lower costs, or needing to fill perishable inventory, or needing to secure an immediate cash infusion may well drive prices down for all carriers.
- In a high fixed-cost industry like commercial aviation, no carrier can withstand the loss of large numbers of passengers to its rivals, and will follow the price leader down to preserve market share.
- Consumer information as to the lowest priced seats has been significantly enhanced by the internet – good news for airlines trying to dump unsold inventory and lower distribution costs, and bad news for their competitors attempting to avoid yield erosion.
- The internet has increased pricing transparency, and caused airlines to drop fares closer to departure to avoid inventory spoilage.

YIELD (REVENUE) MANAGEMENT



- Price is a function of both supply and demand. Price is also related to cost and can heavily influence load factors (both actual and break-even).
- Demand for air transportation services is derived, uncertain, cyclical, directional and highly segmented. Productivity of airline resources is enhanced by a strategy of carrying multidimensional traffic—business, vacation and VFR.
- Since each group of passengers may have a different demand characteristic, an airline seeking both to sell perishable surplus inventory and maximize revenue will develop a yield/inventory (or price/capacity) management system (sometimes referred to as a *revenue management system)*.

Revenue Management: How It Works

- *Yield/revenue management* is the process of combining price and inventory controls to maximize revenue.
- It requires assessing future passenger demand (usually based on historical sales data), determining the optimal way to price and allocate seat inventory on each flight, and communicating the resulting price/inventory distribution to distribution and sales outlets.[
- It involves selectively accepting or rejecting sales in order to maximize revenue. As Sabre's Ben Vinod put it, yield management is, "selling the right seat, to the right customer, at the right price, at the right time to maximize system revenues and profitability."[

Revenue Management: How It Works

- The yield manager must attempt to identify the different price elasticities of demand between different classes of travelers to stimulate demand from passengers who would not otherwise fly, while attempting to avoid having passengers with low demand elasticity divert to fares set for passengers with high demand elasticity.
- This is done by coupling the lower fare buckets with restrictions such as advance purchase requirements, day and time of departure, and minimum and maximum stay requirements.
- Advance purchase restrictions are placed on the lower fares in recognition of the fact that leisure travelers can (and usually do) plan vacations well ahead of time. The carrier will also want to restrict the number of seats in every deeply discounted fare bucket, holding back higher-yield inventory in reserve to sell to passengers with less flexibility.
- By allocating a larger bucket of price discounted seats to off-peak times and days, price-sensitive passengers can be encouraged to shift their demand to off-peak periods, leaving a larger number of high yield seats for peak demand periods, and improving average load factors.
- In determining whether to discount the price for travel, system-wide or in an individual city-pair market, the yield manager must assess the impact of the discount in terms of *traffic generation* (the number of new passengers stimulated by the low fare, usually measured in terms of higher load factors), and on *dilution* (the amount of revenue lost by giving a lower fare to passengers who would have flown anyway at the higher fare).

Nesting

- The relationship between yields, bookings and break-even load factors is a complex one, the balance of which can be easily upset by energy prices, irrational competitive behavior, and the vicissitudes of the marketplace environment.
- Carriers adept at yield management tend to close out lower fare buckets (e.g., 21-day advance purchase Saturday night stay over) early, particularly during heavy demand periods.
- Under a process termed "*nesting,*" as sales build for a flight, the lower-valued itinerary classes are automatically closed, leaving the higher-yield seats open
- The trick is to avoid selling an excessive number of low-yield seats too early, for this may consume inventory and close out later bookings of higher-yield customers, causing "*spill*" of higher-revenue traffic to a competitor, or the inability to accommodate a potential purchase because capacity has been consumed (usually, the loss of sales to later booking customers because earlier booking customers have consumed available inventory).
- Conversely, holding back an excessive number of seats for potential high-yield customers who may fail to materialize may deprive the carrier of earlier sales to price-sensitive lower-yield customers. This is referred to as "*spoilage*," a situation where demand for seats exists but, due to misallocation of inventory, they depart empty.

Pricing Proliferation

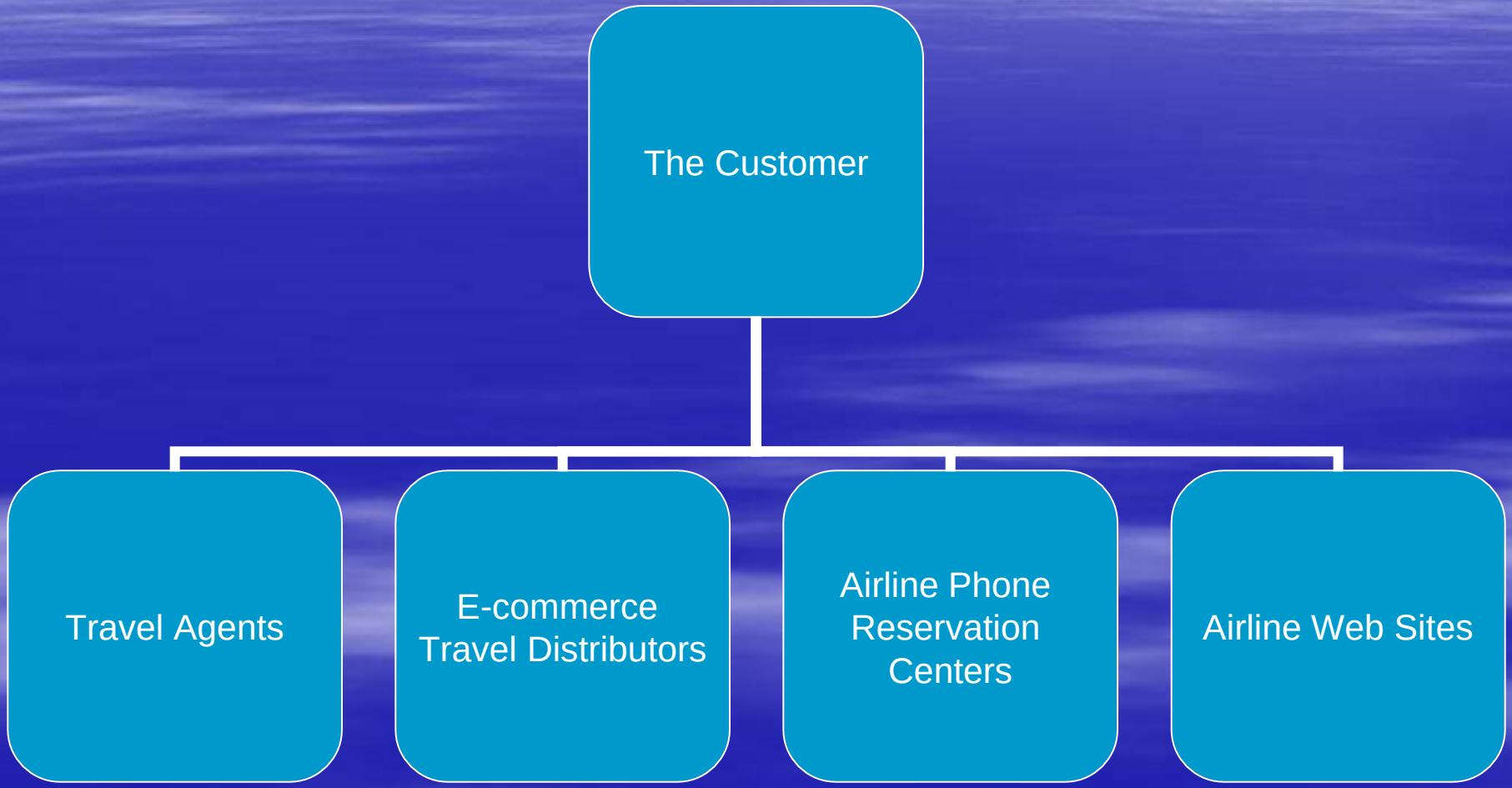
- In 1979, there were 58,000 domestic air fares. A decade later, there were 4,000,000 domestic air fares.
- Airlines have learned that by watching passenger demand carefully, they can shrewdly manipulate the number of seats for which restricted discounts are offered, and fill seats with passengers paying the maximum price.
- That explains the phenomenon of tens of thousands of rate changes each day. An average day may have 200,000 new fares inputted into CRS, while during a fare war, 1,500,000 fares may be added.

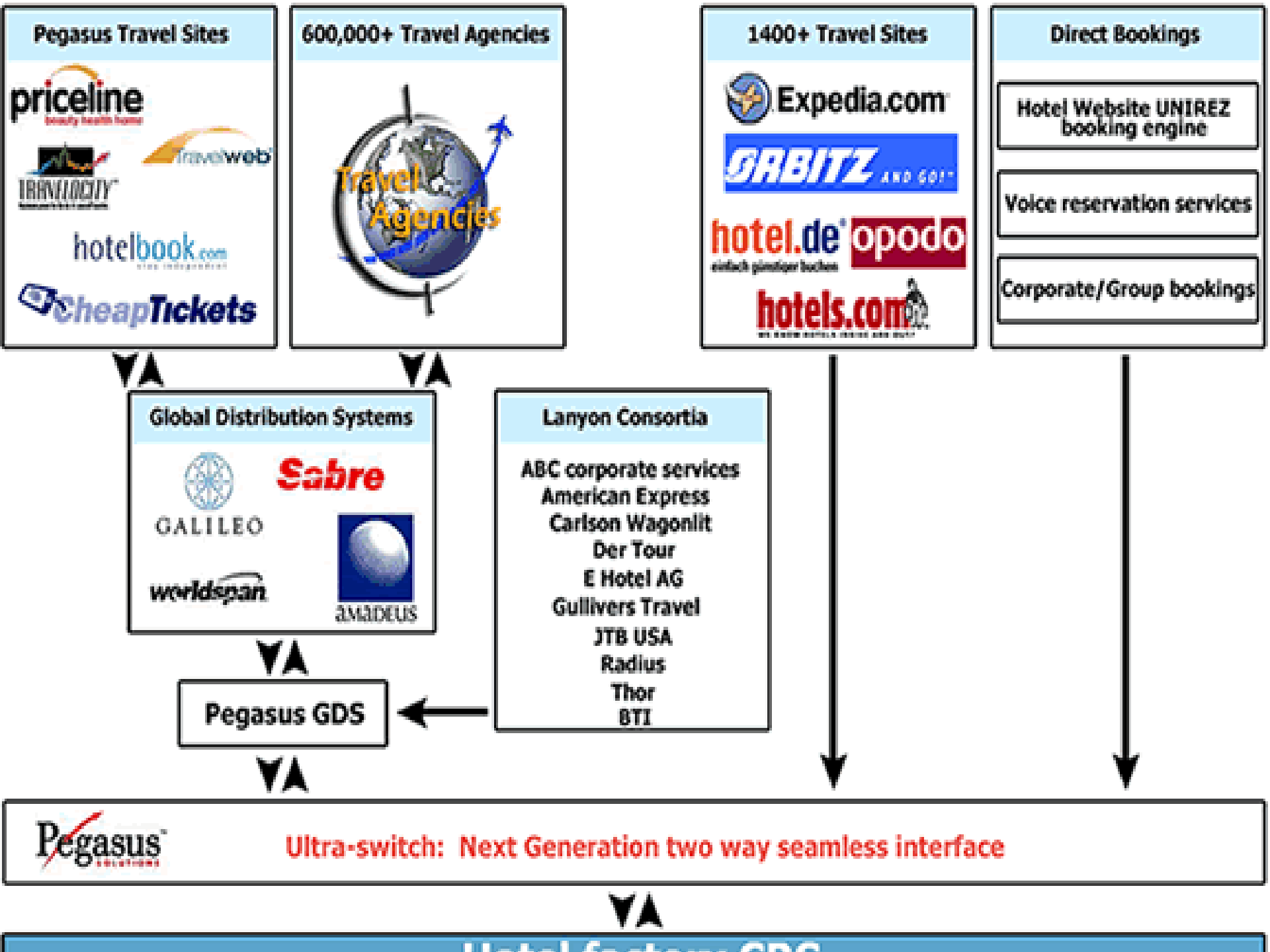
Pricing Transparency

"The accelerated switch to e-commerce and online ticket sales will create market instability. The Internet will give consumers instantaneous and easy access to airline price and service data thereby enhancing consumers' market power. This will aggravate the downward pressure on tariffs and fares."

Regis Doganis - Former CEO, Olympic Airways

Distribution Vehicles

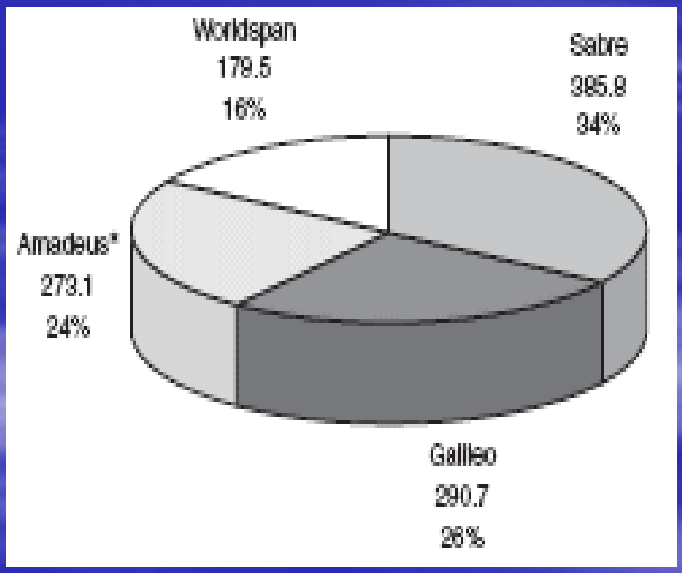


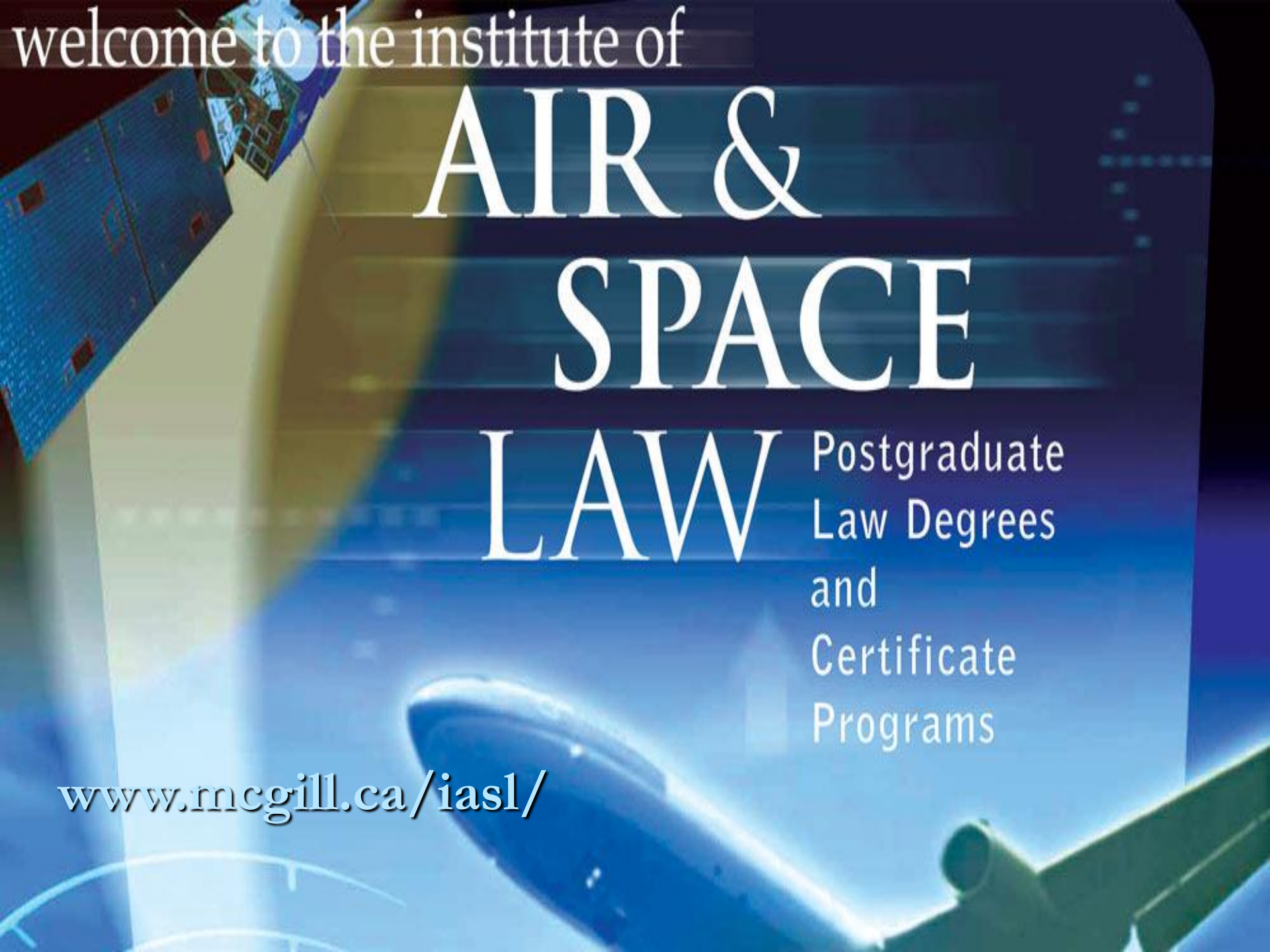

Pegasus Travel Sites
priceline
travelweb
IRRAWADDY
hotelbook.com
CheapTickets
600,000+ Travel Agencies
Travel Agencies
1400+ Travel Sites
Expedia.com
ORBITZ AND GO!
hotel.de
opodo
hotels.com
Direct Bookings
Hotel Website UNIREZ booking engine
Voice reservation services
Corporate/Group bookings
Global Distribution Systems
Sabre
GALILEO
worldspan
AMADEUS
Lanyon Consortia
ABC corporate services
American Express
Carlson Wagonlit
Der Tour
E Hotel AG
Gullivers Travel
JTB USA
Radius
Thor
BTI
Pegasus GDS
Pegasus
Ultra-switch: Next Generation two way seamless interface

Product Distribution

Global Distribution Systems

- Amadeus: 24%
- Sabre: 34%
- Galileo: 26%
- Worldspan: 16%




welcome to the institute of
AIR &
SPACE
LAW
Postgraduate
Law Degrees
and
Certificate
Programs
www.mcgill.ca/iasl/