INDEX

Note: page numbers in italic type refer to Tables; those in bold type refer to Figures

“1,500 Rule” (Public Law 111-216), FAA 11
401 carriers 164, 180, 197
9/11: crisis communication model 318
impact of 6, 13, 27, 32, 81, 109, 184, 189, 305, 331, 353
A-checks 253, 254, 391
AAI (Airports Authority of India) 534
accidents 55–6
incident investigation 69
NTSB procedures 112–14
crisis management, and social media 317–20
accrual 476
accuracy, in forecasting 277
ACI (Air Cargo, Inc.) 110, 380
ACMI (Aircraft Crew Maintenance and Insurance) 539
ADAP (Airport Development Aid Program) 106
ADMA (Aviation Distributors and Manufacturers Association) 118
administrations:
definition 225
in major air carrier 240
administrative costs 351
ADs (Airworthiness Directives) 253, 254
advance purchase requirements 345
Advanced General Aviation
Transport Experiments (AGATE) 90, 143
advertising 259, 291, 305
aerial 137
on-board 313
see also promotion
Aer Lingus, social media use 324
aerial applications 136–7
aerial observation 137
aeromedical research 108
Aeronautical Radio, Inc. (ARINC) 116–17
Aeropuertos de Portugal 534
Aerospace Industries Association (AIA) 18, 117–18, 126
aerospace industry 18–19
characteristics of 19–20
civil aviation market 27–30, 28
economic profile of 21–3, 22, 23
factors affecting commercial transport sales 30–4
see also airline industry; general aviation
Africa 8, 10
African American travel market 297, 298
AGATE (Advanced General Aviation Transport Experiments) 90, 143
government, aerial applications 136–7
AIA (Aerospace Industries Association) 18, 117–18, 126
Air Asia 310, 321, 322
Air Berlin 323
Air California 75
air cargo see cargo/freight services
Air Cargo Guide 381
Air Cargo, Inc. (ACI) 110, 380
Air Carrier Operator’s License 177
Air Commerce Act, 1926
(Bingham-Parker Act) 47, 62–4, 82, 101, 531
air commerce, definition of 63, 66
air express services 365, 366–7, 372
Air Florida 76
air freight forwarders 367, 368
Air Freight Procedure Agreement 183
air freight services see cargo/freight services
Air Line Pilots Association (ALPA) 447, 448, 461, 463, 466
air mail 365–6, 372, 452
early development of 45–50, 48, 62
regulation of rates 68, 329
Air Mail Act, 1930 (McNary-Watres Act) 49, 64
Air Mail Act, 1934 (Black-McKellar Act) 50, 51, 64–5, 453
Air Navigation Service Providers (ANSP) 7
Air New Zealand 537
Air Operator’s Certificate (AOC) 177
Air Operator’s Licence (UK) 178
air route traffic control centres (ARTCCs) 97, 104, 142
Air Safety Board 65, 66
Air Service Agreement (ASA) regulations 519–20
air taxi services 138, 170–1
fleet statistics 134
see also regional/commuter airlines
air tours 138
Air Traffic Conference 114
air traffic control (ATC):
automation of 108
early development of 52, 56
and hub-and-spoke system 412–13
labor relations 461
Professional Air Traffic Controllers Organization (PATCO) strike 461, 526
role of Federal Aviation Administration (FAA) 104–5, 108
and scheduling 394, 413
and Small Aircraft Transportation System (SATS) 89–90
Air Transport Association of America (ATA) 7, 53, 114, 175, 181
Air Transport World 175
air transportation industry: contribution to the efficient conduct of business 37, 38, 39
definitions 35–6
economic contribution of 36–7, 38
future trends in 33–4
history of see history of air transportation
impact on personal/pleasure travel 39
see also airline industry; cargo/freight services
Air Transportation Oversight System (ATOS) 179
Air Transportation Safety and System Stabilization Act, 2001 189
Air Wisconsin 76
Airbus Industrie 27, 29–31, 79, 81
A300 29, 57, 428
A320 80, 420, 422, 428, 430, 491, 497
A321 422
A330 29, 30, 80, 422
A380 29
Air Wisconsin 76
aircraft: acquisition costs 435
defined service life 443
design characteristics 435–6
evaluation, and fleet planning 434–6
high technological turnover 209
in-service and out-of-service time 390, 408
leasing 423–5
line reserves 408–9
physical performance factors 434
aircraft certification 105–6
aircraft cleaning 262
and scheduling 404
Aircraft Crew Maintenance and Insurance (ACMI) 539
aircraft insurance costs 349
Aircraft Owners and Pilots Association (AOPA) 83, 85, 119, 136, 143
aircraft selection see fleet planning
airfares: adjusting rules and restrictions 345–6
Airline Tariff Publishing Company (ATPCO) 115
analysis of 346–7
average fares per passenger mile 58, 58
fare actions 344–5
fare penalties 346
historical trends in 329–32, 330, 332
regulation of 67–8, 73, 329, 331, 459
types of:
common fares 341, 342
discounted 207
introductory fares 344
joint fares 342
no-frills fares 340–1
normal fares 341
promotional fares 296, 342
see also pricing
airframes: overhaul of 255–7
routine maintenance of 253–4
Airline Clearing House 115
airline costs 7, 8
aircraft acquisition costs 435
cargo/freight services 381–2
cost-cutting trends 353
direct operating costs 348–50, 433–6
fixed costs 353
indirect operating costs 350–1
nonoperating costs and revenues 351–2
prederegulation era 418–19
total costs, in the short run 354, 356, 357
variable costs 352–3
airline designators 181
airline industry 3–4, 15–16, 163–4
airline wing 140–1
accounting and guidance 180
airline-airport vertical arrangements 534–5
airlines as oligopolies 197–203, 198, 204–5, 206
business models 537–41, 543
business planning 14–15
certification 176–80
challenges for 11, 12, 13
consumer-oriented period 283–4
deregulation of see deregulation development stages 4–6, 164–6
DOT data collection 180–1
failure, factors in 14–15
finance see finance
profitability see profitability
see also air transportation industry; airline costs
Airline Inventory System 300
Airline Reservation System 300
Airline Tariff Publishing Company (ATPCO) 115, 342–3
airline transport aircraft 27–30, 28
aging fleet 27
factors affecting sales 30–4
Air and Airways Development Act, 1970 85, 106–7, 129, 208–9
Air and Airways Improvement Act, 1982 208–9
Airport Development Aid Program (ADAP) 106
airports: alliances 534–5
costs 349
FAA airport aid and certification 106–7
general aviation 139, 140–1
hub airports 76
and integrated carriers 372
job titles in airport administration 566
regional flights, July 2013 78–9
runway requirements of aircraft 434
and scheduling 389
terminal capacity, as a barrier to entry 198, 199
see also hub-and-spoke system
Airports Authority of India (AAI) 534
airspace: sovereignty in 509–19
see also law, international law
AirTran 5, 191
airworthiness certificates 106
Airworthiness Directives (ADs) 253, 254
All Nippon Airways (ANA) 29
all-cargo carriers 367–8, 369
all-cargo deregulation 71–2
Allegheny Airlines 75, 171
Alleghian Air 498–9
Allied Pilots Association (APA) 468
ALPA (Air Line Pilots Association) 447, 448, 461, 463, 466
Amazon.com 306
America West 76, 188, 190, 466, 491, 493
American Airlines 5, 33, 75, 76, 164, 166, 171, 191, 203, 208, 465, 493
cargo/freight services 56
early development of 47, 49, 50, 51
employment 446
fleet planning 418, 441–3
labour relations 451, 462, 465, 468
pricing strategies and objectives 343
social media use 313, 314
vendor financing 481
American Eagle 465, 468
amortization costs 350
AMR 191
Amtrak 100
ANA (All Nippon Airways) 29
analysis, and forecasting 269
ANSP (Air Navigation Service Providers) 7
Anti-Hijacking Act, 1974 108
antitrust laws 74, 203
Arab oil embargo 1973 70, 166, 175, 181
Arbys, Chris 225
ARINC (Aeronautical Radio, Inc.) 116–17
ARTCCs (air route traffic control centres) 97, 104, 142
ASA (Air Service Agreement) regulations 519–20
Asia-Pacific 8, 9
Asia, future market potential 542
Asiana flight 214 crash in SFO 319–20
ASMs see available seat miles (ASMs)
assembly service 379, 380
asset-based financing 477
assets (balance sheet) 483, 484
ATA (Air Transport Association of America) 7, 53, 114, 175, 181
ATC see air traffic control (ATC)
atlantic travel market 298
ATOS (Air Transportation Oversight System) 179
ATPCO (Airline Tariff Publishing Company) 115, 342–3
Australia, current aviation environment 536–7
authority; delegation of 237–8
autopilots, for light aircraft 84
available seat miles (ASMs) 184, 185
and pricing 352, 353, 357
see also passenger load factors
Aviation and Aerospace Almanac 7
Aviation and Transportation Security Act, 2001 109
Aviation Distributors and Manufacturers Association (ADMA) 118
aviation safety 55–6, 111, 112
collision avoidance systems 108
Latin America/Caribbean 10
NTSB safety recommendations 113
and regulation 61
steps involved in 112–14
see also National Transportation Safety Board (NTSB); Transportation Security Administration (TSA)
aviation service industry, general aviation 148–52
aviator certification 105, 106
avionics 420
B-checks 253, 254, 391
baggage:
and hub-and-spoke system 412
restrictions 289, 289
balance of trade:
and the aerospace industry 19, 22–3
and helicopters 35
balance sheets 483
US airline industry 484, 484, 485
Bangor Punta 86, 87, 130
banks, as a source of funds:
commercial banks 477–8, 495, 496
investment banks 478
barnstormers 82
barriers to entry 196
airline industry 198–200
Beech Aircraft Corporation 34, 82, 84, 85, 86, 87, 88, 130, 144, 146
Bell Helicopter 35, 86
Bellanca 84, 144
Berlin airlift, 1948–49 54
Bermuda Agreement, 1946 518, 520–1, 522, 524
bilateral agreements 518–20
Bingham-Parker Act (Air Commerce Act, 1926) 47, 62–4, 82, 101, 531
Black-McKellar Act (Mail Act, 1934) 50, 51, 64–5, 453
block speed 348
board of directors 225–6
boating safety 99–100
Boeing 27, 29–31, 32, 33
247 50–1, 55
307 55
377 54, 55
707 55, 56, 57
727 10, 57, 79, 80, 424, 425, 426, 428, 442
737 29, 57, 79, 80, 422, 424–5, 458
747 29, 56, 79, 80, 368, 422, 424, 430, 435–6
757 29, 79, 215, 216, 422, 425
426, 428, 430, 435–6
767 29, 79, 80, 422, 426, 428, 430, 442
777 29, 34, 80, 422, 424, 428
787 25, 29, 30, 31, 422, 428
acquisition of Hughes satellite division 25
B-40 47
Boeing Business Jets 131–2, 146
design and development
approach 426, 428, 430
fleet commonality 422
and leasing 424
merger with McDonnell Douglas 81
sales incentives 424
vendor financing 424
Boeing Air Transport Company 47
Bombardier 30, 87, 423
Colgan Air Bombardier Q400 crash 11
bonds 479
brand ambassadors 316
branding:
brand loyalty 167, 301
long-haul carriers 542
and social media 311
Braniff Airlines 75, 167, 169, 203, 491
Branson, Richard 13, 469
see also Virgin
British Aerospace 25, 79, 429
British Airways (BA) 539, 541
Brown, Walter Folger 49–50
Brussels Airlines 324
budget carrier 14
see also low-cost airlines
Bureau of Air Commerce 52, 64, 101
Bush, George H. W. 451
Bush, George W. 109
business aircraft use (NBAA category) 133
business aviation 7, 34, 36, 85, 88–90, 130, 131–2, 133, 134, 135, 153–6, 539
benefits of 155–6
business aircraft use (NBAA category) 133
corporate aircraft use (NBAA category) 133
frequent-flier programs 167, 301
future developments in 89–90
product development strategies 296–7
see also general aviation
business class 287–8, 301, 302
direct operating costs 348–50, 435–6
direct selling 201–2, 293
directing (function of management) 235–6
directional pricing 346
directionality, in cargo/freight services 382
director of flight dispatch role 248
director of flight procedures and standards role 251
director of flight training role 250–1
director of flight-crew scheduling role 248
director of maintenance role 177, 178, 230
director of meteorology role 250
director of operations role 177, 178, 230
director of safety role 177, 230
discombobulated syndrome 14
division, definition 225
DOD see Department of Defense (DOD)
DOT see Department of Transportation (DOT)
Douglas see McDonnell Douglas
duty-free goods 289
EAS (Essential Air Service) program 73, 171–2, 180
EASA (European Aviation Safety Agency) 176, 178
Eastern Airlines 75, 167, 187, 188, 203, 293, 482, 491, 493, 498
adoption of jet aircraft 56
early development of 50, 52
labor relations 45, 461, 464
easyJet 303, 313
economic cycles see cycles
economic growth, and commercial transport aircraft sales 31
economic planning administration 245, 246
economies of scale 202
economies of scope 202, 298–9, 300
economy class 287–8
educational travel 295
EEA (European Economic Area) 176, 531
EETCs (enhanced equipment trust certificates) 497
EFIS (electronic flight instrumentation) 80
Eisenhower, Dwight D. 56, 68
elastic demand 336, 337, 338
elasticity of demand 336–40, 338, 339
electronic components 24
electronic flight instrumentation (EFIS) 80
EMAC (engineering and maintenance control) system 256
Embraer 30, 79, 145, 147, 423
employee participation 238
employee protection program 74
employee-ownership schemes 466
employment:
aerospace industry 19, 21–2, 25
airline industry 57, 187, 189, 224, 225, 446, 446, 463, 487
labor costs 209–10
see also labor relations
employment contracts, and scheduling 394
en-route costs 349
en-route maintenance 397
engine emissions, FAA role in 107
engineering and development (E & D), FAA role in 108–9
engineering and maintenance (E & M) administration 251, 251–2
classes of stations 252
contract maintenance 257
nonroutine maintenance 244–5, 253
overhaul of airframes 255–7
overhaul of engines and other components 257
routine airframe maintenance 253–4
types of maintenance 252–3, 391
see also maintenance
engineering and maintenance control (EMAC) system 256
engines, maintenance of 254, 257
enhanced equipment trust certificates (EETCs) 497
entrepreneurs 482
environment, operating 11
environmental protection, FAA role in 107
Eos Airlines 539, 541
equipment trust financing 478, 497
equipment turnaround time 405
equity financing 476–7, 479
Essential Air Service (EAS) program 73, 171–2, 180
Estonian Air 322–3
ETOPS (extended twin-engine operations) 79–80
EU see European Union (EU)
Eurocontrol 319
Eurocopter 35
Europe:
cargo/freight market 372
government subsidies 29
see also European Union (EU)
European Aeronautic Defence and Space (EADS) 429
European Aviation Safety Agency (EASA) 176, 178
European Economic Area (EEA) 176, 531
European Economic Community 372
European Union (EU):
Open Skies Agreement with US 530
ownership restrictions 531
regional analysis 9
regulation 8, 9, 176, 282
exception rates 376
excess capacity 211–12, 283, 293
excess pound rates 377
Executive Vice-President role 227, 230
expendables 254
expert opinion, and forecasting 278
export credit guaranteed loans 497
exports, civil aviation market 27
express carriers, cargo/freight services 368–9
extended twin-engine operations (ETOPS) 79–80
external load applications 138
extra sections 408
FAA see Federal Aviation Administration (FAA);
Federal Aviation Agency (FAA)
Facebook 310, 314, 321
see also social media, airlines’ use of
facilities, and scheduling 395–7, 396
failures, in airline business planning 14–15
FAR Part 135 certification 178–9, 230
FAR Part 21 certification 177, 230
fare penalties 346
fares see airfares
fatality rate, of airline industry 52
FDRs (flight data recorders) 113
Federal Airport Act, 1946 106
Federal Aviation Act, 1958 60, 68–9, 70, 104
INDEX

Federal Aviation Administration (FAA) 85, 95, 96, 97, 101, 104, 109
air traffic control 104–5
aircraft and aviator certification 105–6
airline certification 176, 177–80
airline statistics 175
airport aid and certification 106–7
Airworthiness Directives (ADs) 253, 254
aviation forecasts 271, 272, 277
civil aviation security program 107–8
ingengineering and development 108–9
environmental protection 107
general aviation services 105, 165
air mail 47
Federal Highway Administration 96, 97
Federal Maritime Commission 94
Federal Motor Carrier Safety Administration (FMCSA) 96, 101
Federal Railroad Administration (FRA) 96, 100
Federal Transit Administration (FTA) 96, 99
feeder routes:
air mail 47
post-World War II era 54, 165
field ticket offices (FTOs) 291, 292
final reports, NTSB accident investigations 114
finance 473–4, 475
cash management and financial planning 498–501
financial and statistical reporting 181
financial issues/challenges 11, 12, 187, 188–91
financial restrictions 177–8
financial statistics, 2009-2013 198
frustrations in 6–7
future trends in 305, 306
global financial crisis, 2008-2012 6, 7
globalization of 533, 533
industry agreements 181–4
infrastructure issues 11
insurance requirements 177
job titles in 560–8
liberalization of see liberalization
major and national carriers 167–70, 168, 169
marketing see marketing
mergers 5–6, 9, 74–6, 167, 169
new business models 537–44
new types of airlines 13–14
operating environment 11
ownership restrictions 176, 530–1, 533, 535, 536, 537
production-oriented period 283
professional managers, arrival of 51–3
re-regulation of see re-regulation
regional analysis of 7–10, 8
regional carriers 170–2, 173, 174, 175
regulation of see regulation
relationship with passengers 311, 312
sales-oriented period 283
sources of funds:
cash 496, 498
commercial banks 477–8, 495, 496
debt financing 476, 477
deferred taxes 476
depreciation 475, 487
EETCs (enhanced equipment trust certificates) 497
equity financing 476–7
export credit guaranteed loans 497
external sources 476–83
finance companies 478
internal sources 474–6, 480
investment banks 478, 483
Islamic leasing 497–8
leasing 423–5, 476, 478, 479–81, 487, 495, 496
life insurance companies 478, 486, 495
profits 474–5
tax leases 497
vendor financing 424, 481, 497
venture capital 482–3
start-up financing 482–3
statistics, sources of 173
strategies for 11, 12, 13
structure of 164–7, 169, 169–70
success, factors in 15
top 25 airlines/airline groups 204–5
traffic and financial review, 1960-2013 173, 182, 184–91, 190
trends in 6–7
US airline industry, sources and uses of funds 483–7, 484, 485, 488–90, 490–6
wrong money 14–15
finance and property administration 241, 242, 243
finance companies 478
financial (capital) leases 423, 480, 496
financial planning 498–501
financial restrictions, airline industry 177–8
firefighting, aerial applications 137
first class 287–8, 302
first officer role 249
Five Freedoms Agreement (International Air Transport Agreement) 515, 518
fixed costs 353
fixed-base operators 82, 90, 136
functions of 149–50
and profitability 151–2
size and scope of 150–1
fleet capacity, and commercial transport aircraft sales 32
fleet planning 417–18
American Airlines case study 441–3
decision to upgrade/replace 436–8
design and development 426, 427, 428–30
factors in 418–26, 425
fleet commonality 422
fleet optimization model 436, 437
fleet rationalization 420–2
process of 431, 431–6
fleet statistics, US 425
flexibility:
and business aviation 155–6
lack of as failure factor 15
and organizational planning 238
and personal/private aviation 158
flight crews 261–3, 460
costs 348, 435
regulation of working hours 394–5
and scheduling 393–5
see also labor relations
flight data recorder (FDRs) 113
flight dispatch manager role 248
flight engineer role 249
flight equipment, regional/commuter airlines 174
flight manager role 248
flight operations:  
administration 247, 247–51  
costs 348–9  
and scheduling 393–5  
flight service stations (FSS) 97, 104, 105, 141  
Flight Standards District Office (FSDO) 178  
flight-time-specific fares 344–5  
fly-by-wire 420  
Flying Tiger 365, 367–8  
FMCSA (Federal Motor Carrier Safety Administration) 96, 101  
food service 260–1, 261, 262, 288  
Ford, Gerald 70, 524  
Ford, Henry 48–9  
forecasting 259, 268  
and analysis 269  
and control 269–70  
methods:  
accuracy of 277  
causal (model) forecasts 270–2, 272, 277  
judgmental methods 277–9  
smoothing variations 275–6, 276  
time-series or trend analysis  
methods 273–5, 274, 277  
and planning 268, 269  
purpose of 268–70  
short/medium/long-term 268  
see also management; market research  
FRA (Federal Railroad Administration) 96, 100  
fractional ownership 132, 135  
France 527  
airport alliances 534  
government subsidies 29  
and international air law 512  
Frankfurt International Airport 534  
freedoms of the air:  
Five Freedoms Agreement (International Air Transport Agreement) 515, 518  
nine freedoms 516–17, 518  
Two Freedoms Agreement (International Air Services Transit Agreement) 515, 518  
freight forwarders 367, 368  
freight services see cargo/freight services  
Frequency Model 543  
frequent-flier programs 167, 301  
FSDO (Flight Standards District Office) 178  
FSS (flight service stations) 97, 104, 105, 141  
FTA (Federal Transit Administration) 96, 99  
FTOs (field ticket offices) 291, 292  
fuel consumption, impact of flying conditions on 250  
fuel costs/prices 7, 8, 187, 188, 209–10, 331, 349, 419, 435  
Arab oil embargo 1973 70, 166, 186  
see also oil prices  
funeral travel 295  
GAMA (General Aviation Manufacturers Association) 18, 85, 118, 143  
GARA (General Aviation Revitalization Act), 1994 21, 34, 87, 131, 142, 143  
GDSs (global distribution systems) 299  
GE Aerospace 25  
General Air Express 366  
general aviation 28, 34–5, 36, 126  
airports 139, 140–1  
aviation service industry 148–52  
business aviation 7, 34, 36, 85, 88–90, 130, 131–2, 133, 134, 135, 153–6  
early development of 82–3  
economic impact study 38  
FAA services 105, 141–2  
early developments 29, 61, 68, 73, 165  
government aircraft 139  
government financial assistance 208–9  
subsidies 29, 61, 68, 73, 165  
government market 18, 21, 24–6  
see also Department of Defense (DOD), expenditure on aerospace products; NASA (National Aeronautics and Space Administration)  
GPA Group 424  
Ground Control 249, 250  
ground crew 262–3  
and scheduling 403–4, 404  
ground expenses 351  
ground operations, and scheduling 395–7, 396, 403–4, 404  
group travel 295–6  
Gruumman Aircraft Corporation 88  
Guatemala City Protocol 513  
Hague Protocol to the Warsaw Convention 513  
Havana Convention, 1928 511–12, 515  
helicopters 28, 35  
medical applications 138  
sales statistics 28  
scheduled services 54  
hijacking, Civil Aviation Security Program 107–8  
history of air transportation 43–5  
economic developments, pre-regulation 57–60, 58, 60  
federal legislation 60–74  
formative period 1938–1939 45–53, 48  
general aviation 82–90  
growth years, 1938–1958 53–5  
postderegulation evolution 74–81, 77, 78–9  
Hoover, Herbert 47, 49  
hub airports 76  
Hub Complement/Hub Bypass models 543  
 Giulian, Rudolph 318  
global distribution systems (GDSs) 299  
global financial crisis, 2008–2012 6, 7  
globalization 530–2  
of airlines 533, 533  
and the cargo/freight market 373  
go-team concept in accident investigation 112–13  
goals 233  
unity of objectives 236–7  
government aircraft 139  
subsidies 29, 61, 68, 73, 165  
government market 18, 21, 24–6  
see also Department of Defense (DOD), expenditure on aerospace products; NASA (National Aeronautics and Space Administration)  
GPA Group 424  
Ground Control 249, 250  
ground crew 262–3  
and scheduling 403–4, 404  
ground expenses 351  
ground operations, and scheduling 395–7, 396, 403–4, 404  
group travel 295–6  
Gruumman Aircraft Corporation 88  
Guatemala City Protocol 513  
Hague Protocol to the Warsaw Convention 513  
Havana Convention, 1928 511–12, 515  
helicopters 28, 35  
medical applications 138  
sales statistics 28  
scheduled services 54  
hijacking, Civil Aviation Security Program 107–8  
history of air transportation 43–5  
economic developments, pre-regulation 57–60, 58, 60  
federal legislation 60–74  
formative period 1938–1939 45–53, 48  
general aviation 82–90  
growth years, 1938–1958 53–5  
postderegulation evolution 74–81, 77, 78–9  
Hoover, Herbert 47, 49  
hub airports 76  
Hub Complement/Hub Bypass models 543
INDEX

advantages of 411, 411–12
disadvantages of 412–13
and fleet planning 419, 422
and scheduling 409, 409, 410–13, 411
Hughes Aircraft 25
Hughes Airwest 74
human remains, shipment of 381
hyperloop transportation system 13
IAM (International Association of Machinists) 185, 449
IAM & AW (International Association of Machinists and Aerospace Workers) 447, 465
IAOPA (International Council of Aircraft Owner and Pilot Associations) 119
IATA (International Air Transport Association) 5, 68, 121–2, 181, 414, 519, 520, 521, 522, 523, 541
ICAO see International Civil Aviation Organization (ICAO)
ICC (Interstate Commerce Commission) 64, 94
ICC Termination Act, 1995 101
ICCAIA (International Coordinating Council of Aerospace Industry Associations) 118
Icelandic volcanic ash cloud crisis 319
identification codes 181, 302
see also code-sharing agreements
IFF (identification, friend or foe) 52
IFR (instrument flight rules) 104, 142
IL (intermediate layover) checks 254
ILFC (International Lease Finance Corporation) 424
in-flight entertainment 288
in-flight service 261–2
in-service time 390, 408
inclusive tour charters 522
independent carriers 543
Independent Union of Flight Attendants 461
India 534
indirect operating costs 350–1
industry environment, and fleet planning 432
industry suppliers 23–4
industry-wide bargaining 452
industry, definition of 164
inelastic demand 336, 338, 339
inflation, and commercial transport aircraft sales 31
information services administration 243, 243
instructional flying 136, 149, 152
instrument flight rules (IFR) 104, 142
insurance companies, as a source of funds 478, 486, 495
insurance costs 349
cargo/freight services 374
insurance requirements, airline industry 177
intangibles, in fleet planning 443
integrated carriers, cargo/freight services 368–9, 372
intensive growth strategies 296–8
Inter-American Commercial Aviation Commission 511
interactive marketing agreements 303–4
interline agreements 183–4, 290
interline sales 292
intermediate layover (IL) checks 254
Intermodal Surface Transportation Efficiency Act, 1991 99
International Air Navigation Code (Paris Convention), 1919 510–11, 512, 515
International Air Services Transit Agreement (Two Freedoms Agreement) 515, 518
International Air Transport Agreement (Five Freedoms Agreement) 515, 518
International Air Transport Association (IATA) 5, 68, 121–2, 181, 414, 519, 520, 521, 522, 523, 541
International Air Transport Competition Act, 1979 525–6
International Association of Machinists (IAM) 185, 449
International Association of Machinists and Aerospace Workers (IAM & AW) 447, 465
international aviation 507–9
international aviation history 502–9
international aviation law 512
International Chamber of Commerce 512
International Civil Aviation Organization (ICAO) 109, 120–1, 414, 509, 520, 521
International Civil Aviation Organization (ICAO) 5, 68, 121–2, 181, 414, 519, 520, 521
International Coordinating Council of Aerospace Industry Associations (ICCAIA) 118
International Conference on Civil Aviation (Chicago Conference), 1944 513–15, 516–17, 518–20
International Coordinating Council of Aerospace Industry Associations (ICCAIA) 118
International Council of Aircraft Owner and Pilot Associations (IAOPA) 119
International Civil Aviation Organization (ICAO) 109, 120–1, 414, 509, 520, 521
International Lease Finance Corporation (ILFC) 424
International Organization for Standardization (ISO) 118
Internet ticket sales 201–2, 293
Interstate Commerce Commission (ICC) 64, 94
interviews 558–9
introductory fares 344
inventory costs 374–5
inventory management, and pricing 347–8
investment banks, as a source of funds 478, 483
investment tax credit (ITC) 86, 130, 423, 476
Islamic leasing 497–8
ISO (International Organization for Standardization) 118
ITC (investment tax credit) 86, 130, 423, 476
JAMTOs (joint airline/military ticket offices) 291–2
formation of IATA 520
future challenges 535–7
and globalization 530–5, 533
international air law 512
Warsaw Convention, 1929 512, 513
new airline business models 537–44
open skies, pursuit of 525–30
sovereignty in airspace 509–19
Havana Convention, 1928 511–12, 515
Paris Convention, 1919 510–11, 512, 515
International Chamber of Commerce 512
International Conference on Civil Aviation (Chicago Conference), 1944 513–15, 516–17, 518–20
International Coordinating Council of Aerospace Industry Associations (ICCAIA) 118
International Council of Aircraft Owner and Pilot Associations (IAOPA) 119
International Lease Finance Corporation (ILFC) 424
International Organization for Standardization (ISO) 118
Internet ticket sales 201–2, 293
Interstate Commerce Commission (ICC) 64, 94
interviews 558–9
introductory fares 344
inventory costs 374–5
inventory management, and pricing 347–8
investment banks, as a source of funds 478, 483
investment tax credit (ITC) 86, 130, 423, 476
Islamic leasing 497–8
ISO (International Organization for Standardization) 118
ITC (investment tax credit) 86, 130, 423, 476
JAMTOs (joint airline/military ticket offices) 291–2
Japan 527
jet aircraft:
arrival of 55–7, 166
eye development of 19, 20
JetBlue 303, 310, 312
Jetstar 540
job titles, in the aviation industry
560–8
Johnson, Lyndon Baines 94–5
joint airline/military ticket offices (JAMTOs) 291–2
joint fares 342
joint rates 376
joint ventures 25, 30
judgmental methods of forecasting 277–9
just-in-time production 37
Kelly Act (Contract Air Mail Act, 1925) 47, 49, 62
Kennedy, Edward 70, 166
Kennedy, John F. 94
Keyes, Lucille 69
KLM 314, 528, 539
L’Avion 539, 541
labor costs 7, 209–10, 456, 457, 464, 465, 468
in the 1980s 459–60
since deregulation 451–2, 458
labor relations 445–7
Civil Aeronautics Act 1958 68
employee protection program 74
historical overview of union activity 452–7, 454, 456, 457
human resources in the 21st century 469–70
prederegulation period 457
and the Railway Labor Act 5, 68, 447–52, 453
since deregulation 458–68
labor specialization 200
Laker Airways 525
landing and take-off slots, as barriers to entry 198
Latin America/Caribbean 8, 10
law:
international air law 512
Warsaw Convention, 1929 512, 513
see also legislation
law of demand 333
see also demand
law of diminishing returns 354
layovers, and scheduling 394
leadership, wrong 15
Lear 83, 84, 85, 86, 87, 130, 132
leasing 423–5, 476, 478, 479–81, 487, 495, 496
Islamic leasing 497–8
sale and lease-back 476, 496
legislation:
Air Commerce Act, 1926
(Bingham-Parker Act) 47, 62–4, 82, 101, 531
Air Mail Act, 1930 (McNary-Watres Act) 49, 64
Air Mail Act, 1934 (Black-McKellar Act) 50, 51, 64–5, 453
Air Transportation Safety and System Stabilization Act, 2001 189
Airline Deregulation Act, 1978
57, 70, 71, 72–4, 166–7, 186, 203, 206, 208, 282, 410, 451, 453, 455, 526
Airport and Airways Development Act, 1970 85, 106–7, 129, 208–9
Airport and Airways Improvement Act, 1982 208–9
Anti-Hijacking Act, 1974 108
Aviation and Transportation Security Act, 2001 109
Civil Aeronautics Act, 1938 36, 53, 65–8, 104, 164, 165
Contract Air Mail Act, 1925 (Kelly Act) 47, 49, 62
Department of Transportation Act; 1966 95, 110
Federal Airport Act, 1946 106
Federal Aviation Act, 1958 66, 68–9, 70, 104
General Aviation Revitalization Act (GARA), 1994 21, 34, 87, 131, 142, 143
ICC Termination Act, 1995 101
Intermodal Surface Transportation Efficiency Act, 1991 99
International Air Transport Competition Act, 1979 525–6
Motor Carrier Safety Improvement Act, 1999 101
National Labor Relations Act (NLRA), 1935 448
Norman Y. Mineta Research and Special Programs Improvement Act, 2004 101
Northeast Rail Service Act, 1981 100
Railroad Revitalization and Regulatory Reform Act, 1976 100
Tax Reform Act, 1986 86, 130, 423, 476
Transportation Safety Act, 1974 111
see also law; regulation
less frills carrier 14
see also low-cost airlines
levels of management 225–8, 226
238
liabilities (balance sheet) 483, 485
liberalization 5, 8, 527–8, 535
see also deregulation; regulation
licensing system 67
life insurance companies, as a source of funds 478, 486, 495
life-limited parts 254
Light Sport Aircraft (LSA) 87–8
Lindbergh, Charles 49, 101, 135
line departments 246
engineering and maintenance (E & M) administration 251, 251–7
flight attendants 261–3
flight operations administration 247, 247–51
marketing and services administration 257, 258, 259–61, 260, 261
line personnel 239
line reserves 408–9
lines of credit 477
load factors see passenger load factors
loans 477
local-service carriers 165, 171
local-service schedules 409
Lockheed 25, 49, 55, 88, 278
Constellation 53, 54
L-1011 56, 80, 429
logistics 372
long-haul carriers:
future prospects for 541–3
long-haul, low-cost business model 537–9, 540–1
long-term debt/equity ratio 492–3
LOT B767 belly landing at Warsaw Chopin Airport 318
low fare/high value carrier (LFHV) 14
see also low-cost airlines
low-cost airlines 6, 13, 14, 76
future prospects for 413
interactive marketing agreements 303–4
in the marketing mix 287, 288
low-cost carrier (LCC) 14
see also low-cost airlines
low-cost/no frills carrier (LCC/NF) 14
see also low-cost airlines
loyalty 167, 301
and social media 311
LSA (Light Sport Aircraft) 87–8
INDEX

Lufthansa 51, 310, 368, 467, 528, 539
luxury airlines, in the marketing mix 287
luxury goods, taxation of 86, 130, 423, 476
maintenance:
and aircraft evaluation 434–5
classes of stations 252
contract maintenance 257
engineering and maintenance control (EMAC) system 256
of engines 254, 257
maintenance efficiency goals of engines 254, 257
maintenance burden 350
maintenance base 252
maintenance costs 7, 349–50
and fleet planning 432
future trends 305, 306
long-haul carriers 542
market penetration strategies 296
market research 259, 282, 293–4
see also forecasting
marketing 282–3
costs, and price 291
and fleet planning 432
promotion 259–61,
259–61, 260, 261
marketing efficiency goals of engines 254, 257
marketing and services administration 257, 258, 259–61, 260, 261
marketing concept:
consumer-oriented 293–8, 295
development of 283–4
marketing mix 284–5
place 291–3
price 284, 290–1
promotion 284, 285–90, 289
marketing strategies 285
since deregulation 298–305
and scheduling 388, 399–400, 400, 401, 402
Marriott Hotels 311
Martin Marietta 25
MAXjet Airways 303, 539, 541
MBO (management by objectives) 233–4, 234
McDonnell Douglas 27, 29, 50, 51, 80
DC-1 50, 52
DC-10 56, 80, 429
DC-2 51
DC-3 51, 53, 56, 366
DC-4 53
DC-7,255 54
DC-8 54, 58
DC-9 56, 57, 80, 424, 425, 437–8, 458
MD-11 80, 422, 428
MD-80 series 80, 425, 428
MD-90 428, 429
merger with Boeing 81
vendor financing 481
McNary-Watres Act (Air Mail Act, 1930) 49, 64
MEDEVAC operations 138
mediation 447–8, 449, 450, 466
see also National Mediation Board (NMB)
medical administration 245, 246
medical aviation 138
mega-carriers 76
mercantile travel 294
mergers 5–6, 9, 74–6, 167, 169, 197, 203, 206
as a characteristic of oligopolies 196
defense contractors 25
and fleet rationalization 420–2
Mexico 8
mid-range airlines, in the marketing mix 287
Middle East 8, 9
middle management 225, 227, 231
Midway Airlines 76, 188, 203, 491, 493
mileage-based pricing 345
military aircraft 53, 54, 55
sales statistics 22
military travel 295
Millennial Generation see Generation Y
minimum/maximum stays 345
missile systems 20, 21, 22
Mooney 87, 130, 131, 132, 145
Motor Carrier Safety Improvement Act, 1999
101
multiplier effect, of hub-and-spoke system 411, 411
mutual aid pact (MAP) 455, 459
mutual dependence:
of airline industry 207
of oligopolies 196
NASA (National Aeronautics and Space Administration) 23, 24, 26
NASAO (National Association of State Aviation Officials) 25
National Air Transport 47–8, 366
National Airlines 74, 76, 167, 459
National Airspace System 90
National Association of State Aviation Officials (NASAO) 120
National Business Aircraft Association (NBAA) 84, 85, 119, 133
national carriers 167–70, 168, 169
National Commission to Ensure a Strong Competitive Airline Industry 188, 528
national defense, and the air transport industry 58–9, 114
National Highway Traffic Safety Administration 96, 100
National Labor Relations Act (NLRA), 1935 448
National Mediation Board (NMB) 447–8, 451, 453, 466, 468
© Copyrighted Material
Obama, President Barack 26
objectives, unity of 236–7
off-line sales offices 292
off-peak pricing 346
oil prices 8, 190
see also fuel prices
oligopolies:
airlines as 197–203, 198, 204–5, 206
in cargo/freight services 369
characteristics of 196
on-board advertising 313
on-condition monitoring 254
on-line sales offices 292
one-way purchase requirements 345
OneWorld 533, 533, 537
open skies 525–30
open-agreement-ske services 528, 535
OpenSkies (BA subsidiary) 539, 541
operating costs 7, 435–6, 438
operating leases 423, 480–1, 496
operating management 225, 227–8, 231
optimization model 433
options, in fleet planning 436
order-option-plan mix, fleet planning 436
orders, in fleet planning 436
organization 236
definition 225
organizational structure 231, 232, 233
line departments 246–57, 247, 251, 258, 259–63, 260, 261
new corporate structure 229–31, 232, 233
organizational chart 239–41, 240, 241
principles of organization planning 236–9
staff departments 241, 241, 242, 243, 244–5, 246
organizing (function of management) 235
out-of-service time 390, 408
output determination, and pricing 256, 353–4, 355, 356–8, 357, 357, 358, 359
overbooking 217
overexpansion 14
overhaul:
of airframes 255–7
of engines and other components 257
progressive major overhauls 255
see also maintenance
overnight air express services 267, 365
overnight maintenance 253, 391
ownership restrictions, airline industry 176, 530–1, 533, 535, 536, 537
Pan American 74, 76, 167, 188, 203, 464, 482, 491, 493, 524
adoption of jet aircraft 56, 76
business-class service 301
early development of 52, 55
labor relations 461
Paris Convention, 1919 510–11, 512, 515
Passenger Airline Cost Index, Air Transport Association (ATA) 7
Passenger Experience (PxEx) 306
passenger fares see airfares
passenger load factors 32, 211, 213–18, 214, 215, 217
and pricing 356–8, 357
and scheduling 406–7
passenger seat weight restrictions 288
passenger service costs 351
passenger service system (PSS) 299–300
passenger traffic 8, 37, 78, 78–9
2006-2012 period 77
peaks and valleys in 215–16
prior to deregulation 57
regional/commuter airlines 77
statistics 168
passengers:
loyalty 167, 301
and social media 311
overweight 288
preferences of, and demand 335
relationship with airlines 311, 312
PATCO (Professional Air Traffic Controllers Organization) 461, 526
pattern bargaining 453
payload-range diagrams 434
peak pricing 346
People Express 75, 169, 203, 482
personal selling 291
personal travel 39
personal/private aviation 130, 135–6, 156, 157, 158
personnel administration 243, 244
Peter Pan Generation see Generation Y
PGP (Planning Grant Program) 106–7
PHMSA (Pipeline and Hazardous Materials Safety Administration) 96, 101
pickup and delivery service 380
pilot training 136, 149, 152
regulation of 11

see also Railway Labor Act, 1926
National Transportation Safety Board (NTSB) 69, 94, 109, 110–11
accident investigation procedures 112–14
organizational structure 110
scope and responsibilities 111–12
NBAA (National Business Aircraft Association) 84, 85, 119, 133
net worth 483
net-net-net leases 424
network specialists business model 539, 540–1
New Court Securities 482
New generation carrier 14
see also low-cost airlines
New Piper Aircraft Corporation 34, 87, 131
see also Piper Aircraft Corporation
New York Air 74–5, 169
new-generation airlines 79–81
night flying, early development of 46
NLRA (National Labor Relations Act), 1935 448
NMB (National Mediation Board) 447–8, 451, 453, 466, 468
see also Railway Labor Act, 1926
no-frills airfares 340–1
no-shows 217
noise regulations 32, 107, 425, 437
non-scheduled services 287, 522
noncash expenses 475
non-scheduled services 287, 522
no-frills airfares 340–1
nonoperaing costs and revenues 351–2
nonprice competition 196, 207–8
nonroutine maintenance 253, 254–5
nonstop schedules 409–10
nonunion airlines 458
normal fares 341
Norman Y. Mineta Research and Special Programs Improvement Act, 2004 101
North America, regional analysis 8, 8–9
Northeast Rail Service Act, 1981 100
Northwest Airlines 5, 75, 76, 190, 203, 353, 424, 464, 465, 491
cargo/freight services 368
early development of 47
labor relations 459
vendor financing 424
NTSB see National Transportation Safety Board (NTSB)
Oasis Hong Kong 540
INDEX

pilots:
general aviation 148, 157
labor relations 453, 460, 461–2, 463, 465–6, 468
licensing of 97
private pilots 135–6
regulation of working hours 394–5, 460
roles of 249
and scheduling 393–5
suitability for management roles 229–30
see also Air Line Pilots Association (ALPA)
Pipeline and Hazardous Materials Safety Administration (PHMSA) 96, 101
Piper Aircraft Corporation 34, 83, 84, 85, 86, 87, 145
see also New Piper Aircraft Corporation
place, in the marketing mix 291–3
plan aircraft, fleet planning 436
planning:
and forecasting 268, 269
as a function of management 233–5, 234
principles of organization planning 236–9
see also fleet planning
Planning Grant Program (PGP) 106–7
pleasure travel 39
point-to-point carriers 167
and fleet planning 422–3
future prospects for 413
interactive marketing agreements 303–4
policies 234–5
policy and procedures manual 234–5
political environment 284
poll forecasts 279
Portugal 534
positioning flights 216
Post Office Department 45–6, 62, 329, 365–6, 452
preferred stock equity 479
President role 227, 230
Presidential intervention, in dispute resolution 450–1
profit:
discrimination 167–8
in the marketing mix 284, 290–1
promotional fares 296
price rigidity: airline industry 20–208
of oligopolies 196
price specialists business models 540, 541
pricing 259
charter airlines 522–3
and demand 332–40, 333, 334, 338, 339
and inventory management 347–8
and load factors 218
marginal cost pricing 212
and output determination 256, 353–4, 355, 356–8, 357, 357, 358, 359
price specialist business model 540, 541
pricing analysis 346–7
pricing process 342–8
pricing tactics 344–6
strategies and objectives 343
see also airfares; airline costs
PrivatAir 539
private aviation see personal/private aviation
private debt placement 478–9
private pilots 135–6
private-use airports 139
privatization, regional trends 8, 234–5
product:
in the marketing mix 284, 285–90, 289
product development strategies 296–7
product differentiation 285, 421
product liability 513
general aviation 85–6, 87, 129–30, 131, 142
product specialists business model 539–40, 541
production certificates 106
production costs, and price 291
production-oriented period of the airline industry 283
Professional Air Traffic Controllers Organization (PATCO) 461, 526
profit maximization, in the short run 358, 358, 359
profit-sharing 466, 481
profitability:
1968–1978 period 60, 60
and commercial transport aircraft sales 32
design and development 430
and fixed-base operators 151–2
US scheduled airlines 475
profits, as a source of funds 474–5
progress payments 435, 479
progressive maintenance 254
progressive major overhauls 255
promotion:
in the marketing mix 291
see also advertising
promotional costs 351
promotional fares 296, 342
PSS (passenger service system) 299–300
psychographic segmentation 297
public equity offerings 479
Public Law 111-216 ("The 1,500 Rule"), FAA 11
public-use privately owned airports 139
publicly-owned airlines 139
purser role 261
pushdown 442
Qantas 536–7, 540
Chilean volcanic ash cloud crisis 321
qualitative service 286
RAA (Regional Airline Association) 114–15, 175
Railroad Revitalization and Regulatory Reform Act, 1976 100
railroads, regulation of 100
Railway Express Agency (REA) 365, 366, 367
Railway Labor Act, 1926 5, 68, 447, 453
collective bargaining process 449–52
origin and provisions of 447–9
Raytheon 25, 34, 86, 130, 131, 132
re-regulation 5–6
REA (Railway Express Agency) 365, 366, 367
recaptured model of fleet planning 442
Regional Airline Association (RRA) 114–15, 175
regional flight dispatch manager role 248
regional jets 423
manufacturing industry 30
regional manager of flight operations role 248
regional/commuter airlines 35, 76–8, 77, 78–9, 88, 170, 181, 197
code sharing 172, 174, 302–3
early growth of 170–2
fleet statistics 175
flight equipment 174
role of 172
regulation 4, 62–9, 94–5, 164–6, 213, 284
of cargo rates 67–8
design and development 430
of international routes 67, 68
organizational regulations 235
of passenger fares 67–8
and pilot training 11
reasons for 60–2
regional trends 8, 8–10
see also certification;
deregulation; legislation;
liberalization
related products and services 21,
22, 23, 35
religious travel 294
reparables 254
replacement aircraft 32
decision to upgrade/replace
436–8
Republic Airlines 74, 75, 190, 203
Research and Innovative Technology
Administration (RITA) 96, 100–1, 181
Research and Special Programs
Administration (RSPA) 101
reservation systems 167
computerized reservation systems (CRSs) 201, 299,
300, 302–3
reservations, costs of 351
restricted articles, cargo/freight services 381
résumés 556, 557–8
returns on investment (ROI),
airline industry 474, 475, 493–4
revenue passenger miles (RPMs)
184, 185, 186, 187, 189, 197
and pricing 354, 355
see also passenger load factors
RITA (Research and Innovative Technology
Administration) 96, 100–1, 181
Rockefeller family 482
ROI (returns on investment),
airline industry 474, 475, 493–4
Roosevelt, Franklin D. 50, 53
rotables 254
round-trip purchase requirements
345
route launches, and social media
323
routine airframe maintenance
253–4
routine scheduled maintenance
253–4
RSPA (Research and Special Programs Administration) 101
rules, organizational 235
runway requirements of aircraft 434
Ryan 84
Ryanair 202, 311, 313, 314
safety see aviation safety
sale and lease-back 476, 496
sales and services 260, 260
sales costs 351
sales force opinion, and forecasting 278–9
sales outlets 291–2
sales planning 259
sales promotion 305
sales windows 346
sales-oriented period of the airline industry 283
SARS (Severe Acute Respiratory Syndrome) 6
SATS (Small Aircraft Transportation System) 89–90
Scale Model 543
schedule frequency, competitive advantage of 211
scheduled services, in the marketing mix 287
scheduling 387–8
data limitations in 413–14
equipment assignment and types of schedule 408–9, 409
equipment maintenance 388,
390–2, 397, 392, 393
flight operations and crew scheduling 388, 393–5
ground operations and facilities 388, 395–7, 396
hub-and-spoke scheduling 409,
409, 410–13, 413
mission of 388–90, 389
publication of schedules 181–3
schedule adjustments 402–6,
403, 404, 405
schedule building example 407–8
schedule planning and coordination 259, 397–8
schedule saleability 399–400,
400, 401, 402
traffic flow 398–9, 399
Scope Model 543
seasonal variations, and forecasting 275–6
security, Civil Aviation Security Program 107–8
Seiden, Krista 319
senior vice-president of marketing role 257
Senior Vice-President role 227, 230
seniority 458
and scheduling 394
September 11, 2001:
crisis communication model 318
impact of 6, 13, 27, 32, 81, 109,
184, 189, 305, 331, 353
service classes/levels 296
business class 287–8, 301, 302
economy class 287–8
first class 287–8, 302
qualitative service 286
service stations 252
services planning 259
Severe Acute Respiratory Syndrome (SARS) 6
shift in demand 335
see also demand
shuttle airlines 287, 539
sightseeing, aerial applications 138
Silverjet Airways 539, 541
Singapore Airlines 29, 540
singles travel market 297
skills, future need for 469, 470
skip-stop schedules 409
SkyTeam 533, 533
Small Aircraft Transportation System (SATS) 89–90
Small Package Shipment Agreement 183
smoothing, and forecasting 275–6, 276
SOC (system operations control)
248, 249–50
social factors 284
social media, airlines’ use of 310–11
best practice in 317–24
development of campaigns 315–17
objectives for 311–12
potential as revenue boosters 313–14
SOP (Standard Operating Procedure) manuals 179
Southwest Airlines 5, 75, 76, 169,
191, 464, 493
employee participation 238
passenger seat weight restrictions 288
pricing strategies and objectives 343
social media use 312
staff training 237
sovereignty, in airspace 509–19
space exploration 26
space products, sales statistics 22
Space Shuttle program 26
space travel 13
Spain, government subsidies 29
span of control 237
special interest travel market 297
Special Purpose Company (SPV) 497
specific commodity rates 376
speed package service 376–7
### INDEX

**spill model of fleet planning** 441–2
**Spirit Airlines** 231, 232
**split charters** 522
**Spoils Conference** 49, 50
**St. Lawrence Seaway Development Corporation** 96, 98–9

**staff departments:**
- corporate communications administration 245, 246
- economic planning administration 245, 246
- finance and property administration 241, 242, 243
- information services administration 243, 244
- legal administration 245, 246
- medical administration 244
- personnel administration 243, 244

**staff personnel** 239
**staffing (function of management)** 235

**Standard Agent’s Ticket and Area Settlement Plan** 183
**Standard Operating Procedure (SOP) manuals** 179
**Star Alliance** 533, 533
**station personnel, and scheduling** 403–4, 404

**station plotting charts** 396, 396–7
**STB (Surface Transportation Board)** 96, 101

**strikes** see labor relations; unions

**subsidiaries, government** 29, 61, 68, 73, 165
**Suburban Airlines** 75

**success, in airline business planning** 15
**supplemental air carriers** 165, 522
**supply factors, and price** 290

**support industry, general aviation** 142–3, 144–8, 148–52

**Surface Transportation Board (STB)** 96, 101
**system business-fare sales** 344
**system constraints, and fleet planning** 433
**system excursion-fare sales** 344
**system operations control (SOC)** 248, 249–50

**tanker aircraft** 55

**target segment pricing** 344

**TAV (Tepe-Akfen-Ventures Investment Holding)** 534

**tax leases** 497

**Tax Reform Act, 1986** 86, 130, 423, 476
**taxes:**
- deferred taxes, as a source of income 476
- luxury goods 86, 130, 423, 476
- TCAs (terminal control areas) 85, 129
- Teamsters Union 461
- Tepe-Akfen-Ventures Investment Holding (TAV) 534
- terminal capacity, as a barrier to entry 198, 199
- terminal control areas (TCAs) 85, 129
- terminal radar approach control (TRACON) 141
- Texas Air Corporation 74–5, 169, 203, 461
- Texas Instruments 25
- Texas International Airlines 74, 75, 203, 461
- Textron 25, 34, 86, 130
- Third Package (EU) 9, 282
ticket-counter space 397

**time-saving:**
- and business aviation 155–6 as a determinant of demand elasticity 340
- flight-time-specific fares 344–5
- time zone effect, and scheduling 402–3, 403
- time-series method of forecasting 273–5, 274, 277
- Tin Goose (Ford Trimotor) 48–9
- TNT 372

**top management** 225, 226–7, 231

**Tower Control** 249, 250
**TRACON (terminal radar approach control)** 141
**traffic characteristics, cargo/freight services** 382
**traffic flow** 398–9, 399

**traffic volume, cargo/freight services** 382

**training:**
- future need for 469, 470
- Generation Y 237
- pilot training 11, 136, 149, 152
- Trans Star 75
- Transport Workers Union (TWU) 447
- Transportation Safety Act, 1974 111

**Transportation Security Administration (TSA)** 99, 109–10
**Transportation Security Regulations (TSR)** 109–10
**travel agents** 201

as a barrier to entry 199
interline agreements 183–4
in the marketing mix 292–3, 300–1
role of 186
travel windows 346
travel, market segmentation of 294–5, 295
trend analysis methods of forecasting 273–5, 274, 277

**Triple A case** (“Ask Air Asia”) 321
**Trippie, Juan** 51–2
**Trump Shuttle** 76

**trunk carriers** 164, 165, 171, 202, 419

**TSA (Transportation Security Administration)** 99, 109–10
**TSR (Transportation Security Regulations)** 109–10

**Turkish Airlines** 241, 241

**turn time** 405

**TWA** 75, 76, 80, 188, 203, 464, 465, 491, 493
cargo/freight services 368
early development of 47, 51, 52
vendor financing 481
Twitter 311, 313, 314, 319, 321, 323
see also social media, airlines’ use of

**Two Freedoms Agreement (International Air Services Transit Agreement)** 515, 518
**TWU (Transport Workers Union)** 447
**Type A/Type B certification (UK)** 178
type certificates 106

**UATP (Universal Air Traffic Plan)** 183

**undercapitalization** 14

**unfair labor practices** 448

**unionization** 210
unions 446–7

**collective bargaining strategies** 468
historical overview of activity:
- jet age 453–6, 454, 456, 457
- prejet age 452–3
and labor relations since deregulation 458–68
and the Railway Labor Act 19266
United Airlines 5, 33, 75, 76, 167, 190, 203, 353, 424, 464, 491, 528
cargo/freight services 366/367, 368
early development of 47–8, 49, 50, 51, 52
employment 446
labor relations 460, 463, 466
pricing strategies and objectives 343
and social media 311
vendor financing 424
United Kingdom: airline certification 176, 178
Civil Aviation Authority (CAA) 176, 178, 531
government subsidies 29
and international aviation 521, 524
liberalization 527
ownership restrictions 531
postwar aircraft industry 54–5
United States: airline industry: industry balance sheet 483–4, 484, 485
sources and uses of funds 484, 485, 485–7, 488–90, 490–6
aviation industry 4
deregulation 5, 6
infrastructure issues 11
re-regulation 5–6
regional analysis 8, 8–9
Open Skies Agreement with Canada 529
Open Skies Agreement with EU 530
United States Coast Guard (USCG) 99–100, 110
Universal Air Traffic Plan (UATP) 183
UPS 369, 372, 425
US Airways 5, 32, 189–90, 191, 353
USAir 75, 76, 203, 464, 465, 491
USCG (United States Coast Guard) 99–100, 110
Utility Airplane Council 126
value carrier 14
see also low-cost airlines
value of service, cargo/freight services 383
value-added pricing 345
variable costs 209–10, 352–3
see also fuel prices; labor costs
variables, uncontrollable 284–5
variations, and forecasting 273–6, 276
vendor financing 424, 481, 497
venture capital 482–3
VFR (visual flight rules) 105
vice-president of air traffic and safety role 247
vice-president of flight procedures and training role 248
vice-president of flying role 248
Vickers Viscount 55
Virgin:
Branson, Richard 13, 469
Virgin Airlines 320–1
Virgin América 312, 323
Virgin Atlantic 312, 469
Virgin Australia 536
Virgin Express 324
Virgin Galactic 13
virtual carriers 76
visual flight rules (VFR) 105
volcanic ash cloud crisis 319, 321
Warsaw Convention, 1929 512, 513
weather:
information 108, 116, 141, 250
and scheduling 393–4
weather modification, aerial applications 137
Western Airlines 75, 167, 203
WestJet 313, 314
Wichita, Kansas, as the home of general aviation 82–3
wide-body aircraft 56–7
see also Airbus A300; Boeing 747
wildlife conservation, aerial applications 137
women, as a travel market 29, 298
work rules 460
World Aviation Directory 175
World War II, and air transport industry 53–4
wrong leadership 15
wrong money 14–15
WTO, Air Service Agreement (ASA) regulations 519–20
yellow dog contracts 448
yield 355, 355
average yield per passenger mile 58
YouTube 321
zone pricing 345
Zoom 540